



OAKCREEK
— WISCONSIN —

NR 216

2016 Annual Report

City of Oak Creek
WPDES Permit No. WI-S049905-3

Annual Report Contents

- A. Status of implementing the storm water management program and compliance with schedules.
- B. Updated storm sewer system map including new outfalls and structural controls.
- C. Summary describing the number and nature of enforcement actions, inspections, public education programs, spill responses and any other activity in the storm water management program that have measurable results.
- D. Summary of revisions to the storm water management program.
- E. Proposed revisions to the storm water management program.
- F. Summary of the monitoring data required in Section D.
- G. Proposed revisions to the storm water monitoring program.
- H. Summary of the pollutant loading calculations.
- I. Summary of the assessment of controls required in Section F.
- J. Fiscal analysis which includes expenditures from previous year and budget for current year.
- K. Identification of water quality improvements or degradation.
- L. Program proposals.

A. Status of implementing the storm water management program and compliance with schedules

I. City of Oak Creek Management Program

(a) Source area controls and structural best management practices.

A. Catch Basins

The City's catch basin cleaning program was implemented in March, 2001. City owned inlets and catch basins were inspected in the spring and fall of 2016, both for structural maintenance and cleaning needs. A total of 4,770 catch basin inspections were conducted in the 2016 cleaning program resulting in the removal of 8.5 tons (17,000 pounds) of sediment. This was a slight decrease from 2015 (9 tons). All removed sediment was disposed of at the Waste Management Metro landfill in Franklin. The 2016 program continued using a GIS based inspection, maintenance and record keeping system.

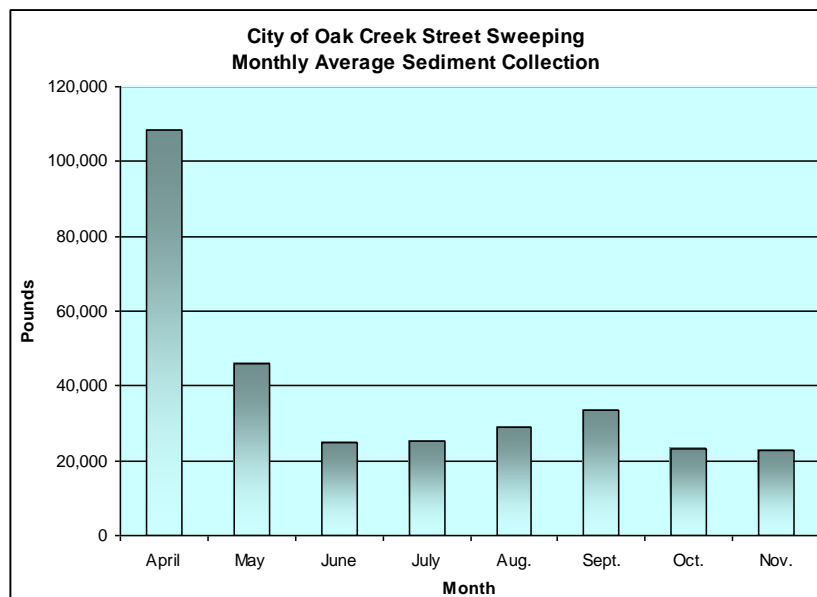
B. Sweeping of Streets with Curb

The City continued to follow the approved street sweeping schedule in 2016. Major city curbed roadways were swept twice per month and minor city curbed roadways were swept once per month. Sweeping operations began late-March and were suspended in early-December for the winter. The figure entitled "City of Oak Creek Street Sweeping" shows the location and proposed schedule for the streets included in the City's street sweeping program.

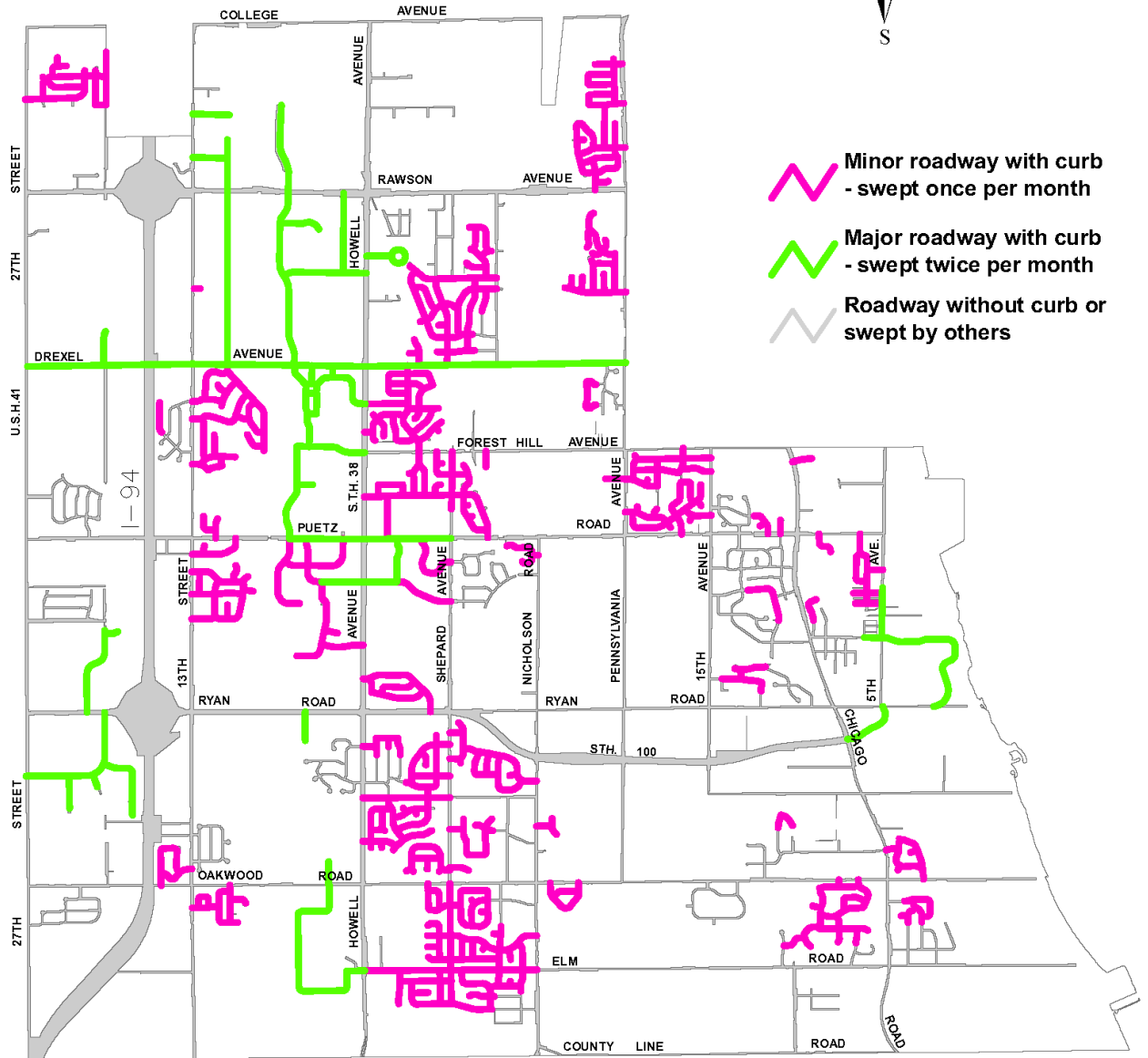
The frequency of street sweeping remained the same between 2015 and 2016. Between 2015 and 2016 sediment collection decreased from 254.51 tons (509,020 pounds) to 198.07 tons (396,140 pounds).

