CITY OF OMAHA
NPDES PERMIT FOR THE MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
NE0133698
2015 ANNUAL REPORT

Submitted by:
Environmental Quality Control Division
5600 S. 10 St.
Omaha, NE 68107

April 1, 2016

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"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations. See 18 U.S.C. 1001 and 33 U.S.C 1319, and Neb. Rev. Stat. 81-1508 thru 81-1508.02."

Nina Cudahy — Signature of Authorized Representative or Cognizant Official

3/29/16 — Date

Nina Cudahy — Printed Name

EQCD Manager — Title

Introduction

The second Omaha Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit (NE0133698/PCS 999428) was issued by the Nebraska Department of Environmental Quality (NDEQ) and became effective on October 1, 2008. The MS4 permit authorizes the City of Omaha to discharge storm water from all existing City of Omaha owned or operated MS4 outfalls to the Papillion Creek, the Missouri River, and their tributaries subject to the identified limitations and the Storm Water Management Plan (SWMP) as modified. The City's Environmental Quality Control Division (EQCD) oversees the administration of the permit and ensures that the City is in compliance with the permit requirements.

The MS4 permit was issued for a five-year period and expired on September 30, 2013. The NDEQ issued an administrative extension to this permit in October 2013. The MS4 permit identifies the current City of Omaha SWMP. The SWMP requires the City to submit an annual report and a semi-annual progress report to the NDEQ. In addition, reports will be made available to the public on the Omaha Stormwater Program (www.omahastormwater.org) and Papillion Creek Watershed Partnership web sites (www.papiopartnership.org).

The City of Omaha Departments that participate in meeting the MS4 permit requirements include:

- Public Works Department
  - Environmental Quality Control Division
  - Street Maintenance Division
  - Sewer Maintenance Division
  - Construction Division
  - Design Division
- Parks, Recreation and Public Property Department
  - Park Maintenance
  - Golf Operations
- Fire Department
- Law Department
- Planning Department

The City is committed to partnering with several organizations to meet the MS4 requirements in the most efficient manner possible. The major partners are listed below. The City intends to continue developing additional partnerships throughout the permit cycle to meet the permit requirements.

- Keep Omaha Beautiful (KOB)
- Papillion Creek Watershed Partnership (PCWP)
- Douglas-Sarpy County Extension Office
- Papio-Missouri River Natural Resource District (P-MRNRD)
- Natural Resource Conservation Service (NRCS)

This report satisfies the annual reporting requirement for permit year 7 and covers the calendar year from January 1, 2015 through December 31, 2015. The report is laid out as follows: the program elements are shaded, the permit requirements are underlined, and the City's description of permit compliance is in plain text.

I. Public Education & Outreach

A. Distribute informational brochures on the proper disposal of household hazardous wastes and the availability of the Household Hazardous Waste facility.

The City of Omaha contracted with Keep Omaha Beautiful, Inc. (KOB) to distribute educational information. In the annual report submitted to the City by KOB they reported distributing a total of 1,633 brochures at locations and community events throughout the year. The 1,633 brochures that were distributed covered 26 different topic areas concerning household hazardous waste. Brochures were delivered to commercial and public locations around the City for distribution. Additionally KOB distributed the brochures at outreach events that they attended. Below is a summarized list of the commercial and public locations and events where materials were distributed.

24th Street Tires 3229 S 24th St	Indian Creek 303 N Saddle Creek Rd	Stir Concert Cove- Reverb Event
Abrahams Library	Jackson Elementary Migrant School	Storm Drain Awareness Project
Ace Hardware 350 N Saddle Creek Rd	Jefferson Elementary School	Sunset Hills
Ace Hardware 8425 W Center Rd	King Science and Technology MagnetMiddle School	T.O. Haas Tire & Auto 5120 L St
Allied Oil & Tires 2209 S 24th St	Kohll's Pharmacy 2923 Leavenworth St	The Cleaning Mart 8415 W Center Rd
Augustana Lutheran Church	Kohll's Pharmacy 5000 Dodge St	Tires Plus 7437 Pacific St
Brown L Talbott School	Kohll's Pharmacy 5110 L St	Tommy's Tires 4601 N 60th St
Brownell Talbott-Green Apple Day of Service	Lothrop Magnet School	Tractor Supply 7910 L St
Central Middle School	LoveFest	Tractor Supply 9630 Ida St
Central MS Project-Walnut Creek Park	Marion's Tires 5028 NW Radial Hwy	Trash Pick Up Downtown Omaha w/ YMCA
Central Park Elementary School	Metropolitan Community College-In the Neighborhood Conference	Union Pacific 1400 Douglas
Charlie Graham 4206 Leavenworth St	Millard North DECA	UNO Campus Clean Up
Cinco de Mayo Festival Omaha	Montessori Children's Academy	UNO Campus Recycling Drive
Cirian's Farmer's Market 4911 Leavenworth St	New Tree School Earth Week Event	UNO -Community Engagement Center
Common Ground Community Center, Elkhorn	Oakdale Elementary	UNO Volunteer Fair
Creighton Volunteer Fair	Omaha City Area	UNO-PKI and Dodge Park
CVS 4840 Dodge St 4840 Dodge St	Our Lady of Lourdes School	UNO-Signature Day of Service
Diamond Vogel 7870 L St	Pinewood Elementary	Upward Bound Storm Drain Labeling
Downtown Auto Sales 3002 Cuming St	Peter Kiewit Institute	Walgreens 2323 L St
Dundee Elementary	PPG Paints Store 6906 L St	Walgreens 2929 N 60th St

Earl May 9229 W Center Rd	R.M. Marrs Magnet Middle School	Walgreens 3005 Lake St
Exclusive Honda 4420 Leavenworth St	Rockbrook Elementary	Walgreens 3121 S 24th St
Field Club Elementary	Rose Blumpkin Jewish Home	Walgreens 4310 Ames Ave
Firestone Auto Care 13060 W Center Rd	Rotary Meeting Elkhorn	Walgreens 5225 N 90th St
Fly into Fall- Youngman Lake	Sarpy YMCA	Walgreens 6005 N 72nd St
Fontenelle Elementary	Service Learning Academy Non Profit Fair	Walgreens 7151 Cass St
Fort Campus MCC	Sherman Williams 6009 N 72nd St	Walnut Hill Elementary
Gilder Elementary	Sherman Williams 7653 Cass St	West Gate Elementary
Girls Leadership Institute/Dundee School	South High ECHO	Western Hills
Gomez-Heritage Elementary School	Southwest YMCA	Wilson Focus School
GRC Tire Center 6706 L St	Spring Into Summer	World O! Water
Home Depot 4545 N 72nd St	Spring Lake Elementary School	Yates Elementary Migrant School
House of Mufflers 4102 N 30th St	St. James Seton School	YMCA Downtown
Ideal Hardware & Paint 3909 Cuming St		

In addition to the distribution of brochures, the City maintains the website www.underthesink.org that presents a variety of information about the site, materials accepted and not accepted, hours of operation, and alternative use products.

In the 2015 calendar year UnderTheSink, the household hazardous waste facility, had a total of 16,346 drop offs resulting in a total 1,064,778 lbs of material, an average of 5,324 lbs/day (of days accepting waste). A total weight of 240,472 lbs of HHW was shipped offsite by our disposal contractor. Those drop-offs and that total weight can be further broken down into:

- Recycling Totals in 2015:
  - Steel from paint and aerosol cans: 63,120 lbs
  - Latex paint used with Posi-Shell at Sarpy County Landfill: 19,690 gal
  - Oil-based paint and flammable liquids used as industrial fuel: 18,920 gal
  - Antifreeze recycled: 2,060 gal
  - Automotive batteries: 8,835 lbs
  - Fluorescent bulbs: 7,460 bulbs
- Oil Totals in 2015:
  - Collected approximately 8,500 gal from 5,100 people
  - Sold a total of 1,715 gal during the summer to Tri-State Oil Reclaimers, Inc.
  - The remaining oil, was/is being burned in the waste-oil boiler
- ReStore Totals in 2015:
  - People who took free usable items for their own use: 11,572 persons
  - Weight of non-paint items taken: 202,848 lbs
  - Gallons of free paint taken: 20,057 gal
- 12 tours were conducted in 2015.

This permit requirement continues to be met.

B. Issue public service announcements related to storm water protection on local TV, radio or print outlets, which will address TMDL pollutants of concern.

In addition to the distribution of educational brochures and public outreach events, Keep Omaha Beautiful, Inc. contracted with Clear Channel, a firm that manages local radio station, to broadcast three public service announcements in April, May, June, August and September on KFAB-AM. In total the PSA's were aired 29 times. Two publications carried public service announcements and information, the annual Metro Guide Omaha and monthly Dundee Member Park Association newsletter. Three television news stories regarding water pollution and the World O! Water event were broadcasted by local news channels in 2015.

This permit requirement continues to be met.

C. Continue existing drain marking program to improve public awareness concerning illegal dumping utilizing volunteer services, which will address TMDL pollutants of concern.

Keep Omaha Beautiful, Inc. coordinated neighborhood groups and eagle scouts in 2015 to mark and clean storm sewer inlets. In total, 1,121 disks were placed. The table below is a summary of the areas were the disks were placed.

2015 Date	Storm Drain Inlet Marking Location
April	X St to Q St
	Oak Hills Drive to Golfing Green Drive
	South 140th St to W Circle
	Birchwood Avenue to U St
	Anderson St to 134th St
	136th St & Weir St
	Polk St to Birchwood Ave
	139th St to 142nd St
May	N 146th St to 154th Ave
	Spaulding St to Meredith St
July	Martin Ave at 36th St down to 24th St
	Minna Lusa Blvd, Martin Ave to Redick Ave
	Streets between N 24th St & Minna Lusa Blvd
	73rd St to 84th St
	Izard St to Bowie Drive
August	S 11th St to S 19th St
	Leavenworth St to Howard St
	N 24th St to N 29th St
	Crown Point to Jaynes St
Total Storm Drain Discs = 1,121	

KOB, Inc also uses a GIS tracking system to better direct the volunteers to areas that have not been marked. Using this GIS system improves the tracking of those inlets which have been marked or need marking. The City's Sewer Maintenance Division has updated their GIS data and currently estimates that within City limits, there are approximately 40,000 storm drains.

This permit requirement continues to be met.

D. Hold a Sediment and Erosion Control Seminar for the developers, builders, engineers, vendors, and graders, which will address TMDL pollutants of concern.

The City worked with the P-MRNRD, Douglas-Sarpy County Extension Office, NDEQ, NRCS, PCWP, and USACE to present the annual sediment and erosion control seminar on February 5, 2015. There were 283 people that signed in at the seminar. Topics that were covered included:

- City of Omaha's 2014 Compliance Issues
- New Development vs. Redevelopment SWPPP Design and Implementation
- Common Installation Errors and BMP Selection at the Lot Level
- Construction to Post-Construction in the Field and on Permix
- 2014 Post-Construction BMP Inspection Summary
- Migratory Bird Treaty Act and Construction Projects

This permit requirement continues to be met.

E. Schedule outreach events with industry trade organizations to educate the regulated community regarding Omaha's Industrial Permitting Program.

EQCD presented at 9 different outreach events attended by the permitted community. Events were held throughout the State of Nebraska but primarily in the Omaha area. Audiences varied from business owners to consultants and government staff. The table below is a summary of these events and activities.

Date	Location	Attendees	Activity	Comments
10/16/2014	Omaha, NE	40	CSO Team Leads Presentation	Presentation on Green Infrastructure (GI) lessons learned.
10/30/2014	Omaha, NE	25	Sewer Maintenance Demonstration	Train sewer maintenance department about the bioretention & permeable pavement demonstration project at the facility.
12/18/2014	Omaha, NE	35	NICE Meeting at HDR-Omaha	Presentation with Blayne Renner, NDEQ, on industrial and construction stormwater related activities.
1/20/2015	Houston, TX	50	Houston International LID Symposium	Presentation on the monitoring and performance of the 50th and Pine demonstration project.
3/10/2015	Omaha, NE	100	ASP's Clean & Green Workshop	Presentation on the lessons learned from projects within Omaha regarding GI practices and construction.
3/24/2015	Lincoln, NE	100	NeFSMA/IECA Conference: Tomorrow's Water Today	Presentation on Omaha's Post-Construction Program, green infrastructure, and performance/lessons learned with demonstration projects in Omaha.
4/10/2015	Omaha, NE	200	NDOR Presentation on GI in the City of Omaha	Presentation on 2 current Omaha ordinance descriptions, green infrastructure data associated with demonstration projects.
4/22/2015	Omaha, NE	70	NWEA Conference	Presentation on Omaha's Post-Construction Program and GI demonstration project performance in Omaha.
9/22/2015	Omaha, NE	7	Lunch with Lamp Rynearson & Associates, Inc.	Discussion on Grading Permit Issues.

This permit requirement continues to be met.

F. Work collaboratively with other community organizations to develop a campaign aimed at picking up pet waste which will address TMDL pollutants of concern.

The City of Omaha hired a marketing firm in 2009, MINT Design Group, to assist in the development and implementation of the pet waste campaign. Advertisements were developed and published in several area newspapers, billboard space was used, mass mailings distributed, theater advertising purchased, posters placed on litter cans, radio announcements broadcast, a television commercial produced, and other media printed. We continue to use these materials today. It was a very successful campaign and won the Silver Award in the Total Advertising Campaign category from the Eighth Annual Service Industry Advertising Awards. Additionally, EQCD attended four events that were focused on pet owners where flyers were handed out along with pet waste bag dispensers, as shown in the table below. These materials are also handed out at other outreach events such as Earth Day and home show booths.

Date	Location	Activity	Dispensers
4/25/2015	Hefflinger Park	ODPA Spring Bark in the Park	100
5/2/2015	Meadow at NHS	YP May Day Dog Event	20
8/1/2015	Meadow at NHS	Canine Carnival	40
9/27/2015	NHS	Humane Society Walk for the Animals	1000

The City of Omaha has also partnered with the Omaha Dog Park Advocates by supplying Pet Waste Bag Stations and Pet Waste Bags for the two dog parks in Omaha. The Advocates keep the dispensers supplied with bags and submit a count to EQCD. A total of 51,200 bags were used during this permit year.

This permit requirement is on schedule to be met.

G. Develop materials and displays associated with BMP demonstration projects installed with Storm Water Management Program Plan funds from NDEQ.

Educational signage was placed at the City's Under The Sink Facility, Orchard Park, and Metropolitan Community College (MCC) Fort Omaha Campus, all are accessible by the public. The signage explains the design and function of the BMP's onsite. The green and traditional roofs at the Saddlebrook Joint Use facility have two weather monitoring stations installed. The public can view the differences between the two on two separate screens; one located in the library the other located in the stairwell outside of the indoor track. There are also webcams directed toward the green roof which will also be displayed on the screens. We also have the weather information of the green roof available on our website www.omahastormwater.org.

In collaboration with the US EPA Office of Research and Development, USGS, the Omaha CSO Program, and the University of Nebraska Extension a kiosk was placed at the Douglas County Extension Office that shares real-time data of the Sewer Maintenance bioretention and permeable pavement demonstration project installed in 2014. It also shares other general information on stormwater and green infrastructure.

Project fact sheets have been developed in 2015 on demonstration projects and Omaha CSO Program green infrastructure projects to share basic information on each project with the community. Currently 9 GI fact sheets have been created.

The Omaha Stormwater Program's website, www.omahastormwater.org, features demonstration and other green infrastructure projects that the program has been involved with. Information provided includes photos, background information, and other specific information on them as they mature from year to year.

This permit requirement continues to be met.

H. Develop a City Stormwater Program Web Site, including but not limited to storm water related information and provide educational information targeted for residents, children, and industries, which will address TMDL pollutants of concern.

The City of Omaha has developed and deployed a website, www.omahastormwater.org dedicated to our Stormwater Management Program. From the website industries can access the necessary documents to apply for a permit as well as access resources to help them maintain compliance. Developers and engineers can access the necessary documents to apply for Construction and Post-Construction Stormwater permits.

Residents can access information as to how they can improve water quality by actions they take at home. Children's activities are also available on the website. There is also public information available on the demonstration storm water best management practices that have been implemented in areas of the city. The public can access information related to the monitoring program. Additionally there is an online complaint or comment form available to the public.

The website was significantly updated in early 2014 to improve navigation and to increase resources and content to residents, industries, and developers. During the upgrade, statistics on traffic, users, etc… was inadvertently disabled and statistics for 2014 are not available. In 2015, Facebook was emphasized as a way to further enhance communication with the public. Regular status updates sharing facts on stormwater, demonstration projects, and other related information were posted and helped to connect them to the Omaha Stormwater website.

Detailed tables of website and Facebook usage during the 2015 calendar year are located in Attachment F. Below is a summary of the website and Facebook activity for 2015.

OmahaStormwater.org	
Total Users	5,619
Total Page Views	50,183

Omaha Stormwater Facebook	
Total Posts	192
Total Reach	11,965

This permit requirement continues to be met.

II. Public Participation & Involvement

A. Operate a storm water hotline and web based complaint system for Watershed (general information, complaints, reports of illegal dumping, etc.)

The City of Omaha's Environmental Quality Control Division investigated 81 complaints received in the 2015 Permit Year. Complaints ranged from excess sediment in the street to suspicious discharges. A table compiling the complaints, investigations and resolutions of these reports can be found in Attachment B.

This permit requirement continues to be met.

B. Participate in organizing to hold open houses on Papillion Creek Watershed Plan activities.

The Papillion Creek Watershed Partnership holds monthly meetings, which are open to the public, to discuss watershed and water quality policies. There were four meetings held in the 2014 calendar year. The following table summarizes the times and attendance for the meetings.

Date	Count	Target Market	Comments
3/26/2015	12	Partnership Members	Partnership Meeting
5/28/2015	13	Partnership Members	Partnership Meeting
6/25/2015	15	Partnership Members	Partnership Meeting
9/24/2015	16	Partnership Members	Partnership Meeting

This permit requirement continues to be met.

C. Continue to implement a stream Cleanup Day. Utilize Keep Omaha Beautiful, Inc. to identify stream segments in need of cleanup and recruit volunteers from the local area, public groups, and representatives from local area business and developments.

Keep Omaha Beautiful, Inc. (KOB) organized the 2015 Cleanup events, including the Stream Cleanup Day which was on September 12th and 13th at Hitchcock Park and Towl Park, 18 volunteers were involved. In addition, there were 10 cleanups at 4 lake/waterway sites and 52 park cleanups that occurred throughout the year that involved 44 groups of volunteers. Some of the sites that had a cleanup include; Standing Bear Lake, Lake Zorinsky, Cunningham Lake, the Riverfront, Seymour Smith Park, Dodge Park and Carter Lake.

This permit requirement continues to be met.

D. Provide tours of UnderTheSink, household hazardous waste facility for schools and neighborhood organizations to learn about the proper way to manage household chemicals and about storm water treatment systems installed at the site.

A total of 12 tours were conducted at the UnderTheSink Facility in 2015. Stormwater Best Management Practices (BMPs) have also been installed at the facility along with educational signage. The BMPs were completed in the Fall of 2009 and are meant to serve as a demonstration project to the public.

This permit requirement continues to be met.

E. Hold World O! Water Festival focused on elementary school aged children to celebrate Clean Water and engage in water quality related activities.

The World O! Water Festival was held on September 12, 2015 from 12 PM until 4PM at Wehrspann Lake / Chalco Hills Recreation Area. There were approximately 50 organizations that participated by handing out information, conducting an activity or providing demonstrations. An estimated 1,300 visitors attended the event. Information that was handed out included water stewardship, recycling, water quality, and water conservation. Activities included putting a watershed pollution demonstrative model, canoe rides, nature hikes, and science experiments. This was the 11th successful year the event was held.

This permit requirement continues to be met.

F. Participate in community organizations, conferences workshops, and web casts related to water quality and storm water management.

City of Omaha Environmental Quality Control Division conducted 24 education and outreach activities with the public, schools, and community organizations. Topics ranged from general stormwater education to rain barrel workshops to information on green infrastructure. A summary table of education and outreach activities conducted by the City of Omaha's Stormwater Program can be found in Attachment F.

City of Omaha EQCD staff attended or participated in 38 workshops or webcasts in the 2015 permit year. These activities continue to further our staff's knowledge and experience on water quality and stormwater management. The following table is an accounting of the seminars attended.

