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**Engineering Division**  
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## Memorandum

**To:** Magdelene Wagner, P.E.  
**From:** Richard J. Wirtz, P.E., CFM  
**Subject:** City of Pewaukee Annual MS4 Report for 2021  
**Date:** March 31, 2022

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The Wisconsin Department of Natural Resources changed the format of the annual report to an electronic filing process as of 2017. The eReporting system provides the DNR a standardized method and form for receiving reports from permitted communities who must report on specific program components and the measurable goals of their permit. However, this standardized method of reporting may not provide enough information to interested residents or elected officials of the City who are unfamiliar with the programs and processes required by the City's MS4 permit. As in the previous five reporting cycles, we are providing a brief summary report to be posted on the City's website and provided to members of the Common Council which briefly describes the major components of the City's permit, the measurable goals of these components, the results achieved during the reporting year and any recommended changes to the programs. This summary report as well as the information provided in Items B through Item F were submitted to the DNR along with the City's eReport. A copy of the 2021 eReport filed with the DNR is attached at the end of the report as Item A.

CITY OF PEWAUKEE  
ANNUAL REPORT TO  
THE DEPARTMENT OF NATURAL RESOURCES  
IN ACCORDANCE WITH  
NR216 PERMIT REQUIREMENTS

SUBMITTED MARCH 31, 2022

# **Illicit Discharge Detection and Elimination/Spills Response Program**

## **Description of Program**

The purpose of the Illicit Discharge Detection and Elimination program as well as the Spills Response program is to prevent harmful substances from entering the City's Municipal Separate Storm Sewer System (MS4) and being discharged to waters of the state. The Illicit Discharge Detection and Elimination program incorporates field screening procedures of 20 major outfalls for the purpose of detecting, investigating, and eliminating discharges to the MS4 system which are not entirely composed of storm water. The Spills Response program is a procedure for responding to, investigating and remediating material spills which could enter the City's MS4 system.

## **Measurable Goals**

Perform field screening of the City's major outfalls to determine if illicit discharges are occurring, document the findings, trace any illicit discharges to the source and have the source removed. The measurable goal of the Spills Response program is to document and report on the spills reported to the City and to ensure the spills are mitigated.

## **Results Achieved**

City staff performed biannual field screening of the 20 major outfalls identified in its plan. There were no illicit discharges detected during the field screening program.

The City of Pewaukee Fire Department (PFD) responded to 4 spills in the past reporting year; three of these occurred either on Waukesha County Highway or Wisconsin State Highway property. The fourth spill occurred on August 4, 2021, at W231 N1125 Redford Boulevard. Workers on the site were crushing 55-gallon oil drums and were unaware of oil leaking out of the drums. An estimated 50 to 60 gallons of oil were reported to have been spilled. Workers on site were in process of cleaning the spill with oil dry.

City Staff responded to two illicit discharges during the reporting year. The first occurred on July 21, 2021, when the Director of Public Works and Utility Manager witnessed sewage coming out of a manhole at N25 W23040 Paul Road. Sandbags were placed in the curb line and on the downstream end of a nearby crossing culvert to prevent any discharge from leaving the area. The building owner was notified of the problem and subsequently contracted with a local firm to clean, televise, and repair the line. The cause of the discharge was an obstruction and leaking joint in the buildings sanitary lateral.

The second illicit discharge occurred on August 24, 2021 and involved a City contractor pumping disinfection water (i.e., chlorinated water) from City Well No. 1 to a nearby storm inlet. Complaints of a chemical smell were made by City Staff to the Director of Public Works. The Contractor was informed that water discharged to the City's storm sewer system must have a residual chlorine concentration at or below that of potable water. The contractor did not immediately know the chlorine concentration level in the discharge and was informed to cease the discharges. No chlorine odor or other chemical smell was noted at the storm sewer inlet or at the system outfall. Approximately 7500 gallons of disinfection water were estimated to have been pumped into the storm sewer system.

## **Describe Any Planned Changes to the Program**

City staff have been unable to complete a re-evaluation of the outfalls selected for field screening in 2021. The City's MS4 map needs to be revised based upon inventory data collected on the City's storm sewer system between 2014 and 2016 and to account for new MS4 systems from recent residential developments. Staff anticipate updating the City's MS4 map and re-evaluating the program in conjunction

with the preparation of a comprehensive storm water management plan to be conducted beginning in 2022. Any program re-evaluation will be consistent with the recommendations provided in DNR program guidance document 3800-2012-01.

# **Construction Site Pollutant Control**

## **Description of Program**

The City regulates land disturbing activity according to Chapters 14 and 19 of the Municipal code. Chapter 14 of the Municipal Code pertains to the design, construction, alteration, demolition and moving of buildings and structures within the City and associated land disturbing construction activities. The requirements of this chapter are regulated and enforced by the City's Building Inspection Department. Chapter 19 of the Municipal Code pertains to construction site erosion control, post construction site storm water management and illicit discharges. Regulation and enforcement of the requirements of this chapter are conducted by the City's Engineering Department. The construction site erosion control requirements of Chapter 19 of the Municipal Code are consistent with the provisions of NR 216 and the performance standards of NR 151 of the Administrative Code.

## **Measurable Goals**

The Engineering Department reviews proposed development for conformance with the erosion control requirements of Chapter 19 of the Municipal Code and issues a Certificate of Permit Coverage for development plans meeting the requirements of the ordinance. The Department and its consultants also conduct weekly and post 0.5-inch rainfall event compliance inspections of permitted construction sites for the purpose of maintaining compliance with Chapter 19 of the Municipal Code. A report is generated for each inspection performed and provided to the owner/designated representatives of the permitted site. The compliance inspection reports detail any maintenance to be performed, deficiencies noted and/or additional BMP's required to maintain compliance. Sites which are out of compliance are subject to enforcement which can include issuing Notices of Noncompliance, Notices of Violations, issuing fines, posting stop work orders, requiring enforcement conferences and revoking permits.

The Building Inspection Department issues erosion control permits for land disturbing construction activities associated with buildings and structures. Inspections of the erosion control best management practices are performed on sites with disturbances less than 1 acre in area. Inspections are performed each time the Building Inspector is on a site having an erosion control permit.

## **Results achieved**

The Engineering Department issued eleven erosion control permits for new development and conducted approximately 517 compliance inspections in 2021. Seven Notices of Noncompliance, five Notices of Violation, and \$1500.00 in Recommendations for Fines were issued during the reporting year. City Staff (not including consultant time) spent approximately 404 hours conducting compliance inspections, reviewing erosion control plans and reports, and enforcing the City' erosion control ordinance.

The Building Inspection Department conducted approximately 59 erosion bond and 146 erosion control inspections in 2021.

## **Describe Any Planned Changes to the Program**

None at this time.

## **Post-Construction Site Storm Water Management**

### **Description of Program**

The City regulates post-construction site storm water management according to Chapter 19 of the Municipal code. The post-construction storm water management requirements are compliant with the applicable provisions of NR 216 and the performance standards contained in NR 151 of the Administrative Code regarding infiltration and TSS reductions. However, the City's ordinance is more restrictive than the performance standards contained in NR 151 in terms of the pre- and post-developed discharge rates from the developed site. The City's ordinance requires the peak discharge from the 1, 2, 10 and 100-year storm events from the post developed site be at or below the peak discharge rates from the site under pre-settlement conditions. Post construction site storm water management practices are required to be maintained and the City requires a maintenance agreement be executed and recorded at Waukesha County Register of Deeds for the perpetual maintenance of the practices.

### **Measurable Goals**

The City reviews proposed development plans for conformance with the post-construction site storm water management requirements of Chapter 19 of the Municipal Code and issues a Certificate of Permit Coverage for development plans meeting the requirements of the ordinance.

### **Results Achieved**

The City issued five permits for post-construction site discharges from new development in 2021. City Staff and consultants have conducted reviews of submittals for twelve different proposed developments for compliance with the post-construction site storm water management requirements of the Municipal Code during the reporting year. This accounted for approximately 223 hours of City Staff time.

### **Describe Any Planned Changes to the Program**

The City is in the process of documenting its storm water management program and formalizing procedures for inspection and tracking of existing storm water management facilities built to comply with Chapter 19 of the Municipal Code and NR 216 and NR 151 of the State Statutes. This work has been delayed by the review, permitting and enforcement of the City's construction site erosion control and post-construction site storm water management ordinance. To date the bulk of the program has been documented and forms have been created for the inspection of various storm water management practices. Remaining work items include documenting the procedures for the inspection of the existing storm water management facilities, and a program for the tracking of inspections, maintenance, and enforcement of the post-construction site BMP's. City Staff continue to locate and compile available data on the existing storm water management facilities that have been constructed over the years. This data will aid in the inspection of these facilities and determine what agreements are in place for the maintenance of these facilities.

## **Pollution Prevention**

The City is required to implement a variety of programs under the Pollution Prevention criteria identified within its WPDES permit. These programs include:

1. Inspection, maintenance, and inventory of post-construction site storm water management facilities.
2. Catch basin cleaning program.
3. Street sweeping program.
4. Winter road management program.
5. Leaf management program.
6. SWPPP for municipal facilities.
7. Nutrient management plan for municipal properties with pervious surfaces over 5 acres.
8. Management procedures for unplanned water main discharges.
9. Other Reportable Results.

The following will provide a brief summary of each of the above programs, identify the measurable goals (if any), the results achieved and any planned program changes or improvements.

### **Inspection, Maintenance, and Inventory of Post-Construction Site Storm Water Management Facilities**

#### **Description of Program**

The program consists of an inventory of the existing storm water management facilities and ensuring the facilities are properly maintained to perform according to the performance standards used for the design of the facility. The City owns eight municipal facilities between Wagner Park, the City Hall Campus, and the Pewaukee Sports Complex. Additional City storm water management facilities are under construction with the development of the new highway garage on Green Road.

#### **Measurable Goals**

In 2010 the City identified through aerial photographs approximately 192 facilities within the municipal boundaries that were potential storm water BMP's implemented to control post-developed discharges and/or provide for TSS reduction. A significant amount of information still needs to be collected from available City records in order to complete the inventory and conduct inspections of these facilities.

The inventory includes such items as the location, general condition, age, and ownership of each facility; whether a long-term maintenance agreement exists for the facility; the general design of the facility; results of any previous inspections; and completion of any previously recommended maintenance and repairs.

The City is required to inspect and maintain the BMP's on municipal property that are necessary to meet the storm water management requirements for discharge and/or water quality at the time of construction. These facilities are located in Wagner Park (2 wet ponds and a biofiltration device), the Pewaukee Sports Complex (2 wet ponds, an infiltration pond, and a dry pond), and City Hall Campus Site (a biofiltration device).

#### **Results achieved**

As indicated previously, City Staff have begun and continue to locate and compile available data on the existing storm water management facilities that have been constructed over the years. To date,

approximately 30 pond asbuilts, 36 maintenance agreements and 98 storm water management plans have been located and scanned into the City's network.

All eight municipal facilities were inspected by City Staff during the reporting period. Inspections of the City owned facilities indicated all three facilities at Wagner Park and the two wet ponds at the Sports Complex require maintenance. City Staff also conducted two inspections of privately owned storm water management ponds and received an additional 8 inspection reports from private facility owners.

#### **Describe Any Planned Changes to the Program**

The completion of the inventory is still lagging due to the time requirements of other permit programs. As time allows staff will work on the completion of the inventory, preparation of inspection forms and the development of procedures for conducting and tracking inspections. This work element shares many of the same components which are being developed as a part of the Post Construction Site Storm Water Management Program.

#### **Catch Basin Cleaning Program**

##### **Description of Program**

The City identified 12 catch basins along Peterson Drive in 2005 to be inspected and cleaned annually when the program proposal was initially created. This list has been expanded to include an additional 69 catch basins along Green Road which were installed as a part of a road construction project in 2013. This program has also been expanded to include the maintenance and repair of the City's existing storm sewer structures.

##### **Measurable Goals**

To ensure the continued function of the MS4 system and to remove sediment deposits from the system.

##### **Results achieved**

Approximately 19 tons of solids were removed as a result of catch basin cleanings in 2021. Additionally, 5 storm sewer structures were repaired by the Highway Department in 2021. The City released a contract in late 2020 for the repair or replacement of approximately 228 storm sewer structures. This contract was carried over into the 2021 reporting period at which time approximately 172 storm sewer structures had been repaired or replaced. Additionally, 7 inlets were repaired or replaced as a part of the Meadowbrook Farms Phase 1 paving project which was also released in 2021.

#### **Describe Any Planned Changes to the Program**

The program needs to be updated to include the catch basins installed along Green Road and to include the maintenance and repairs of the storm inlets and manholes that have been occurring annually over the last seven years. Previously storm sewer structures were repaired in conjunction with road reconstruction and road maintenance projects as a part of the City's road program. Due to the number of structures requiring immediate attention, maintenance efforts have been accelerated. From 2015 to 2019 over 446 storm sewer structures have been repaired or replaced.

#### **Street Sweeping Program**

##### **Description of Program**

The City Highway Department is responsible for the sweeping of the City Streets. The current program consists of sweeping all City streets once in the spring (as soon as the snow melts) and sweeping once in

the fall all City streets with a curb and gutter cross-section. City streets around the lake are swept more frequently in the fall to keep leaves out of the storms sewer system. Additionally, City crews sweep arterial streets once per week for 1.5 months in the spring (as soon as the snow cover permits).

### **Measurable Goals**

To remove sediment and debris from the road surface and gutter line prior to being transported by runoff into the City's MS4 system.