Leave collection at the recycling yard totaled 840 cubic yards. The collected sediment and leaves were disposed of at the Waste Management Metro landfill in Franklin.

The following chart shows Oak Creek's historical trend for sweepings collected on a monthly basis.



CITY OF OAK CREEK 2017 STREET SWEEPING



C. Structural Control Maintenance

City owned detention basins and swales are mowed three to five times a year depending on conditions. Cut material is removed if there was significant growth between mowing.

The City currently owns fifteen detention basins. The basins are located at the following addresses:

- Oak Creek Street Department (800 W. Puetz Road) – 3 wet detention basins
- Abendschein Park (1900 E. Drexel Avenue) – one dry and one wet detention basin
- 2309 W. Drexel Avenue
- 10101 S. Shepard Avenue (Shepard Hills)
- 7000 S. 6th Street (fire station)
- 255 E. Centennial Drive (fire station)
- 301 W. Ryan Road (police station)
- 3480 E. Puetz Road (Lake Forest)
- David Lane extended (South of Twin Oaks Drive)
- Drexel Town Square – 2 wet detention basins and 3 bio-retention basins
- 2200 W. Drexel Ave. (easement at Forest Ridge Elementary school)

The basins were inspected three times for proper operation and sediment buildup in 2016.

The City of Oak Creek also inspects the regional detention basin at the southeast corner of I-94 and W. College Avenue in accordance with an intergovernmental agreement between the Wisconsin Department of Transportation, Milwaukee County and Oak Creek.

The basin at 10101 S. Shepard Avenue was converted to a regional storm water quality and quantity facility in 2003. The slopes were planted with native prairie plants which are mowed or burned once annually.

Routine maintenance (mowing, removal of litter and branches, spot reseeding, minor erosion, etc.) was done on all the detention basins and drainage swales. Twelve cubic yards of sediment were removed in 2016.

D. Roadway Maintenance

Salt is applied to roadways when they become slippery. A full-scale plow operation will begin if the snow continues. Additional salt will be applied at the conclusion of the plowing operation if there are cold or falling temperatures. All road salt is stored in a fully enclosed storage building located at 800 W. Puetz Rd.

The number of snowfall events and salt usage in 2016 was about average.

- (b) Discharges from areas of new development and redevelopment after construction is completed.

The Oak Creek Municipal Code requires an 80% removal of total suspended solids on developments creating 0.5 acres or more of impervious area.

The Oak Creek Municipal Code was amended in September, 2004 and April, 2016 to incorporate the performance standards and revisions contained in NR 151. Developments creating 0.5 acres or more of impervious area are subject to requirements relating to infiltration, protective areas and fueling and vehicle maintenance areas.

Four storm water management permits were issued in 2016. These permits covered a total of 33 acres of new development and re-development within the City.

- (c) Assessment of water quality impacts from flood management projects.

Assessments are made on each individual project. Water quality components are implemented into the designs where it is feasible. The Forest Hill storm sewer replacement project incorporated the construction of new detention basins that will serve 15 acres of an existing residential subdivision that previously had no water quality or quantity controls.

- (d) Evaluation of the feasibility of retrofitting City owned structural flood control devices to provide pollutant removal from storm water.

Each of the City owned detention basins were evaluated to determine the feasibility of retrofitting them for water quality purposes. It was previously recommended that the basins located at 10101 S. Shepard Avenue and 3480 E. Puetz Road be retrofitted for water quality. The basin at 10101 S. Shepard Avenue was retrofitted for both water quality and quantity in 2003. Retrofitting the basin located at David Lane Extended is not recommended if the downstream regional wetland treatment system is implemented. Retrofitting the basin at 7000 S. 6th Street is not recommended because it would serve a very small tributary area.

- (e) Implementation of a program to promote the management of streambanks and shorelines by riparian landowners to minimize erosion, and restore or enhance the ecological values of waterways.

The City utilizes the Education and Information program described in Section V of this report to promote the management of streambanks and shorelines by riparian landowners to minimize erosion, and restore or enhance the ecological values of waterways. This program includes periodic articles in the local newsletter and provides educational literature available to the public at City Hall and the public library.

II. Illicit Connection/Discharge Program

The illicit connection/discharge program proposal was approved by the DNR on September 8, 2003. This program includes all storm sewer outfalls 36 inches or larger. Initial field screening for the storm sewer outfalls began in 2004.

The outfalls were screened and categorized as primary (screened every six months), secondary (screened each year) or non-critical (screened every five years). The following table illustrates the criteria used to categorize the outfalls based on the field screening results:

Category:	Non-Critical	Non-Critical	Secondary	Secondary	Secondary	Primary	Primary	Primary	Primary
Visual observations (abnormal vegetation, residue or structural damage present)	No	No	No	Yes	Yes	Yes	No	No	Yes
Dry weather flow present	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Field Screening (odor, turbidity, color or surface scum present)	No	No	Yes	No	No	Yes	No	Yes	Yes
Field analysis (tests positive for detergents, chlorine, copper, phenols or pH)	NA	No	No	NA	No	No	Yes	Yes	Yes

The outfall categories and locations for this program are illustrated in the attached figure. The 2016 screenings resulted in three outfall being categorized as secondary.

The City did not receive any reports of illicit discharges in 2016.