Date	Title	Associated Program	Attendees
10/8/2014	September Safety Toolbox Meeting	Good Housekeeping	2
11/12/2014	November Safety Toolbox Meeting	Good Housekeeping	3
12/2/2014	EI Permix Training	Construction	20
12/10/2014	December Safety Toolbox Meeting	Good Housekeeping	2
1/15/2015	Migratory Bird Treaty Act Info Meeting	Construction	2
1/23/2015	January Safety Toolbox Meeting	Good Housekeeping	5
1/23/2015	Lock-Out Tag-Out Training	Good Housekeeping	4
1/28/2015	EI Construction SEC Training	Construction	16
2/5/2015	Sediment & Erosion Conference	Construction	42
2/10/2015	Greenways the Urban Waters Experience Webinar	Post-Construction	1
2/17/2015	Fire Extinguisher Training	Good Housekeeping	37
2/18/2015	February Meeting Safety Toolbox Meeting	Good Housekeeping	6
2/26/2015	Discharge Discovery Webinar	IDDE	1
3/10/2015	Clean & Green Sustainability Conf/Expo	Construction	11
3/11/2015	March Meeting Safety Toolbox Meeting	Good Housekeeping	15
4/3/2015	Stormwater Materials & Spring Clean Up EI Training	Good Housekeeping	13
4/7/2015	Pave Drain Vac Truck Attachment Training	Good Housekeeping	20
4/8/2015	April Meeting Safety Toolbox Meeting	Good Housekeeping	13
4/27/2015	FRCP Training 96th & F St	Good Housekeeping	2
4/29/2015	FRCP Training 52nd & Dayton	Good Housekeeping	38
5/5/2015	EPA Green Infrastructure Webinar	Post-Construction	1

5/6/2015	FRCP Training Vehicle Compound	Good Housekeeping	9
5/8/2015	FRCP Training Elkhorn District 5	Good Housekeeping	16
5/12/2015	Urban Waters Six Green Infrastructure Webinar	Post-Construction	1
5/13/2015	May Meeting Safety Toolbox Meeting	Good Housekeeping	8
5/20/2015	DDOE Residential Green Infrastructure Webinar	Post-Construction	1
5/28/2015	FRCP Training Parks District 3	Good Housekeeping	11
6/3/2015	Interpreting and Using Water Quality Models Webinar	Monitoring	1
6/12/2015	June Meeting Safety Toolbox Meeting	Good Housekeeping	11
7/17/2015	Confined Spaces Training	Industrial	7
7/8/2015	July Meeting Safety Toolbox Meeting	Good Housekeeping	13
7/21/2015	Omaha Green Infrastrucutre Tour	Post-Construction	12
7/28/2015	SRI Green Infrastructure Webinar	Post-Construction	1
8/12/2015	August Meeting Safety Toolbox Meeting	Good Housekeeping	11
9/1/2015	EI Training Permix Updates, Stablization, WOW	Multiple	17
9/9/2015	September Meeting Safety Toolbox Meeting	Good Housekeeping	12
9/16/2015	CWP Webinar at DCES	Good Housekeeping	1
9/17/2015	EPA Grants Webinar	Good Housekeeping	1

This permit requirement continues to be met.

III. Illicit Discharge Detection & Elimination

A. Perform dry-weather inspections including Physical Characteristics Examinations of storm water outfalls 72" or greater and any outfalls with documented complaints.

The City of Omaha – EQCD staff inspected all outfalls identified the previous year as priority outfalls (those 72" or greater and/or documented illicit discharges). They also inspected all outfalls located in areas annexed by the City. EQCD Staff completed all inspections by September 30th, 2015. Any outfall with an obvious or suspicious discharge was to be reported immediately to EQCD. No new outfalls were inspected based on the previous year's inspection. No suspicious discharges were found but two outfalls were noted as having a potential, with two physical characteristics with low severity index numbers.

Outfall inspections were only conducted after 48 hours of dry weather. A Physical Characteristics Examination form was completed for each outfall, if flow was present sample was collected for pH testing in the field, if an illicit discharge was encountered EQCD Inspectors called supervisory staff immediately. Photographs were taken of outfalls to be kept as a record of outfall conditions during the inspection. Outfall inspections were entered into the City of Omaha's MS4 Web application. A total of 72 priority outfalls were inspected in 2015.

This permit requirement continues to be met.

B. Investigate and seek resolution concerning any dry weather discharges potentially impacted by sources by notifying the source that they must discontinue discharging, and initiate enforcement action consistent with adopted ordinance which will address TMDL pollutants of concern. Any source that the applicant feels constitutes and immediate health or safety threat will be reported immediately to the NDEQ.

There were no confirmed illicit discharges from an outfall inspection during the permit year 2015. Two outfalls were noted as having a potential, with two physical characteristics with low severity index numbers.

This permit requirement continues to be met.

C. Dry Weather inspection of storm water outfalls, including smaller outlets and those that discharge to lesser tributaries or other storm conduits in response to suspect conditions and / or complaints.

There were 268 potential outfalls identified by EQCD using GIS information collected by sewer maintenance in 2009. All outfalls were inspected during dry weather. A total of 49 code enforcement actions associated with illicit discharges were taken in 2015. Most actions were "Requests for Voluntary Compliance". There were no fines levied or collected in 2015. A table summarizing the year's activities can be found in Attachment B.

This permit requirement continues to be met.

D. Enforce Existing City Codes prohibiting illicit discharge connections to storm sewers.

There were no instances of illicit discharge connections in 2015.

This permit requirement continues to be met.

E. Maintain and prevent instances of sanitary sewer leakage into MS4 or waters of the state.

The Sewer Maintenance Division is responsible for preventing sanitary seepage into the storm sewer. They perform preventive and corrective maintenance to the system and are able to identify areas where seepage is occurring. Because of the way the MS4 system is designed, sanitary seepage to the MS4 is an extremely rare event. Storm water pipes are not located immediately below the sanitary line; they are almost always installed on the other side of the street or parallel to the sanitary line. There were two instances of sanitary seepage/leakage at two locations found in 2015; all instances were reported to the state under a separate NPDES Permit as a requirement to report Sanitary Sewer Overflows and Combined Sewer Overflows. The pipes were repaired and no further leaks occurred

This permit requirement continues to be met.

F. Maintain and update a sewer map of major storm water outfalls and identify the names of respective receiving waters.

The City maintains a GIS mapping application which can be updated in the field using handheld portable GPS units. These units then synchronize the data when they are returned to the office and connected to the GIS mapping application. Additionally the handheld GPS units are used to catalogue and support inspections of outfalls conducted by EQCD. The data from those inspections can be used to enter service requests into Sewer Maintenance's work order tracking software. The outfall data is also used for follow up inspections of potential illicit discharges.

In 2010, EQCD staff used the current GIS data collected by sewer maintenance in 2009 to direct our inspections. Two hundred and sixty eight points were inspected resulting in additional priority outfalls being identified. We continue building on the database to better document outfall conditions so that future inspections will be comparative to the past inspections. The data helps to better direct inspections and compare the previous year's condition with the current condition of the outfalls.

In 2015, 49 outfalls were added to the City of Omaha through annexation and were added to the dry-screening inspections for 2015. Combined with the existing 72 priority outfalls, a total of 121 outfalls were inspected in 2015. Out of the 49 outfalls associated with annexation, nine outfalls are 72" or greater and two outfalls were noted as potential, with two physical characteristics with low severity index numbers, bringing the current total number of priority outfalls to 83.

This permit requirement continues to be met.

G. Prevent, contain and respond to spills to the MS4. Review, as necessary, interdepartmental SOP's with respects to spills, dumping and illegal disposal that impacts the MS4.

The City of Omaha's Environmental Quality Control Division worked with the Omaha Fire Department (OFD) to develop a policy dealing with spills that the OFD responds to. Previously the OFD would chemically treat a spill to aid in the breaking down of petroleum products. The revised policy requires OFD to spread fly ash over a spill to absorb any petroleum products. They then collect the material and drop it off at one of several locations throughout the City. Each location has a dedicated 55 gallon drum for storage of the waste material. OFD monitors the use of the barrels and coordinates proper disposal with a hazardous materials processing contractor.

The Omaha Fire Department's Hazardous Materials Unit responded to 474 incidents in the 2015 calendar year.

This permit requirement continues to be met.

IV. Construction Site Program

A. Maintain the construction site inspection and reporting web site and continue to make enhancements.

The City of Omaha deployed its new permit tracking and reporting system, Permix, at the beginning of April 2014. The new system integrates Grading Permits, Linear Underground Projects, Post-Construction Stormwater Management Plans and Public Improvements, under one website and database system. The individual processes are linked by a common project name and number if applicable. This allows for a more comprehensive approach to managing these activities while creating an efficient means for project Applicants to apply for permits and have plans reviewed. The system is being used by all of the communities within the Papillion Creek Watershed Partnership for Grading Permits and Post-Construction Stormwater Management Plans.

This permit requirement continues to be met.

B. Maintain a construction site inspection program that includes procedures for reporting, resolving deficiencies, and taking appropriate enforcement action consistent with adopted ordinances.

EQCD administers the inspection program for Erosion Control, both within the City of Omaha's jurisdiction as well as the Papillion Creek Watershed Partnership's (PCWP) individual member's jurisdiction. The City's Grading Permit Program requires that the owners of active sites hire an independent inspector, a Project Inspector, to do inspections weekly and after 0.5 inches of rain. In the 2015 calendar year, reports were submitted to Permix by City Inspectors and Project Inspectors for construction sites as per the NPDES Stormwater Discharges from Construction Sites General Permit. Additionally, enforcement actions were entered by City personnel. The table below accounts for the reports submitted for sites within the City of Omaha's jurisdiction.

	City Inspection Reports	Private Inspection Reports
Phase I Sites (>5 acres)	433	4,243
Phase II Sites (<5 acres)	336	3,102
Total	769	7,345

A summary table of enforcements that were taken within the City of Omaha's jurisdiction can be found in Attachment C.

Since the Permix system was launched in April 2014, on-going training and support of the system users has been provided. This includes video tutorials on www.omahastormwater.org website, email, and phone conversations with the users. Compliance assistance and project related questions are addressed as they came up for users.

This permit requirement continues to be met.

C. Maintain regulations and design specifications for controlling erosion, sediment loss, and other TMDL pollutants of concern from construction sites that disturb areas of 1 acre or more.

The Omaha Municipal Code Section 32-101 (Grading Permit Required) requires owners/operators to obtain a grading permit on sites sufficiently large enough to require an NPDES construction general permit. On March 10, 2003 when the NPDES Phase II regulation became effective the City began enforcing the soil

erosion and sediment control measures on sites that disturbed one acre or greater in the City's jurisdictional area, which extends 3 miles beyond City limits in Douglas County. This allows the City to regulate many of the large developments (SIDs) that remain active for years and have a great potential to adversely impact water quality.

The City has incorporated the Sediment and Erosion Control Manual into the Omaha Regional Storm Water Design Manual as Chapter 9. The Omaha Regional Storm Water Design Manual was adopted by the City of Omaha in April 2006. The Omaha Regional Storm Water Design Manual was updated in 2014. Each chapter was updated with current information. Chapter 8, Stormwater Best Management Practices (BMPs), included updates to BMPs based on monitoring and performance and added new ones including permeable pavement and soil conditioning. Chapter 9, Erosion and Sediment Control, incorporated the Supplemental BMP Guide into it and updated existing BMPs. Formatting and graphics were also greatly improved with the update. Digital copies, in PDF format with links throughout, are available on our website at www.omahastormwater.org/orsdm.

This permit requirement has been met.

D. Maintain a program for performing review of Grading Permit applications to ensure compliance with applicable regulations and design specifications.

The Public Works Department, Environmental Quality Control Division, reviews the grading permit applications and the associated Storm Water Pollution Prevention Plans (SWPPP). Unless the SWPPP meets the requirements specified in the Omaha Regional Storm Water Design Manual, a grading permit will not be issued. Sites 5 acres or greater are given priority over sites less than 5 acres.

The City of Omaha issued a total of 71 permits in 2015. 17 permits were for sites greater than 5 acres 54 permits issued for sites less than 5 acres in size. During 2015, there were a total of 384 active permits, with 302 at the start of the year and 342 at the end.

This permit requirement continues to be met.

V. Post Construction Runoff Control

A. Develop a guidance document for Post Construction Storm Water Management Plan.

The City of Omaha finalized the guidance document titled *City of Omaha Post Construction Stormwater Management Planning Guidance* in July 2009. The document is available on the City's website www.omahastormwater.org and www.omahapermix.com. The guidance document incorporated minor updates in August 2015.

This permit requirement continues to be met.

B. Participate with other City Departments to prepare an Environmental Element of City of Omaha Master Plan and include applicable storm water management provisions.

The Omaha City Council voted 7-0 to adopt the Environmental Element – a comprehensive environmental vision for the city – as a component of Omaha's master plan Dec. 14, 2010.

The document, developed through a two-year process led by the City of Omaha and Omaha by Design, includes more than 600 recommendations in five sections – the natural environment, urban form and transportation, building construction, resource conservation and community health. Each goal is accompanied by a set of objectives and strategies, and a set of measurements has been developed for each of the five sections.

This permit requirement continues to be met.

C. Develop a database of existing structural BMPs (private and public) that reduce the impact of urbanization on storm water run-off and improve water quality and enhance other amenities and activities such as green space, parks and recreation, urban planning, aesthetics, and public safety.

The City of Omaha reviews proposed post construction storm water BMPs for code compliance, functionality, and manageability. Once the proposed post construction BMP passes the review and is approved, that allows construction and implementation to begin. The management plan that is submitted along with the proposed BMP is then attached to the property deed to ensure long term compliance. The City has developed a database, Permix, for tracking purposes and has integrated the Construction program, Public Improvements, and Linear Underground Projects into this database.

A database has been developed to track post construction BMPs within the City of Omaha. Information being entered includes; location, ownership, provided capacity, required capacity, contributing drainage area, type of BMP, date of installation and CSO area. Each BMP has the latitude and longitude included so that they can be easily mapped using our GIS.

This permit requirement continues to be met.

D. Inspect annually and maintain (as necessary) City owned storm water BMP structures.

All City owned stormwater BMP structures were inspected for any major maintenance issues in early spring and fall of 2015. A physical characteristics examination form was also completed during the inspection for structures that had flow or were wet. The table below indicates when the inspection occurred as well as any maintenance issues at that time.

SITE	INSPECTION DATES	SEDIMENT REMOVAL	TRASH REMOVAL	DEBRIS REMOVAL	MOWING	PCE COMPLETE
Storz Expressway (East)	5/21/2015	No	No	No	No	No
	9/15/2015	No	Yes	No	Yes	No
Storz Expressway (West)	6/10/2015	No	No	Yes	Yes	No
	9/15/2015	No	Yes	Yes	Yes	No
Lake James Park	5/21/2015	No	No	No	No	No
	9/16/2015	No	No	No	No	No
Fontenelle Park Lagoon	5/21/2015	No	No	No	No	No
	9/15/2015	No	No	No	No	No
John J Pershing Drive 1.5	7/6/2015	No	No	Yes	Yes	No
	9/16/2015	No	Yes	Yes	Yes	No
Miller Park	4/27/2015	No	No	No	No	No
	9/16/2015	No	No	No	No	No
10th & Nicholas	5/21/2015	No	No	No	No	No
	9/28/2015	No	No	No	No	No
13th & Carter Blvd	5/21/2015	Yes	Yes	No	No	No
	9/15/2015	No	Yes	Yes	No	No
13 & Fowler	5/21/2015	No	Yes	Yes	No	No
	9/15/2015	No	Yes	Yes	No	No
Carter Lake	5/21/2015	No	No	No	No	No
	9/15/2015	No	No	No	No	No
19 & Carter Blvd	5/21/2015	No	Yes	Yes	No	No
	9/15/2015	Yes	Yes	Yes	No	No
18th Street E & Ave H	5/21/2015	No	No	Yes	Yes	No
	9/28/2015	No	No	Yes	Yes	No
14th & Ida St	7/6/2015	No	No	No	Yes	No
	9/28/2015	No	No	Yes	Yes	No
John J. Pershing No. 1	6/10/2015	No	No	No	No	No
	9/15/2015	No	No	No	No	No
John J. Pershing No. 2	7/6/2015	No	No	Yes	No	No
	9/15/2015	No	No	Yes	No	No
Gifford Dr. No 1	5/21/2015	No	No	No	Yes	No
	9/28/2015	No	No	Yes	Yes	No
9th & Storz	7/6/2015	No	No	No	Yes	No
	9/15/2015	No	No	Yes	Yes	No

This permit requirement continues to be met.

E. Revise storm water BMP maintenance and inspection plan as needed.

There were no new projects completed or acquired in this permit year. Adams Park Lagoon is currently under construction as part of a Omaha CSO Program sewer separation project and was not inspected in 2015. Construction on the project began in late 2014 and work in the park will be substantially completed Spring of 2016. Incorporated into the contract for this project is a two year establishment period where the contractor will maintain the project to ensure the project's vegetation established fully. After that establishment period, the City will be responsible for on-going maintenance. Inspections for Adams Park is anticipated to occur in the Fall of 2016, pending construction schedule.

Each project is inspected annually at a minimum. Two employees, one full-time and one part-time, are dedicated to maintaining City owned stormwater BMP structures and green infrastructure projects throughout the year. If maintenance that exceeds the capacity of the dedicated employees, coordination with other City divisions or outsourcing of that work is sought.

This permit requirement continues to be met.

F. Implement strategies, which include a combination of structural and or non-structural BMPs appropriate for the watershed, which will address TMDL pollutants of concern. Evaluate these strategies and implement changes as necessary to improve water quality and address TMDL pollutants of concern.

The City of Omaha continues to partner with the Omaha Public Schools to monitor four discharge points at the Saddlebrook Joint Use Facility. Only flow was monitored in 2015, the facility did not have a water quality sampling event taken in 2015. The bioretention system repairs and re-planting was completed in the fall of 2015. Flow monitoring data remains consistent with previous years in showing reduced peak discharge rates and total volume from the green roof. As data is collected, the City will continue to compare the performance of the traditional versus the green features in terms of volume and pollutant reduction. With all monitoring efforts, the goal is to provide a better understanding of how well BMP's can reduce pollutants of concern so as to better promote their use in new and re-development.

In addition to Saddlebrook Joint Use Facility, the City of Omaha continues to actively evaluate the performance of BMPs, including past and current demonstration projects. Annual assessments of post-construction BMPs installed as a result of Omaha's Post-Construction Stormwater Ordinance. Additional details on 2015 BMP assessments can be found in Section VIII and Attachment D.

The City of Omaha updated their Omaha Regional Stormwater Design Manual (ORSDM) in 2014. This update included many updates to Chapter 8 Stormwater Best Management Practices to reflect current technologies, research, and field experiences.

This permit requirement continues to be met.

VI. Pollution Prevention/Good Housekeeping

a. Maintain Facility Runoff Control Plans (FRCP) for all City maintenance facilities to indentify BMPs implemented. Review FRCP annually and update as necessary. Inspect all facilities annually.

The City of Omaha conducted compliance audits at City Maintenance Facilities where FRCP's had been implemented. Four facilities scored needs improvement, six facilities scored satisfactory, and four were given an outstanding rating. The scores were based upon a records and site review. The auditor not only looked to see that inspections were being conducted but that any corrective actions that were noted had been addressed in a timely manner.

The City conducted twelve additional facility inspections where no FRCP had been recommended (primarily public parks/golf courses) to perform a "Hot Spot" evaluation. None of those facilities scored needs improvement, ten were satisfactory, and two were given an outstanding rating.

Copies of EQCD findings were forwarded to the department supervisors with suggested corrections where applicable.

This permit requirement continues to be met.

b. Inspect storm sewer conduits, channels and catch basins and remove and properly dispose of sediment and debris as needed to maintain an efficient system within permitted area.

The Sewer Maintenance Division is responsible for the inspecting, cleaning, repairing and maintaining of the storm sewer system. The Street Maintenance Division is responsible for any creek maintenance cleaning or clearing. They use the same work order tracking system to account for their activities. The table below represents both the Sewer Maintenance and Street Maintenance Divisions' storm sewer system activity for the permit year of 2015.