### **Results Achieved**

Approximately 156 hours were spent sweeping 1306 miles of streets in 2021. This effort removed approximately 57 tons of solids prior to entering into the City's MS4 system.

### **Describe Any Planned Changes to the Program**

None at this time.

## **Winter Road Management Program**

### **Description of Program**

The winter road management program prescribes the methodologies and guidelines for the removal and control of snow and ice buildup on the City's streets. The City Highway Department is responsible for establishing the procedures, methods, equipment, and labor to implement the program. Details of the program evolve coincident with the evolution of technology and experience within the department regarding snow and ice removal.

### **Measurable Goals**

The goal of the program is to maintain the roadway in a safe driving condition within the limitations of resources, climactic conditions, preservation of the driving surface and environmental concerns. In balancing these concerns, the department is recommended to strive for "passable roadway" conditions on the driving lanes during the storm event. A "passable roadway" is defined as a roadway surface that is free from drifts, snow ridges and as much ice and snowpack as is practical and can be traveled safely at reasonable speeds.

Secondary to maintaining safe driving conditions is the reduction of the amount of salts used during a winter storm event. To this extent the City has invested in equipment which allows for the use of a salt brine for pre-wetting of salt or as a stand-alone pre-treatment of the pavement surface. As a stand-alone pre-treatment, salt brine helps to prevent ice/snow from bonding to the pavement surface thereby providing for easier removal during plowing operations. When used to pre-wet dry salt prior to application to a pavement surface, the brine helps to maintain the salt on the pavement surface rather than be displaced into the ditch or curb line. In either case the salt brine is anticipated to reduce the amount of dry salt required to achieve a "passable roadway."

The equipment utilized by the Highway Department is calibrated annually. Salt applications are set based upon the ground speed of the vehicle and the temperature of the pavement. The brine solution used for pre-wetting the salt is set not to exceed 10 gallons per ton with 8 gallons per ton being typical.

City Staff from the Highway Department attend training periodically regarding winter management operations. The last training event was held in 2016 (Smart Salting Level 1) with seven members of the

Highway Department attending. Two City Staff members from the Engineering Department attended the Wisconsin Salt Wise training in 2021 and one received certification as an applicator.

**Results Achieved**

The Highway Department maintains records of each event during the winter season which includes the amount of product used, pertinent weather data, hours worked, number of trucks in service and other measurable data. These records are maintained for the purpose of evaluating the program on a yearly basis. Snowfall totals used in this evaluation are taken from the weather station at Milwaukee International Airport.

The amount of salt used for a given event or season is highly variable and dependent on a variety of conditions such as but not limited to: air temperature; pavement temperature; type of precipitation; intensity of storm; the miles of road to be maintained; and the number of events in a given year. It is therefore difficult to evaluate whether or not the City’s salt application is reduced through the use of salt brines for pre-wetting or as a stand-alone pre-treatment from year to year. Table 1 below summarizes the City’s salt use for the winter seasons beginning with the 2010-2011 winter season. A typical salt brine solution is composed of 23.3 % salt which yields approximately 2.5 pounds of salt per gallon of brine.

**Table 1. City of Pewaukee Salt Use for Winter Road Management.**

Winter Season	Tons of Salt	Gallons of Salt Brine	Total Tons of Salt	Lane Miles of Roads	Tons of Salt/lane mile
2010-2011	3203*		3203*	176.4	18.2
2011-2012	1540	14200	1558	176.6	8.8
2012-2013	3520	22679	3548	177.0	20.0
2013-2014	3160	11490	3174	176.8	18.0
2014-2015	2390	4800	2396	179.4	13.4
2015-2016	1865	5100	1871	183.0	10.2
2016-2017	2900	11225	2914	183.0	15.9
2017-2018	3365	5650	3372	184.3	18.3
2018-2019	3365	9070	3376	184.3	18.3
2019-2020	2450	7750	2460	184.3	13.4
2020-2021	2240	7819	2250	185.2	12.2
2021-2022	2060	4500	2066	185.2	11.2

\*Total includes salt and salt/sand mixture.

The City implemented the use of salt brines with the 2011-2012 winter season. Prior to the 2011-2012 winter season combinations of salt and salt/sand were used in conjunction with plowing for removal of ice and snow from the municipal streets. As can be seen in Table 1, overall salt use in terms of tons/lane mile of roadway has generally been less since initiating the use of salt brines. However, this simplistic evaluation is a little misleading as it does not consider the severity of the winter season, or the effort required by road crews to maintain a “passable roadway.”

The Wisconsin DOT has created a Winter Severity Index (WSI) which it utilizes in evaluating the severity of the winter season in relation to its winter management program. The index considers factors such as number of snow events, amount of snow, number of freezing rain events, storm durations, and number of incidents (frost runs, drifting and clean up). The State DOT developed the WSI in 1995. Prior to the 2013-2014 winter season, index values ranged from 0 to 100. Therefore, the higher the index value, the more severe the winter season and the lower the index value the milder the winter season. The State DOT revised the WSI in the 2013-2014 winter season to provide results which are scaled and compared to the average of the 5 previous winters; the value of which is set as 100. Therefore, values in excess of 100 indicate a severer than average winter and values less than 100 indicate a milder than average winter.

The statewide average WSI is shown in Table 2 for each winter season. Included in Table 2 are values for the WSI for Waukesha County as well. Previously, values for the Waukesha County WSI from 2010 to 2013 were only given in the previous index (weighted from 0 to 100) with the remainder provided in the revised index. The values shown for Waukesha County in Table 2 for those years before the revised index were extrapolated based upon the statewide average values which were available in both versions of the index.

The approximate total snowfall per season and the number of measurable snow events are taken from the Mitchell International weather station in Milwaukee. The average snowfall is based upon the total snowfall for the season divided by the number of measurable events.

Figure 1 compares the Winter Severity Index for the statewide average and Waukesha County versus the salt usage for the City of Pewaukee and Waukesha County in tons of salt per lane mile. Overall, the WSI generally coincides with the amount of salt utilized per lane mile to maintain the City's streets in a passable condition for a winter season. The WSI for the 2021-2022 winter season will not be available until the State publishes its Annual Winter Maintenance Report, usually at the end of the year.

As of the writing of this report, the salt use for the 2021-2022 winter season is calculated to be 184 tons lower than the previous season with approximately 2066 total tons of salt used. This translates to approximately 11.2 tons per lane mile of salt applied to City Streets which is 1.0 tons per lane mile lower than the previous year. By comparison, Waukesha County was reported to have utilized approximately 11.7 tons of salt/lane mile for the 2020-2021 winter season which was 0.5 tons per lane mile lower than the City of Pewaukee's application over the same period. The average application for the City of Pewaukee since beginning the use of salt brines in the 2011-2012 winter season to 2020-2021 winter season is approximately 14.9 tons per lane mile. This is approximately 1.2 tons per lane mile less than the average 16.1 tons per lane mile for Waukesha County for the same time period. The current average for the City based on salt use for this season is 14.5 tons per lane mile. The winter management summary tables for each year of the program are attached to this report as Item B.

#### **Describe Any Planned Changes to the Program**

None at this time.

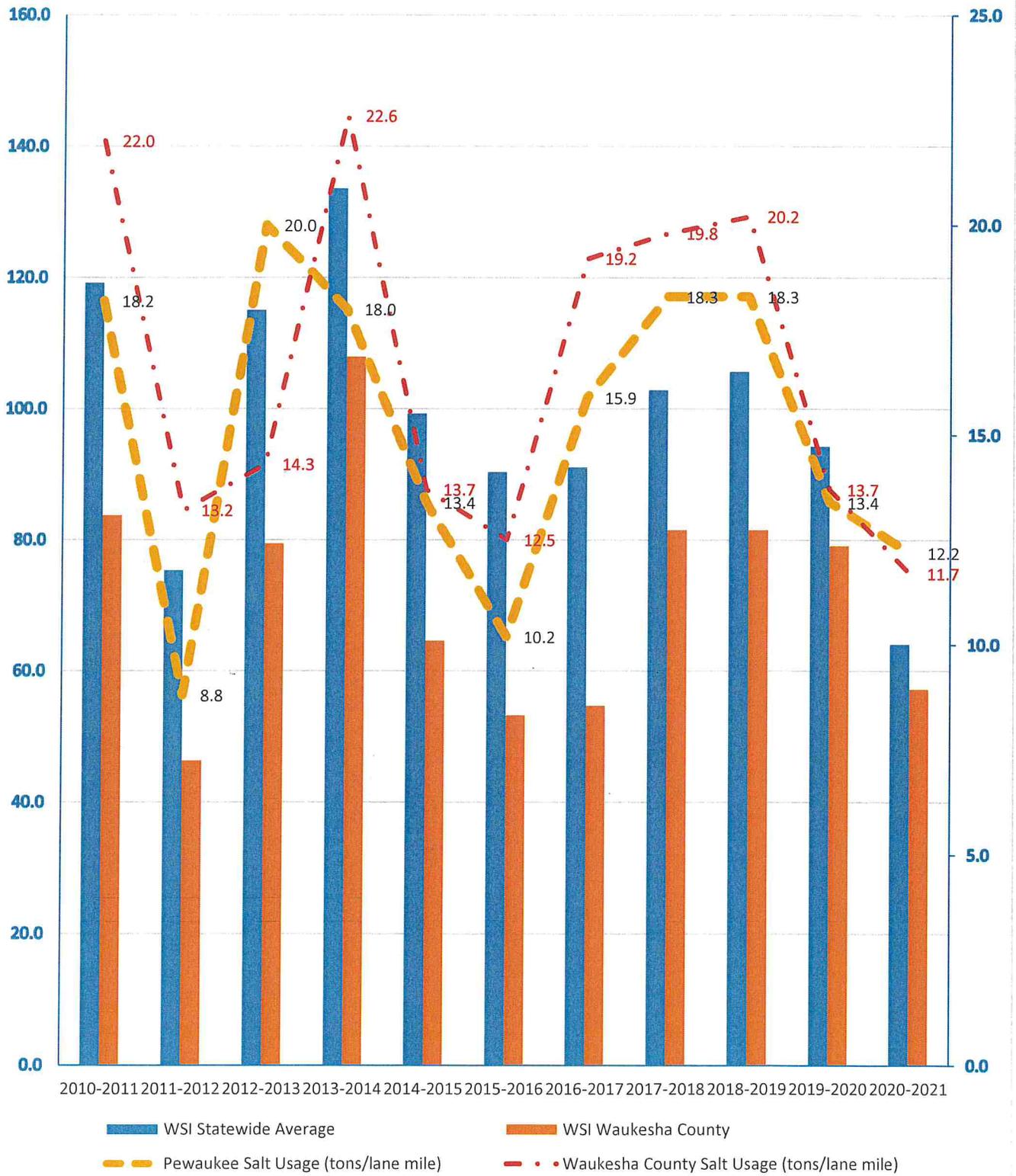
**Table 2. Comparison of Winter Seasons and City of Pewaukee Salt Use.**

Winter Season	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022
Approx. Total Snowfall (inches)	61.9	29.6	45.0	63.4	43.0	39.1	37.6	46.7	55.8	36.7	47.8	23.5
Number of Measurable Events	45	26	31	52	38	25	23	36	40	31	29	22
Average Snowfall per event (inches)	1.4	1.1	1.5	1.2	1.1	1.6	1.6	1.3	1.4	1.2	1.7	1.1
Total Tons of Salt	3203 *	1558	3548	3174	2396	1881	2914	3372	3376	2460	2250	2066
Total Hours Worked	NA	596	1272	1863	903	812	1171	1215	1564	1213	1230	1123
<b>Tons of Salt per lane mile of Road</b>	<b>18.2</b>	<b>8.8</b>	<b>20.0</b>	<b>18.0</b>	<b>13.4</b>	<b>10.2</b>	<b>15.9</b>	<b>18.3</b>	<b>18.3</b>	<b>13.4</b>	<b>12.2</b>	<b>11.2</b>
Average Pavement Temp. (degrees F)	NA	NA	NA	19.8	20.1	25.6	25.3	23.1	26.4	28.3	22.8	21.0
<b>WisDOT Statewide WSI</b>	<b>119.2</b>	<b>75.4</b>	<b>115.1</b>	<b>133.6</b>	<b>99.3</b>	<b>90.4</b>	<b>91.1</b>	<b>102.9</b>	<b>105.7</b>	<b>94.3</b>	<b>64.1</b>	<b>**</b>
<b>WSI for Waukesha County</b>	<b>83.7<sup>a</sup></b>	<b>46.3<sup>a</sup></b>	<b>79.4<sup>a</sup></b>	<b>107.9</b>	<b>64.6</b>	<b>53.2</b>	<b>54.7</b>	<b>81.5<sup>b</sup></b>	<b>81.5<sup>b</sup></b>	<b>79.1</b>	<b>57.2</b>	<b>**</b>
<b>Waukesha County Tons of Salt per Lane mile</b>	<b>22.0</b>	<b>13.2</b>	<b>14.3</b>	<b>22.6</b>	<b>13.7</b>	<b>12.5</b>	<b>19.2</b>	<b>19.8</b>	<b>20.2</b>	<b>13.7</b>	<b>11.7</b>	<b>**</b>

\*Total includes salt and salt/sand mixture. \*\*Not determined at the time of reporting. <sup>a</sup>Extrapolated values to statewide index. <sup>b</sup>Corrected WSI from previous report.

Figure 1

Winter Severity Index versus Salt Usage



## **Leaf Management Program**

### **Description of Program**

The City accepts leaves and grass clippings at the City Recycling Center drop off site located on the lower level of the Pewaukee City Hall campus. Material collected at the site is taken to a facility in Menomonee Falls for composting. The City's waste hauler will also pickup leaves and grass clippings for a fee.