III. Industrial/High Risk Runoff Program

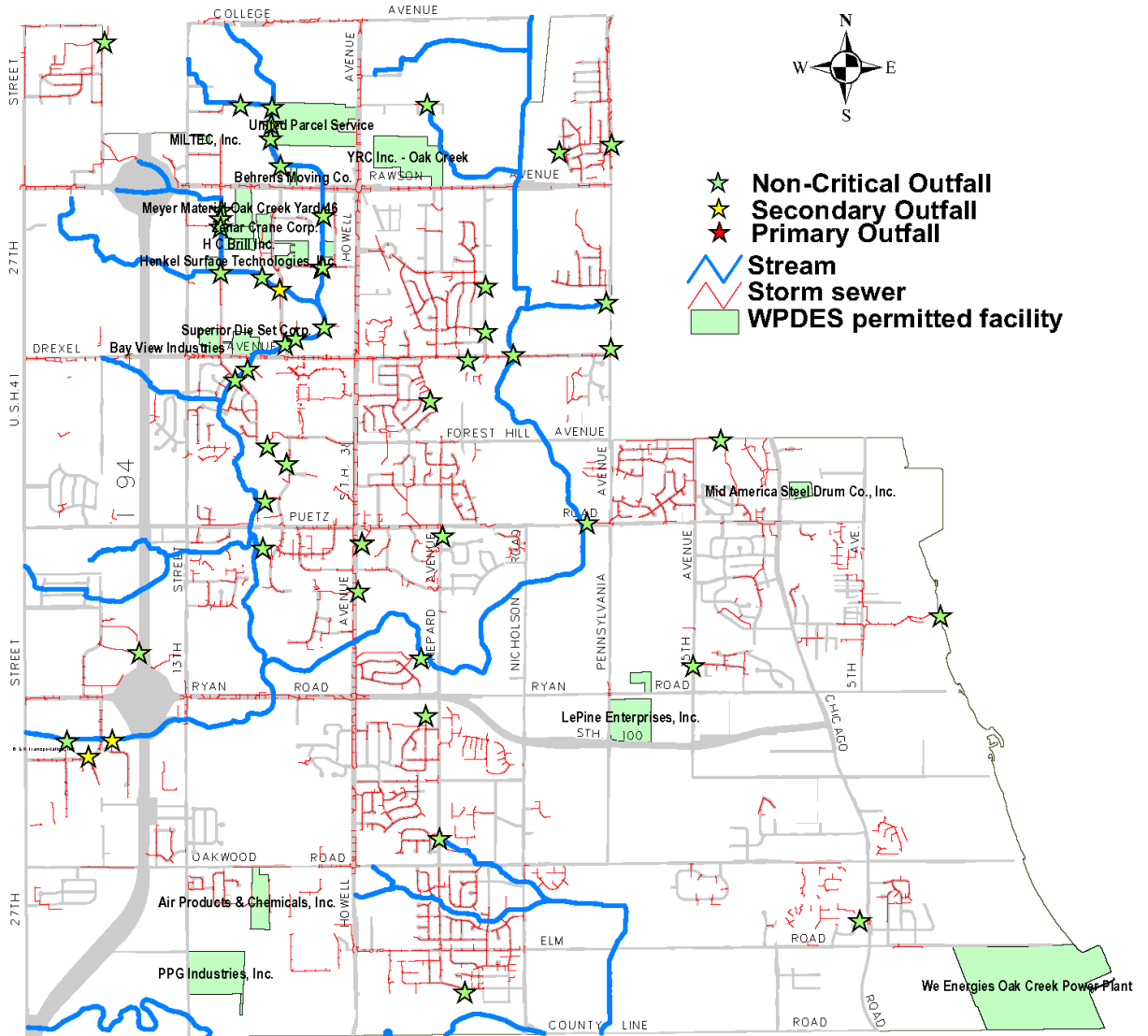
The proposed Industrial/High Risk Runoff program proposal was approved by the DNR on September 8, 2003. This program includes all storm sewer outfalls larger than 18 inches in critical basins identified in Oak Creek’s Storm Water Management Master Plan. Because this program is similar to the illicit connection/discharge program, both programs were combined into one program.

IV. Construction Site Runoff

The City reduces pollutants in storm water runoff from construction sites by enforcing the City’s erosion control ordinance. The building inspection department has enforcement over individual buildings and the engineering division reviews all erosion control plans and has enforcement over subdivisions and public works projects. Building inspection first post the site with a notice of erosion control violations giving the owner a specified time to correct the situation. If the owner does not comply within the specified time period, a stop work order is imposed. Further non-compliance will result in the issuance of a citation. The building inspection department did not issue any citations and or stop work orders in 2016; however about 5 sites were posted. The engineering department sent out ten erosion control compliance related emails in 2016.

The Oak Creek Municipal Code was amended in April to incorporate the revision in NR151, Wisconsin Administrative Code, pertaining to construction site performance standard.

CITY OF OAK CREEK ILLICIT DISCHARGE PROGRAM OUTFALLS 2016



V. Public Education and Outreach Program

Oak Creek joined the Southeast Wisconsin Clean Water Network in 2009. The Network called Keep Our Waters Clean, is comprised of 18 municipalities and is designed to satisfy the education and outreach activities required by the NR 216 storm water quality permit. This consolidated effort enables a more efficient and effective information and education program.

A summary of the 2016 Public Education and Outreach Program is on the following pages.

Written Report to Southeast Wisconsin Clean Water Network (SEWCWN) for 2016
Report Submitted January 31, 2017 by Allison Thielen, Root-Pike Watershed Initiative Network

Preface:

Root-Pike WIN had a year of transition in 2016. New executive director Dave Giordano started on January 1 while Sweet Water contractor Jake Fincher was still managing the contract programs. Allison Thielen began working for Root-Pike WIN in May, taking over the management of the programs from Jake in mid-June. Due to the many changes, some items in the scope of service were either modified (with notification to the SEWCWN) or reduced in scope to allow for staff training and/or transition time.

Overall, this was a successful year for the program. Highlights include TV and radio interviews, the first residential stormwater audit, new Respect Our Waters promotional items, and SEWCWN meetings that were interactive and informative, such as the watershed map project identification exercise in June and the excellent presentation on wetland mitigation in October.

SCOPE OF SERVICE

Target Audience--Based on the results from the household survey administered under this PROJECT, we will target male homeowners 35 to 64 years of age who live in the geographic area served by the SEWCWN and perform their own yard work, wash their cars as well as owners of dogs.

OUTCOMES

TARGET AUDIENCE OUTCOMES

Respect Our Waters Media Campaign

Primary targets were adult TV viewers, homeowners who perform yard care, pet owners and car owners (see attached Eichenbaum ROW report).