Work Order Type (Description of Work):	Storm/Storm Combined	Combined:	Task Total
Bait - (Put bait in nearest sewer entrances)	46	75	121
BU-SSO - (BU into property, City Caused, to NDEQ)	0	3	3
Bypass-SSO contained - (BP did not reach waters of State reported to NDEQ)	0	1	1
Bypass-SSO WOS - (Bypass reached waters of State, reported to NDEQ)	0	2	2
Clean FE - (Clean Flared End)	3	0	3
Clean Inlet - (Clean Inlet)	830	736	1,566
Clean MH - (Clean Manhole)	2	38	40
Clean Storm Struct - (Clean Stormwater Structure)	1	0	1
Dye Test - (Put Dye in Structure/Cavity to find flow)	175	136	311
I-Abandon - (Abandon the Inlet)	1	0	1
I-Clean - (Clean the Inlet)	5	2	7
I-Flared End - (Reset/Daylight/New Grate)	3	0	3
Inlet Blown Off - (Inlet Grate was blown off but is not missing)	0	1	1
Inlet Broken - (Inlet Grate was broken and replaced)	6	3	9
Inlet Stolen - (Inlet Grate cannot be found)	4	5	9

Insp Structure - (Inspect Sewer Structure (ex.FE, MH, Inlet, Siphon)	**193**	**227**	**420**
I-Repair - (Seal box, reset hood, reset grate, replace aprons)	**149**	**42**	**192**
I-Replace - (Replace Inlet, Includes all inlet types)	**12**	**17**	**29**
L/S Locate - (Locate where line segment is.)	**14**	**26**	**40**
Lat Defect - (Lateral has the defect)	**0**	**1**	**1**
MH Blown Off - (Manhole was blown off but not missing)	**12**	**16**	**28**
MH Broken - (Manhole broken and replaced)	**7**	**7**	**14**
MH Locate - (Find the location of manhole)	**61**	**101**	**162**
MH Stolen - (Manhole cannot be found)	**14**	**7**	**21**
MH-Abandon - (Abandon the Manhole)	**0**	**2**	**2**
MH-Clean - (Clean the Manhole)	**1**	**24**	**25**
MH-New - (Install new Manhole)	**0**	**1**	**1**
MH-R/C - (Reset/Replace Ring & Cover)	**33**	**48**	**81**
MH-Repair - (Ex-seal riser/brick or pipe wall link, floor rehab)	**14**	**42**	**56**
MH-Replace - (Replace manhole and or risers)	**0**	**5**	**5**
Notified Utility - (Notified a utility about a problem they have)	**1**	**9**	**10**
O-Backfill Tamp - (Backfill a void that is not sewer related)	**1**	**0**	**1**
Odor-Inside - (Bad Odor in residence)	**0**	**7**	**7**
Odor-Outside - (Bad Odor outside)	**6**	**10**	**16**
O-Landscaping - (Doing any landscape work at the project area)	**2**	**1**	**3**
P-Abandon - (Abandon the Pipe)	**0**	**4**	**4**
P-Combo Repair - (Seal a Combined line)	**0**	**10**	**10**
P-Combo Replace - (Replace a Combined line)	**0**	**2**	**2**
Private - (Private Problem, notify owner)	**9**	**24**	**33**
P-Sanitary Repair - (Repair a Sanitary line)	**1**	**5**	**6**
P-Sanitary Replace - (Replace a Sanitary line)	**0**	**4**	**4**
P-Serv lat defect - (Repair/Replace the service line)	**0**	**16**	**16**
P-Sewer Walk - (Investigate/repair of large sewers w/ a walk team)	**0**	**2**	**2**
P-Storm Repair - (Repair a Storm line)	**35**	**11**	**46**
P-Storm Replace - (Replace a Storm line)	**14**	**12**	**26**
Street Flooding - (Storm Water is flooding the street)	**10**	**1**	**11**
Test Hole - (Drill Test Hole)	**0**	**2**	**2**
TV Inspection - (TV line to find defect)	**93**	**169**	**262**
Unscheduled Jet - (Jetting a line reactively)	**21**	**146**	**167**
Unscheduled Jet Vac - (Jet Vac'ing a line reactively)	**14**	**74**	**88**
Unscheduled Saw - (Jet Sawing a line reactively)	**5**	**11**	**16**
Vac Facility Pit - (Jet Vac the Grit Pit at a City Facility location)	**0**	**3**	**3**
Vac Grit Pit - (Jet Vac a Grit Pit not at a facility location)	**0**	**5**	**5**
Vac Wet Well - (Vac the wet wells at the levee lift stations.)	**2**	**0**	**2**
Creek Maintenance	**-**	**-**	**5**
Culvert Cleaning	**-**	**-**	**18**
Culvert Repair	**-**	**-**	**7**
Debris Removal	**-**	**-**	**915**
Ditch Maintenance/Cleaning	**-**	**-**	**27**
Storm Debris Removal - ROW	**-**	**-**	**2**
Total:	**1,800**	**2,096**	**4,871**

This permit requirement continues to be met.

c. Training will be provided for employees to prevent pollutant runoff from municipal operations at City maintenance facilities and at field operations.

The City of Omaha employed the services of Felsburg Holt & Ullevig (FHU) in 2009 to develop a training program targeted toward municipal operations at City maintenance facilities. EQCD held 5 training sessions at municipal facilities in 2015, there were a total of 76 employees in attendance combined.

This permit requirement continues to be met.

d. Provide for street cleaning in the following areas: Residential, Business, Major Streets, Other areas in conjunction with special projects.

There are approximately 4,594 lane miles within the City of Omaha. In 2015, the City mechanically swept a total of 9,400 curb miles. The table below gives a more detailed accounting of the City's street sweeping activities. The street sweeping operation no longer allows for debris to be separated by areas of the city.

Area of City	Curb Miles Swept	Tons of Debris Removed
Business District & Major Streets	4,492	1,595
Residential Areas	4,908	3,915
Totals	9,400	5,510

This permit requirement continues to be met.

e. City staff that applies pesticides will be trained in a certification program that complies with FIFRA regulations.

The City's Environmental Quality Control Division and the Parks and Recreation Department have applicators who are required to be FIFRA certified. There are currently 50 certified applicators. All certifications are up to date and are obtained from the Douglas–Sarpy County Extension Office.

This permit requirement continues to be met.

f. The City will continue to minimize pesticide and fertilizer use on publically maintained properties.

EQCD works with the Parks Department to encourage applicators to minimize pesticide and fertilizer use on publicly maintained properties. Additionally Keep Omaha Beautiful Inc. distributed two different brochures on the topic to multiple locations and events from March through September.

This permit requirement continues to be met.

VII. Industrial Facilities

a. Issue City of Omaha Industrial Stormwater Permits. Permits to be issued to specific sectors to maximize effectiveness of education and outreach activities and utilize staff resources efficiently.

The City of Omaha contracted the services of Felsburg Holt & Ullevig to aid in the assessment and prioritization of industries required to obtain stormwater discharge permit coverage. A "Risk Assessment Checklist" was developed using information gathered from an article published in February 2008 in the *Journal of the American Water Resources Association.* The risk assessment allocates points based upon level of exposure to stormwater as well as any pollutants of concern. As more sites are permitted and assessed for stormwater exposure those sectors and/or industries which score high on the risk assessment will be given a priority status and will be inspected on a more frequent basis than those industries which receive a low score. The City of Omaha website has a section devoted to the industries and many educational and reference resources for them area available there. There were 13 permits issued in 2015 from Sectors B, C, D, N, U, AA, and AB.

This permit requirement on schedule to be met.

b. Inspect 20% of facilities per year issued City of Omaha Industrial Stormwater Permits, taking appropriate enforcement action consistent with adopted ordinances.

E & A Consulting Group (E&A) and Felsburg Holt & Ullevig were contracted to assist the City in inspecting industrial facilities during this permit year. A total of 23 permitted facilities from multiple sectors were inspected for compliance during the calendar year of 2015. A total of 24 facilities were to be inspected, however during the process one facility was found to no longer have an Omaha office and was sold. The facilities that were inspected have Industrial Stormwater Permits with the City of Omaha and were inspected for compliance with their permit. Two of the inspections were done in conjunction with the NDEQ. One of the facilities was not permitted by the NDEQ and has been informed of their obligation to comply with the NPDES Program. These 23 inspections represent 19% of the 121 facilities permitted by the City of Omaha prior to 2015.

This permit requirement continues to be met.

c. Implement a permit tracking system.

The City purchased CBI Systems, Inc MS4Web web-based software which is used to support the tracking of permitted sites. An Access database has also been utilized to organize industry information and permitting information. As the City issues more permits to industries, these programs will become valuable tools in maintaining permit compliance.

This permit requirement continues to be met.

d. Review City of Omaha Industrial Stormwater Permit for consistency with Federal and State NPDES Industrial Stormwater Permit.

The City of Omaha finalized their Industrial Stormwater Permit on April 1, 2009. In drafting the permit the City used language from the most recent EPA Multi-Sector General Permit (MSGP). Most of the content of the EPA's MSGP was adapted into the City's permit. There were no updates to Omaha's Industrial Stormwater Permit in 2015.

This permit requirement has been met.

VIII. Storm Water Monitoring Plan

a. Conduct in-stream water quality monitoring of named creeks in the Papillion Creek Watershed. Collect samples from at least 4 sites located in the Papillion Creek Watershed. Samples will be collected from May through August one day a week and analyzed for the following parameters: BOD5, TSS, ammonia nitrogen, nitrate-nitrogen, total nitrogen, soluble and total phosphorus, turbidity, pH, E coli, and Physical Characteristic Examinations. The purpose of the monitoring will be to evaluate the effectiveness of storm water management practices in the City of Omaha as it relates to TMDL pollutants of concern.

The City of Omaha conducted in-stream monitoring once a week beginning on May 6 and concluded on August 26. The data collected has been compiled into Attachment E.

This permit requirement continues to be met.

b. Develop an assessment monitoring plan for demonstration BMPs. Evaluate the effectiveness of the selected BMPs to treat storm water for the TMDL pollutants of concern and other water quality benefits. Consider implementation of refinements to the BMPs, which would improve their effectiveness. One aspect of the monitoring plan will include the collection stream samples on the segment that runs through Orchard Park to establish baseline conditions for BMP assessment purposes. Additionally, the plan will address how the City proposed to use stream samples collected in dry weather and wet weather, as described in A above, to estimate the pollutant masses discharged on an event basis and an annual basis.

Saddlebrook Joint Use Facility

The construction of a green roof and a bioretention garden was completed in 2009 at the Saddlebrook Joint Use Facility. The bioretention garden receives runoff from part of the parking area at the facility. Monitoring stations were also installed at the green roof discharge point, traditional roof discharge point, bioretention garden discharge point and a point of discharge from a parking area without a BMP upstream.

Only flow from the green roof and the traditional roof were monitored in 2015, the facility did not have a water quality sampling event taken in 2015. The bioretention system flow was not monitored due to repairs and replanting of the system. The repairs and re-planting were completed in the fall of 2015. Flow monitoring data remains consistent with previous years in showing reduced peak discharge rates and total volume from the green roof when compared to the traditional roof. As data is collected, the City will continue to compare the performance of the traditional versus the green features in terms of volume and pollutant reduction. With all monitoring efforts, the goal is to provide a better understanding of how well BMP's can reduce pollutants of concern so as to better promote their use in new and re-development

50th and Pine demonstration project

In 2013, monitoring equipment, including a rain gauge, ultrasonic water level, soil moisture, and temperature sensors at the 50th and Pine St demonstration project. Real-time controls were installed on the underdrain to improve the stormwater runoff volume management of the system. Information collected so far has helped to better understand BMP function and improve their performance, including reducing the amount of runoff from the site, realizing infiltration occurring beneath the parking lot, and the temperature at depth under the parking lot. Data will continue to be gathered to better understand performance and design elements of permeable pavement and bioretention systems.

In January 2015, data for the 50th and Pine demonstration project were presented at the 2015 International Low Impact Development Conference in Houston, Texas. A summary of the project, goals and current data were presented. An excerpt is included in Attachment D.

Sewer Maintenance demonstration project

The City of Omaha is collaborating with the US EPA, USGS, University of Nebraska at Omaha, and the Omaha CSO Program on the monitoring of the Sewer Maintenance demonstration project. The monitoring effort is focused assessing the water quantity benefits associated with permeable pavement and bioretention systems through a water balance study. A weather station, inflow and outflow flumes, soil moisture sensors, and water level pressure transducers are all incorporated to monitor the total flows into and out of the systems. The monitoring project will be in place for three years with 2015 being the first year. An excerpt of a recent presentation on the initial data is included in Attachment D. Initial data indicates that the permeable pavement and bioretention system provide significant volume and peak flow reductions. A valve that is installed on the bioretention system also provides significant benefits in the overall performance and management of the system.

In 2015, the City of Omaha began developing a BMP Monitoring Plan to assess the performance of existing green infrastructure demonstration projects to further assess their benefits on water quality. In the fall of 2015, Creighton Prep and Orchard Park were the first two sites to have monitoring equipment installed. Creighton Prep has inflow and outflow area velocity sensors and samplers, pressure transducers in stilling basins to measure water movement at depth under the bioretention, and another pressure transducer in the bottom of the bioretention system to assess draw down rates for above ground ponded water. Orchard Park is utilizing a neutron probe and tubes in series around the north bioretention system to assess water movement in and around it. At the time of this report, data for the end of 2015 is not available. Monitoring will resume in 2016.

This permit requirement on schedule to be met.

IX. Additional Permit Reporting Requirements

1. Proposed SWMP Changes and Revisions

Attachment A is the SWMP for the City of Omaha; the City was granted an administrative extension to the existing permit and operates under this SWMP. The City annexed the following unincorporated areas in August 2015, and would now be considered part of the MS4 Permit coverage area.

Area Description	Population	Sq Miles	Acres
Area SW 180th and F Street	173	0.712	455.809
Eldorado	2,273	0.460	294.290
Le Beau	834	0.127	81.519
Rolling Meadows and Adjacent Area	215	0.228	145.951
Nelson's Creek	1,375	0.252	161.179
Diamond Head	1,384	0.260	166.516
Huntington Park and Adjacent Area	1,942	0.529	338.244
Skyline Country and Adjacent Area	0	0.074	47.199
Vintage Oaks	731	0.123	79.029
Standing Bear Pointe	483	0.085	54.481
Mission Pines	205	0.065	41.619
Northwest Village 2nd Addition	52	0.023	14.677
Hillsborough Pointe and Adjacent Area	866	0.059	37.974
Brookhaven West	535	0.066	42.368
Whispering Hills	771	0.068	43.709
180th Plaza and Adjacent Area	0	0.024	15.223

2. Expenditures for the Storm Water Program

At the time of preparation of this annual report the City Finance Department had not finalized the accounting for 2015 expenditures, so the following figures are subject to minor revisions. A copy of the complete City of Omaha budget with past expenditures can be found at http://finance.cityofomaha.org. Stormwater management activities are embedded in variety of City programs and work groups. These activities are funded by a variety of sources including the General Fund, Sewer Revenue Funds, Stormwater Administrative Fee Fund, Street and Highway Allocations, and the Street Maintenance Fund.

As such, it is difficult to accurately compile a comprehensive financial summary of every City activity that may have impacts on stormwater. For example, the City maintains litter cans in business districts throughout the City and has a contractor scheduled to empty them on a regular basis. This activity constitutes a stormwater source control or pollution prevention program. These costs are expended from the Solid Waste budget and are not included in the figures below.

1. Administrative

The Quality Control Division of the Omaha Public Works Department has responsibility for coordinating City activities to implement the SWMP and insure that the City meets its MS4 and CSO permit requirements. The estimated MS4 administrative expenditures for 2015 and appropriated 2016 budget amounts are listed below.

Administrative	2015 Expenditures	2016 Planned
Flood Control Administration	$182,037	$369,346
Baseline/BMP Monitoring[1]	$362,006	$377,249
Sedimient/Erosion Control Program	$362,006	$377,249
Industrial Program[2]	$72,401	$75,450
Public Education/Outreach	$265,471	$276,650
MS4 Planning	$144,802	$150,900
Annual Administrative Total	$1,388,723	$1,626,844

[1] Includes outfall monitoring, outfall inspections, and illict discharge investigations

[2] Includes industrial inspections and permitting

2. Operation and Maintenance

The major MS4-related Operation and Maintenance 2015 expenditures and budgeted amounts for 2016 are listed below. These amounts were estimated by evaluating the overall activity costs in the City budget organizations and assigning a percentage for the costs attributable to storm water related activities. There are undoubtedly additional City funded expenditures that impact storm water management, and the following is a conservative estimate of total costs for the City.

Operation and Maintenance	2015 Expenditures	2016 Budgeted
Engineering Design	$463,769	$589,863
Pavement Maintenance	$486,849	$1,259,465
Creek/Open Channel Maintenance	$764,983	$852,952
Street /Right of Way Cleaning	$2,535,026	$3,238,507
OWP (debris removal)	$8,687	$29,951
Residential Street Rehabilitation	$311,170	$210,000
Bridge Maintenance and Rehab	$32,765	$148,841
Sewer Maintenance	$556,766	$616,526
Annual O&M Total	$5,160,015	$6,946,105

ATTACHMENT A

ATTACHMENT A

Stormwater Management Plan for the City of Omaha

#1: Public Education & Outreach

BMP #	SWMP Element Description	Measurable Commitments & Implementation Schedule
1.A	Distribute informational brochures on the proper disposal of household hazardous wastes and the availability of the Household Hazardous Waste facility.	Year 1 – 5: Print and distribute brochures. Include the following in Annual Report: the quantity of waste received at the drop-off facility; a summary list of the distribution outlets used for brochures; an estimate of the brochures distributed each year.
1.B	Issue public service announcements related to storm water protection on local TV, radio or print outlets which will address TMDL pollutants of concern.	Year 1 – 5: A summary of the activities will be included in the Annual Report.
1.C	Continue existing drain marking program to improve public awareness concerning illegal dumping utilizing volunteer services (Boy Scouts) which will address TMDL pollutants of concern.	Year 1 – 5: Mark approximately 1,000 inlets annually and include a summary in the Annual Report.
1.D	Hold a Sediment and Erosion Control Seminar for the developers, builders, engineers, vendors, and graders which will address TMDL pollutants of concern.	Year 1 – 5: Annual Sediment and Erosion Control Seminar. Include a summary of the approximate number of participants in Annual Report.
1.E	Schedule outreach events with industry trade organizations to educate the regulated community regarding Omaha's Industrial Permitting Program.	Year 1 – 2: Industrial Permit Outreach. Include a summary of the number of events and approximate number of participants in Annual Report.
1.F	Work collaboratively with other community organizations to develop a campaign aimed at picking up pet waste which will address TMDL pollutants of concern.	Year 1: Develop outreach material and partnerships. Year 2 - 5: Distribute information. Provide an estimate of number of brochures distributed and activities targeted.
1.G	Develop materials and displays associated with BMP demonstration projects installed with Stormwater Management Program Plan funds from NDEQ.	Year 1 -5: Provide a narrative and examples of materials developed in annual report.
1.H	Develop a City Stormwater Program Web Site, including but not limited to storm water related information and provide educational information targeted for residents, children, and industries which will address TMDL pollutants of concern.	Year 1-5: Develop, operate and maintain a City Stormwater Web site. Include a narrative in the Annual Report describing the functions of the website.

 # 2: Public Participation and Involvement

BMP #	SWMP Element Description	Measurable Commitments & Implementation Schedule
2.A	Operate a stormwater hotline and web based complaint system for Watershed (general information, complaints, reports of illegal dumping, etc.).	Years 1 - 5: Maintain system operation and include summary of received calls/emails in the Annual Report.
2.B	Participate in organizing and hold open houses on Papillion Creek Watershed Plan activities.	Years 1 - 5: A summary of activities will be included in the Annual Report.
2.C	Continue to implement a stream Cleanup Day. Utilize Keep Omaha Beautiful to identify stream segments in need of cleanup and recruit volunteers from the local area, public groups, and representatives from local area business and developments.	Years 1 – 5: Conduct one clean-up day each year. A summary of the clean-up day activities will be included in the Annual Report.
2.D	Provide tours of UndertheSink, household hazardous waste facility, for schools and neighborhood organizations to learn about the proper way to manage household chemicals and about stormwater treatment systems installed at the site.	Year 1 – 5: Provide a summary of the tours conducted on an annual basis for the annual report. Document when BMPs are installed and included in the tour.
2.E	Hold World O! Water Festival focused on elementary school aged children to celebrate Clean Water and engage in water quality related activities.	Year 1-5: Hold event annually. Report estimated number of participants in Annual Report.
2.F	Participate in community organizations, conferences, workshops, and web casts related to water quality and stormwater management.	Year 1- 5: Report number of staff attending, dates, location, and description of events.

 # 3: Illicit Discharge Detection and Elimination

BMP #	SWMP Element Description	Measurable Commitments & Implementation Schedule
3.A	Perform dry-weather inspections including Physical Characteristics Examinations of storm water outfalls 72" or greater and any outfalls with documented complaints.	Year 1 – 5: Inspect and record observations. Included a count of outfalls inspected in the Annual Report.
3.B	Investigate and seek resolution concerning any dry weather discharges of potentially impacted by sources by notifying the source that they must discontinue discharging, and initiate enforcement action consistent with adopted ordinance which will address TMDL pollutants of concern. Any source that the applicant feels constitutes an immediate health or safety threat will be reported immediately to the NDEQ.	Year 1 – 5: The following information will be included in the Annual Report: the number of potential process or wastewater sources found; the number of above resolved at local level; and the identity of any referred and/or unresolved discharge sources.
3.C	Dry weather inspection of storm water outfalls, including smaller outlets and those that discharge to lesser tributaries or other storm conduits, in response to suspect conditions and/or complaints.	Year 1 – 5: Inspect and record observations. Included a count for outfalls inspected in the Annual Report.
3.D	Enforce existing City codes prohibiting illicit discharge connections to storm sewers.	Year 1 -5: Summarize code violations and enforcement actions taken in annual report.
3.E	Maintain and prevent instances of sanitary sewer leakage into MS4 or waters of the state.	Year 1 -5: Summarize investigations of leakage and actions taken in Annual Report.
3.E	Maintain and update a sewer map of major storm water outfalls and identify the names of respective receiving waters.	Years 1 - 5: Map will be maintained electronically on City GIS.
3.G	Prevent, contain and respond to spills to the MS4. Review, as necessary, interdepartmental SOPs with respects to spills, dumping and illegal disposal that impacts the MS4.	Year 1-5: Summarize number of reports of spills and actions taken in Annual Report. Identify City Department SOP and review date in Annual Report.

 # 4: Construction Site Runoff Control

BMP #	SWMP Element Description	Measurable Commitments & Implementation Schedule
4.A	Maintain the construction site inspection and reporting web site and continue to make enhancements.	Year 1-5: Include a narrative in the annual report about major web site upgrades and the date implemented.
4.B	Maintain a construction site inspection program that includes procedures for reporting, resolving deficiencies, and taking appropriate enforcement action consistent with adopted ordinances.	Years 1-5: The Annual Report will contain the following information relative to this commitment: 1) the number of inspections conducted in each of the following size categories: < 5 acres and > 5 acres 2) the number of sites receiving enforcement actions.
4.C	Maintain regulations and design specifications for controlling erosion, sediment loss, and other TMDL pollutants of concern from construction sites that disturb areas of 1 acre or more.	Year 1 -5: Provide a narrative description of any changes implemented in the City's sediment and erosion control regulations or design specifications in the annual report.
4.D	Maintain a program for performing review of Grading Permit applications to ensure compliance with applicable regulations and design specifications.	Year 1 -5: Summarize the number of grading permit issued on an annual basis.