### **Measurable Goals**

To provide an alternative means of disposing of leaves and grass clippings for the City residents as opposed to burning or dumping the debris into the City's right-of-way or ditches.

### **Results Achieved**

In previous years yard waste was broken down into categories to determine the mass of leaves taken to the yard waste site. Similar to last year's reporting by Waukesha County the mass of leaves collected is included in the total yard waste collected which was 718 tons of material. The City's waste hauler reported collecting approximately 10.8 tons of yard waste in 2021.

### **Describe Any Planned Changes to the Program**

None at this time.

## **SWPPP for Municipal Facilities**

### **Description of Program**

The City had prepared an update to its Evaluation of Public Works Yard in 2011. The goal of the evaluation was to identify potential sources of non-point pollution and provide recommendations to mitigate these sources. The City provided additional information in the 2015 annual report regarding planned projects to occur within the City "campus" site which would impact operations on site as well as potentially how storm water is managed. These planned projects included the construction of a new water tower, the construction of a new salt storage facility and repairs to the City Hall and highway garage. To date the new water tower and the repairs to City Hall and highway garage have been completed.

### **Measurable Goals**

The goal of the program is to reduce non-point pollutant loadings from the City "campus" site.

### **Results achieved**

An inspection of the Public Works Yard was performed in 2021.

### **Describe Any Planned Changes to the Program**

The City began the construction of a new highway garage on the northwest corner of Green Road and Duplainville Road in the fall of 2021. The new location will ultimately include a new salt storage facility, recycling location and refueling site. Completion of the highway garage is planned for late summer of 2022. The new highway garage and revisions to the operations of the current City Hall Campus site will necessitate the preparation of a new SWPPP. Item C of this report includes a site plan of the new site and renderings of the new highway garage.

## **Nutrient Management Plan for Municipal Properties with Pervious Surfaces over 5 acres**

### **Description of Program**

The City has 5 parks with pervious areas over 5 acres: Balmer Park, Wagner Park, South Park, Nettesheim Park, and the Pewaukee Sports Complex. A formal nutrient management plan was prepared for the Pewaukee Sports Complex while it was under construction. The remaining parks do not have a formal plan as of yet.

The current practice for maintaining the turf areas in the City's park system is to contract with a company specializing in turf maintenance to assess the condition of the fields and to apply treatments as recommended. Treatments are typically composed of one or more of the following products: Dimension 2EW (a post emergence herbicide); a Urea Nitrogen-Potash fertilizer 25-0-5; a Urea Nitrogen-Potash fertilizer 17-0-5; Trupower 3 (a selective post emergence herbicide); and Cool Power (a selective post emergence herbicide). In addition, the infields of existing baseball fields receive a non-phosphorous fertilizer treatment (composed of a 33-0-5 NPK ratio) three times a year. Mowing of the established turf areas occurs on a weekly rotation with mowing of the baseball infields occurring up to three times a week if necessary.

### **Measurable Goals**

The goal of the program is to reduce the amount of nutrients (namely phosphorous) applied to the turf areas and to apply only what is required to maintain a vigorous growth of vegetation.

### **Results Achieved**

The City's current practices and ordinance bans the use of fertilizers containing phosphorous except for the establishment of new turf areas or if soil tests confirm phosphorous is required.

### **Describe Any Planned Changes to the Program**

Formal plans for the remaining 4 parks need to be developed.

## **Management Procedures for Unplanned Water Main Discharges**

### **Description of Program**

The City is required by permit to develop a program to mitigate discharges of sediment to its MS4 system from unplanned water main discharges otherwise known as "water main breaks." The program was developed for Water and Sewer Utility staff who may be responding to such incidents. The priority for staff responding to a water main break is to locate the source of the discharge and to isolate it, or in layman's terms to "shut it off" as quickly as possible. Temporary erosion control measures, if required, can then be employed to prevent sediment from entering the MS4 system or waters of the State. The program identifies potential erosion control measures that can be employed to contain/limit the discharge of sediment from a water main break.

### **Measurable Goals**

The goal of the program is to reduce the amount of sediment entering the City's MS4 system or a water of the State from an unplanned water main discharge.

## **Results Achieved**

The City had 4 unplanned water main discharges last year resulting in an estimated, combined discharge of approximately 652,000 gallons of municipal water. Three of these unplanned discharges were related to water services and one was related to a leaking 6-inch valve.

## **Describe Any Planned Changes to the Program**

None at this time.

## **Other Reportable Results**

Roadways within the City are comprised of a combination of rural cross sections and urban cross sections. Rural cross sections include roadside ditches to collect storm water runoff along with gravel shoulders and paved travel lanes. Urban cross sections include storm sewers and curb and gutter to collect storm water runoff and paved travel lanes. The City of Pewaukee contains approximately 92.6 lineal miles of roads with almost 45 miles of roads having a rural cross-section. Roadside swales need to be periodically cleaned of accumulated sediment to function properly. Each year the City's Highway Department cleans a portion of its roadside swales of sediment. Last year the Highway Department cleaned approximately 1267 feet of roadside swales which netted an estimated 590 tons of soil.

In addition to the storm sewer structures repaired or replaced during the year as reported under the Catch Basin Cleaning Program, the City cleaned and televised approximately 1700 lineal feet of storm sewer and lined approximately 899 lineal feet of storm sewer with a cured in place pipe liner.

Worksheets for the Fiscal Analysis required as a part of the City's annual report are included in Item D.

Members of the City's Engineering Staff attended multiple erosion control and storm water management workshops during 2021. These included:

- 2021 Waukesha County Storm Water Management Workshop, April 20-21, 2021 (2 attendees)
- Wisconsin Salt Wise Smart Winter Maintenance for Roads, February 23, 2021 (1 attendee)
- Wisconsin Salt Wise Road Salt 101 for WI Towns and Villages, March 2, 2021 (1 attendee)
- NASECA-WI's 18<sup>th</sup> Annual Conference and Trade Show, February 10-11, 2021 (1 attendee)

The Wisconsin DNR completed an audit of the City's Illicit Discharge, Detection & Elimination Program, Construction Site Erosion Control Program and Pollution Prevention Program on September 8, 2021. A copy of the audit summary letter from the WDNR is attached as Item E. In general, the WDNR required:

- The City revises and submits to the WDNR a new MS4 outfall map and to re-evaluate the screening locations for illicit discharge monitoring and screening.
- The City identifies the BMP's utilized in the City's pollutant reduction analysis and submit this information to the WDNR.
- The City develops a schedule, maintenance plan or other form of commitment to City owned or operated BMP maintenance.

The City anticipates complying with these requirements through the preparation of a new comprehensive storm water management plan. The City must provide the WDNR with a written response no later than April 7, 2022.

## **Public Education and Outreach and Public Involvement and Participation Programs**

### **Description of Program**

The City of Pewaukee along with other members of the Upper Fox River Watershed Group contract with Waukesha County to implement the public education and outreach and public involvement and participation programs as required by Group WPDES permit. The County organizes the plan based upon a target audience. For each target audience a set of activities and goals are defined.

Item F contains the County's 2021 Activity Summary Report identifying the key components of last year's plan, the measurable goals and the results achieved. Also included is the County's 2020-2024 MS4 Public Education and Outreach Plan.

City Staff work with our elected and Municipal officials regarding the City's municipal storm water discharge permit through discussions regarding: the function and need of the City's Storm Water Utility; budget hearings and discussions; discussion regarding potential changes to the City's MS4 permit; changes to the City's post construction site storm water management and construction site erosion control ordinance; discussions related to capital improvement projects that impact storm water discharges; and discussions regarding enforcement of the City's post construction site storm water management and construction site erosion control ordinance.

City Staff knowledgeable of the MS4 permit requirements disseminate this knowledge internally as well as to the public through answering broad questions regarding the operations and maintenance of storm water BMP's; questions regarding what storm water utility fees are used for; answering drainage concerns; and discussions regarding how permit requirements impact internal job functions and the burden of reporting requirements.

City Engineering Staff have ongoing discussions educating contractors, developers and engineers regarding: the requirements of the City's construction site erosion control and post construction site storm water management ordinance; the City's Technical Standards; WDNR guidance documents, permit conditions and Technical Standards; and enforcement of post construction site storm water management and erosion control.

# Item A

## WDNR eReporting System Annual Report

# Submittal of Annual Reports and Other Compliance Documents for Municipal Separate Storm Sewer System (MS4) Permits

NOTE: Missing or incomplete fields are highlighted at the bottom of each page. You may save, close and return to your draft permit as often as necessary to complete your application. After 120 days your draft is **deleted**.

Form 3400-224(R8/2021)

## Reporting Information :

Will you be completing the Annual Report or other submittal type?  Annual Report  Other

**Project Name:** 2021 Annual Report

**County:** Waukesha

**Municipality:** Pewaukee, City

**Permit Number:** S050105

**Facility Number:** 30726

**Reporting Year:** 2021

Is this submittal also satisfying an Urban Nonpoint Source Grant funded deliverable?  Yes  No

## Required Attachments and Supplemental Information

Please complete the contents of each tab to submit your MS4 permit compliance document. The information included in this checklist is necessary for a complete submittal. A complete and detailed submittal will help us review about your MS4 permit document. To help us make a decision in the shortest amount of time possible, the following information must be submitted:

### Annual Report

- Review related web site and instructions for [Municipal storm water permit eReporting](#) [Exit Form]
- Complete all required fields on the annual report form and upload required attachments
- Attach the following other supporting documents as appropriate using the attachments tab above
  - Public Education and Outreach Annual Report Summary
  - Public Involvement and Participation Annual Report Summary
  - Illicit Discharge Detection and Elimination Annual Report Summary
  - Construction Site Pollution Control Annual Report Summary
  - Post-Construction Storm Water Management Annual Report Summary
  - Pollution Prevention Annual Report Summary
    - Leaf and Yard Waste Management
    - Municipal Facility (BMP) Inspection Report
    - Municipal Property SWPPP
    - Municipally Property Inspection Report
    - Winter Road Maintenance
  - Storm Sewer Map Annual Report Attachment
  - Storm Water Quality Management Annual Report Attachment
  - TMDL Attachment
  - Storm Water Consortium/Group Report

- Municipal Cooperation Attachment
- Other Annual Report Attachment
  
- Attach the following permit compliance documents as appropriate using the attachments tab above
  - Storm Water Management Program
    - Public Education and Outreach Program
    - Public Involvement and Participation Program
    - Illicit Discharge Detection and Elimination Program
    - Construction Site Pollutant Control Program
    - Post-Construction Storm Water Management Program
    - Pollution Prevention Program
      - Municipal Storm Water Management Facility (BMP) Inventory
      - Municipal Storm Water Management Facility (BMP) Inspection and Maintenance Plan
  - Total Maximum Daily Load documents (*\*if applicable, see permit for due dates.*)
    - TMDL Mapping\*
    - TMDL Modeling\*
    - TMDL Implementation Plan\*
    - Fecal Coliform Screening Parameter \*
    - Fecal Coliform Inventory and Map (*S050075-03 general permittees Appendix B B.5.2 – document due to the department by March 31, 2022*)
    - Fecal Coliform Source Elimination Plan (*S050075-03 general permittees Appendix B - document due to the department by October 31, 2023*)
  
- Sign and Submit form

**Municipal Contact Information- Complete**

**Notice:** Pursuant to s. NR 216.07(8), Wis. Adm. Code, an owner or operator of a Municipal Separate Storm Sewer System (MS4) is required to submit an annual report to the Department of Natural Resources (Department) by March 31 of each year to report on activities for the previous calendar year ("reporting year"). This form is being provided by the Department for the user's convenience for reporting on activities undertaken in each reporting year of the permit term. Personal information collected will be used for administrative purposes and may be provided to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].

**Note:** Compliance items must be submitted using the Attachments tab.

**Municipality Information**

**Name of Municipality:** Pewaukee, City

**Facility ID # or (FIN):** 30726

**Updated Information:**  Check to update mailing address information

**Mailing Address:** W240 N3065 Pewaukee Road

**Mailing Address 2:**

**City:** Pewaukee

**State:** Wisconsin

**Zip Code:** 53072      xxxxx or xxxxx-xxxx

**Primary Municipal Contact Person (Authorized Representative for MS4 Permit)**

The "Authorized Representative" or "Authorized Municipal Contact" includes the municipal official that was charged with compliance and oversight of the permit conditions, and has signature authority for submitting permit documents to the Department (i.e., Mayor, Municipal Administrator, Director of Public Works, City Engineer).

Select to **create new** primary contact

**First Name:** Magdelene

**Last Name:** Wagner

Select to **update** current contact information

**Title:** Director of Public Works

**Mailing Address:** W240 N3065 Pewaukee Road

**Mailing Address 2:**

**City:** Pewaukee

**State:** WI

**Zip Code:** 53072-4044      xxxxx or xxxxx-xxxx

**Phone Number:** 262-691-0804      Ext:      xxx-xxx-xxxx

**Email:** wagner@pewaukee.wi.us

**Additional Contacts Information (Optional)**

- I&E Program
- IDDE Program

**Individual with responsibility for:  
(Check all that apply)**

- IDDE Response Procedure Manual
- Municipal-wide Water Quality Plan
- Ordinances
- Pollution Prevention Program
- Post-Construction Program
- Winter roadway maintenance

**First Name:** Richard

**Last Name:** Wirtz

**Title:** Chief Engineer-Utili

**Mailing Address:** W240 N3065 Pewaukee Road

**Mailing Address 2:**

**City:** Pewaukee

**State:** WI

**Zip Code:** 53072 xxxxx or xxxxx-xxxx

**Phone Number:** 262-691-0804 Ext:  xxx-xxx-xxxx

**Email:** wirtz@pewaukee.wi.us

1. Does the municipality rely on another entity to satisfy some of the permit requirements?

Yes  No

Public Education and Outreach Waukesha County

Public Involvement and Participation Waukesha County

Illicit Discharge Detection and Elimination

Construction Site Pollutant Control

Post-Construction Storm Water Management

Pollution Prevention

2. Has there been any changes to the municipality's participation in group efforts towards permit compliances (i.e., the municipality has added or dropped consortium membership)?