Greener Yards, Cleaner Waters Program

One workshop for homeowners was held in central Oak Creek in August. After another year with poorly attended workshops (two were cancelled earlier in the year due to lack of response), another program was beta tested. This program features residential stormwater audits, bringing our staff and property owners into a one-on-one conversation about and analysis of the management of stormwater on their properties and recommendations for improvements.

MEDIA PUBLICITY OUTCOMES

Media Publicity for Respect Our Waters Program--

Root-Pike WIN will attract media publicity to include radio and television interviews, and newspaper and magazine feature stories.

Please see the Public Relations Detailed Coverage listing (see attached Eichenbaum ROW report).

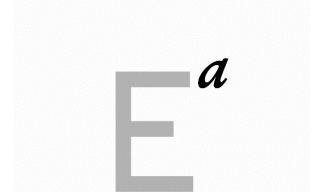
In addition, we had two 2-page articles in Wind Point Living magazine, one on yard care and one on winter salting.

<p>Speakers Bureau--Root-Pike WIN will be available to give presentations to service and professional groups about the SEWCWN and its role in reducing polluted stormwater runoff. A PowerPoint presentation and handout is available to members of the SEWCWN.</p>	<p>SPEAKERS BUREAU OUTCOMES</p> <p>Respect Our Waters Homeowner Workshop The following workshop was held in 2016 attracted 6 people:</p> <p>Oak Creek: Wednesday, August 24, 2016, 2:00-4:00 p.m. at Oak Creek Civic Center, Multipurpose Room S-107, 8040 S. 6th Street, Oak Creek, WI</p>
<p>Messages we will deliver in TV and radio interviews, television spots, workshop presentations, newsletters, social media, website and other venues will discuss stormwater runoff and its impact on our streams, rivers and lakes, how people contribute to it and positive actions they can take to reduce the problem. Topics to be addressed are: rain gardens, rain barrels, stormwater trees and other landscaping, composting, protecting storm drains, use of lawn and garden chemicals, managing pet waste, reducing salt on sidewalks and driveways, car care, role of swales and ditches.</p>	<p>MESSAGE OUTCOMES</p> <p>Respect Our Waters Homeowner E-Newsletters. With a focus on homeowners, yard care and stormwater runoff, Root-Pike WIN addressed all of the topics (left side) in its E-newsletters, Sparkles' blog posts on the website, via social media posts, workshop presentations, and exhibitions.</p> <p>Respect Our Waters Campaign, with its slogan, "clean water is a matter of proper training," and its spokesperson, a sassy Water Spaniel named "Sparkles". The 2016 campaign focused on the impact of picking up pet waste, using lawn chemicals, not sweeping debris into the street, not dumping autos to increase the benefits of capturing stormwater with rain barrels and rain gardens, and maintaining autos to increase the quality of stormwater runoff. In addition to the television spots, messages were carried on a Respect Our Waters Facebook page, Twitter page, YouTube channel, and Respect Our Waters website. Further carrying the message were "Sparkles" buttons, "Sparkles" temporary tattoos, a custom-designed "Sparkles" children's activity book and a bookmark listing tips for clean water that were distributed at 17 community events (see attached ROW Event report) attended by Root-Pike WIN.</p>
<p>Advertising Campaign--Root-Pike WIN will collaborate with the S.E. Wisconsin Watersheds Trust to plan, create and implement a media campaign that will be targeted to our audience and air during between the months of May-October.</p>	<p>ADVERTISING OUTCOMES</p> <p>Respect Our Waters Campaign Root-Pike WIN, representing the SEWCWN, and Sweet Water (S.E. WI Watersheds Trust), representing 19 Milwaukee area municipalities, joined together to plan and implement an advertising campaign for the Milwaukee TV viewing area. As in previous years of the campaign, Eichenbaum & Associates advertising agency was selected to create the campaign, negotiate a media buy and provide publicity. They negotiated the most exposures with WITI FOX6 in an agreement that included TV spots (460) of 0:15 or 0:30 seconds. ROW's brand and messaging was delivered to the Fox6 audience as they accessed television through advertising spots, four featured Fox Focus segments, and weather forecast branding. The brand and messaging was also delivered to the Fox6 News audience as they accessed desktop & mobile devices on Fox6Now.com, The Weather Channel/App, Fox6 Weather Widget, and Fox6Now social media (see Eichenbaum ROW report). Our media expenditure of \$73,000 gave us an estimated total value of \$267,505!</p>

<p>Municipal Newsletters--Root-Pike WIN will provide news releases and articles for municipal newsletters and websites on the topics areas upon request.</p>	<p align="center">MUNICIPAL NEWSLETTER OUTCOMES</p> <p>Allison Thielen of Root-Pike WIN wrote eight newsletter articles for municipalities upon request.</p> <table border="1"> <thead> <tr> <th data-bbox="224 1071 280 1491">Season & Topic</th> <th data-bbox="224 611 280 1071">Article Title</th> <th data-bbox="224 149 280 611">Municipalities who requested</th> </tr> </thead> <tbody> <tr> <td data-bbox="280 1071 342 1491">Summer: Grass clippings</td> <td data-bbox="280 611 342 1071">"Know Before You Mow!"</td> <td data-bbox="280 149 342 611">Somers</td> </tr> <tr> <td data-bbox="342 1071 404 1491">Fall: Leaves</td> <td data-bbox="342 611 404 1071">"Fall Cleanup"</td> <td data-bbox="342 149 404 611">Oak Creek, Somers, New Berlin</td> </tr> <tr> <td data-bbox="404 1071 496 1491">Winter: Salting</td> <td data-bbox="404 611 496 1071">"How Does Winter Salting Affect Human and Pet Health?"</td> <td data-bbox="404 149 496 611">Norway, Oak Creek, Pleasant Prairie, Somers</td> </tr> </tbody> </table>			Season & Topic	Article Title	Municipalities who requested	Summer: Grass clippings	"Know Before You Mow!"	Somers	Fall: Leaves	"Fall Cleanup"	Oak Creek, Somers, New Berlin	Winter: Salting	"How Does Winter Salting Affect Human and Pet Health?"	Norway, Oak Creek, Pleasant Prairie, Somers
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<p>Electronic Newsletter--Root-Pike WIN will send monthly electronic newsletters to municipal residents on our topic areas to include tips for homeowners, articles, announcements of upcoming workshops and grant opportunities. Municipalities will be invited to submit information for the newsletter.</p>	<p align="center">ELECTRONIC NEWSLETTER OUTCOMES</p> <p>The Respect Our Waters Homeowner e-newsletter was sent twice in 2016 to over 3,300 people (email addresses). The list includes people who have attended a workshop or have been awarded a rain garden grant; municipal members of the SEWCWN; Root-Pike WIN board members, Resource Group members and grant recipients from our Watershed-based Grant Program; participants in the Pike River, Root River and/or Wind Point Watershed planning; participants in the annual Root River Paddle; those who visited the Respect Our Waters booth at exhibition/community events and others who asked to be emailed the newsletter.</p> <p>Much of the e-newsletter content was replaced by Sparkles' 10 blog posts, which were shared on social media and referenced in the e-newsletters.</p>														
<p>Exhibitions--Root-Pike WIN will participate in fairs and conferences as an exhibitor. We will create new artwork for the display unit and a handout for distribution at the events. The SEWCWN will be prominently recognized on these materials. The exhibit will be made available to municipalities for display. A second tabletop display will be purchased if there is a large call from municipalities for the display.</p>	<p align="center">EXHIBITIONS OUTCOMES</p> <p>Respect Our Waters Fairs & Exhibits</p> <p>March 12, 2016, Discover New Berlin Business Expo & Job Fair, New Berlin West Middle/High School</p> <p>March 19, 2016, EcoFest, Gateway Technical College, Racine</p> <p>April 23, 2016, Celebrate <i>Earth Day Fair</i>, sponsored by Gateway Technical College, Kenosha</p>														