 # 5: Post-construction Runoff Control

BMP #	SWMP Element Description	Measurable Commitments & Implementation Schedule
5.A	Develop guidance document for Post-Construction Stormwater Management Plan.	Year 2: Develop guidance document for Post Construction Storm Water Management Plan Year 2-5: Revise as necessary.
5.B	Participate with other City Departments to prepare an Environmental Element of City of Omaha Master Plan and include applicable storm water management provisions.	Year 1-5: Summarize progress in annual report. Year 5: Present the Environmental Element to City Planning Board and Omaha City Council for their consideration to adopt into the Omaha Master Plan.
5.C	Develop a database of existing structural BMPs (private and public) that reduce the impact of urbanization on storm water run-off and improve water quality and enhance other amenities and activities such as green space, parks and recreation, urban planning, aesthetics, and public safety.	Year 2: Coordinate with engineering firms and the NRD to identify existing BMPs and their location. Year 3: Develop a database and GIS map of BMPs.
5.D	Inspect annually and maintain (as necessary) City owned storm water BMP structures.	Year 1 -5: List BMPs inspected and summarize maintenance activity in Annual Report.
5.E	Revise stormwater BMP maintenance and inspection plan as needed.	Year 1-5: Review maintenance plan annually and include new structures. Make revisions as necessary. Report revisions and new structures in Annual Report.
5.F	Implement strategies, which include a combination of structural and or non-structural BMPs appropriate for the watershed, which will address TMDL pollutants of concern. Evaluate these strategies and implement changes as necessary to improve water quality and address TMDL pollutants of concern.	Year 1 -5: Summarize strategies, findings, and any changes in the Annual Report.

 # 6: Pollution Prevention/Good Housekeeping for Municipal Operations

BMP #	SWMP Element Description	Measurable Commitments & Implementation Schedule
6.A	Maintain Facility Runoff Control Plans (FRCP) for all City maintenance facilities to indentify BMPs implemented. Review FRCP annually and update as necessary. Inspect all facilities annually.	Year 1 -5: Review logs of FRCP updates and inspections. Report dates in annual report.
6.B	Inspect storm sewer conduits, channels and catch basins and remove and properly dispose of sediment and debris as needed to maintain an efficient system within permitted area.	Year 1 - 5: Report maintenance activities in the Annual Report.
6.C	Training will be provided for employees to prevent pollutant runoff from municipal operations at City maintenance facilities and at field operations.	Years 1 – 5: Provide training annually for employees and include summary in Annual Report of when training was held and number of attendees.
6.D	Provide for street cleaning in the following areas: Residential Business Major Streets Other areas in conjunction with special projects	Year 1 – 5: Summarize street cleaning activities in annual report.
6.E	City staff that applies pesticides will be trained in a certification program that complies with FIFRA regulations.	Year 1 -5: Report total number of City Staff certified each year in the Annual Report.
6.F	The City will continue to minimize pesticide and fertilizer use on publically maintained properties.	Year 1 -5: Summarize efforts in Annual Reports.

 # 7: Industrial Facilities

7.A	Issue City of Omaha Industrial Stormwater Permits. Permits to be issued to specific sectors to maximize effectiveness of education and outreach activities and utilize staff resources efficiently.	Year 1: Develop priority system based on industrial sector for targeting industries to issue City of Omaha Industrial Stormwater Permits Year 2- 5: Issue permits Report number of permits issued and industrial sector/SIC in Annual Report.
7.B	Inspect 20% of facilities per year issued City of Omaha Industrial Stormwater Permits, taking appropriate enforcement action consistent with adopted ordinances.	Year 1 -5: Summarize number of facilities issued permits, number of facilities inspected, and number of enforcement actions in Annual Report.
7.C	Implement a permit tracking system.	Year 2: Implement a GIS based tracking system for permits, inspections, and compliance. Develop automated summary to be included in Annual Report. Year 3 – 5: Include summary in Annual Report
7.D	Review City of Omaha Industrial Stormwater Permit for consistency with Federal and State NPDES Industrial Stormwater Permit.	Year 1 – 5: Summarize updates to City of Omaha Industrial Stormwater Permits in Annual Report.

#8: Storm Water Monitoring Plan

SWMP Element #	SWMP Element Description	Measurable Commitments & Implementation Schedule
8.A	Conduct in-stream water quality monitoring of named creeks in the Papillion Creek Watershed. Collect samples from at least 4 sites located in the Papillion Creek Watershed. Samples will be collected from May through August one day a week and analyzed for the following parameters: BOD5, TSS, ammonia nitrogen, nitrate-nitrogen, total nitrogen, soluble and total phosphorus, turbidity, pH, E coli, and Physical Characteristic Examinations. The purpose of the monitoring will be to evaluate the effectiveness of storm water management practices in the City of Omaha as it relates to TMDL pollutants of concern. List of potential sites: 170 and Highway 36 (Big Papio) 77th and L Street (Big Papio) 64th and L Street (Little Papio) Ft. Crook Road – USGS station (Papillion Creek)	Year 1- 5: Conduct monitoring The following information shall be included in the Annual Activity Report: The monitoring data; A summary report on the findings relative to SWMP efforts; Any modifications of monitoring locations or procedures.
8.B	Develop an assessment monitoring plan for demonstration BMPs. Evaluate the effectiveness of the selected BMPs to treat storm water for the TMDL pollutants of concern and other water quality benefits. Consider implementation of refinements to the BMPs, which would improve their effectiveness. One aspect of the monitoring plan will include the collection stream samples on the segment that runs through Orchard Park to establish baseline conditions for BMP assessment purposes. Additionally, the plan will address how the City proposed to use stream samples collected in dry weather and wet weather, as described in 8.A above, to estimate the pollutant masses discharged on an event basis and an annual basis.	Year 1 – 2: Visually document and monitor the installation of the demonstration BMPs. Installation is expected to be complete by the end of Year 2. Provide a narrative to report progress in Annual Report. Year 2: Develop the BMP assessment monitoring plan and submit to NDEQ for approval as an attachment to the Annual Report. Years 3 - 5: Conduct monitoring. The following information shall be included in the Annual Activity Report: the location of the monitoring site the intensity and duration of the storm event monitored; the timing of sampling in comparison to the occurrence of the storm event and to the discharge of peak storm water flows; the monitoring data; and a summary report on the findings of the removal rates of the constituents monitored for the BMPs.

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COMPLAINT INVESTIGATIONS

Date	Complaint Type	Address	IDDE Classification	Enforcement Type
10/3/2014	Cooking Oil Discharge	14835 Walnut Grove Cir	Illicit Discharge	Request for Voluntary Compliance - Written
10/29/2014	Leaky Vehicle	3363 T St.	Potential Illicit Discharge	Request for Voluntary Compliance - Written
10/31/2014	Sediment Complaint	16 & Ames	Construction	Request for Voluntary Compliance - Verbal
11/3/2014	Sediment & Erosion Complaint	The Hamptons	Construction	Request for Voluntary Compliance - Verbal
11/5/2014	Sediment Complaint	169th & Joanne Dr	Construction	Request for Voluntary Compliance - Verbal
11/10/2014	Unknown Material in ROW	72 & Dodge	Construction	Request for Voluntary Compliance - Verbal
11/17/2014	Sediment & Erosion Complaint	192nd Avenue Circle	Construction	Request for Voluntary Compliance - Verbal
11/26/2014	Sediment & Erosion Complaint	27th & Harrison	Construction	Request for Voluntary Compliance - Written
12/10/2014	Sediment & Erosion Complaint	17609 Corby Circle	Construction	No Action Taken
12/31/2014	Leaky Vehicle	4210 South 175th Avenue	Potential Illicit Discharge	Request for Voluntary Compliance - Written
1/20/2015	Oil Discharge	1908 Elm St.	Potential Illicit Discharge	Referred to Code Enforcement
1/27/2015	Wash Water Discharge Compliant	6059 Maple St	Illicit Discharge	Request for Voluntary Compliance - Written
1/27/2015	Grease Discharge	5103 Leavenworth St	Potential Illicit Discharge	Request for Voluntary Compliance - Verbal
2/3/2015	Runoff Complaint	Boys Town Lake, Dam #3	None	Investigated - Source Located
2/20/2015	Sediment Complaint	16th and Fort	Construction	Request for Voluntary Compliance - Verbal
2/22/2015	Drainage Complaint	4204 S 179th St.	None	No Action Taken
2/24/2015	Sediment & Erosion Complaint	2557 Jones St. Apt. 204	Construction	Request for Voluntary Compliance - Verbal
2/26/2015	Oil Discharge	1315 S 199th St	Illicit Discharge	Referred to NDEQ
3/11/2015	Excavating and Soil Dumping	708 Bancroft ST	Construction	Referred to Code Enforcement
3/23/2015	Grease Spill	Piccasos Pizza 4963 Center	Illicit Discharge	Request for Voluntary Compliance - Written

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3/26/2015	Sediment & Erosion Complaint	3301 S. 66th Ave Cir	Construction	Request for Voluntary Compliance - Verbal
3/28/2015	Litter in Creek	North Branch of West Papillion Creek, 168th St.	None	Referred to Keep Omaha Beautiful
3/31/2015	Dust and Sediment Complaint	18th & Jaynes, City of Omaha Joint Use Facility	Construction	Request for Voluntary Compliance - Verbal
3/31/2015	Runoff and Sediment Complaint	3234 S 66th Ave. Circle	Construction	Request for Voluntary Compliance - Verbal
4/3/2015	Suspicious Discharge to inlet	3315 N 147th CT	Potential Illicit Discharge	Request for Voluntary Compliance - Verbal
4/6/2015	Sediment Complaint	23716 Hampton Road	Construction	Request for Voluntary Compliance - Verbal
4/6/2015	Sediment Complaint	6304 S 171 ST	Construction	Investigated - Invalid Complaint
4/9/2015	Sediment & Concrete Wasout	72nd & Dodge	Construction	Request for Voluntary Compliance - Verbal
4/9/2015	Chemical Discharge	Happy Hollow Country Club 1701 S. 105th Street	Potential Illicit Discharge	Investigated - Invalid Complaint
4/9/2015	Sediment Complaint	31 & Leavenworth	Construction	Request for Voluntary Compliance - Verbal
4/10/2015	Runoff Complaint	121st Ave & Pederson	Construction	Request for Voluntary Compliance - Verbal
4/10/2015	Sediment Complaint	174th and Edmond St.	Construction	Request for Voluntary Compliance - Verbal
4/16/2015	Material Accumulation	2001 Nicholas Street	Potential Illicit Discharge	Request for Voluntary Compliance - Written
4/16/2015	Suspicious Discharge	4503 S. 21st Street	Potential Illicit Discharge	Investigated - Invalid Complaint
4/21/2015	Erosion Complaint	3324 Davenport LLC, 5062 S 108th St #210	Construction	Request for Voluntary Compliance - Verbal
4/24/2015	Erosion Complaint	4868 S 236 Cir	Construction	Request for Voluntary Compliance - Verbal
4/29/2015	Suspicious Material in street	12974 Browne Circle	Illicit Discharge	Request for Voluntary Compliance - Written
5/1/2015	Sediment & Erosion Complaint	42nd & Lake	Construction	Request for Voluntary Compliance - Verbal
5/6/2015	Erosion and Flooding Complaint	4515 S 194th St	None	Investigated - Invalid Complaint
5/6/2015	Runoff Complaint	812 S 51st St.	Potential Illicit Discharge	Investigated - No Source Located
5/7/2015	Sediment Complaint	1824 South 194 Ave	Construction	Request for Voluntary Compliance - Verbal

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5/7/2015	Sediment Complaint	4208 N 207th Ave. Cir	Construction	Request for Voluntary Compliance - Verbal
5/8/2015	Suspicious Discharge to Street	12418 Burt Ct	Potential Illicit Discharge	No Action Taken
5/12/2015	Oil Discharge	6302 S 197th Ave	Potential Illicit Discharge	Request for Voluntary Compliance - Verbal
5/13/2015	Sediment Complaint	2005 N 189 ST	Construction	Request for Voluntary Compliance - Verbal
5/15/2015	Sediment Complaint	20521 Taylor St	Construction	Request for Voluntary Compliance - Verbal
5/18/2015	Erosion Complaint	802 N 88th Ave (88th Ave & Burt)	None	Referred to Streets Department
5/22/2015	Sediment Complaint	2101 N 176th Ave	Construction	Request for Voluntary Compliance - Verbal
6/1/2015	Soil Stockpile in Street	4230 William St	Construction	Request for Voluntary Compliance - Verbal
6/3/2015	Sediment Complaint	60th & Center St	Illicit Discharge	Request for Voluntary Compliance - Verbal
6/4/2015	Suspicious discharge to street	4660 S 60th Ave	Potential Illicit Discharge	Investigated - No Source Located
6/4/2015	Erosion Complaint	144th St north of Industrial along RR tracks	None	Investigated - Referred to Union Pacific RR
6/5/2015	Oil Discharge	19882 Chicago St	Illicit Discharge	Request for Voluntary Compliance - Verbal
6/8/2015	Sediment Complaint	20805 Ames Ave	Construction	Request for Voluntary Compliance - Verbal
6/12/2015	Suspicious discharge to street	14830 Parker Plaza	Illicit Discharge	Request for Voluntary Compliance - Written
6/16/2015	Erosion & Runoff Complaint	915 Pacific St alley & adjacent streets	None	Referred to Streets Department
6/19/2015	Debris in Inlet	4702 Shirley St	Potential Illicit Discharge	Referred to Sewer Maintenance
6/20/2015	Oil Discharge	12333 A St	Potential Illicit Discharge	Investigated - Referred to Planning
6/23/2015	Erosion Complaint	21st and Douglas	Construction	Request for Voluntary Compliance - Verbal
7/2/2015	Dumping Complaint	7720 Burt St	None	Request for Voluntary Compliance - Verbal
7/13/2015	Sediment & Erosion Complaint	23716 Hampton Road	Construction	Request for Voluntary Compliance - Verbal
7/29/2015	Sediment & Erosion Complaint	2514 Brookside Ave	Construction	Request for Voluntary Compliance - Verbal
7/31/2015	Concrete Washout	132nd & Maple	Construction	Request for Voluntary Compliance - Verbal
8/18/2015	Suspicious discharge to street	127 & Lafayette Ave	Illicit Discharge	Request for Voluntary Compliance - Verbal

ATTACHMENT B

8/18/2015	Sediment Complaint	2104 S 190th Cir	None	Referred to property owner (golf course)
8/18/2015	Sediment & Erosion Complaint	21515 Sky Ridge Plaza	Construction	Request for Voluntary Compliance - Verbal
8/27/2015	Runoff Complaint	236 S 88th St	None	No Action Taken
8/27/2015	Erosion Complaint	7252 N 76th St	None	Referred to Papio-Missouri River NRD
8/28/2015	Sediment Complaint	2203 S 181st Cir	Construction	Request for Voluntary Compliance - Verbal
8/28/2015	Runoff Complaint	8861 Izard Circle	None	No Action Taken
8/31/2015	Erosion Complaint	3320 Tucker St	None	Referred to Streets Department
9/2/2015	Suspicious discharge to street	NW corner of 72nd & Sorenson	Potential Illicit Discharge	Investigated - Invalid Complaint
9/6/2015	Suspicious discharge to street	805 El Dorado Drive	Potential Illicit Discharge	Investigated - Invalid Complaint
9/8/2015	Runoff Complaint	3411 S. 126th St	None	Investigated - Invalid Complaint
9/8/2015	Oil Discharge	6237 S 41 St	Potential Illicit Discharge	Request for Voluntary Compliance - Verbal
9/25/2015	Sediment Complaint	1610 S 193 St	Potential Illicit Discharge	Request for Voluntary Compliance - Verbal