Yes  No

**Minimum Control Measures- Section 1 : Complete****1. Public Education and Outreach**

a. Complete the following information on Public Education and Outreach Activities related to storm water. Select the Delivery Mechanism that best describes how the topics were conveyed to your population. Use the Add Event to add additional entries.

<b>Event Start Date</b>	1/5/2021		
<b>Project/Event Name</b>	Waukesha County MS4 Education and Outreach		
<b>Delivery Mechanism</b>	Other		*Active
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input checked="" type="checkbox"/> Illicit discharge detection and elimination <input checked="" type="checkbox"/> Household hazardous waste disposal/pet waste management/vehicle washing <input checked="" type="checkbox"/> Yard waste management/pesticide and fertilizer application <input checked="" type="checkbox"/> Stream and shoreline management <input checked="" type="checkbox"/> Residential infiltration <input checked="" type="checkbox"/> Construction sites and post-construction storm water management <input checked="" type="checkbox"/> Pollution prevention <input checked="" type="checkbox"/> Green infrastructure/low impact development <input type="checkbox"/> Other:	<input checked="" type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input checked="" type="checkbox"/> Businesses <input checked="" type="checkbox"/> Contractors <input checked="" type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	101 +	<input checked="" type="radio"/> Yes <input type="radio"/> No

b. Brief explanation on Public Education and Outreach reporting. *Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See attached City of Pewaukee Annual Report for Waukesha County spreadsheet for regional effort.

**Minimum Control Measures - Section 2 : Complete****2. Public Involvement and Participation**

a. Permit Activities. Complete the following information on Public Involvement and Participation Activities related to storm water. Select the Delivery Mechanism that best describes how the permit activities were conveyed to your population. Use the Add Event to add additional entries.

<b>Event Start Date</b>	1/1/2021		
<b>Project/Event Name</b>	Ongoing discussion regarding City City storm water and erosion control req...		
<b>Delivery Mechanism</b>	Other		

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input type="checkbox"/> MS4 Annual Report <input type="checkbox"/> Storm Water Management Program <input checked="" type="checkbox"/> Storm Water related ordinance <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input checked="" type="checkbox"/> Residents <input type="checkbox"/> Businesses <input checked="" type="checkbox"/> Contractors <input checked="" type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	11-50	<input type="radio"/> Yes <input checked="" type="radio"/> No

<b>Event Start Date</b>	3/1/2021
<b>Project/Event Name</b>	Green Home Make Over
<b>Delivery Mechanism</b>	Public Workshop

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input type="checkbox"/> MS4 Annual Report <input type="checkbox"/> Storm Water Management Program <input type="checkbox"/> Storm Water related ordinance <input checked="" type="checkbox"/> Other: Environmentally friendly house and law...	<input checked="" type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	51-100	<input checked="" type="radio"/> Yes <input type="radio"/> No

<b>Event Start Date</b>	5/5/2021
<b>Project/Event Name</b>	Waukesha County Storm Water Workshop
<b>Delivery Mechanism</b>	Presentation of Storm Water Information

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input type="checkbox"/> MS4 Annual Report <input type="checkbox"/> Storm Water Management Program <input type="checkbox"/> Storm Water related ordinance <input checked="" type="checkbox"/> Other: Training of green infrastructure and oth...	<input type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input checked="" type="checkbox"/> Contractors <input checked="" type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	101 +	<input checked="" type="radio"/> Yes <input type="radio"/> No

**b. Volunteer Activities.** Complete the following information on Public Involvement and Participation Activities related to storm water. Select the Delivery Mechanism that best describes how volunteer activities were conveyed to your population. Use the Add Event to add additional entries.

<b>Event Start Date</b>	5/1/2021	<input type="checkbox"/> NA (Individual Permittee).	
<b>Project/Event Name</b>	WAV		
<b>Delivery Mechanism</b>	Stream monitoring		
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)

Volunteer Opportunity	<input checked="" type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	11-50	<input checked="" type="radio"/> Yes <input type="radio"/> No
-----------------------	--	-------	---

Event Start Date	7/1/2021	<input type="checkbox"/> NA (Individual Permittee).
Project/Event Name	Adopt A Drain	
Delivery Mechanism	Storm drain stenciling	

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	<input checked="" type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	51-100	<input checked="" type="radio"/> Yes <input type="radio"/> No

c. Brief explanation on Public Involvement and Participation reporting. *Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See attached City of Pewaukee Annual Report and 2020-2024 Waukesha County Summary Report

Form 3400-224 (R8/2021)

### Minimum Control Measures - Section 3 : Complete

#### 3. Illicit Discharge Detection and Elimination

- |  |     |                                 |
|--|-----|---------------------------------|
| a. How many total outfalls does the municipality have?   | 126 | <input type="checkbox"/> Unsure |
| b. How many outfalls did the municipality evaluate as part of their routine ongoing field screening program? | 20  | <input type="checkbox"/> Unsure |
| c. From the municipality's routine screening, how many were confirmed illicit discharges?                    | 0   | <input type="checkbox"/> Unsure |
| d. How many illicit discharge complaints did the municipality receive?                                       | 2   | <input type="checkbox"/> Unsure |
| e. From the complaints received, how many were confirmed illicit discharges?                                 | 2   | <input type="checkbox"/> Unsure |

- f. How many of the identified illicit discharges did the municipality eliminate in the reporting year (from both routine screening and complaints)?   Unsure

(If the sum of 3.c. and 3.e. does not equal 3.f., please explain below.)

- g. How many of the following enforcement mechanisms did the municipality use to enforce its illicit discharge ordinance? Check all that apply and enter the number of each used in the reporting year.  Unsure

- Verbal Warning
- Written Warning (including email)
- Notice of Violation
- Civil Penalty/ Citation

Additional Information: \_\_\_\_\_

- h. Brief explanation on Illicit Discharge Detection and Elimination reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See attached City of Pewaukee Annual Report

Form 3400-224 (R8/2021)

**Minimum Control Measures - Section 4 : Complete**

**4. Construction Site Pollutant Control**

- a. How many total construction sites with one acre or more of land disturbing construction activity were active at any point in the reporting year?   Unsure
- b. How many construction sites with one acre or more of land disturbing construction activity did the municipality issue permits for in the reporting year?   Unsure
- c. How many erosion control inspections did the municipality complete in the reporting year (at sites with one acre or more of land disturbing construction activity)?   Unsure

- d. What types of enforcement actions does the municipality have available to compel compliance with the regulatory mechanism? Check all that apply and enter the number of each used in the reporting year.  Unsure

- No Authority
- Verbal Warning
- Written Warning (including email)
- Notice of Violation
- Civil Penalty/ Citation
- Stop Work Order
- Forfeiture of Deposit
- Other - Describe below

Enforcement Conference

- e. Brief explanation on Construction Site Pollutant Control reporting . *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See attached City of Pewaukee Annual Report

Form 3400-224 (R8/2021)

**Minimum Control Measures - Section 5 : Complete**

**5. Post-Construction Storm Water Management**

- a. How many sites with new structural storm water management facilities\* have received local approval ?   Unsure  
 \*Engineered and constructed systems that are designed to provide storm water quality control such as wet detention ponds, constructed wetlands, infiltration basins, grassed swales, permeable pavement, catch basin sumps, etc.
- b. Does the permittee have procedures for inspecting and maintaining private storm water facilities?  Yes  No  Unsure
- c. If Yes, how many privately owned storm water management facilities were inspected in the reporting year ?   Unsure  
 Inspections completed by private landowners should be included in the reported number.

- d. What types of enforcement actions does the municipality have available to compel compliance with the regulatory mechanism? Check all that apply and enter the number of each used in the reporting year.  Unsure

<input type="checkbox"/> No Authority	<input type="text"/>
<input type="checkbox"/> Verbal Warning	<input type="text"/>
<input checked="" type="checkbox"/> Written Warning (including email)	<input type="text" value="0"/>
<input checked="" type="checkbox"/> Notice of Violation	<input type="text" value="0"/>
<input checked="" type="checkbox"/> Civil Penalty/ Citation	<input type="text" value="0"/>
<input type="checkbox"/> Forfeiture of Deposit	<input type="text"/>
<input checked="" type="checkbox"/> Complete Maintenance	<input type="text" value="0"/>
<input checked="" type="checkbox"/> Bill Responsible Party	<input type="text" value="0"/>
<input checked="" type="checkbox"/> Other - Describe below	<input type="text" value="0"/>

Loss of Storm Water Utility Credit

- e. Brief explanation on Post-Construction Storm Water Management reporting . *If marked 'Unsure' on any questions above, justify your reasoning. Limit your response to 250 characters and/or attach supplemental information on the attachments page.*

See attached City of Pewaukee Annual Report

Form 3400-224 (R8/2021)

**Minimum Control Measures - Section 6 : Complete**

## 6. Pollution Prevention

Storm Water Management Facility Inspections  Not Applicable

- a. Enter the total number of municipally owned or operated structural storm water management facilities?   Unsure
- b. How many new municipally owned storm water management facilities were installed in the reporting year?   Unsure
- c. How many municipally owned storm water management facilities were inspected in the reporting year?   Unsure
- d. What elements are looked at during inspections (250 character limit)?

Embankment, outlets, vegetation status, erosion, pretreatment, accumulated trash and debris, etc.

- e. How many of these facilities required maintenance?   Unsure
- f. Brief explanation on Storm Water Management Facility inspection reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See Attached City of Pewaukee Annual Report

Public Works Yards & Other Municipally Owned Properties (SWPPP Plan Review)  Not Applicable

- g. How many municipal properties require a SWPPP?   Unsure
- h. How many inspections of municipal properties have been conducted in the reporting year?   Unsure
- i. Have amendments to the SWPPPs been made?  
 Yes  No  Unsure
- j. If yes, describe what changes have been made. Limit response to 250 characters and/or attach supplemental information on the attachment page:

- k. Brief explanation on Storm Water Pollution Prevention Plan reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See attached City of Pewaukee Annual Report

Collection Services - Street Sweeping / Cleaning Program  Not Applicable

- l. Did the municipality conduct street sweeping/cleaning during the reporting year?  
 Yes  No  Unsure
- m. If known, how many tons of material was removed?   Unsure
- n. Does the municipality have a low hazard exemption for this material?  Yes  No
- o. If street cleaning is identified as a storm water best management practice in the

pollutant loading analysis, was street cleaning completed at the assumed frequency?

- Yes - Explain frequency \_\_\_\_\_
- No - Explain \_\_\_\_\_
- Not Applicable

Collection Services - *Catch Basin Sump Cleaning Program*  Not Applicable

- p. Did the municipality conduct catch basin sump cleaning during the reporting year?  Yes  No  Unsure
- q. How many catch basin sumps were cleaned in the reporting year?   Unsure
- r. If known, how many tons of material was collected?   Unsure
- s. Does the municipality have a low hazard exemption for this material?  Yes  No
- t. If catch basin sump cleaning is identified as a storm water best management practice in the pollutant loading analysis, was cleaning completed at the assumed frequency?
  - Yes- Explain frequency \_\_\_\_\_
  - No - Explain \_\_\_\_\_
  - Not Applicable

Collection Services - *Leaf Collection Program*  Not Applicable

Winter Road Management  Not Applicable

\*Note: We are requesting information that goes beyond the reporting year, answer the best you can.

- aa. How many lane-miles of roadway is the municipality responsible for doing snow and ice control?   Unsure
- ab. Provide amount of de-icing products used by month last winter season?

Solids (tons) (ex. sand, or salt-sand)

Product	Oct	Nov	Dec	Jan	Feb	Mar
Salt	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="470"/>	<input type="text" value="700"/>	<input type="text" value="820"/>	<input type="text" value="70"/>

Liquids (gallons) (ex. brine)

	Oct	Nov	Dec	Jan	Feb	Mar
Brine	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="1900"/>	<input type="text" value="500"/>	<input type="text" value="1900"/>	<input type="text" value="200"/>

- ac. Was salt applying machinery calibrated in the reporting year?  Yes  No  Unsure
- ad. Have municipal personnel attended salt reduction strategy training in the reporting year?  Yes  No  Unsure

Training Date	Training Name	# Attendance
<input type="text" value="2/23/2021"/>	<input type="text" value="Smart Salting for Wisconsin Roads"/>	<input type="text" value="1"/>
<input type="text" value="3/2/2021"/>	<input type="text" value="Road Salt 101 for Wisconsin Towns and..."/>	<input type="text" value="1"/>

- ae. Brief explanation on Winter Road Management reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*

See attached City of Pewaukee Annual Report

## Internal (Staff) Education & Communication

- af. Has training or education been held for municipal or other personnel involved in implementing each of the pollution prevention program elements?  Yes  No  Unsure

If yes, describe what training was provided (250 character limit):

City engineering staff attended the Waukesha County Storm Water Workshop (2) and NASECA Annual Conference (1).