<p>Meetings--Root-Pike WIN will plan attend quarterly meetings of the Network, scheduled to be held on the third Thursday in March, June, September, December, and will organize one or more additional meetings on a topic of general interest to the group. In addition, RPW will be available to meet with Tony Beyer on issues related to this contract.</p>	<p>MEETINGS OUTCOMES</p> <p>Root-Pike WIN planned and coordinated four meetings of the SEWCWN January 1, 2016- December 31, 2016:</p> <p>February 23rd, 10am-12pm, Mount Pleasant Village Hall community room, 8811 Campus Drive, Mt Pleasant, WI. Agenda included an overview of the program from DNR representative Peter Wood P.E., updates on 9-Element watershed restoration plans and a guest speaker with follow on group discussions.</p> <p>June 30th, 10am-12pm, Oak Creek Civic Center Multi-purpose room, Room S107, 8040 S. 6th Street, Oak Creek, WI. Agenda included an update on the 2016 Respect Our Waters campaign, an Issues and Opportunities Workshop during which participants identified and addressed topics on maps of each of the five watersheds in the Root-Pike basin, an update from DNR representative Peter Wood P.E., and the 2015 member survey results.</p> <p>October 7th, 10am-12pm at the Racine County Ives Grove Office Complex, Auditorium, 14200 Washington Ave, Sturtevant, WI. Agenda included a Respect Our Waters update & overview of new program ideas, a DNR update by Pete Wood, and a presentation titled The Economic Benefits of Ecological Restoration by Mitch Kasper of Tallgrass Land Conservation.</p> <p>December 13th, 10am-12pm, Ken Windl Park's pavilion building, 11615 W. Rawson Ave., Franklin, WI. Agenda included DNR updates from Pete Wood and Lisa Creegan, a 2016 Respect Our Waters recap, evaluation & new program discussion, and Respect Our Waters 2016 Media Campaign Highlights, presented by Eichenbaum + Associates staff.</p>
<p>Written Progress Reports-- Root- Pike WIN will submit a written report twice a year describing progress of the project. In September RPW will send an email listing the cost share for the following year.</p> <p>Evaluation--Root-Pike WIN will create and distribute an evaluation instrument to gather input from municipal members about the project for the purpose of improving the program and increasing its effectiveness.</p>	<p>WRITTEN PROGRESS REPORTS OUTCOMES</p> <p>Reports--Root-Pike WIN submitted a final written and financial report to the Village of Mount Pleasant, the 2016 fiscal agent, on January 31, 2017. Members of the network were provided with a copy of the written ROW report in a follow up email after the October meeting and were sent cost shares for 2017 in September 2016.</p> <p>EVALUATION</p> <p>Allison Thielen of Root-Pike WIN is working with Executive Director Dave Giordano and Pete Wood of WDNR to develop a web-based survey to evaluate Root-Pike WIN's 2017 Keep Our Waters Clean outreach program. The survey is planned for February 2017.</p>

RESPECT OUR WATERS
December 13, 2016



2016 Campaign Highlights

- Eichenbaum/Associates Introductions
 - Neal Bardele, Client Services
 - Kristen Johnson, Media
 - Monica Baer, Public Relations
- WITI Fox6 winning TV station bidder, yielding more than a 3-1/2 to 1 return on cash media expenditures.
- Aggressive media relations, yielding significant coverage in TV, radio and print.

Paid Media Summary Report

2016 Television Partner: WITI Fox6
Campaign Period: June 12, 2016 through September 18, 2016 (12 weeks)

Media expenditure: \$73,000
Estimated total value: **\$267,505**

Television

- ROW's brand and messaging was delivered to the Fox6 audience as they accessed television through advertising spots, Fox Focus segments, and weather forecast branding.
 - **Spot lengths:** :30 & :15
 - **Demo:** Adults 25+
 - **Total spots:** 460
 - **Total Estimated GRPs:** 1,053.6
 - **Total Delivered GRPs:** 1,043.3
 - **Post GRP Percentage:** 99%
 - Estimated market reach = 97.3%
 - Estimated average frequency = 9.2x

Online

- ROW's brand and messaging was delivered to the Fox6 News audience as they accessed desktop & mobile devices on Fox6Now.com, The Weather Channel/App, Fox6 Weather Widget, and Fox6Now social media.
 - **Overall**
 - 1,495,000 estimated impressions
 - 1,338,146 delivered impressions
 - 3,499 Clicks (.23% Click Thru Rate)
 - **Fox6 Weather App**
 - 1,046 Clicks (.35% Click Thru Rate)
 - **Fox6Now.com Display**
 - 145 Clicks (.05% Click Thru Rate)
 - **Fox6Now.com Video Pre-Roll**
 - 401 Clicks (.54% Click Thru Rate)
 - **The Weather Channel App & Weather.com Display**
 - 803 Clicks (.13% Click Thru Rate)
 - **Weather.com & The Weather Channel App Video Pre-Roll**
 - 623 Clicks (1.04% Click Thru Rate)
 - **Fox6 News Facebook Posts – Videos (3 Fox Focus segments)**
 - 60,471 people saw posts – 59% took some sort of “action” – video views, likes, comments, shares, etc.