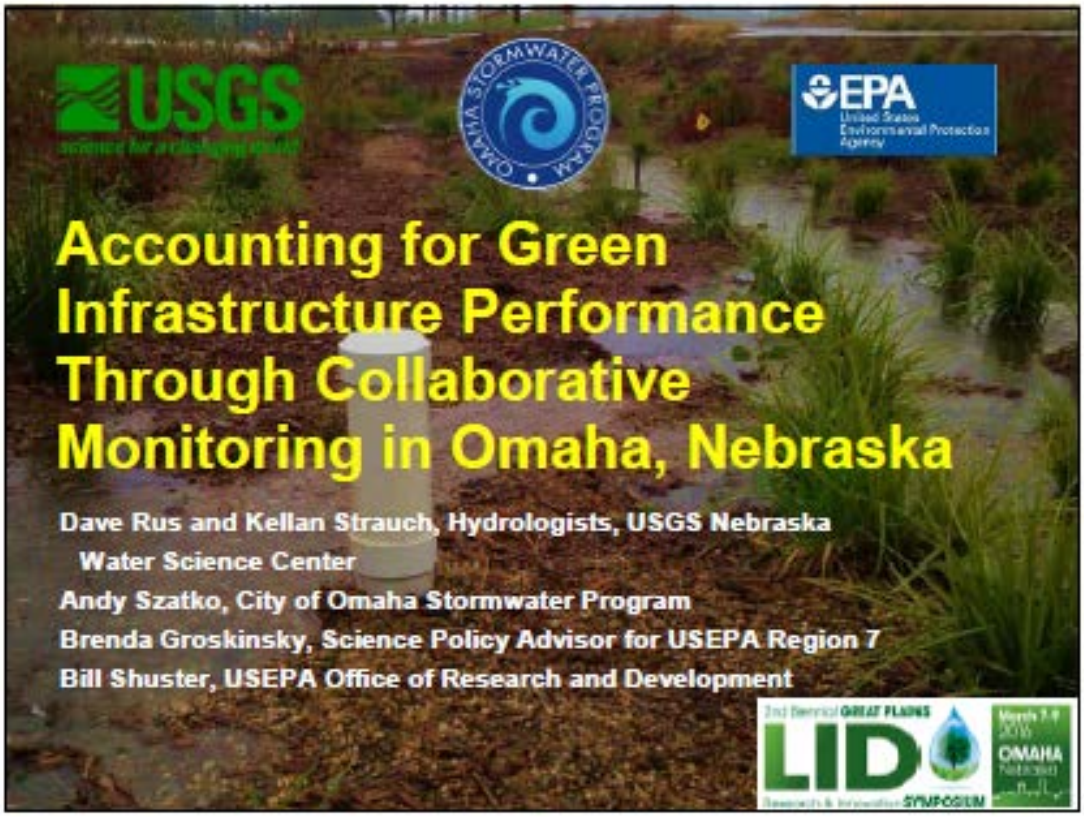
ATTACHMENT C

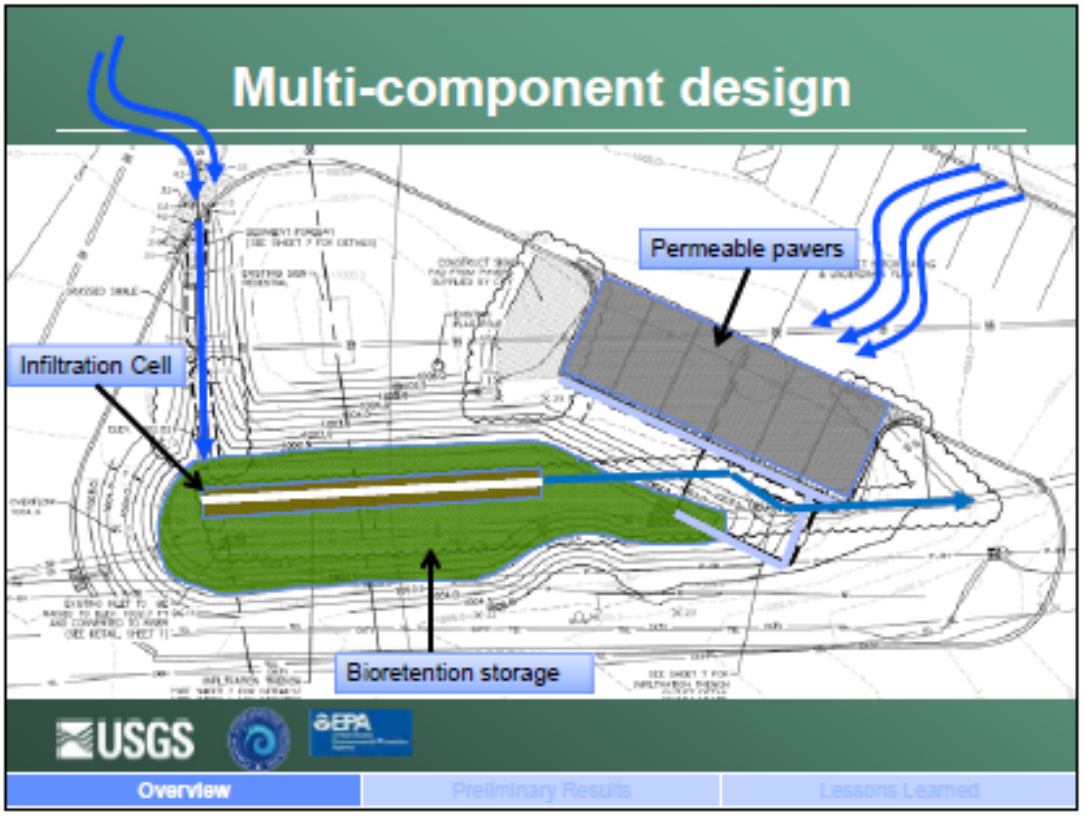
Omaha Grading Permit Enforcements

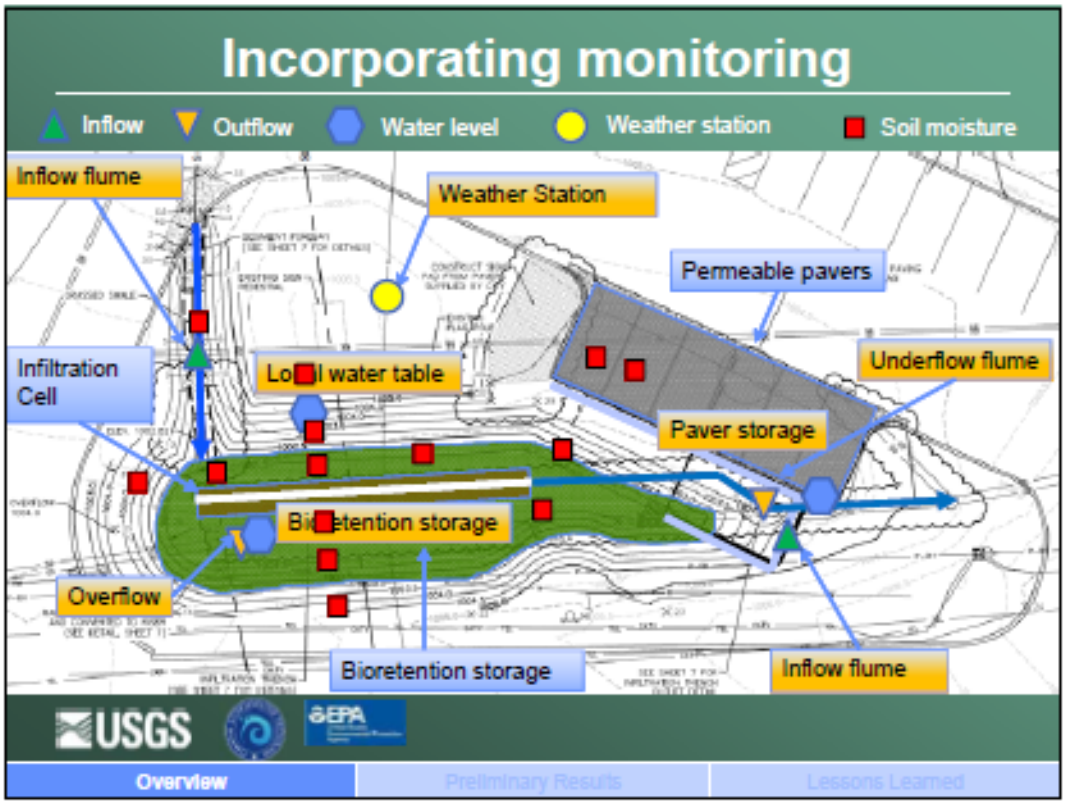
Permit Number	Address	Status	Date Submitted	Outcome
OMA-20140822-2733-GP1	Blondo St - 156th to Eldorado, Omaha, NE 68116	Complete	4/13/2015	Request for Voluntary Compliance
OMA-20140303-1607-2	17117 Burt Street Omaha, NE 68118	Complete	9/25/2015	Supplemental Environmental Project
OMA-20131027-1558-1	56th St and Sorensen Parkway Omaha, NE 68152	Complete	9/25/2015	Supplemental Environmental Project

ATTACHMENT D

Sewer Maintenance Demonstration Project Presentation Summary



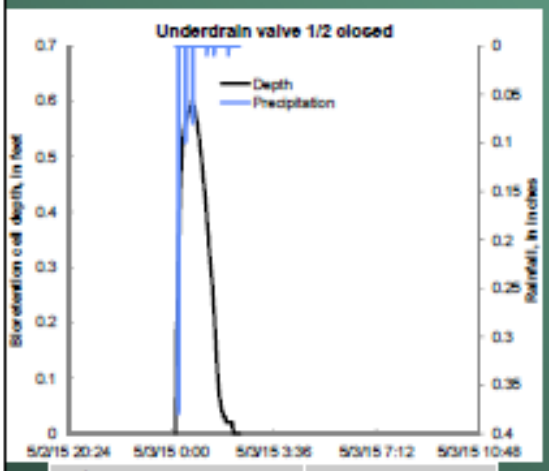


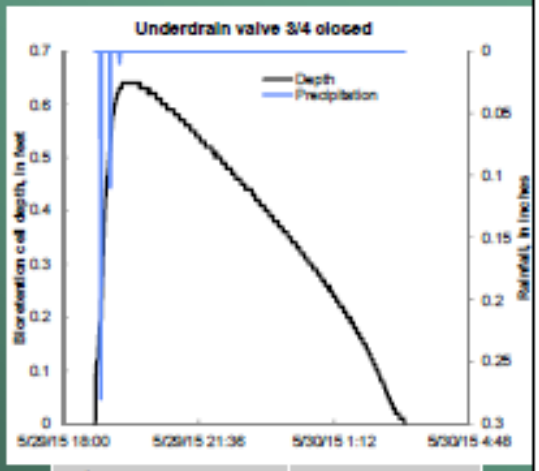

Incorporating monitoring
Inflow
Outflow
Water level
Weather station
Soil moisture
Inflow flume
Weather Station
Permeable pavers
Infiltration Cell
Underflow flume
Paver storage
Bioretention storage
Overflow
Bioretention storage
Inflow flume
USGS
Overview
Preliminary Results
Lessons Learned


Monitoring equipment
Inflow from permeable pavement
Soil moisture sensors
Flume taking flows: west parking lot
Detail for overflow structure
Underdrain outflow flume
Weather station
View of overflow structure
Overview
Preliminary Results
Lessons Learned

Water Balance Results

An underdrain valve makes a difference





Total Rainfall	0.59 inches
Drawdown Duration	1.7 hours
Drawdown rate	4.32 in/hr
Drawdown rate	8.64 feet per day

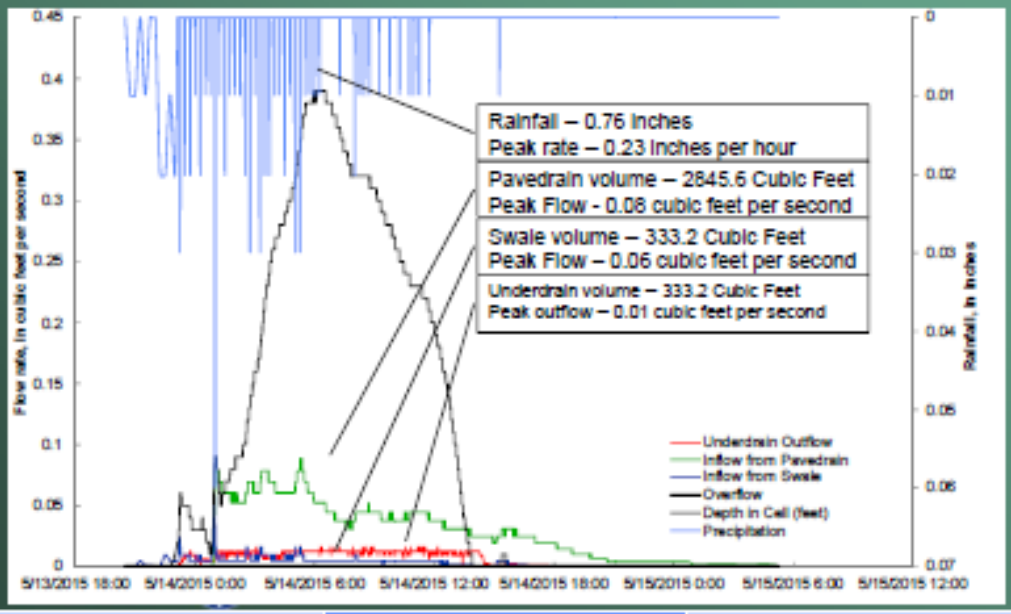
Total Rainfall	0.39 inches
Drawdown Duration	7.0 hours
Drawdown rate	1.08 in/hr
Drawdown rate	2.17 feet per day

Overview | **Preliminary Results** | Lessons Learned

Water Balance Results

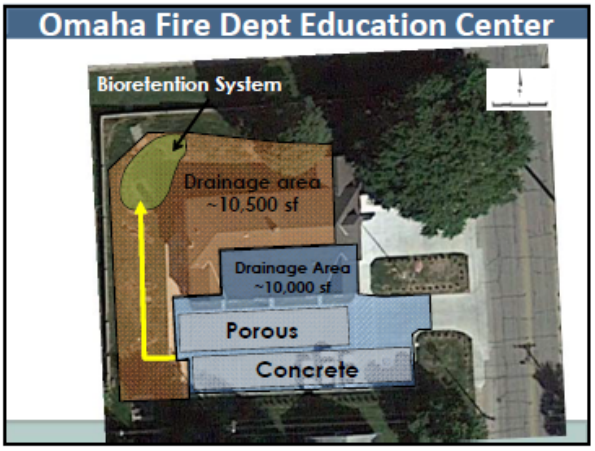
Event Examples – long event, low intensity

Total inflow (cf)	Total outflow (cf)	Percent Reduction
3305.2	615.0	81.4
Peak inflow rate (cfs)	**Peak outflow rate (cfs)**	**Percent reduction**
0.09	0.02	81.7



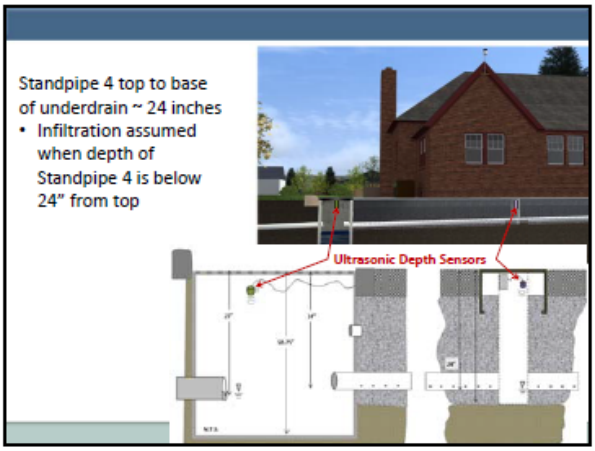
Overview | **Preliminary Results** | Lessons Learned

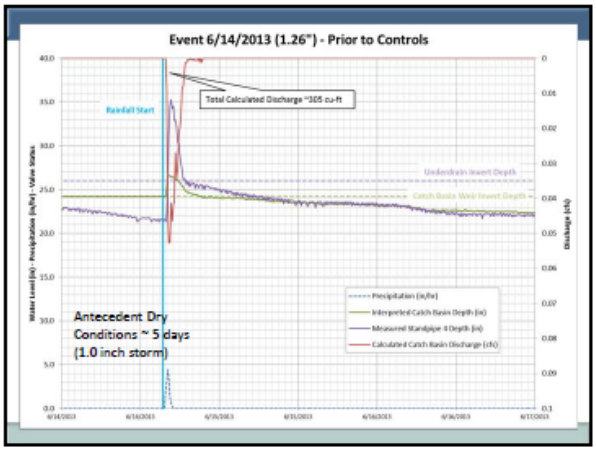
50th and Pine Demonstration Project 2015 International LID Conference Excerpt

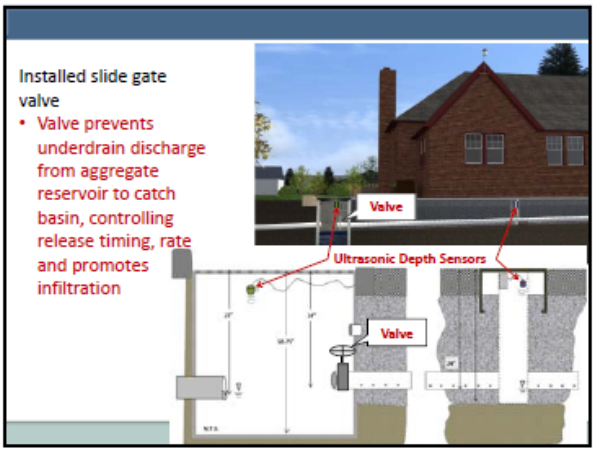


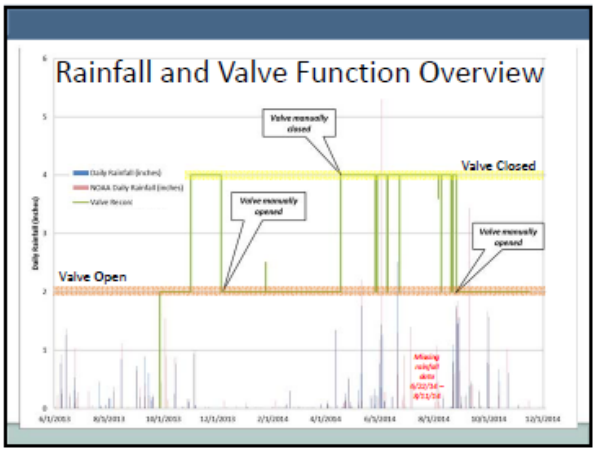
WATER QUANTITY EFFECTS

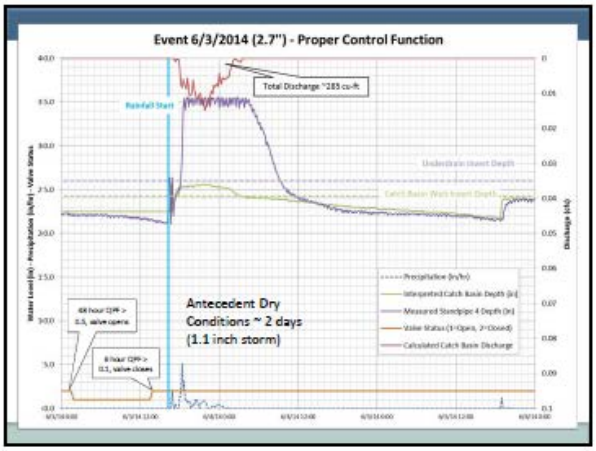
Catch Basin – Standpipe 4 Plan View

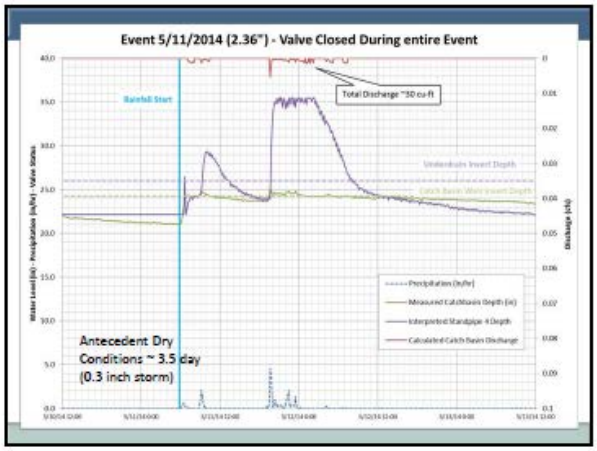

Standpipe 4 top to base of underdrain ~ 24 inches
• Infiltration assumed when depth of Standpipe 4 is below 24" from top
Ultrasonic Depth Sensors

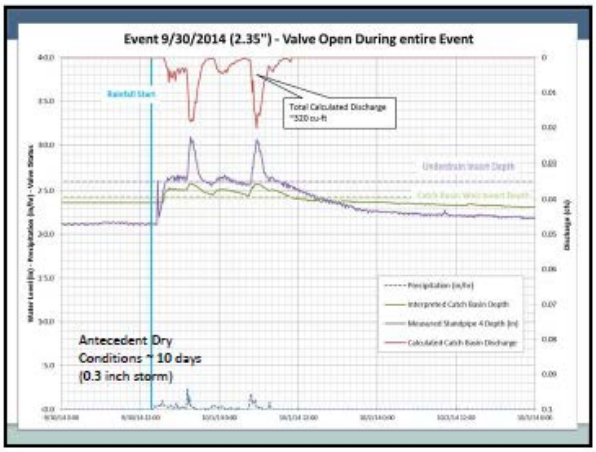

Event 6/14/2013 (1.26") - Prior to Controls
Rainfall Start
Total Calculated Discharge ~105 cu-ft
Antecedent Dry Conditions ~ 5 days (1.0 inch storm)

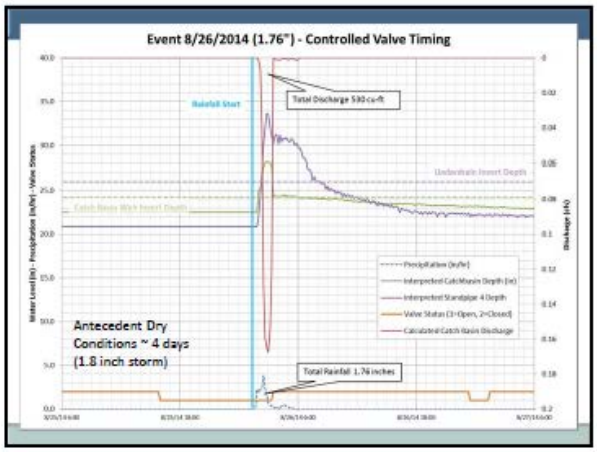

Installed slide gate valve
• Valve prevents underdrain discharge from aggregate reservoir to catch basin, controlling release timing, rate and promotes infiltration
Valve
Ultrasonic Depth Sensors
Valve


Rainfall and Valve Function Overview
Valve manually closed
Valve Closed
Valve manually opened
Valve manually opened
Valve Open

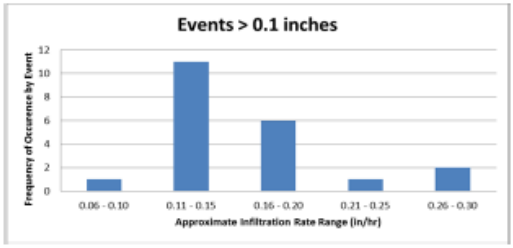

Event 6/3/2014 (2.7") - Proper Control Function
Total Discharge ~285 cu-ft
Rainfall Start
Antecedent Dry
Conditions ~ 2 days
(1.1 inch storm)


Event 5/11/2014 (2.36") - Valve Closed During entire Event
Total Discharge ~30 cu-ft
Rainfall Start
Antecedent Dry
Conditions ~ 3.5 day
(0.3 inch storm)


Event 9/30/2014 (2.35") - Valve Open During entire Event
Total Calculated Discharge
~520 cu-ft
Rainfall Start
Antecedent Dry
Conditions ~ 10 days
(0.3 inch storm)


Event 8/26/2014 (1.76") - Controlled Valve Timing
Total Discharge 530 cu-ft
Rainfall Start
Antecedent Dry
Conditions ~ 4 days
(1.8 inch storm)
Total Rainfall 1.76 inches

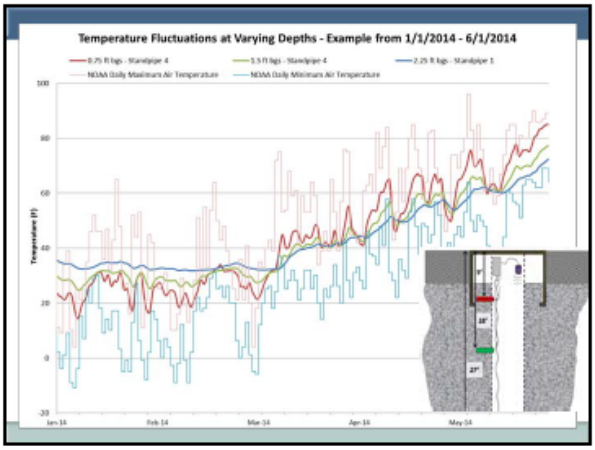
Frequency Distribution for Calculated Drawdown Rates



4/27/2014 – 10/1/2014 (controls in operation), Events > 0.1

Average drawdown = 0.16 in/hr

Greater than 3.5 inches/day



Conclusions

- Valve placement & real time controls using OptiRTC have decreased runoff volume & increased infiltration, treating 80% of site impervious area
- Redundancy & real time controls have resulted in no discharge to the combined sewer
  - Permeable pavement reservoir used for greater storage control
  - Does not require additional space on site
- Increased infiltration has been achieved with installation of real time control technologies

ATTACHMENT E

ATTACHMENT E

2015 Precipitation Data – Eppley Airfield							
DATE	**PRECIP (in)**	**DATE**	**PRECIP (in)**	**DATE**	**PRECIP (in)**	**DATE**	**PRECIP (in)**
5/1/2015	T	6/1/2015	0.00	**7/1/2015**	T	8/1/2015	T
5/2/2015	0.55	6/2/2015	0.00	7/2/2015	0.33	8/2/2015	0.01
5/3/2015	0.36	**6/3/2015**	0.36	7/3/2015	0.00	8/3/2015	T
5/4/2015	0.06	6/4/2015	0.05	7/4/2015	0.00	8/4/2015	0.51
5/5/2015	T	6/5/2015	0.00	7/5/2015	0.30	**8/5/2015**	0.00
5/6/2015	0.77	6/6/2015	0.14	7/6/2015	0.20	8/6/2015	T
5/7/2015	1.74	6/7/2015	0.09	7/7/2015	0.00	8/7/2015	0.00
5/8/2015	0.00	6/8/2015	0.00	**7/8/2015**	0.00	8/8/2015	1.25
5/9/2015	0.00	6/9/2015	0.00	7/9/2015	0.00	8/9/2015	0.58
5/10/2015	0.17	**6/10/2015**	0.30	7/10/2015	T	8/10/2015	0.00
5/11/2015	0.00	6/11/2015	1.91	7/11/2015	0.20	8/11/2015	0.00
5/12/2015	0.00	6/12/2015	T	7/12/2015	0.00	**8/12/2015**	0.00
5/13/2015	0.19	6/13/2015	T	7/13/2015	0.07	8/13/2015	0.00
5/14/2015	0.54	6/14/2015	0.64	7/14/2015	0.00	8/14/2015	0.00
5/15/2015	0.10	6/15/2015	0.73	**7/15/2015**	0.13	8/15/2015	0.00
5/16/2015	0.17	6/16/2015	0.00	7/16/2015	0.20	8/16/2015	0.00
5/17/2015	0.05	**6/17/2015**	0.00	7/17/2015	0.00	8/17/2015	0.58
5/18/2015	0.00	6/18/2015	0.02	7/18/2015	0.02	8/18/2015	3.58
5/19/2015	0.01	6/19/2015	0.00	7/19/2015	0.00	**8/19/2015**	0.00
5/20/2015	0.06	6/20/2015	0.00	7/20/2015	0.02	8/20/2015	0.00
5/21/2015	0.00	6/21/2015	T	7/21/2015	0.00	8/21/2015	0.00
5/22/2015	0.01	6/22/2015	0.00	**7/22/2015**	0.00	8/22/2015	1.52
5/23/2015	0.02	6/23/2015	0.00	7/23/2015	0.00	8/23/2015	0.00
5/24/2015	0.18	**6/24/2015**	0.24	7/24/2015	T	8/24/2015	0.00
5/25/2015	0.00	6/25/2015	0.01	7/25/2015	0.04	8/25/2015	0.00
5/26/2015	0.24	6/26/2015	0.01	7/26/2015	0.45	**8/26/2015**	T
5/27/2015	0.00	6/27/2015	0.00	7/27/2015	0.07	8/27/2015	0.08
5/28/2015	0.11	6/28/2015	0.00	7/28/2015	0.30	8/28/2015	0.84
5/29/2015	0.01	6/29/2015	0.00	**7/29/2015**	0.00	8/29/2015	T
5/30/2015	T	6/30/2015	0.11	7/30/2015	0.00	8/30/2015	0.00
5/31/2015	0.00			7/31/2015	0.07	8/31/2015	0.00
**Bold text indicates stream sampling dates.							