When: various times in 2021

How many attended: 3

- ag. Describe how the municipality has kept the following local officials and municipal staff aware of the municipal storm water discharge permit programs and its requirements.

Elected Officials

See attached City of Pewaukee Annual Report

Municipal Officials

See attached City of Pewaukee Annual Report

Appropriate Staff ( such as operators, Department heads, and those that interact with public)

See City of Pewaukee Annual Report

- ah. Brief explanation on Internal Education reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See City of Pewaukee Annual Report

Form 3400-224 (R8/2021)

## Minimum Control Measures - Section 7 : Complete

### 7. Storm Sewer System Map

- a. Did the municipality update their storm sewer map this year?

Yes  No  Unsure

If yes, check the areas the map items that got updated or changed:

- Storm water treatment facilities  
 Storm pipes  
 Vegetated swales  
 Outfalls  
 Other - Describe below

- b. Brief explanation on Storm Sewer System Map reporting. *If you marked Unsure for an question for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*



**Final Evaluation - Complete****Fiscal Analysis**

Complete the fiscal analysis table provided below. For municipalities that do not break out funding into permit program elements, please enter the monetary amount to your best estimate of what funding may be going towards these programs.

<b>Annual Expenditure</b> Reporting Year	<b>Budget</b> Reporting Year	<b>Budget</b> Upcoming Year	<b>Source of Funds</b>
---	---------------------------------	--------------------------------	------------------------

**Element:** Public Education and Outreach

1466	1500	1500	<u>Storm water utility</u>
------	------	------	----------------------------

**Element:** Public Involvement and Participation

1466	1500	1500	<u>Storm water utility</u>
------	------	------	----------------------------

**Element:** Illicit Discharge Detection and Elimination

2770	1430	1470	<u>Storm water utility</u>
------	------	------	----------------------------

**Element:** Construction Site Pollutant Control

113970	36575	38066	<u>Other</u>
--------	-------	-------	--------------

**Element:** Post-Construction Storm Water Management

97840	44575	46066	<u>Other</u>
-------	-------	-------	--------------

**Element:** Pollution Prevention

1231841	824815	692440	<u>Storm water utility</u>
---------	--------	--------	----------------------------

**Other (describe)**

Storm Water Quality Management			
--------------------------------	--	--	--

7260	350000	350000	<u>Storm water utility</u>
------	--------	--------	----------------------------

**Other (describe)**

Storm Sewer System Map			
------------------------	--	--	--

0	5000	5000	<u>Storm water utility</u>
---	------	------	----------------------------

Please provide a justification for a "0" entered in the Fiscal Analysis. *Limit response to 250 characters.*

**Water Quality**

a: Were there any known water quality improvements in the receiving waters to which the

municipality's storm sewer system directly discharges to?

Yes  No  Unsure      If Yes, explain below:

**b:** Were there any known water quality degradation in the receiving waters to which the municipality's storm sewer system directly discharges to?

Yes  No  Unsure      If Yes, explain below:

**c:** Have any of the receiving waters that the municipality discharges to been added to the impaired waters list during the reporting year?

Yes  No  Unsure

**d:** Has the municipality evaluated their storm water practices to reduce the pollutants of concern?

Yes  No  Unsure

### Storm Water Quality Management

**a.** Has the municipality completed or updated modeling in the reporting year (relating to developed urban area performance standards of s. NR 151.13(2)(b)1., Wis. Adm. Code)?  Yes  No

**b.** If yes, enter percent reduction in the annual average mass discharging from the entire MS4 to surface waters of the state as compared to implementing no storm water management controls:

Total suspended solids (TSS)

Total phosphorus (TP)

### Additional Information

Based on the municipality's storm water program evaluation, describe any proposed changes to the municipality's storm water program. *If your response exceeds the 250 character limit, attach supplemental information on the attachments page.*

See attached City of Pewaukee Annual report

**Requests for Assistance on Understanding Permit Programs**

Would the municipality like the Department to contact them about providing more information on understanding any of the Municipal Separate Storm Sewer Permit programs?

Please select all that apply:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Pollutant Control
- Post-Construction Storm Water Management
- Pollution Prevention
- Storm Water Quality Management
- Storm Sewer System Map
- Water Quality Concerns
- Compliance Schedule Items Due
- MS4 Program Evaluation

## Required Attachments and Supplemental Information

Any other MS4 program information for inclusion in the Annual Report may be attached on here. Use the Add Additional Attachments to add multiple documents.

Upload Required Attachments (15 MB per file limit) - [Help reduce file size and trouble shoot file uploads](#)

\*Required Item

**Note:** To replace an existing file, use the 'Click here to attach file ' link or press the to delete an item.

### Attach - Other Supporting Documents

AR Other

 File Attachment

[2021CityofPewaukeeNR216AnnualReport\\_20220331.pdf](#)

(To remove items, use your cursor to hover over the attachment section. When the drop down arrow appears, select remove item)

### Attach - Permit Compliance Documents

(To remove items, use your cursor to hover over the attachment section. When the drop down arrow appears, select remove item)

## Sign and Submit Your Application

### Steps to Complete the signature process

1. Read and Accept the Terms and Conditions
2. Press the Submit and Send to the DNR button

**NOTE:** For security purposes all email correspondence will be sent to the address you used when registering your WAMS ID. This may be a different email than that provided in the application. For information on your WAMS account click [HERE](#).

### Terms and Conditions

**Certification:** I hereby certify that I am an authorized representative of the municipality covered under Pewaukee, City MS4 Permit for which this annual report or other compliance document is being submitted, and that the information contained in this submittal and all attachments were gathered and prepared under my direction or supervision. Based on my inquiry of the person or persons under my direction or supervision involved in the preparation of this document, to the best of my knowledge, the information is true, accurate, and complete. I further certify that the municipality's governing body or delegated representatives have reviewed or been apprised of the contents of this annual report. I understand that Wisconsin law provides severe penalties for submitting false information.

Signee (must check current role prior to accepting terms and conditions)

- Authorized municipal contact using WAMS ID.
- Delegation of Signature Authority ( Form 3400-220 ) for agent signing on the behalf of the authorized municipal contact.
- Agent seeking to share this item with authorized municipal contact (authorized municipal contact must get WAMS id and complete signature).

**Name:** Magdelene Wagner

**Title:** Director of Public Works/City Engineer

Authorized Signature.

- I accept the above terms and conditions.

Signed by : i:0#.f|wamsmembership|cityofpewaukee on 2022-03-31T08:36:07

You have already signed and submitted this application to the DNR. Please [contact the Wisconsin DNR](#) for assistance.

After providing the final authorized signature, the system will send an email to the authorized party and any agents. This email will include a copy to the final read only version of this application.

# Item B

## Winter Road Management Summary Tables

**Road Salt / Deicers Usage  
City of Pewaukee  
2011-2012**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature Range during event (°F)	Precipitation Amount (Inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
17-Dec-11	Plow	450	Salt	80	23 to 28		1	28	7	0	Started at 2 am ended 7 am
29-Dec-11	Salting Only	450	Salt	80	28 to 30		Ice	32	8	0	Rain at 4:30 am ended 7:30 am
1-Jan-12	Plow	450	Salt	80	30 to 32		1	30	8	0	Rain @ 4:00 am switched to snow 1"
2-Jan-12	Plow	450	Salt	90	19		1	32	8	0	1" overnight with 40 mph winds
12-Jan-12	Plow	1200	Salt	220	32 to 15		6	52	8	24	10:00 am start 6" total Ended 3:00 am o the 13th
17-Jan-12	Plow	1000	Salt	160	29 to 23		4	64	8	12	5:30am start snow @6:00am done @ noon
20-Jan-12	Plow	800	Salt	120	15 to 20		3	90	8	0	3"Started @ noon ended @ 7 PM
22-Jan-12	Salting Only	400	Salt	60	32		Ice	24	8	0	Freezing Rain started @4:30 PM
23-Jan-12	Salting Only	500	Salt	60	32		Ice	24	8	0	Freezing rain throught the the night
28-Jan-12	Plow	450	Salt	80	26		1	32	8	0	10 PM start ended 3AM 1"
9-Feb-12	Pre-Wetting	1100	Salt								Pre- storm Pre- Wet
10-Feb-12	Plow	450	Salt	120	32 to 18		3	64	8	0	11 AM start 5PM
13-Feb-12	Pre-Wetting	1050	Salt								Pre- storm Pre- Wet
14-Feb-12	Plow	500	Salt	70	29		1	32	8	0	3 PM start 1 AM ended
21-Feb-12	Plow	450	Salt	80	31		2	31	8	0	5AM start 8Am ended 2"
23-Feb-12	Pre-Wetting	1425	Salt								Pre- storm Pre- Wet
24-Feb-12	Plow	925	Salt	120	30		4	32	8	24	Started 8PM ended 6 Am on 24th
1-Mar-12	Pre-Wetting	1450	Salt								Pre- storm Pre- Wet
2-Mar-12	Plow	700	Salt	120	30		5	29	8	0	Started at 2 pm and ended at 6 pm
<b>Total Brine Used (gal)</b>		<b>14200</b>	<b>Total Salt Used (tons)</b>	<b>1540</b>	<b>Total event hours worked</b>			<b>596</b>	<b>Number of Entries</b>		<b>18</b>

**Road Salt / Deicers Usage  
City of Pewaukee  
2012-2013**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature Range during event (°F)	Precipitation Amount (Inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
7-Dec-12	Pre-Wetting	1200									Pre-storm Pre-Wet
18-Dec-12	Pre-Wetting	1375									Pre-storm Pre-Wet
18-Dec-12	Plow	500	Salt	140	32 to 34		2	45	9	0	Started at 2 pm and ended at 6 pm
19-Dec-12	Pre-Wetting	650									Pre-storm Pre-Wet
20-Dec-12	Plow	600	Salt	120	32 to 36		6	100	9	0	I am started with 3 inches by morning; switched to rain 1.30 inches.....
21-Dec-12	Plow	500	Salt	120	28		3	36	9	0	Clean up from night before
28-Dec-12	Plow	500	Salt	100	29		1	27	9	0	7 am start 1 inch
29-Dec-12	Plow	500	Salt	110	27		1	32	8	0	5:30 start 1 inch
29-Dec-12	Plow	600	Salt	110	26		1	27	8	0	All day snow 1 inch
5-Jan-13	Salting Only	400	Salt	120	31		0.5	24	7	0	4 pm start 0.5 inch salt run
13-Jan-13	Plow	500	Salt	110	23		1	30	8	0	1 inch overnight
13-Jan-13	Plow	350	Salt	90	16		0	32	8	0	Had to re-plow and salt; roads wouldn't melt
23-Jan-13	Salting Only	350	Salt	90	14		0.5	20	7	0	Light dusting; temperatures dropping
27-Jan-13	Plow	450	Salt	140	28		1	28	8	0	1 inch of snow turned to rain
28-Jan-13	Salting Only	500	Salt	150	32		Ice	32	8	0	Roads refroze with rain turning to ice
30-Jan-13	Salting Only	500	Salt	150	33		Ice	16	8	0	Rain changing to ice; no accumulation
30-Jan-13	Plow	500	Salt	120	33		2	32	8	0	Snow, 2 inches by mid-morning
30-Jan-13	Plow	400	Salt	100	28		1	32	8	0	1 inch of additional snow with full clean-up
31-Jan-13	Plow	250	Salt	120	16		0.5	24	8	0	Light dusting with temperatures dropping and high winds
2-Feb-13	Plow	0	Salt	100	13		2	36	8	0	10 pm snow began; snow ends at 5 am
4-Feb-13	Plow	0	Salt	100	10		2	36	9	0	3 am start
4-Feb-13	Plow	0	Salt	80	8					0	Clean up from morning run
5-Feb-13	Plow	500	Salt	80	17		2	36	8	0	Started at 11 am and ended at 1 pm
7-Feb-13	Plow	700	Salt	150	28		7	36	9	0	Snow started at 11 am and ended at 11 pm
8-Feb-13	Plow	500	Salt	80	20			54	9	0	Clean up from 2/7
13-Feb-13	Plow	672	Salt	60	22		3	27	9	0	Pre-storm Pre-wet/3 inches of snow
14-Feb-13	Plow	500	Salt	60	33		Ice	24	9	0	Light rain turning to ice
15-Feb-13	Salting Only	450	Salt	70	13		0.5	24	7	0	Light snow overnight
19-Feb-13	Plow	500	Salt	90	16		2	36	9	0	0.5 inch rain changed over to snow
19-Feb-13	Plow	400	Salt	90	16			40	9	0	Second run for storm slush and ice.
22-Feb-13	Plow	500	Salt	90	30		5	36	9	0	2 am start with 5 inches ending by 6 am
22-Feb-13	Plow	40	Salt	60	32			24	8	0	Clean up from storm
25-Feb-13	Pre-Wetting	1497	Salt								Pre-storm Pre-wet
26-Feb-13	Plow	500	Salt	60	31		7	27	9	0	Start of Storm
27-Feb-13	Plow	500	Salt	36	32			36	9	0	Beginning of clean up
27-Feb-13	Plow	500	Salt	45	32			48	9	0	Finished clean up
28-Feb-13	Salting Only	500	Salt	40	32		0.5	20	8	0	Dusting overnight
5-Mar-13	Plow	500	Salt	50	30		3	36	9	0	9 am snow started; out until rush hour