Public Relations Coverage Report

Public Relations Summary

- \$52,340 in estimated advertising value
- Concentration of TV and radio exposure with 10 feature stories and lengthy interviews
 - A number of the TV stories were posted on each station's web site and shared on social media
- Coverage throughout southeastern Wisconsin
- Significant story presence running from July through September

Public Relations Detailed Coverage

- CBS 58, Sunday Morning, September 25
 - Nearly three-minute feature story on WaterSHED program in Racine for 4th and 7th grade students
 - Video posted online
- Fox 6, Weekend WakeUp News, September 18
 - Live interview with Allison from Respect Our Waters and an appearance by Sparkles to deliver fall actions homeowners can take
- WGTD-FM Kenosha, Morning Show Interview, September 16
 - One-hour interview with Allison and Nan on water issues and practices

- Kenosha News, September 15
 - Steve Lund opinion column on improvement in local beaches and how homeowner actions can have an impact
 - Print and online story
- CBS 58, Weekday Morning News, September 14
 - Nearly three-minute feature story on WaterSHED program in Racine for 4th and 7th grade students aired twice during morning news (5:08 and 6:08 a.m.)
- Entercom Radio, Sunday morning program, September 4
 - 18-minute interview with Allison and Jake from Respect Our Waters on actions homeowners and the public can take
 - Interview aired on WMYX FM 99.1, KISS-FM 103.7 and Sports Radio 1250
- Fox 6, Weekday WakeUp News, August 30
 - Live interview with Allison from Respect Our Waters on actions homeowners can take to help keep lakes and rivers clean and healthy
 - Video posted online at fox6now.com
- CBS 58, Sunday Morning, August 21
 - Nearly four-minute feature story on Pike River restoration project in Mount Pleasant
 - Video posted online at cbs58.com
- Channel 4, Live at Noon News, July 28
 - 2 ½-minute interview with Allison and Jake on actions homeowners can take
 - Video posted online
- Channel 6, Real Milwaukee, July 26
 - 3 live segments on water camp for kids at River Bend Nature Center. Allison conducted one interview for Respect Our Waters on water testing
- KTI-Country, Connections, July 24
 - 15-minute interview with Jake Fincher, Respect Our Waters, and Neil Palmer, president of the Elm Grove Village Board of Trustees
 - Interview posted online at kticountry.com
- WGTD-FM, Kenosha, Morning Show Interview, July 14
 - One-hour interview on Respect Our Waters and Root-Pike WIN's activities
- WTMJ-AM, Wisconsin's Weekend News, July 10
 - 5-minute interview with Linda Reid on actions homeowners can take
- Racine Journal Times, June 14
 - Feature story with pictures of stormwater planters and how they help control water pollution

VI. Spills Program

The City of Oak Creek is part of the area served by the Milwaukee County Hazardous Response Team. The Fire Department logged 3 Hazmat incidents in 2016 which had the potential to impact storm water quality. The following is a summary of the reported spills:

- One spill incident of gasoline totaling five gallons.
- One spill incident of diesel fuel totaling 20 gallons.
- One chemical spill incident of pigment 167 chrome totaling 10 pounds.

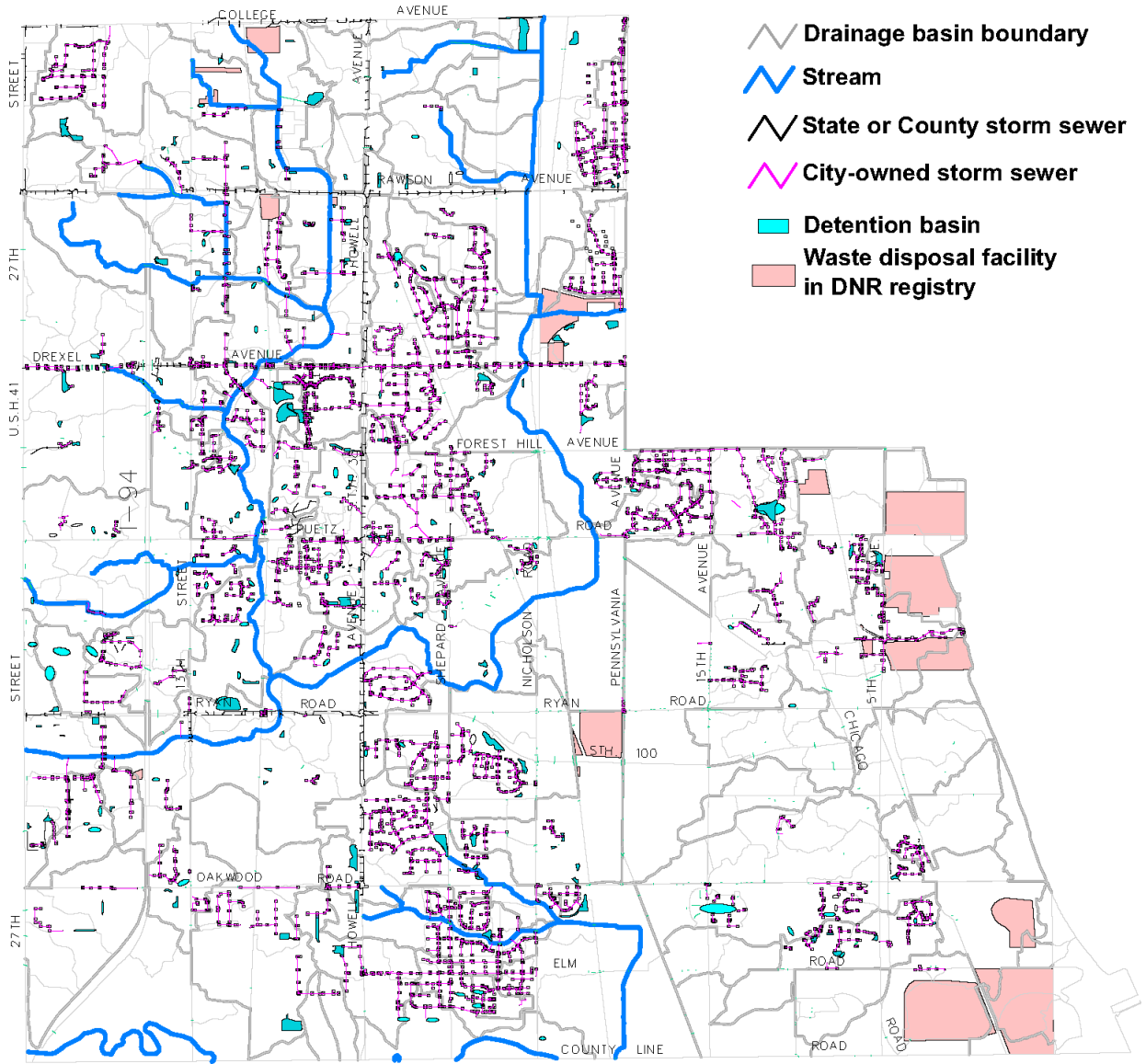
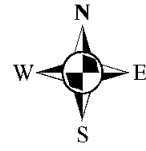
VII. Program Revisions

None.