Site B 168th and HWY 36

	5/6	5/13	5/20	5/27	6/3	6/10	6/17	6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	
pH (lab)	8.01	8.02	8.06	7.89	7.89	8.1	7.91	8.01	8.06	8.01	8.08	8.1	8.05	8.26	8.21	8.21	8.31	**SM 4500-H^+ B**
BOD (mg/L)	2	2	2	1	3	1	2	1	1	1	2	1	2	2	3	4	1	**SM 5210 B** MDL = 2 mg/L
Total Suspended Solids (mg/L)	332	356	268	610	308	210	378	288	181	222	284	159	190	156	420	494	588	**SM 2540 D** MDL = 1 mg/L
Total Dissolved Solids (mg/L)	450	587	410	492	492	676	482	442	545	438	488	503	500	518	495	387	488	**By arithmetic difference DL = 1 mg/L**
Total Solids (mg/L)	782	943	678	1102	800	886	860	730	726	660	772	662	690	674	915	881	100	**SM 2540 B** MDL = 1 mg/L
Ammonia Nitrogen (mg/L)	2.1	0.3	0.39	0.44	0.05	0.1	0.07	0.1	0.13	0.16	0.17	0.09	0.07	0.31	0.13	0.14	0.09	**SM 4500-NH_3 D** MDL = 1 mg/L
Nitrite Nitrogen (mg/L)	0.1	0.04	0.04	0.05	0.06	0.07	0.04	0.05	0.05	0.05	0.06	0.04	0.08	0.04	0.04	0.05	0.03	**SM 4500-NO_2^- B** MDL = 0.02 mg/L
Nitrate/Nitrite Nitrogen (mg/L)	7.9	10.03	10.3	10.8	10.8	10.6	11.6	11.7	10.9	11.5	10.9	10.7	9.1	9.5	9.8	5.9	9.2	**EPA 353.2** MDL = 0.2 mg/L
Kjeldahl Nitrogen (mg/L)	1.03	0.97	0.85	1.67	1.11	0.83	1.14	0.55	0.57	<0.50	0.84	0.64	1.2	0.66	0.9	1.94	0.53	**PAI-DK 02 DL = 0.5 mg/L**
Dissolved Phosphorus (mg/L)	0.18	0.14	0.15	0.17	0.16	0.18	0.14	0.16	0.16	0.16	0.19	0.18	0.22	0.2	0.19	0.32	0.16	**SM 4500 P F** MDL = 0.05 mg/L
Total Phosphorus (mg/L)	0.1	0.5	0.42	0.69	0.52	0.37	0.63	0.45	0.35	0.27	0.41	0.33	0.42	0.37	0.53	0.91	0.31	**SM 4500 P F** MDL = 0.05 mg/L
Total Coliform	6330	129970	23330	111990	4800	14300	72700	13740	12120	48840	98040	17250	198630	77010	20460	241960	L 20640	**SM 9222 D** MDL = 1 cfu / 100 mL
e coli	3255	2419.6	816.4	9208	1413.6	1414	1553.1	1299.7	2419.6	1299.7	5794	1732.9	11199	2419.6	1046.2	41060	866.4	**Colilert Method** MDL = 1 cfu / 100 mL
Temperature (C)	15.38	10.89	9.86	12.09	15.47	18.56	14.92	16.68	16.11	15.81	20.92	18.57	18.93	18.91	19.4	15.44	16.03	Field Measurement
DO (mg/L)	9.18	12.86	11.33	10.08	9.67	8.84	9.25	9.25	9.12	9.49	8.87	9.09	8.56	8.97	7.97	9.92	10.26	Field Measurement
SpCond (æS/cm)	703.2	696.2	716.4	710.4	604.1	682.8	709	656.9	694.2	694.6	669.9	680.7	651.7	682.1	548.6	538.6	729.9	Field Measurement
Turb (NTUs)	190.2	231	144.9	388.1	9604.8	1893.5	175.5	22320	133.4	16.8	110.7	56.3	7261.3	56.5	160.9	835.6	1767	Field Measurement
pH (Manta II)	8.27	8.28	8.3	8.15	8.1	8.01	7.94	8.12	8.05	8.19	8.17	8.13	8.01	8.11	8.33	7.96	8.19	Field Measurement

Data quality control is done "in house" for the following tests: COD, BOD, TSS, TDS.

A = Value is an average results obtained from multiple analyses

L = The actual value is greater than the value given.

U = Value below detection limit.

X = Value exceeds instrument range.

A gray background indicates probe error.

Bold text indicates that the sample result was less than the detection limit of the instrument

Site S 78th and L St

	5/6		5/13		5/20		5/27		6/3		6/10		6/17		6/24		7/1		7/8		7/15		7/22		7/29		8/5		8/12		8/19		8/26	
pH (lab)	8.09		8.12		8		8.05		7.77		8.25		8.05		8.1		8.02		8.15		8.25		8.24		8.18		8.25		8.22		7.95		8.24		**SM 4500-H^+ B**
BOD (mg/L)	6		2		5		3		12		1		2		10		5		1		1		2		2		2		3		6		2		**SM 5210 B** MDL = 2 mg/L
Total Suspended Solids (mg/L)	204		298		74		434		708		192		266		527		374		90		84		97		160		108		125		1130		530		**SM 2540 D** MDL = 1 mg/L
Total Dissolved Solids (mg/L)	460		524		426		500		440		662		508		493		390		490		522		501		510		462		463		388		456		**By arithmetic difference DL = 1 mg/L**
Total Solids (mg/L)	664		822		500		934		1148		854		774		1020		764		580		606		598		670		570		588		1518		74		**SM 2540 B** MDL = 1 mg/L
Ammonia Nitrogen (mg/L)	0.9		0.17		0.29		0.43		0.02		0.05		0.1		0.3		0.14		0.18		0.05		0.04		0.06		0.18		0.15		0.09		0.12		**SM 4500-NH_3 D** MDL = 1 mg/L
Nitrate/Nitrite Nitrogen (mg/L)	5.29		7		2.2		8.8		4.7		8.5		8.8		5.6		5.24		9		8.87		8.7		7.4		7.3		6		2.7		5.8		**EPA 353.2** MDL = 0.2 mg/L
Nitrite Nitrogen (mg/L)	0.1		0.04		0.05		0.1		0.06		0.08		0.04		0.06		0.06		0.04		0.04		0.04		0.05		0.04		0.03		0.04		0.04		**SM 4500-NO_2^- B** MDL = 0.02 mg/L
Kjeldahl Nitrogen (mg/L)	1.86		1.12		0.98		2.09		2.32		0.75		1.4		1.43		1.43		<0.50		<0.50		0.75		0.98		1.2		0.7		2.74		0.67		**PAI-DK 02 DL = 0.5 mg/L**
Total Phosphorus (mg/L)	0.45		0.41		0.19		0.8		0.79		0.38		0.62		0.6		0.55		0.24		0.25		0.42		0.33		0.59		0.27		1.18		0.25		**SM 4500 P F** MDL = 0.05 mg/L
Dissolved Phosphorus (mg/L)	0.17		0.1		0.07		0.16		0.14		0.16		0.12		0.13		0.11		0.16		0.19		0.17		0.17		0.17		0.09		0.12		0.13		**SM 4500 P F** MDL = 0.05 mg/L
Total Coliform	10112		98040		12110		241960	L	61670		15290		104620		26030		241960	L	41060		20980		15700		241960	L	41060		30440		241960	L	86640		**SM 9222 D** MDL = 1 cfu / 100 mL
e coli	9606		1203.3		1119.9		19863		15531		866.4		1935		12033		18600		1299.7		1119.9		727		8664		2481		12660		30760		24196		**Colilert Method** MDL = 1 cfu / 100 mL
Temperature C	16.51		12.82		11.02		14.37		17.37		20.55		18.36		19.25		19.05		17.89		23.73		21.39		22.29		20.43		22.29		18.31		18.64		Field Measurement
DO (mg/L)	8.87		12.37		10.87		9.57		8.99		8.55		8.96		8.69		8.67		9.31		8.23		8.59		8.21		8.79		7.82		9.01		9.48		Field Measurement
SpCond (æS/cm)	679.8		579.5		751.5		694		442.4		706.7		693		462.1		534.4		710.2		713		711		640		678.7		667.7		415.2		731.6		Field Measurement
Turb (NTUs)	185.6		221.5		164.4		508.2		20250		1769.3		11.8		50128		324.5		14.6		39.1		55.3		7179.5		49		138.7		1973.0		39.1		Field Measurement
pH (Manta II)	8.23		8.25		8.26		8.05		8.02		8.01		7.98		8.04		7.86		8.16		8.07		8.14		7.97		8.05		8.03		7.72		8.03		Field Measurement

Data quality control is done "in house" for the following tests: COD, BOD, TSS, TDS.

A = Value is an average results obtained from multiple analyses

L = The actual value is greater than the value given.

U = Value below detection limit.

X = Value exceeds instrument range.

A gray background indicates probe error.

Bold text indicates that the sample result was less than the detection limit of the instrument

Site F 66th and L St

	5/6	5/13	5/20	5/27	6/3	6/10	6/17	6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	
pH (lab)	7.87	8.04	8	7.94	7.79	7.97	8.02	7.82	7.81	7.88	7.84	7.9	7.64	7.8	7.96	7.93	8.08	**SM 4500-H^+ B**
BOD (mg/L)	4	2	5	2	12	1	2	14	9	1	2	2	3	3	2	4	2	**SM 5210 B** MDL = 2 mg/L
Total Suspended Solids (mg/L)	42	37	74	35	470	22	52	176	47	17	19	6	51	25	70	184	596	**SM 2540 D** MDL = 1 mg/L
Total Dissolved Solids (mg/L)	600	517	426	527	352	592	484	284	299	513	485	478	337	419	482	452	567	**By arithmetic difference DL = 1 mg/L**
Total Solids (mg/L)	642	554	500	562	822	614	536	460	346	530	504	484	388	444	552	636	29	**SM 2540 B** MDL = 1 mg/L
Ammonia Nitrogen (mg/L)	0.07	0.21	0.29	0.19	0.38	0.1	0.12	0.72	0.25	0.54	0.13	0.1	0.15	0.24	0.16	0.1	0.06	**SM 4500-NH_3 D** MDL = 1 mg/L
Nitrate/Nitrite Nitrogen (mg/L)	1.72	2.08	2.2	2.3	1.2	2.1	2.5	1.6	1.5	2.3	1.79	2	1.3	1.8	1.6	1.8	2.1	**EPA 353.2** MDL = 0.2 mg/L
Nitrite Nitrogen (mg/L)	0.07	0.05	0.05	0.06	0.07	0.08	0.04	0.08	0.07	0.04	0.07	0.07	0.05	0.05	0.02	0.02	<0.02	**SM 4500-NO_2^- B** MDL = 0.02 mg/L
Kjeldahl Nitrogen (mg/L)	0.84	0.57	0.98	0.73	2.65	<0.50	0.69	2.01	1.23	<0.50	0.05	<.5	0.98	0.65	0.65	1.22	0.5	**PAI-DK 02 DL = 0.5 mg/L**
Total Phosphorus (mg/L)	0.17	0.13	0.19	0.13	0.072	0.12	0.13	0.33	0.2	0.09	0.11	0.08	0.23	0.17	0.16	0.44	0.10	**SM 4500 P F** MDL = 0.05 mg/L
Dissolved Phosphorus (mg/L)	0.07	0.05	0.07	<0.05	0.13	0.09	0.06	0.09	0.09	0.08	0.12	0.08	0.11	0.11	0.09	0.14	0.07	**SM 4500 P F** MDL = 0.05 mg/L
Total Coliform	8330	2419.6	20640	24810	517.2	19863	29090	14830	10900	15150	8704	11199	46110	68670	18500	241960	L 48840	**SM 9222 D** MDL = 1 cfu / 100 mL
e coli	2105	2419.6	2419.6	2987	90.6	686.7	1986.3	5460	1730	1732.9	368.1	1119.9	6867	6488	4884	34480	1413.6	**Colilert Method** MDL = 1 cfu / 100 mL
Temperature C	17.02	14	12.89	15.45	18.26	22.6	20.55	20.71	20.87	19.17	24.74	22.28	22.16	21.03	22.25	16.81	18.93	Field Measurement
DO (mg/L)	7.73	11.36	9.71	9.34	8.28	6.86	8.48	7.87	7.78	8.36	6.39	7.27	6.68	8.06	7.43	8.97	9.28	Field Measurement
SpCond (æS/cm)	894.5	690.1	697.6	750.5	328.6	731.1	756.5	491.7	445.3	716.5	547.9	762.3	439.7	579.3	698.5	559.8	825.4	Field Measurement
Turb (NTUs)	38.4	25.6	31.8	731.8	13875	172.2	19.9	10722	85.8	0	0.9	2.7	3693.8	24.7	63.9	442.8	12.0	Field Measurement
pH (Manta II)	8	8.17	8.15	7.99	7.89	7.73	7.9	7.71	7.67	7.94	7.3	7.77	7.57	7.65	7.81	7.64	7.89	Field Measurement

Data quality control is done "in house" for the following tests: COD, BOD, TSS, TDS.

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L = The actual value is greater than the value given.

U = Value below detection limit.

X = Value exceeds instrument range.

A gray background indicates probe error.

Bold text indicates that the sample result was less than the detection limit of the instrument

Site D Hwy 75 and Capehart

	5/6	5/13	5/20	5/27	6/3	6/10	6/17	6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	
pH (lab)	7.96	8.04	8.07	7.83	8	8.2	7.99	7.75	7.92	8.02	8.18	8.16	7.94	8.02	8.08	7.92	8.31	**SM 4500-H^+ B**
BOD (mg/L)	2	2	3	3	4	1	2	9	7	2	2	1	2	3	3	5	1	**SM 5210 B** MDL = 2 mg/L
Total Suspended Solids (mg/L)	164	278	166	836	494	148	372	205	1130	86	100	50	127	156	120	1455	588	**SM 2540 D** MDL = 1 mg/L
Total Dissolved Solids (mg/L)	424	446	414	482	540	618	406	345	562	461	512	478	373	412	474	383	488	**By arithmetic difference DL = 1 mg/L**
Total Solids (mg/L)	588	724	580	1318	1034	766	778	550	1692	547	612	528	500	568	594	1838	100	**SM 2540 B** MDL = 1 mg/L
Ammonia Nitrogen (mg/L)	1.1	0.28	0.3	0.43	0.04	0.07	0.07	0.35	0.17	0.42	0.08	0.06	0.08	0.2	0.11	0.09	0.09	**SM 4500-NH_3 D** MDL = 1 mg/L
Nitrate/Nitrite Nitrogen (mg/L)	3.72	3.82	4.8	5.4	5.4	5.6	5.7	1.8	3.2	5	5.9	5.8	3.6	2.9	2.9	1.6	9.2	**EPA 353.2** MDL = 0.2 mg/L
Nitrite Nitrogen (mg/L)	0.09	0.03	0.05	0.11	0.06	0.09	0.04	0.04	0.05	0.03	0.03	0.03	0.03	0.03	<0.02	0.03	0.03	**SM 4500-NO_2^- B** MDL = 0.02 mg/L
Kjeldahl Nitrogen (mg/L)	0.98	1.02	0.83	2.1	1.24	0.75	1.22	2.18	2.21	<0.50	0.61	0.6	0.92	0.85	0.77	2.49	0.53	**PAI-DK 02 DL = 0.5 mg/L**
Total Phosphorus (mg/L)	0.34	0.36	0.43	0.96	0.53	0.27	0.5	1.86	0.97	0.2	0.22	0.34	0.29	0.3	0.25	1.04	0.31	**SM 4500 P F** MDL = 0.05 mg/L
Dissolved Phosphorus (mg/L)	0.15	0.10	0.13	0.15	0.15	0.18	0.12	0.08	0.11	0.14	0.19	.16	.15	0.14	0.1	0.12	0.16	**SM 4500 P F** MDL = 0.05 mg/L
Total Coliform	9330	98040	98040	86640	21420	9870	61310	51720	241960	L 20140	24196	8664	129970	92080	29240	241960	L 48840	**SM 9222 D** MDL = 1 cfu / 100 mL
e coli	1860	1732.9	2419.6	15531	5172	686.7	5172	5480	46110	1732.9	658.6	126.6	8664	4106	1203.3	29090	1553.1	**Colilert Method** MDL = 1 cfu / 100 mL
Temperature C	17.01	13.82	12.24	15.36	17.62	22.54	19.57	20.55	21.35	19.29	25.36	22.29	23.06	21.75	22.58	19.21	19.33	Field Measurement
DO (mg/L)	8.82	11.53	10.58	9.37	9.28	8.47	8.66	8.52	8.45	9.27	7.63	8.26	7.73	8.47	7.6	8.30	9.35	Field Measurement
SpCond (æS/cm)	699	630.6	724.2	628.7	635.2	719.3	666.6	302.6	397.1	649.7	720.5	724.2	513.2	557.3	629.4	401.9	701.9	Field Measurement
Turb (NTUs)	113.3	160.4	146.3	717.5	12900	1730.8	157.1	220575	653.6	8	58.5	19.9	7624	109	122.6	1834.3	38.1	Field Measurement
pH (Manta II)	8.02	8.07	8.13	7.85	8.02	7.93	7.88	7.88	7.82	7.94	7.95	7.97	7.76	7.76	7.84	7.63	7.84	Field Measurement

Data quality control is done "in house" for the following tests: COD, BOD, TSS, TDS.

A = Value is an average results obtained from multiple analyses

L = The actual value is greater than the value given.