**Road Salt / Deicers Usage  
City of Pewaukee  
2012-2013**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature Range during event (°F)	Precipitation Amount (Inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
6-Mar-13	Plow	500	Salt	70	30		3	36	9	0	3 am start total cleanup
6-Mar-13	Plow	500	Salt	40	32		0	24	8	0	Slush ran
12-Mar-13	Salting Only	500	Salt	54	28		0.5	24	9	0	Rain chaging to ice; no accumulation
15-Mar-13	Pre-Wetting	695	Salt								Pre-storm Pre-wet
16-Mar-13	Salting Only	500	Salt	45	30		0.5	24	9	0	Light dusting
18-Mar-13	Plow	400	Salt	50	31		2	27	9	0	Started at 8 am and done at 5 pm
19-Mar-13	Salting Only	200	Salt	30	12		0	24	9	0	Temps dropped overnight; spotty ice
<i>Total Brine Used (gal)</i>		<u>22679</u>	<i>Total Salt Used (tons)</i>		<u>3320</u>	<i>Total event hours worked</i>		1272	<i>Number of Entries</i>		44

**Road Salt / Deicers Usage  
City of Pewaukee  
2013-2014**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature (°F)	Precipitation Amount (Inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
25-Nov-13	Salt Only	250	Salt	70	30	30	2	60	8	0	2" started at 6:30 am and ended at 11:00 am
8-Dec-13	Plow	400	Salt	60	23	21	2	38	9	0	2" started at 10:00 am
9-Dec-13	Plow	300	Salt	70	16	16	3	45	9	0	Snowed throughout the night. 3:00 am start
9-Dec-13	Plow	200	Salt	60	23	25	0			27	
10-Dec-13	Plow	0	Salt	60	5	7	Drifting	28	7	0	30 mph wind from the West
10-Dec-13	Plow	0	Salt	80	5	7	Drifting	12	4	0	30 mph wind from the West
11-Dec-13	Plow	0	Salt	60	7	9	1	27	9	0	1" started at 3:00 am
11-Dec-13	Plow	0	Salt	60	8	17	Drifting	15	5	0	25 mph wind from the Northwest
14-Dec-13	Plow	450	Salt	70	22	25	2	36	9	0	2" started at 2:00 am with another 2" during the day
14-Dec-13	Plow	450	Salt	70	26	28	2	40	9	0	
15-Dec-13	Plow	0	Salt	70	12	17	0.5	27	9	0	0.5" started at 2:00 am
16-Dec-13	Plow	450	Salt	70	15	18	2	27	9	0	2" Clipper started @ 3:30 and ended at 7:30
17-Dec-13	Plow	450	Salt	70	21	20	0.5	27	9	0	0.5" from 5:00 am to 7:00 am
19-Dec-13	Plow	0	Salt	70	29	31	Ice	20	9	0	Rain with freezing rain
20-Dec-13	Plow	0	Salt	90	26	22	Ice	32	9	0	Freezing rain
20-Dec-13	Plow	0	Salt	80	28	28	Ice	27	9	0	Freezing rain
21-Dec-13	Plow	0	Salt	70	26	28	Ice	18	9	0	Freezing rain
22-Dec-13	Plow	900	Salt	120	29	31	9	99	9	0	9" started at 3:00 am
23-Dec-13	Plow	200	Salt	60	22	24	0.5	18	7	0	0.5" overnight
24-Dec-13	Plow	0	Salt	60	0	4	1	27	9	0	1" overnight
25-Dec-13	Plow	200	Salt	60	17	19	2	32	9	0	2" overnight
26-Dec-13	Plow	200	Salt	60	18	19	0.5	36	8	0	0.5" overnight
31-Dec-13	Plow	0	Salt	60	2	8	1	27	9	0	1" overnight
31-Dec-13	Plow	0	Salt	80	7	13	1	24	9	0	1" started at 3:00 pm
1-Jan-14	Plow	200	Salt	60	15	21	2	32	9	0	2" started at 7:00 am
2-Jan-14	Plow	300	Salt	60	18	22	2	27	9	0	2" started at 5:00 am
4-Jan-14	Plow	400	Salt	60	29	30	1	27	9	0	30 mph winds from Southwest and 1" of snow
10-Jan-14	Plow	400	Salt	30	35	34	Ice	27	9	0	Heavy freezing rain
10-Jan-14	Plow	200	Salt	40	36	35	Ice	27	9	0	Heavy freezing rain with 0.5" of ice
11-Jan-14	Plow	400	Salt	40	33	32	Ice	27	9	0	Roads refroze overnight
14-Jan-14	Plow	0	Salt	50	25	24	3	27	9	0	Still snowing back at 3:00 am
15-Jan-14	Plow	0	Salt	50	12	14	0	42	9	0	Total clean-up
16-Jan-14	Plow	300	Salt	40	27	25	0.5	25	9	0	Light dusting
17-Jan-14	Plow	400	Salt	50	18	15	1	30	9	0	1" all day snow
18-Jan-14	Plow	400	Salt	50	15	19	1	24	8	0	1" all day snow
20-Jan-14	Plow	0	Salt	40	13	15	1	25	9	0	1" all day snow
22-Jan-14	Plow	0	Salt	50	13	18	0.5	27	9	0	Light dusting
25-Jan-14	Plow	200	Salt	60	16	12	2	38	9	0	2" with a 40 mph wind and heavy drifting

**Road Salt / Deicers Usage  
City of Pewaukee  
2013-2014**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature (°F)	Precipitation Amount (Inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
26-Jan-14	Plow	0	Salt	60	15	12	3	45	9	0	3" started at 3:00 am
27-Jan-14	Plow	0	Salt	50	0	2	Drifting	72	9	0	40 mph wind out of the Northwest
30-Jan-14	Plow	400	Salt	50	26	28	1	30	9	0	1" from fast moving system
1-Feb-14	Plow	500	Salt	60	15	18	2	74	9	0	All day snow
5-Feb-14	Plow	40	Salt	50	20	23	2	30	9	0	2" overnight
8-Feb-14	Plow	100	Salt	40	15	12	1	32	9	0	1" from fast moving system
12-Feb-14	Salting Only	400	Salt	50	20	18	0.5	27	9	0	0.5" in 4 hours
13-Feb-14	Plow	400	Salt	40	26	28	2	36	9	0	2" from fast moving system
17-Feb-14	Plow	500	Salt	70	25	26	6	96	9	0	6" all day snow
20-Feb-14	Plow	200	Salt	30	32	31	1	36	9	0	freezing rain turning to snow
21-Feb-14	Salting Only	200	Salt	30	26	26	0	18	9	0	1" of rain with temps dropping
27-Feb-14	Plow	0	Salt	40	0	1	0.5	27	9	0	Light dusting of snow
1-Mar-14	Plow	400	Salt	40	15	16	2	30	9	0	2" overnight
2-Mar-14	Plow	0	Salt	50	6	8	2	42	9	0	2" overnight
4-Mar-14	Plow	200	Salt	50	13	15	3	64	9	0	3" from fast moving system
5-Mar-14	Plow	200	Salt	50	16	18	0.5	27	9	0	Light dusting of snow
25-Mar-14	Plow	300	Salt	40	18	22	1	30	9	0	1" overnight
<b>Total Brine Used (gal)</b>		<b>11490</b>	<b>Total Salt Used (tons)</b>	<b>3160</b>	<b>Average Air Temp per Entry (deg F)</b>	<b>18.36</b>	<b>Average Pavement Temp. per Entry (deg F)</b>	<b>19.76</b>	<b>Number of Entries</b>	<b>51</b>	

Total event hours worked  
1863

**Road Salt / Deicers Usage  
City of Pewaukee  
2014-2015**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature Range during event (°F)	Precipitation Amount (Inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
15-Nov-14	Plow	400	Salt	80	24	27	2	27	9	0	2" of snow; very icy
16-Nov-14	Salting Only	300	Salt	60	27	29	1	27	9	0	1" overnight
19-Nov-14	Salting Only	300	Salt	70	18	21	1	24	8	0	1" of snow; 7:00 am run
22-Nov-14	Salting Only	400	Salt	40	30	32	Ice	22	6	0	Light icing
24-Nov-14	Plow	400	Salt	80	28	30	3	36	8	0	3" total precip; rain changing to snow
25-Nov-14	Plow	300	Salt	80	25	28	2	45	9	0	2" overnight
28-Nov-14	Salting Only	300	Salt	60	29	28	Ice	18	9	0	Light icing
2-Dec-14	Plow	300	Salt	80	28	27	1	36	9	0	1" overnight; fast moving system
8-Dec-14	Salting Only	200	Salt	60	34	31	Ice	22	8	0	Light icing
18-Dec-14	Plow	200	Salt	60	31	30	Ice	24	8	0	Light icing
3-Jan-15	Plow	300	Salt	120	32	29	3	36	9	0	3" changing to freezing rain
4-Jan-15	Plow	0	Salt	80	10	13	2	96	9	0	2" of blowing snow
6-Jan-15	Plow	0	Salt	80	0	4	2	45	9	0	2" of blowing snow
8-Jan-15	Plow	0	Salt	120	0	3	3	27	9	0	3" of snow with high winds
8-Jan-15	Plow	0	Salt	80	-2	0	1	30	9	0	1" during rush hour
9-Jan-15	Plow	0	Salt	80	6	8	2	30	9	0	2" overnight
9-Jan-15	Plow	0	Salt	80	8	12	0	21	7	0	Drifting and shush run
21-Jan-15	Plow	300	Salt	90	27	28	2	24	9	0	2" overnight
25-Jan-15	Salting Only	300	Salt	60	27	26	0.5	21	9	0	Light dusting of snow
26-Jan-15	Plow	400	Salt	70	24	26	1	24	9	0	1" overnight; fast moving system
29-Jan-15	Salting Only	100	Salt	50	34	31	Ice	18	9	0	Light icing
1-Feb-15	Plow	0	Salt	120	10	14		40	9	0	Beginning of storm
1-Feb-15	Plow	0	Salt	120	10	14		40	9	0	
2-Feb-15	Plow	0	Salt	150	8	10	9	54	9	0	9" total accumulation with high winds
3-Feb-15	Plow	0	Salt	100	13	15	2	30	9	0	2" from fast moving system
18-Feb-15	Salting Only	0	Salt	100	3	5	1	30	9	0	Light dusting of snow
25-Feb-15	Plow	0	Salt	100	12	16	1	20	9	0	1" from fast moving system
3-Mar-15	Plow	300	Salt	120	30	27	2	36	9	0	2" from fast moving system
<b>Total Brine Used (gal)</b>		<b>4800</b>	<b>Total Salt Used (tons)</b>	<b>2320</b>	<b>Average Air Temp per Entry (deg F)</b>	<b>18.72</b>	<b>Average Pavement Temp. per Entry (deg F)</b>	<b>20.14</b>	<b>Number of Entries</b>	<b>28</b>	

Total Event hours worked  
903



**Road Salt / Deicers Usage  
City of Pewaukee  
2016-2017**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature (°F)	Precipitation Amount (inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
4-Dec-16	Plow	850	Salt	160	31	29	2	27	9		Long storm start 8:00am and end 8:00pm. Clean up included.
9-Dec-16	Pre-storm	750		0							Pre-storm treatments.
10-Dec-16	Plow	400	Salt	80	24	22	4	50	10		Start 7:00pm on the 10th.
11-Dec-16	Plow	300	Salt	80	28	27	5	55	10		End 8pm on the 11th.
14-Dec-16	Plow	0	Salt	60	6	6	0	16	6		30mph winds - drift run.
15-Dec-16	Plow	0	Salt	80	8	10	0	16	4		Drift run.
16-Dec-16	Plow	0	Salt	140	10	11	7	64	8 to 10		Light dusting followed by long duration storm starting at 2:00pm.
17-Dec-16	Plow	0	Salt	170	16	18	6	88	10 to 9		Still snowing.
18-Dec-16	Plow	0	Salt	80	8	9	2	50	9		Storm ends.
19-Dec-16	Plow	0	Salt	60	12	14	0	36	9	50	
20-Dec-16	Plow	100	Salt	60	26	30	0	36	9	50	
23-Dec-16	Plow	300	Salt	80	31	30	4	50	9		Fast moving storm.
3-Jan-17	Salt	100	Salt	90	34	34	ice	32	8		Light icing.
9-Jan-17	Salt	200	Salt	60	34	31	1	24	9		Pre-storm salting.
10-Jan-17	Plow/salt	400	Salt	260	34	31	1	84	9		1 inch snow/fall overnight followed by freezing rain.
11-Jan-17	Salt	400	Salt	120	28	26	ice	27	9		Freezing rain.
16-Jan-17	Salt	900	Salt	260	34	32	ice	76	9		Freezing rain.
17-Jan-17	Salt	300	Salt	80	34	32	ice	27	9		Freezing rain.
18-Jan-17	Salt	100	Salt	40	32	32	ice	15	5		Freezing rain.
25-Jan-17	Salt	300	Salt	60	32	32	0.5	36	9		Light snow.
26-Jan-17	Plow	300	Salt	80	27	29	1	36	9		1 inch overnight.
30-Jan-17	Plow	1400	Salt	70	27	29	1	18	9		Pre-storm treatments followed by a salt run.
31-Jan-17	Plow	300	Salt	80	29	29	2	36	9		2 inches overnight.
3-Feb-17	Pre-storm	1390		0							
12-Feb-17	Salt	300	Salt	60	31	32	ice	22	8		Light freezing rain.
24-Feb-17	Salt	400	Salt	140	30	31	ice	36	9 to 8		Light freezing rain.
25-Feb-17	Plow	200	Salt	100	23	25	1	30	9		1 inch overnight.
1-Mar-17	Plow	400	Salt	120	32	28	2	47	9		1 inch in morning followed by light snow all day.
13-Mar-17	Plow	400	Salt	130	22	25		81	9		Start storm with 3 inches and continues to snow.
14-Mar-17	Plow	200	Salt	50	18	19	6	32	9		Storm wraps up with 6 inch total.
16-Mar-17	Pre-storm	335									
17-Mar-17	Salt	200	Salt	50	32	31	ice	24	8		Light freezing rain.
		<b>Total Brine Used (gal)</b>	<b>11223</b>	<b>Total Salt Used (tons)</b>	<b>Average Air Temp per Entry (deg F)</b>	<b>Average Pavement Temp per Entry (deg F)</b>	<b>2900</b>	<b>25.28</b>	<b>25.31</b>	<b>Number of Entries</b>	<b>22</b>
					<b>Total Event Hours Worked</b>						<b>1171</b>