B. Updated storm sewer system map including new outfalls and structural controls.

Please see attached maps.

CITY OF OAK CREEK DRAINAGE MAP



C. Summary describing the number and nature of enforcement actions, inspections, public education programs, spill responses and any other activity in the storm water management program that have measurable results

C. Summary of Activities in the Storm Water Management Program

Activities	2012	2013	2014	2015	2016
Erosion Control Permits Issued	53	38	51	58	46
Erosion Control Citations Issued	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹
Erosion Control Ordinance Compliance Letters	1	3	1 ²	0 ²	0 ²
Spills (Hazmat incidents) relating to storm water	4	7	2	0	3
Structural Control Inspections	27	33	33	33	39
Number of Catch Basins Inspected for Cleaning	5,420	2,936	4,338	2,641	4,770
Number of educational activities undertaken	6	6	6	6	6

¹ Note: Citations are issued only if a request for correction or stop work order has not been effective in obtaining the desired corrections to erosion control measures. Approximately 5 stop work orders are issued each year; however none were issued in 2015.

² Approximately 10 emails regarding erosion control compliance were sent

D. Summary of revisions made to the storm water management program.

Inspection of City-owned detention basins was changed from four to three times annually (spring, summer and fall). This revision was approved by the DNR in July, 2002. No revisions to the program were made in 2016.

E. Proposed revisions to the storm water management program.

None.

F. Summary of monitoring data.

The Department of Natural Resources approved Oak Creek's monitoring program proposal in November of 2000. The City has previously submitted all of the monitoring data to the DNR.

G. Proposed revisions to the storm water monitoring program.

None.

H. Summary of pollutant loading calculations.

Pollutant loadings for all 579 subbasins in Oak Creek using the Source Loading and Management Model (SLAMM) were submitted with the City's 2006 Annual Report. The analysis showed a 36% City-wide reduction in total suspended solids. Oak Creek was in compliance with the NR151 requirement of 20% suspended solids reduction by March 10, 2008.

In 2010 the City of Oak Creek contracted with AECOM to field verify swale infiltration rates within the City. The DNR subsequently reviewed and approved the new infiltration rate of 0.35 inches per hour, which is a significant increase over the previously used rate of 0.05 inches per hour.

The City finalized the SLAMM model files in 2012. The results using the new infiltration rate indicate that Oak Creek is over 40% reduction in total suspended solids.

I. Summary of the assessment of controls required in Section F.

I. Summary of the Assessment of Controls

Part I, Section F(1)(b)

Indirect Measurements	2012	2013	2014	2015	2016
Number and type of illicit connections found and eliminated	0	0	0	0	0
Number of erosion control permits issued	53	38	51	58	46
Number of enforcement actions taken (citations)	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹
Number of spills (Hazmat incidents) relating to storm water	4	7	2	0	3
Number of educational activities undertaken	6	6	6	6	6
Number of sewer inlets stenciled	0	0	0	0	0
Volume of used oil collected (gallons)	8,700	8,325	7,800	8,325	8,225
Mass of leaves collected (c.y.)	925	680	825	750	840
Mass of sediment captured from street sweeping	140.0 Tons	197.63 Tons	397.15 Tons	254.51 Tons	198.07 Tons
Mass of sediment removed from catch basins	13.3 Tons	8 Tons	14.5 Tons	9 Tons	8.5 Tons
Mass of sediment removed from structural controls	6 c.y.	18 c.y.	14 c.y.	16 c.y.	12 c.y.

¹ Note: Citations are issued only if a request for correction or stop work order has not been effective in obtaining the desired corrections to erosion control measures. Approximately 5 stop work orders are issued each year.

J. Fiscal analysis.

Summary of previous year's expenditures and current year's budget of the major elements in the NR 216 storm water management program.

A copy of Oak Creek's 2017 Storm Water Fund budget is on the following pages.