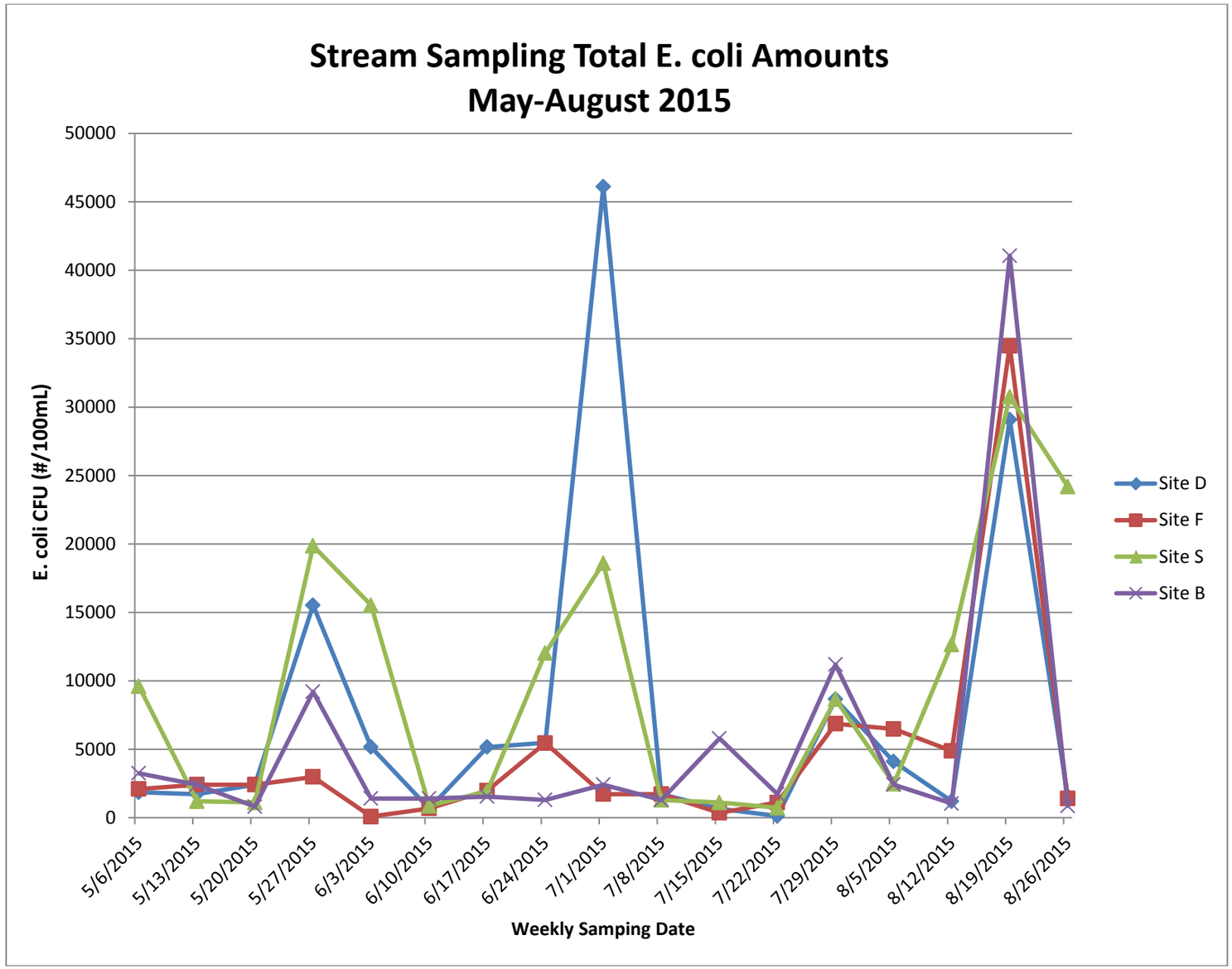
U = Value below detection limit.

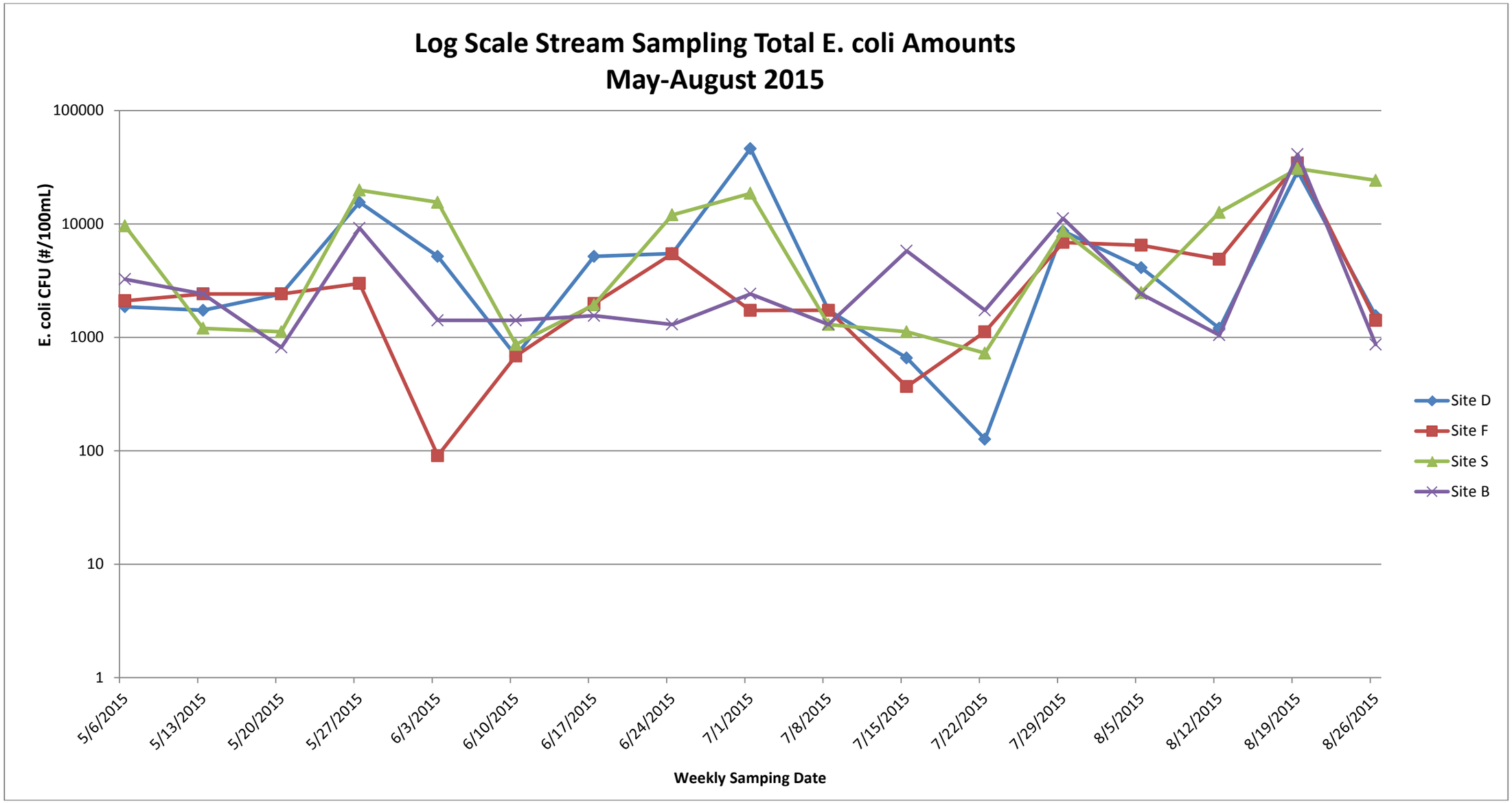
X = Value exceeds instrument range.

A gray background indicates probe error.

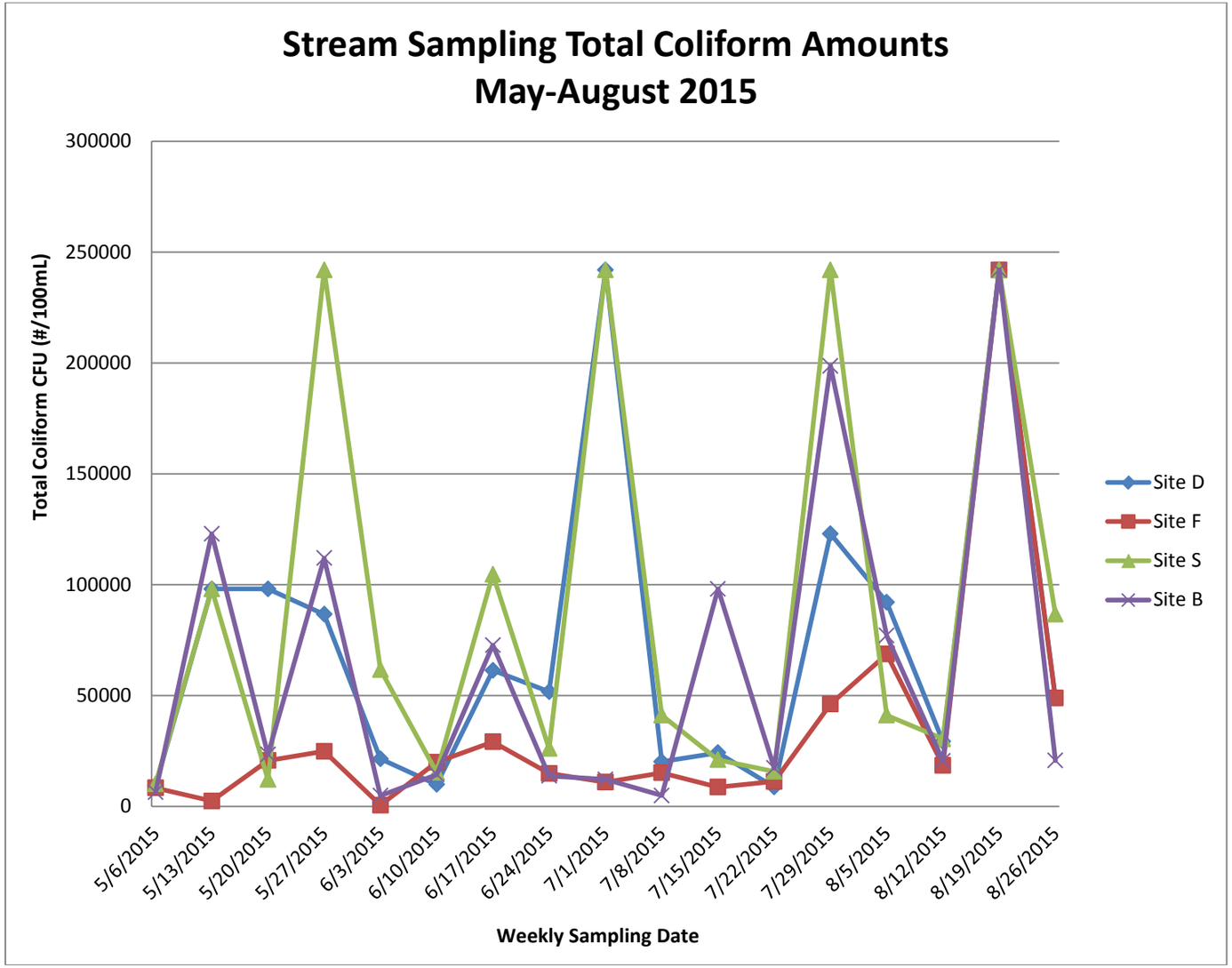
Bold text indicates that the sample result was less than the detection limit of the instrument

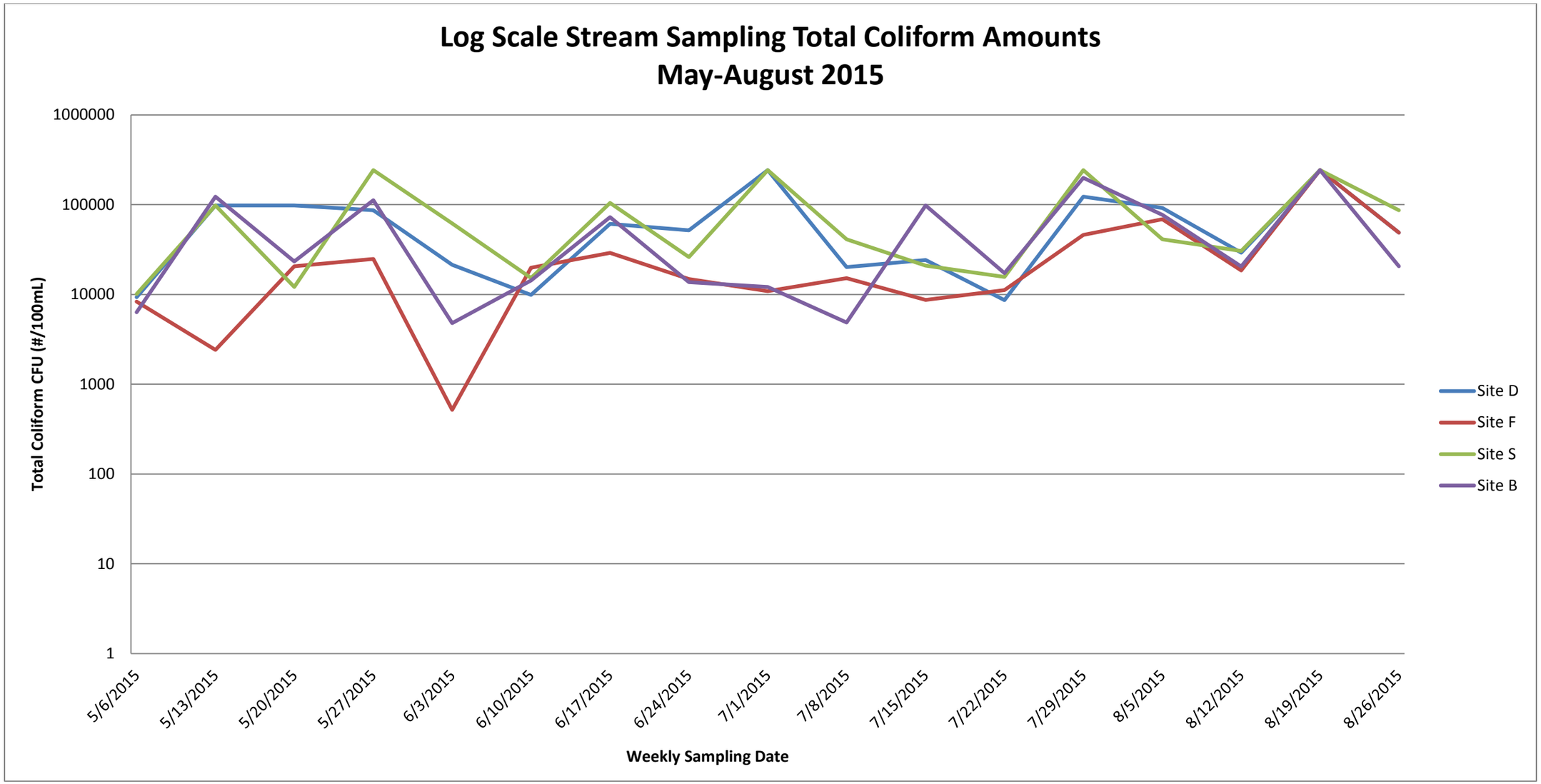
E. Coli				
	Site D	Site F	Site S	Site B
5/6/2015	1860	2105	9606	3255
5/13/2015	1732.9	2419.6	1203.3	2419.6
5/20/2015	2419.6	2419.6	1119.9	816.4
5/27/2015	15531	2987	19863	9208
6/3/2015	5172	90.6	15531	1413.6
6/10/2015	686.7	686.7	866.4	1414
6/17/2015	5172	1986.3	1936	1553.1
6/24/2015	5480	5460	12033	1299.7
7/1/2015	46110	1730	18600	2419.6
7/8/2015	1732.9	1732.9	1299.7	1299.7
7/15/2015	658.6	368.1	1119.9	5794
7/22/2015	126.6	1119.9	727	1732.9
7/29/2015	8664	6867	8664	11199
8/5/2015	4106	6488	2481	2419.6
8/12/2015	1203.3	4884	12660	1046.2
8/19/2015	29090	34480	30760	41060
8/26/2015	1553.1	1413.6	24196	866.4
GEOMEAN	3034.78	2109.95	4752.01	2539.66



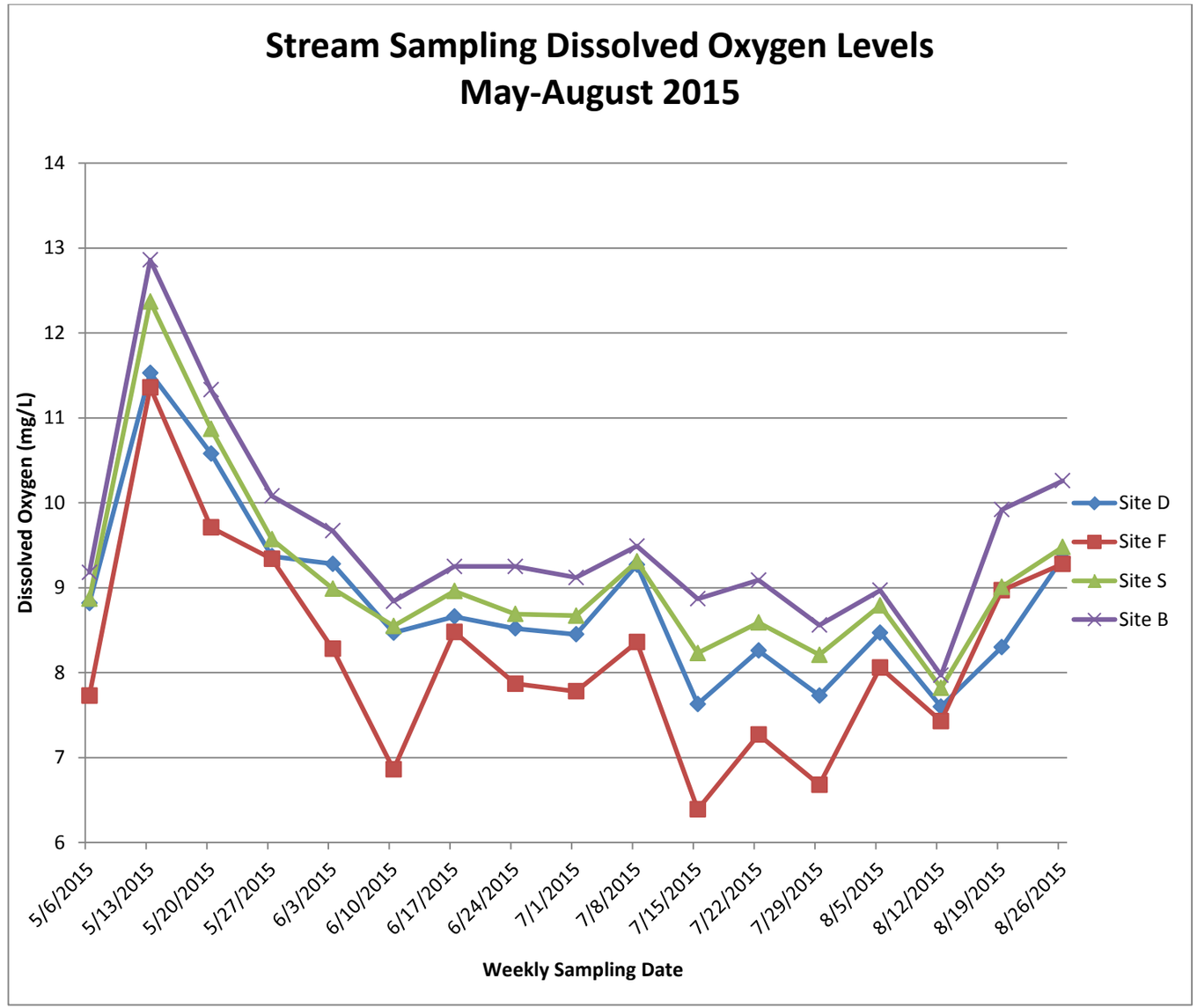

Log Scale Stream Sampling Total E. coli Amounts
May-August 2015
E. coli CFU (#/100mL)
100000
10000
1000
100
10
1
5/6/2015
5/13/2015
5/20/2015
5/27/2015
6/3/2015
6/10/2015
6/17/2015
6/24/2015
7/1/2015
7/8/2015
7/15/2015
7/22/2015
7/29/2015
8/5/2015
8/12/2015
8/19/2015
8/26/2015
Weekly Samping Date
Site D
Site F
Site S
Site B