**Road Salt / Deicers Usage  
City of Pewaukee  
2017-2018**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature (°F)	Precipitation Amount (inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
9-Dec-17	Plow	500	Salt	100	26	24	2	64	9		All night snow
11-Dec-17	Salt	300	Salt	80	26	22	1	27	9		Fast moving storm - 1 inch
13-Dec-17	Salt	300	Salt	60	22	19	0.5	24	9		Light Dusting
13-Dec-17	Salt	300	Salt	50	32	30	2	24	9		2" north part of City/dusting south part of City
13-Dec-17	Plow	500	Salt	50	28	26	1.5	27	9		Flurries predicted - 1.5 inches
14-Dec-17	Plow	100	Salt	50	28	25	0.5	24	9		Light Dusting
24-Dec-17	Plow	350	Salt	80	22	22	2	36	9		Fast moving storm - 2 inches
25-Dec-17	Plow	200	Salt	60	16	18	1	27	9		Fast moving storm - 1 inch
28-Dec-17	Plow	0	Salt	80	14	14	1	22	9		Fast moving storm - 1 inch
29-Dec-17	Plow	0	Salt	80	15	15	1	22	8		Fast moving storm - 1 inch
30-Dec-17	Plow	0	Salt	80	8	10	1	24	8		1 inch overnight.
3-Jan-18	Plow	0	Salt	80	15	15	1	27	9		1 inch overnight.
11-Jan-18	Salt	0	Salt	80	34	32	ice	36	9		1 inch overnight.
15-Jan-18	Plow	300	Salt	120	28	24	3	56	9		Rain to ice
15-Jan-18	Plow	200	Salt	80	24	22	3	36	9		3 inches overnight - slow mover
16-Jan-18	Plow	200	Salt	50	24	28	0	24	9	24	3 inches - same storm lake effect
23-Jan-18	Plow	400	Salt	160	28	28	4	72	9		Slush run
28-Jan-18	Salt	400	Salt	60	28	28	1	20	9		Heavy rain changing to snow turning to hardpack
3-Feb-17	Plow	400	Salt	160	29	29	1	27	9		Fast moving storm - 1 inch
4-Feb-18	Plow	400	Salt	240	16	18	7	108	9		1 inch beginning of storm
5-Feb-18	Plow	0	Salt	120	8	8	1	27	9		7 inches of snow - total storm was 8 inches
6-Feb-18	Plow	0	Salt	120	6	6	1	36	9		1 inch - still snowing
9-Feb-18	Plow	0	Salt	180	14	16	4	72	9		1 inch overnight.
17-Feb-18	Salt	400	Salt	100	28	28	0.5	18	9		4 inches - 12 hour storm
4-Mar-18	Plow	400	Salt	100	31	31	3	36	9		Light Dusting
4-Apr-18	Plow	0	Salt	100	21	22	2	36	9		Fast moving storm - 3 inches
4-Apr-18	Plow	0	Salt	100	24	26	0	0	9		Rain changing to snow
14-Apr-18	Plow	0	Salt	100	28	28	ice	20	9		Hard pack ice
15-Apr-18	Plow	0	Salt	250	30	30	4	108	9		Light icing
16-Apr-18	Plow	0	Salt	180	28	28	1	36	9		Rain with heavy snow
18-Apr-18	Plow	0	Salt	140	32	32	2	63	9		1 inch - slow mover
19-Apr-18	Plow	0	Salt	75	34	34	3	36	9		2 inches - still snowing
											5 inches total from storm - wet and heavy

**Total Brine Used (gal)**    5650    **Total Salt Used (tons)**    3363    **Average Air Temp per Entry (deg F)**    23.34    **Average Pavement Temp. per Entry (deg F)**    23.06    **Number of Entries**    32

Total Event Hours Worked    1215

**Road Salt / Deicers Usage  
City of Pewaukee  
2018-2019**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix-salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature (°F)	Precipitation Amount (inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
9-Nov-18	Salt	200	Salt	40	31	32	1	22	6	0	Light Dusting
10-Nov-18	Plow	200	Salt	60	31	32	2	27	6	0	2 inches - fast mover
16-Nov-18	Plow	200	Salt	40	29	30	1	27	5	0	Light Dusting
17-Nov-18	Salt	300	Salt	50	28	30	1.5	24	5	0	Slower moving storm - lingering snow showers
26-Nov-18	Salt	200	Salt	15	30	30	0.05	12	3	0	Blizzard to the south - worked 3 routes south of I-94
29-Nov-18	Plow	200	Salt	70	30	29	1	32	9	0	1 inch overnight - slow mover
2-Dec-18	Salt	300	Salt	70	31	32	Ice	24	8	0	Light Icing
12-Dec-18	Plow	200	Salt	70	33	31	0.05	24	8	0	Light Dusting
25-Dec-18	Plow	100	Salt	80	28	30	1	30	9	0	1 inch - fast mover
28-Dec-18	Salt	200	Salt	80	32	32	0.05	22	9	0	Light Dusting
29-Dec-18	Salt	200	Salt	80	32	32	0	27	9	0	Ice - very slippery
31-Dec-18	Plow	200	Salt	80	30	30	2	45	9	0	All day - changed to snow
2-Jan-19	Salt	200	Salt	70	32	31	Ice	32	9	0	Melt off and re-freeze
2-Jan-19	Salt	150	Salt	80	32	32	0.05	27	9	0	Light Dusting
9-Jan-19	Pre-wet	700	Brine	0				8	1	0	Pre-wet run
18-Jan-19	Plow	200	Salt	100	22	21	1	30	9	0	Beginning of storm - 6 inches expected
19-Jan-19	Plow	0	Salt	160	22	21	5	80	9	0	Snow all night - total clean up
22-Jan-19	Plow	200	Salt	80	21	21	1	27	9	0	Beginning of storm - 5 inches expected
23-Jan-19	Plow	200	Salt	240	22	21	6	96	9	0	Total snow 7 inches
26-Jan-19	Salt	0	Salt	80	4	4	0.05	22	9	0	Light Dusting
28-Jan-19	Plow	0	Salt	400	19	21	11	180	9	0	Started at 3 am and snowed all day
5-Feb-19	Pre-wet	500	Brine	0	27	26		21	9	0	Pre-wet/pre-salt runs - ice expected
6-Feb-19	Plow	400	Salt	240	31	30	1	140	10	0	1 inch of sleet then rain then freezing
7-Feb-19	Plow	500	Salt	180	33	32	Ice	60	10	0	Freezing rain
7-Feb-19	Salt	200	Salt	80	25	31	Ice	30	10	0	Heavy rain turned to ice
10-Feb-19	Plow	300	Salt	60	29	28	1	24	10	0	Fast moving storm
12-Feb-19	Plow	400	Salt	100	31	30	9	110	10	0	Wet - heavy snow
13-Feb-19	Plow	200	Salt	80	24	22	1	50	10	0	1 inch overnight followed by lots of drifting
17-Feb-19	Plow	200	Salt	100	28	26	2	32	10	0	6 inches of expected snow
18-Feb-19	Plow	200	Salt	100	26	24	2	40	10	0	End of storm - 7 inches
20-Feb-19	Plow	300	Salt	140	31	28	1	60	10	0	1 inch snow with freezing rain
22-Feb-19	Pre-wet	820	Brine	0							



**Road Salt / Deicers Usage  
City of Pewaukee  
2019-2020**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature (°F)	Precipitation Amount (Inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
31-Oct-19	Plow	300	Salt	140	28	29	7	96	8		Happy Halloween Slow mover; 2- RUNS
6-Nov-19	Plow	300	Salt	70	30	28	2	32	8		2" Started @ 3:4M done @ 9AM
6-Nov-19	Plow	300	Salt	70	30	27	1	24	8		1" continuation of storm
11-Nov-19	Plow	400	Salt	160	22	23	3	96	9		2 " Very slippery; 2- Runs
14-Nov-19	Plow	300	Salt	60	28	27	1	24	7		1" fast mover
12-Dec-19	Pre-swet	850									
14-Dec-19	Salt	500	Salt	80	31	29	Ice	30	9		Light mist turned to Ice
16-Dec-19	Plow	300	Salt	80	21	23	1	27	9		1" overnight
31-Dec-19	Plow	300	Salt	150	26	24	4	80	10		5" overnight super slippery; 2- Runs
10-Jan-20	Salt	0	Salt	50	32	34	0	27	9		Pre-Salt prior to Storm 10" inches expected
11-Jan-20	Salt	0	Salt	100	28	27	ICE	30	10		ICE Temperature Dropped 6 Degrees in 30 Minutes
11-Jan-20	Salt	300	Salt	80	26	27	1"	30	10		Beginning of Storm
11-Jan-20	Salt	300	Salt	120	24	25	3"	50	10		End of Storm
13-Jan-20	Salt	300	Salt	80	32	30	2"	30	10		2" overnight
17-Jan-20	Salt	0	Salt	50	32	31	0	27	9		Pre salt Run
17-Jan-20	Plow	300	Salt	80	32	31	3	30	10		Beginning of Storm
18-Jan-20	Plow	300	Salt	140	32	31	3	80	10		6" Total from storm High Winds coming; 2- Runs
23-Jan-20	Plow	300	Salt	80	32	31	2	40	10		Overnight Beginning of long drawn out storm
24-Jan-20	Plow	300	Salt	100	34	33	1	40	10		Storm continuing
24-Jan-20	Plow	300	Salt	80	36	32	2	40	10		Still Snowing
25-Jan-20	Plow	300	Salt	80	34	32	1	50	10		Still Snowing
25-Jan-20	Plow	300	Salt	60	36	32	2	50	10		End of Storm 8" Total
9-Feb-20	Plow	300	Salt	100	32	31	2	30	10		Start of storm 5" predicted.
9-Feb-20	Plow	300	Salt	100	30	28	5	50	10		Total storm 8" Fast mover
13-Feb-20	Plow	0	Salt	180	12	10	4	120	10		Quick mover Cold Blast to follow; 2- Runs
17-Feb-20	Plow	300	Salt	80	32	30	2	40	10		Beginning of storm
18-Feb-20	Plow	300	Salt	80	32	30	2	40	10		Fast mover 4 " total

Total Brine Used (gal) 7750      Total Salt Used (tons) 2450      Average Air Temp per Entry (deg F) 29.38      Average Pavement Temp. per Entry (deg F) 28.27      Number of Entries 26

Total Event Hours Worked 1213

**Road Salt / Deicers Usage  
City of Pewaukee  
2019-2020**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature Range during event (°F)	Precipitation Amount (Inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
		Brine									
October	Salt 300	140									
November	360	1300									
December	310	1950									
January	1100	3000									
February	540	1200									
March	0	0									



**Road Salt / Deicers Usage  
City of Pewaukee  
2020-2021**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature Range during event (°F)	Precipitation Amount (inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
October	Brine	0									
November	0	0									
December	2268	440									
January	4751	1000									
February	800	800									
March	0	0									

**Road Salt / Deicers Usage  
City of Pewaukee  
2021-2022**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mlx=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature (°F)	Precipitation Amount (inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
6-Dec-21	Salt	300	Salt	60	28	26	1	30	10	0	Light dusting
11-Dec-21	Salt	300	Salt	80	30	28	1	30	10	0	Light dusting
27-Dec-21	Plow	400	Salt	100	28	2	3	50	10	0	Fast mover
28-Dec-21	Plow	500	Salt	160	32	30	3	60	10	0	Slow mover
31-Dec-21	Salt	400	Salt	70	31	29	Ice	26	10	0	Light mist freezing to road surface
1-Jan-22	Plow	0	Salt	80	17	15	2	48	10	0	Plow and salt; snow continues
2-Jan-22	Plow	0	Salt	80	15	13	2	55	10	0	4 inches total from storm
5-Jan-22	Salt	200	Salt	80	19	24	1	30	10	0	Fluffy light snow and winds to 40 mph
5-Jan-22	Plow	0	Salt	80	14	13	1	30	10	0	Same storm
6-Jan-22	Plow	0	Salt	80	13	11	1	44	10	0	Same storm
15-Jan-22	Plow	300	Salt	80	26	25	1	30	10	0	Fast mover
23-Jan-22	Plow	0	Salt	80	13	10	3	45	9	0	3 inches overnight with ice build up under snow
24-Jan-22	Plow	0	Salt	80	15	13	2	40	10	0	Slippery road conditions
24-Jan-22	Plow	0	Salt	60	15	13	1	60	10	0	Same storm; required full clean-up
4-Feb-22	Plow	300	Salt	60	24	22	2	50	10	0	Fast mover
7-Feb-22	Salt	400	Salt	60	23	21	Ice	40	10	0	Spotty icing of roadway
10-Feb-22	Salt	400	Salt	60	24	21	1	27	9	0	Light dusting
11-Feb-22	Salt	200	Salt	50	34	32	1	45	9	0	1 inch overnight
18-Feb-22	Plow	0	Salt	60	15	15	2	36	9	0	Fast snow squall with low visibility
19-Feb-22	Plow	0	Salt	60	10	13	0	36	9	0	High winds and ice
21-Feb-22	Salt	0	Salt	80	34	32	Ice	40	10	0	Very icy
22-Feb-22	Salt	0	Salt	80	31	30	Ice	40	10	0	Ice
22-Feb-22	Plow	0	Salt	80	30	29	Sleet	40	10	0	Sleet from same storm
22-Feb-22	Plow	200	Salt	80	28	26	Ice	40	10	0	Re-freezing from same storm
23-Feb-22	Plow	0	Salt	60	15	13	Hard pack ice	36	9	0	Re-freezing from same storm
25-Feb-22	Plow	300	Salt	60	23	21	5	50	10	0	Overnight fast mover
25-Feb-22	Plow	100	Salt	30	32	31	Slush run	20	8	0	Melting
7-Mar-22	Plow	200	Salt	70	32	30	Start	45	10	0	Beginning of storm
		<b>4500</b>	<b>Total Salt Used (tons)</b>	<b>2060</b>	<b>Average Air Temp per Entry (deg F)</b>	<b>23.25</b>	<b>Average Pavement Temp. per Entry (deg F)</b>	<b>21</b>	<b>Number of Entries</b>	<b>28</b>	