BUDGET REPORT FOR OAK CREEK
Fund: 38 STORM WATER UTILITY FUND
CITY OF OAK CREEK
PROPOSED 2017 BUDGET

GL NUMBER	DESCRIPTION	2013 ACTIVITY	2014 ACTIVITY	2015 ACTIVITY	2016 AMENDED BUDGET	2016 PROJECTED ACTIVITY	2017 RECOMMENDED BUDGET
ESTIMATED REVENUES							
Dept 00							
CHARGES FOR SERVICES							
38-00-35-34650	STORM WATER FEES	704,801.97	752,760.25	738,908.83	738,942.00	738,000.00	835,230.00
	CHARGES FOR SERVICES	704,801.97	752,760.25	738,908.83	738,942.00	738,000.00	835,230.00
COMMERCIAL REVENUE							
38-00-37-36000	INTEREST INCOME	658.09	1,257.73	816.78	500.00	500.00	600.00
	COMMERCIAL REVENUE	658.09	1,257.73	816.78	500.00	500.00	600.00
LICENSES & PERMITS							
38-00-34-33820	STORMWATER MANAGEMENT PERMIT	1,500.00	300.00	1,200.00	900.00	500.00	900.00
	LICENSES & PERMITS	1,500.00	300.00	1,200.00	900.00	500.00	900.00
Totals for dept 00-							
	TOTAL ESTIMATED REVENUES	706,960.06	754,317.98	740,925.61	740,342.00	739,000.00	836,730.00
	TOTAL ESTIMATED REVENUES	706,960.06	754,317.98	740,925.61	740,342.00	739,000.00	836,730.00
APPROPRIATIONS							
Dept 81-STORM WATER							
DIRECT EMPLOYEE COSTS							
38-81-41-10000	SALARIES - FULL TIME	299,584.69	363,984.54	371,831.27	381,680.00	380,000.00	382,632.00
38-81-41-11000	SALARIES - OVERTIME	355.42	257.96	9,968.98	500.00	3,000.00	500.00
38-81-41-13000	RETIREMENT	20,697.45	25,287.73	25,794.27	25,135.00	25,218.88	26,019.00
38-81-41-13500	SOCIAL SECURITY	22,691.11	26,727.79	28,241.84	29,133.00	28,134.30	29,271.00
38-81-41-15000	INSURANCE - ACTIVE HEALTH	64,600.00	36,800.00	84,992.00	84,992.00	84,992.00	84,992.00
38-81-41-16000	INSURANCE - WORKMANS COMP	12,944.00	17,428.00	17,284.00	16,547.00	16,547.00	16,444.00
38-81-41-16500	INSURANCE - DISABILITY	704.88	1,057.32	1,176.00	1,276.00	1,276.00	1,276.00
38-81-41-17000	INSURANCE - DENTAL	6,650.00	2,702.00	6,461.00	6,461.00	6,461.00	6,461.00
38-81-41-17500	INSURANCE - GROUP LIFE	423.44	556.26	642.84	550.00	550.00	550.00
38-81-41-18000	LONGEVITY	615.00	686.40	704.16	700.00	700.00	700.00
38-81-41-18500	SECTION 125 EXPENSES	233.50	224.50	0.00	0.00	0.00	0.00
	DIRECT EMPLOYEE COSTS	429,499.49	475,712.50	547,096.36	546,974.00	546,879.18	548,845.00
INDIRECT EMPLOYEE COSTS							
38-81-42-20000	TRAVEL/TRAINING	0.00	0.00	0.00	1,200.00	900.00	1,200.00
38-81-42-20500	RECRUITMENT/TESTING/PHYSICALS	0.00	0.00	0.00	100.00	50.00	100.00
38-81-42-21500	UNIFORMS/CLOTHING	860.43	1,004.06	952.44	1,000.00	1,000.00	1,100.00
	INDIRECT EMPLOYEE COSTS	860.43	1,004.06	952.44	2,300.00	1,950.00	2,400.00
UTILITY COST							
38-81-43-31500	TELEPHONE	0.00	0.00	0.00	0.00	0.00	250.00
	UTILITY COST	0.00	0.00	0.00	0.00	0.00	250.00
SUPPLIES							
38-81-44-40000	OFFICE SUPPLIES	50.00	0.00	0.00	0.00	0.00	0.00
38-81-44-41500	POSTAGE	0.00	0.00	0.48	0.00	0.00	0.00
38-81-44-44000	MEDICAL AND SAFETY	300.00	57.20	115.66	350.00	150.00	300.00
38-81-44-46000	MINOR EQUIPMENT	0.00	307.00	350.00	350.00	600.00	500.00
38-81-44-46200	FIELD SUPPLIES	0.00	0.00	0.00	350.00	100.00	300.00
	SUPPLIES	350.00	364.20	466.14	1,050.00	850.00	1,100.00
OTHER SERVICES							
38-81-45-51400	CONSULTING	14,702.86	0.00	4,271.32	9,000.00	25,000.00	10,000.00
38-81-45-52000	LANDFILL CHARGES	9,540.56	17,446.62	0.00	12,500.00	0.00	0.00

BUDGET REPORT FOR OAK CREEK
Fund: 38 STORM WATER UTILITY FUND
CITY OF OAK CREEK
PROPOSED 2017 BUDGET

GL NUMBER	DESCRIPTION	2013 ACTIVITY	2014 ACTIVITY	2015 ACTIVITY	2016 AMENDED BUDGET	2016 PROJECTED ACTIVITY	2017 RECOMMENDED BUDGET
APPROPRIATIONS							
Dept 81-STORM WATER							
OTHER SERVICES							
38-81-45-52500	MISCELLANEOUS PERMITS	4,000.00	4,000.00	5,000.00	6,000.00	5,500.00	6,000.00
	OTHER SERVICES	28,243.42	21,446.62	9,271.32	27,500.00	30,500.00	16,000.00
MAINTENANCE							
38-81-46-65000	STORM DRAINAGE SYSTEM	35,218.43	33,650.96	42,304.53	50,000.00	45,000.00	55,000.00
	MAINTENANCE	35,218.43	33,650.96	42,304.53	50,000.00	45,000.00	55,000.00
VEHICLES							
38-81-47-70000	VEHICLE MAINTENANCE	18,245.02	4,284.10	4,472.34	6,500.00	4,500.00	6,500.00
38-81-47-70500	EQUIPMENT MAINTENANCE	21,467.59	11,629.10	12,079.08	12,000.00	11,500.00	12,000.00
38-81-47-71000	GAS/OIL/FLUIDS	11,524.20	13,832.11	9,216.72	12,000.00	11,000.00	12,000.00
38-81-47-71500	TIRES	1,613.25	2,981.35	1,432.00	1,500.00	2,500.00	2,500.00
	VEHICLES	52,850.06	32,726.66	27,200.14	32,000.00	29,500.00	33,000.00
TRANSFER							
38-81-49-99999	INTERFUND TRANSFER OUT	100,000.00	500,000.00	100,000.00	200,000.00	200,000.00	325,000.00
	TRANSFER	100,000.00	500,000.00	100,000.00	200,000.00	200,000.00	325,000.00
Totals for dept 81-STORM WATER		647,021.83	1,064,905.00	727,290.93	859,824.00	854,679.18	981,595.00
TOTAL APPROPRIATIONS		647,021.83	1,064,905.00	727,290.93	859,824.00	854,679.18	981,595.00
BEGINNING FUND BALANCE		434,553.13	494,491.36	183,904.34	197,539.02	197,539.02	81,859.84
ENDING FUND BALANCE		494,491.36	183,904.34	197,539.02	78,057.02	81,859.84	(63,005.16)

K. Identification of water quality improvements or degradation.

The City of Oak Creek was issued its NR 216 permit in June of 2000 and subsequently re-issued in April of 2006 and June of 2013. Implementation of water quality improvement programs began in 2001 on a phased basis. The following programs or projects have resulted in water quality improvements:

- The street sweeping and catch basin cleaning programs have resulted in the collection of a significant amount of sediment since 2001. Street sweeping has collected 4,362,680 pounds of sediment and catch basin cleaning has removed 228,660 pounds of sediment.
- The Shepard Hills detention basin was retrofitted in 2003 to provide for water quality which should improve the conditions downstream.
- The Arthur Avenue storm sewer project constructed in 2005 diverted the untreated storm sewer runoff from 33 acres of a developed residential area through a wet detention basin.
- Installation of a hydrodynamic separator in the Southbranch Industrial Park in 2006.
- Portions of the Northbranch industrial park (Marquette Ave., 1st St. and 10th St.) were reconstructed with curb & gutter and inlets were replaced with catch basins in 2007. This enables catch basin cleaning and street sweeping on these roads.
- The regional detention basin at the southeast corner of I-94 and W. College Avenue constructed through an intergovernmental agreement between Wisconsin Department of Transportation, Milwaukee County and Oak Creek, treats about 230 acres of tributary area prior to discharging into the N2 Tributary.

L. Program Proposals.

- New program proposals are not required under the permit for 2017.