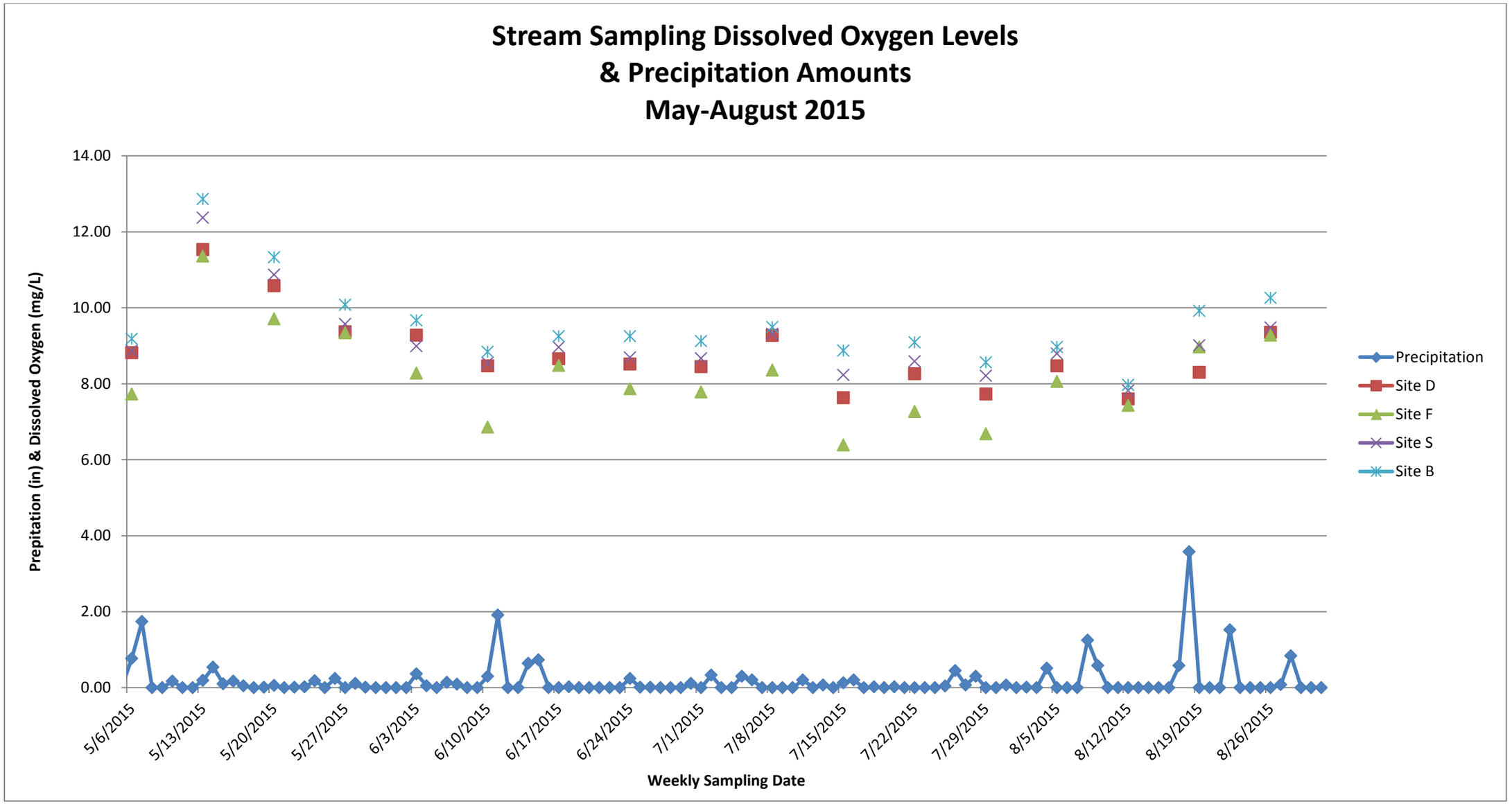
Total Coliform				
	Site D	Site F	Site S	Site B
5/6/2015	9330	8330	10112	6330
5/13/2015	98040	2419.6	98040	122970
5/20/2015	98040	20640	12110	23330
5/27/2015	86640	24810	241960	111990
6/3/2015	21420	517.2	61670	4800
6/10/2015	9870	19863	15290	14300
6/17/2015	61310	29090	104620	72700
6/24/2015	51720	14830	26030	13740
7/1/2015	**241960**	10900	241960	12120
7/8/2015	20140	15150	41060	4884
7/15/2015	24196	8704	20980	98040
7/22/2015	8664	11199	15700	17250
7/29/2015	122970	46110	**241960**	198630
8/5/2015	92080	68670	41060	77010
8/12/2015	29240	18500	30440	20460
8/19/2015	**241960**	**241960**	**241960**	**241960**
8/26/2015	48840	48840	86640	20640
GEOMEAN	46322.47	16522.54	52123.96	30939.88
Bold indicates actual value is greater than the value given				



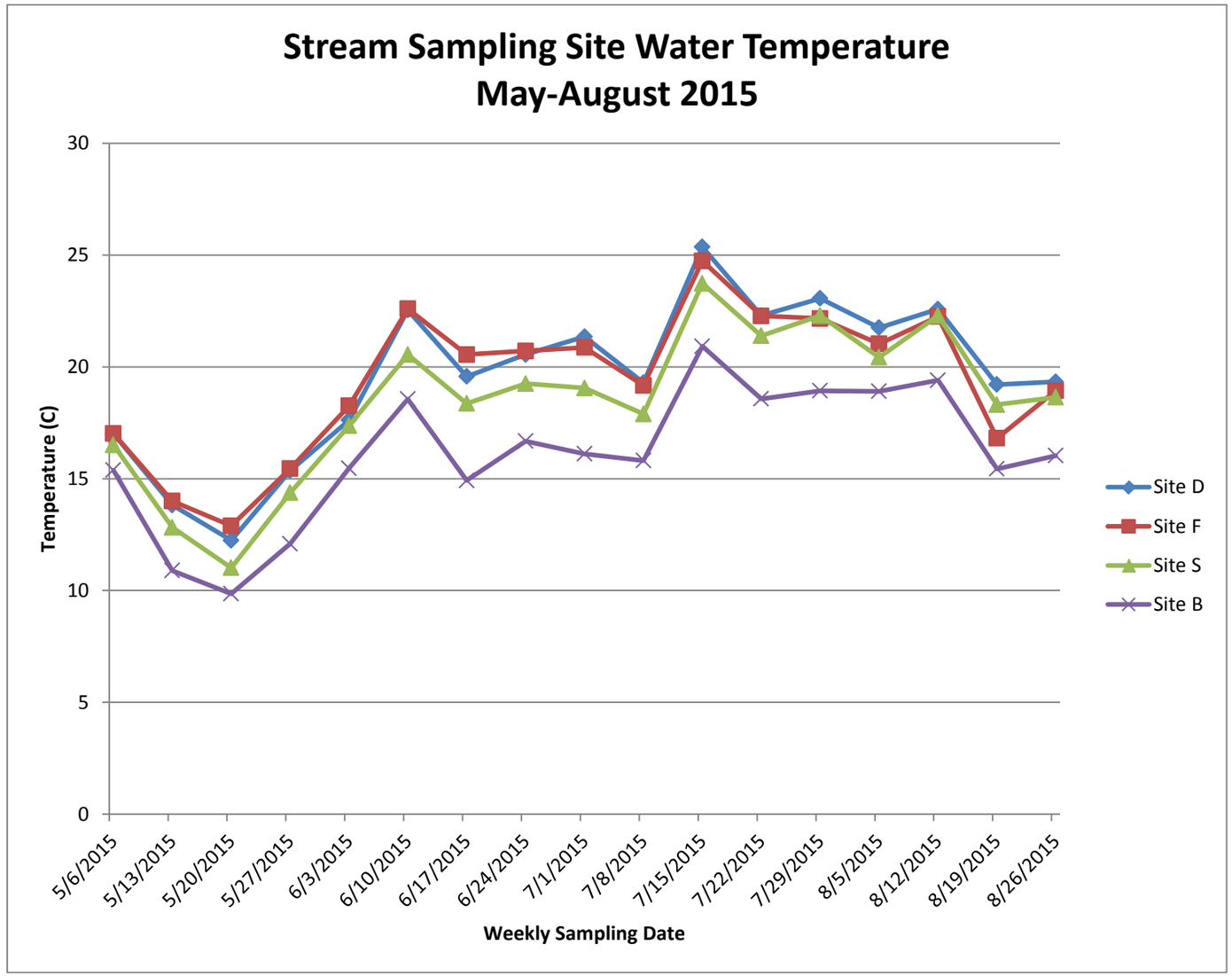

Log Scale Stream Sampling Total Coliform Amounts
May-August 2015
Total Coliform CFU (#/100mL)
1000000
100000
10000
1000
100
10
1
5/6/2015
5/13/2015
5/20/2015
5/27/2015
6/3/2015
6/10/2015
6/17/2015
6/24/2015
7/1/2015
7/8/2015
7/15/2015
7/22/2015
7/29/2015
8/5/2015
8/12/2015
8/19/2015
8/26/2015
Weekly Sampling Date
Site D
Site F
Site S
Site B

Dissolved Oxygen				
	Site D	Site F	Site S	Site B
5/6/2015	8.82	7.73	8.87	9.18
5/13/2015	11.53	11.36	12.37	12.86
5/20/2015	10.58	9.71	10.87	11.33
5/27/2015	9.37	9.34	9.57	10.08
6/3/2015	9.28	8.28	8.99	9.67
6/10/2015	8.47	6.86	8.55	8.84
6/17/2015	8.66	8.48	8.96	9.25
6/24/2015	8.52	7.87	8.69	9.25
7/1/2015	8.45	7.78	8.67	9.12
7/8/2015	9.27	8.36	9.31	9.49
7/15/2015	7.63	6.39	8.23	8.87
7/22/2015	8.26	7.27	8.59	9.09
7/29/2015	7.73	6.68	8.21	8.56
8/5/2015	8.47	8.06	8.79	8.97
8/12/2015	7.6	7.43	7.82	7.97
8/19/2015	8.3	8.97	9.01	9.92
8/26/2015	9.35	9.28	9.48	10.26
Dissolved Oxygen Average	8.84	8.23	9.12	9.57

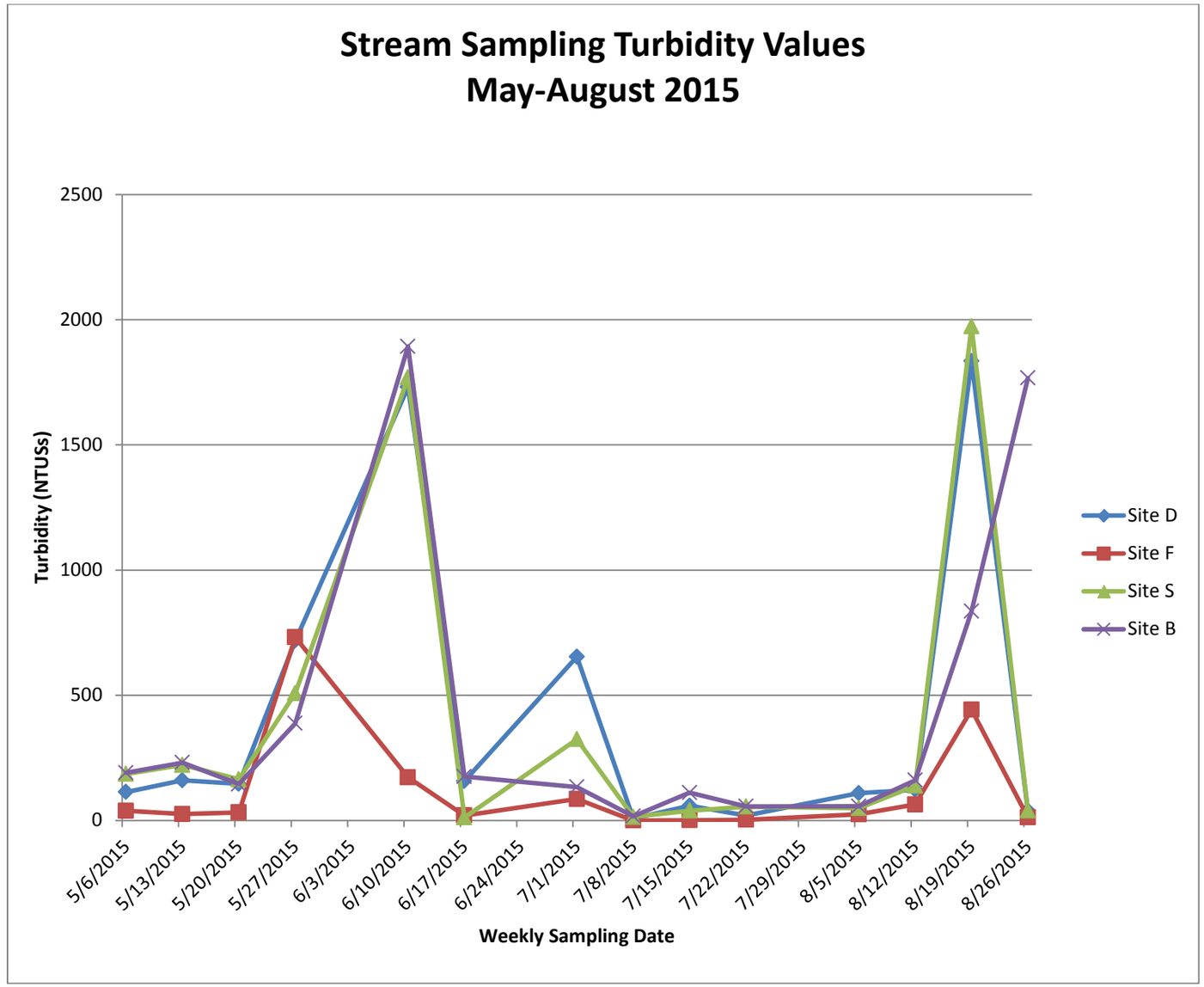



Stream Sampling Dissolved Oxygen Levels
& Precipitation Amounts
May-August 2015
Prepitation (in) & Dissolved Oxygen (mg/L)
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
5/6/2015
5/13/2015
5/20/2015
5/27/2015
6/3/2015
6/10/2015
6/17/2015
6/24/2015
7/1/2015
7/8/2015
7/15/2015
7/22/2015
7/29/2015
8/5/2015
8/12/2015
8/19/2015
8/26/2015
Weekly Sampling Date
Precipitation
Site D
Site F
Site S
Site B

Temperature				
	Site D	Site F	Site S	Site B
5/6/2015	17.01	17.02	16.51	15.38
5/13/2015	13.82	14	12.82	10.89
5/20/2015	12.24	12.89	11.02	9.86
5/27/2015	15.36	15.45	14.37	12.09
6/3/2015	17.62	18.26	17.37	15.47
6/10/2015	22.54	22.6	20.55	18.56
6/17/2015	19.57	20.55	18.36	14.92
6/24/2015	20.55	20.71	19.25	16.68
7/1/2015	21.35	20.87	19.05	16.11
7/8/2015	19.29	19.17	17.89	15.81
7/15/2015	25.36	24.74	23.73	20.92
7/22/2015	22.29	22.28	21.39	18.57
7/29/2015	23.06	22.16	22.29	18.93
8/5/2015	21.75	21.03	20.43	18.91
8/12/2015	22.58	22.25	22.29	19.4
8/19/2015	19.21	16.81	18.31	15.44
8/26/2015	19.33	18.93	18.64	16.03
Temperature Average	19.58	19.40	18.49	16.12



Turbidity 2015	Site D	Site F	Site S	Site B
5/6/2015	113.3	38.4	185.6	190.2
5/13/2015	160.4	25.6	221.5	231
5/20/2015	146.3	31.8	164.4	144.9
5/27/2015	717.5	731.8	508.2	388.1
6/3/2015	----------			
6/10/2015	1730.8	172.2	1769.3	1893.5
6/17/2015	157.1	19.9	11.8	175.5
6/24/2015	----------			
7/1/2015	653.6	85.8	324.5	133.4
7/8/2015	8	0	14.6	16.8
7/15/2015	58.5	0.9	39.1	110.7
7/22/2015	19.9	2.7	55.3	56.3
7/29/2015	----------			
8/5/2015	109	24.7	49	56.5
8/12/2015	122.6	63.9	138.7	160.9
8/19/2015	1834.3	442.8	1973	835.6
8/26/2015	38.1	12	39.1	1767
Turbidity Average	419.2	118.0	392.4	440.0
Gray shading indicates no data due to instrument error.				



ATTACHMENT F

ATTACHMENT F

City of Omaha Public Education and Outreach Activities					
TOPIC	**DATE**	**ACTIVITY**	**TARGET MARKET**	**PEOPLE**	**COMMENTS**
Indian Hill Science Event	1/22/15	Event	Elementary Students	150	Gave presentation on stormwater runoff using the interactive watershed model.
Omaha Home Show at the Century Link Center	2/5/15	Event	Omaha Residents	500	Distributed brochures on Green Infrastructure (GI) practices for homeowners and answered questions.
NONA Neighborhood Meeting	3/26/15	Special Interest Group Event	Omaha Residents	30	Discussion on 26th & Corby project GI and gave short presentation on rain gardens.
Girl Scouts Stormwater Watershed Presentation	4/16/15	Special Interest Group Event	Elementary Students	19	Located at John G. Heihardt Elementary School, presentation on urban stormwater runoff. Helped girls meet requirements to earn water related badges with Q&As about water pollution and a watershed pollution activity featuring the Missouri River.
Omaha Earth Day	4/18/15	Event	Omaha Residents	500	Handed out frisbees, answered questions, distributed brochures on GI practices, and information about stormwater pollution.
Gallup Earth Day	4/22/15	Event	Gallup Employees	75	With Air Quality Program, handed out information on stormwater pollution, GI, and answered questions.
Spring Lake Park Field Trip Omaha South High School	5/4/15	Special Interest Group Event	High School Students	27	With Omaha CSO Program, discussed Stormwater Program & general role in stormwater management.
MORE! Nature Night Sunset Hills Elementary	5/7/15	Event	Elementary Students	75	Use the interactive watershed model and taught about stormwater pollution.

Indian Hills Stormwater Bonanza	5/11/15	Special Interest Group Event	Elementary Students	109	Activities at Indian Hills Elementary School with six 1st Grade classes on the water cycle, head coloring activity, rain garden and watershed models, game sorting recyclables and trash, and a nature walk outside. Each student receive an Activity Book.
Parks and Rec Spring into Summer Event	5/14/15	Event	Omaha Residents	350	Annual Event at Lake Zorinksy. Handed out information on stormwater pollution, GI, pet waste dispensers, and frisbees to attendees.
Lauritzen Gardens Spring into Summer Event	5/15/15	Event	Omaha Residents	1200	Manned a booth during three day event. Handed out informational brochures on stormwater pollution. Answered inquiries and shared information on stormwater and GI.
MORE! Nature Night Rowler Elementary	5/19/15	Event	Elementary Students	125	Presentation on urban stormwater runoff using interactive watershed model.
SAFE 2015 Event	5/30/15	Event	Omaha Residents	1000	Presentation at the Salvation Army Kroc Center and distributed stormwater pollution brochures, put on frisbee sorting game and handed out frisbees.
Missouri River Relief's Great Big Muddy Meet Up	6/14/15	Special Interest Group Event	Omaha Residents	30	Located at Fontenelle Forest, presentation on stormwater pollution using watershed model. Showed participants on boat tour of Missouri River a polluted channel with trash from stormwater runoff.
2015 Omaha Green Infrastructure Tour	7/9/15	Event	Omaha Residents	81	Day tour of UNO Welcome Center, 58 & Maple, Adams Park, Saddle Hills, Omaha Fire & Police Training Center, Cunningham Lake, Omaha Police Headquarters.

Sewer Maintenance Simulation Event	7/14/15	Special Interest Group Event	Omaha Residents	5	Simulated rain event at Sewer Maintenance facility to assess capacity and performance of system. Educated staff and visitors during event.
City Sprout Rain Barrel Workshop	7/15/15	Special Interest Group Event	Omaha Residents	15	Demonstration on building a rain barrel, discussion on rain gardens and GI practices for homeowners.
UNL Environmental Planning and Policy class	9/23/15	Special Interest Group Event	College Students	21	Presentation on stormwater management, City of Omaha MS4 & CSO programs, GI, and case studies on multiple GI projects in Omaha
IMAC UNO, Blackburn & Benson Master Gardener Conference	9/23/15	Special Interest Group Event	Master Gardeners	17	Extension office led tour for Master Gardener Conference at home residence, Creighton Prep, and 58th & Maple demonstration project sites. Project site informational sheets were distributed to attendees electronically.
UNO Chi Epsilon Presentation	9/24/15	Special Interest Group Event	College Students	8	Presented to University of Nebraska Omaha (UNO) students about the Civil Engineering Society's storm drain inlet marking event, GI practices and stormwater.
Adam's Park UNO Restoration Ecology Class Presentation	10/14/15	Special Interest Group Event	College Students	12	Gave presentation to UNO Restoration Ecology class at Adams Park. Toured park and discussed CSO and Stormwater Programs, stormwater and GI.
Elkhorn garden Club rain Barrel Talk	10/15/15	Special Interest Group Event	Omaha Residents	15	Demonstration on DIY Rain Barrels, handed out rain barrel brochures and showed PowerPoint on stormwater and GI for homeowners.
2015 Fall Home & Garden Expo at the Century Link Center	10/16/15	Event	Omaha Residents	500	Handed out brochures on GI strategies for homeowners during this three day event at the Century Link Center.
2015 Omaha Energy Expo at Millard Lumber	11/15/15	Event	Omaha Residents	25	Gave talk on stormwater pollution and GI practices to attendees at Millard Lumber.

Omaha Stormwater Website Activity Tracking Analysis		
2015 Month	**Users**	**Page Views**
January	380*	3,600*
February	528	4,307
March	514	4,467
April	508	5,855
May	466	4,195
June	448	4,186
July	443	3,675
August	440	3,794
September	506	4,555
October	380	3,985
November	496	3,927
December	510	3,637
Totals	**5,619**	**50,183**

*-Estimated, analytics not implemented

Omaha Stormwater Facebook Page Activity Tracking Analysis		
2015 Month	**Number of Posts**	**Total Post Reach**
January	2	25
February	5	314
March	5	126
April	57	2,375
May	2	104
June	3	337
July	13	1,787
August	35	1,163
September	28	1,709
October	15	471
November	13	997
December	14	2,557
Totals	**192**	**11,965**