Total Event Hours Worked 1123

**Road Salt / Deicers Usage  
City of Pewaukee  
2021-2022**

Date(s) of Event	Activity	Salt Brine Used (gal)	Product Used (mix=salt/sand)	Amount of Product Used (Tons)	Air Temperature Range during event (°F)	Pavement Temperature Range during event (°F)	Precipitation Amount (inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
	Brine	Salt									
October	0	0									
November	0	0									
December	1900	470									
January	500	700									
February	1900	820									
March	200	70									

# Item C

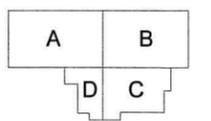
## Highway Garage Site Plan and Renderings



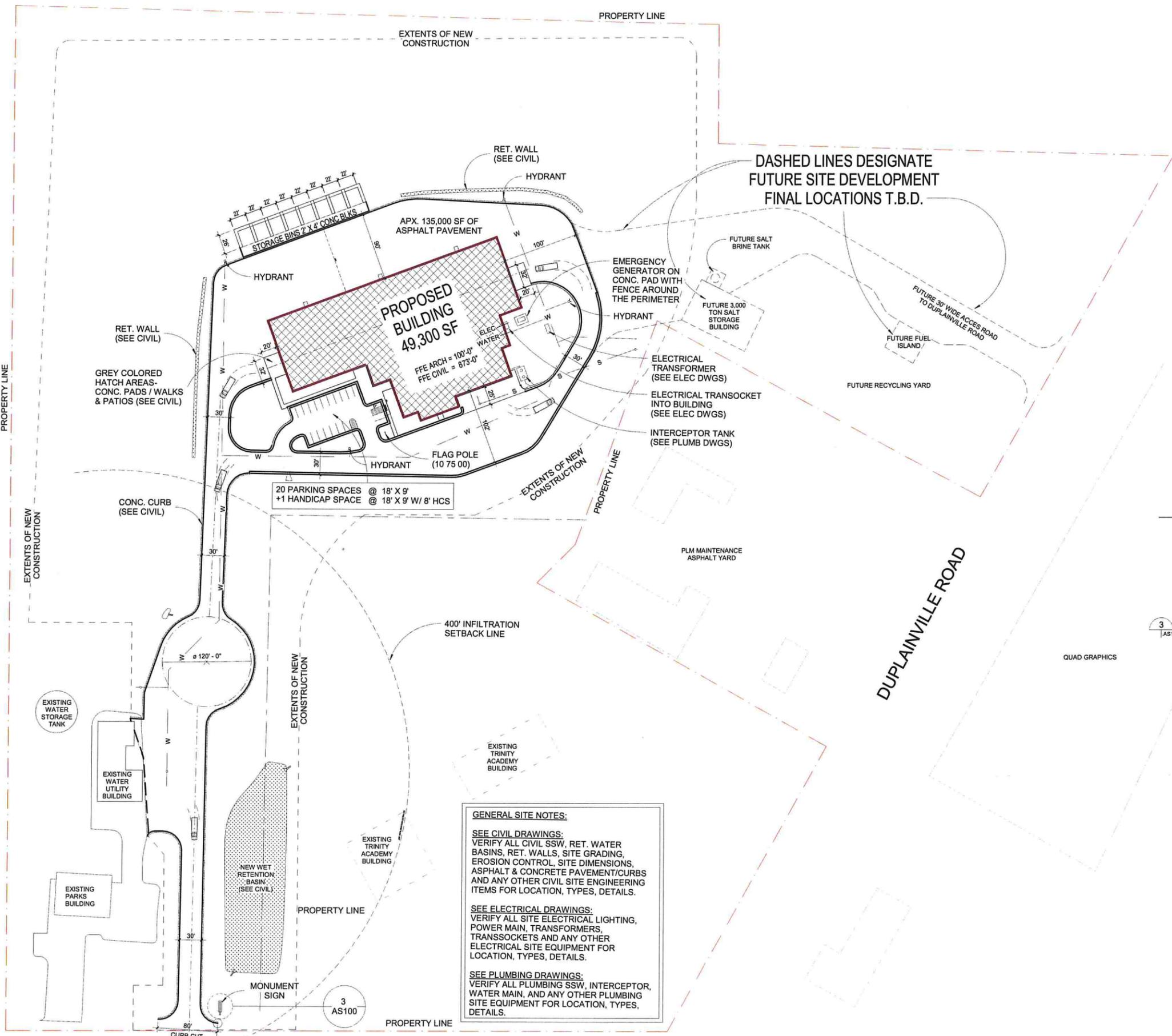
**BARRIENTOS**  
design & consulting

205 West Highland Avenue, Suite 303  
Milwaukee, WI 53203  
office: 414-271-1912  
www.barrientosdesign.com

CONSULTANT

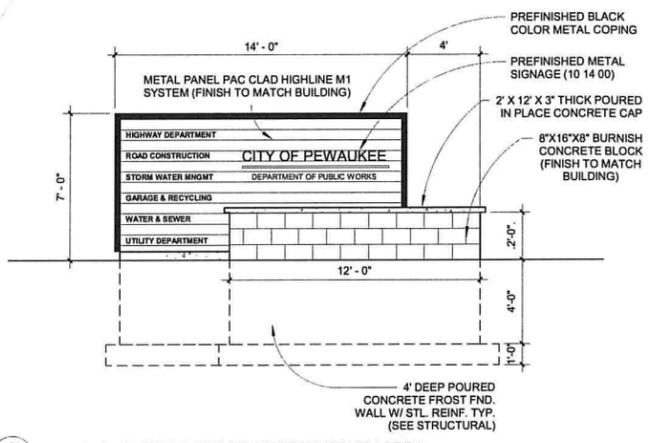


PROJECT TITLE AND LOCATION

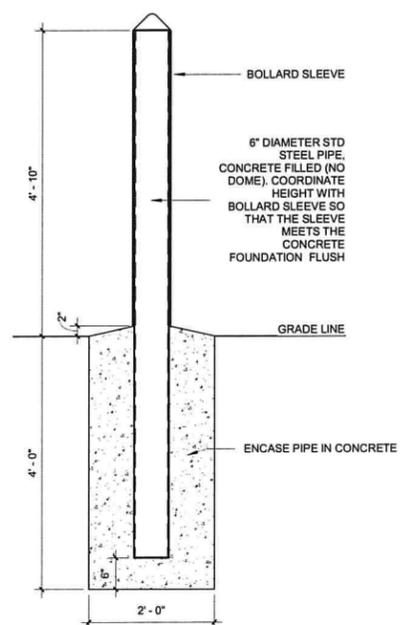


DASHED LINES DESIGNATE  
FUTURE SITE DEVELOPMENT  
FINAL LOCATIONS T.B.D.

**GENERAL SITE NOTES:**  
**SEE CIVIL DRAWINGS:**  
VERIFY ALL CIVIL SSW, RET. WATER BASINS, RET. WALLS, SITE GRADING, EROSION CONTROL, SITE DIMENSIONS, ASPHALT & CONCRETE PAVEMENT/CURBS AND ANY OTHER CIVIL SITE ENGINEERING ITEMS FOR LOCATION, TYPES, DETAILS.  
**SEE ELECTRICAL DRAWINGS:**  
VERIFY ALL SITE ELECTRICAL LIGHTING, POWER MAIN, TRANSFORMERS, TRANSOCKETS AND ANY OTHER ELECTRICAL SITE EQUIPMENT FOR LOCATION, TYPES, DETAILS.  
**SEE PLUMBING DRAWINGS:**  
VERIFY ALL PLUMBING SSW, INTERCEPTOR, WATER MAIN, AND ANY OTHER PLUMBING SITE EQUIPMENT FOR LOCATION, TYPES, DETAILS.



3 MONUMENT SIGN NORTH ELEVATION (SOUTH OPP.)  
AS100 1/4" = 1'-0"



2 BOLLARD DETAIL  
AS100 3/4" = 1'-0"

CITY OF PEWAUKEE DPW GARAGE

N31W22606 GREEN ROAD,  
PEWAUKEE, WI 53072

NO. DATE DESCRIPTION

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SET  
BID PACKAGE II -  
CD SET

BARRIENTOS DESIGN PROJECT  
50859

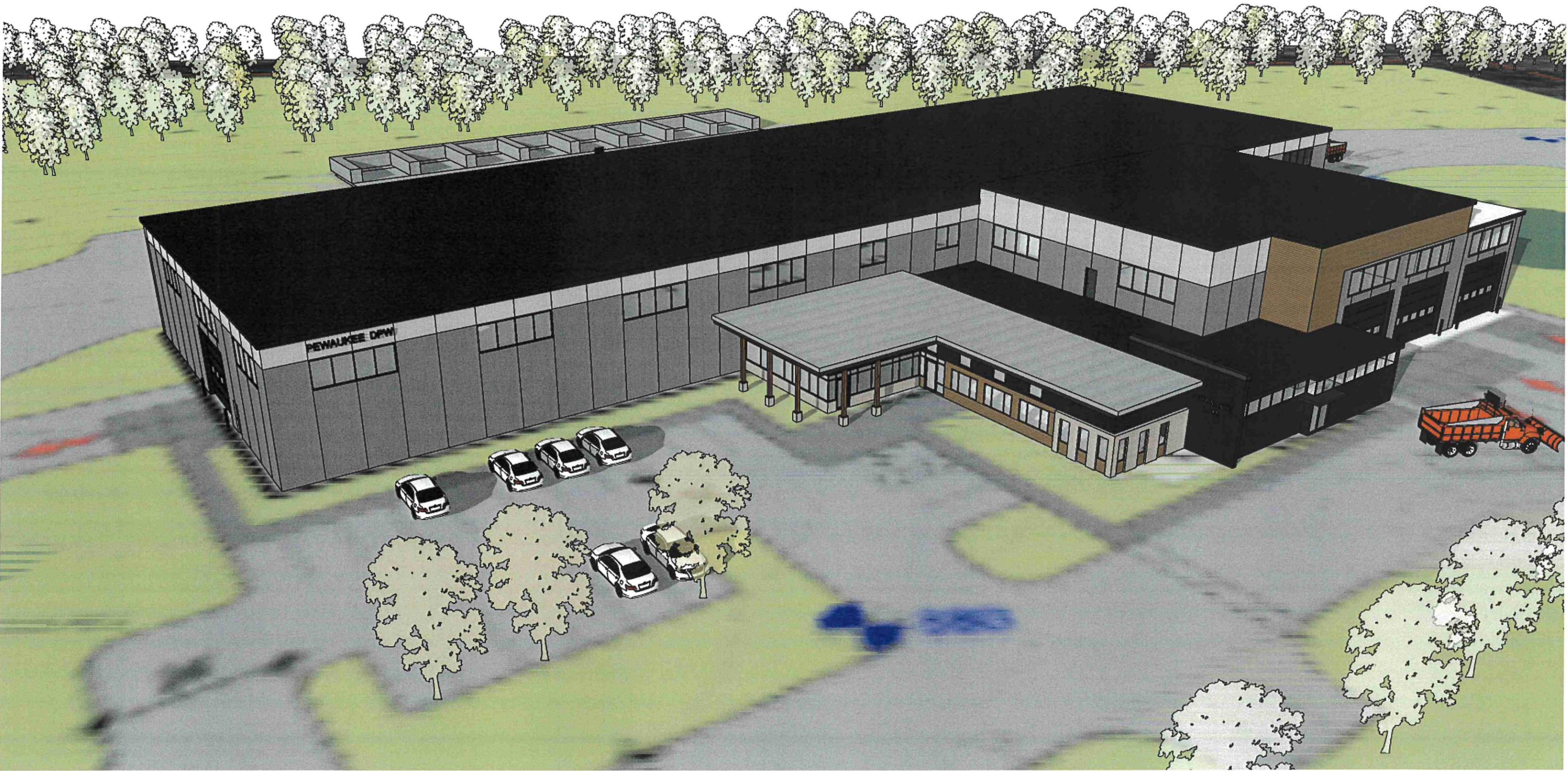
DATE  
Date: 08/09/2021

SHEET  
SITE PLAN

SHEET

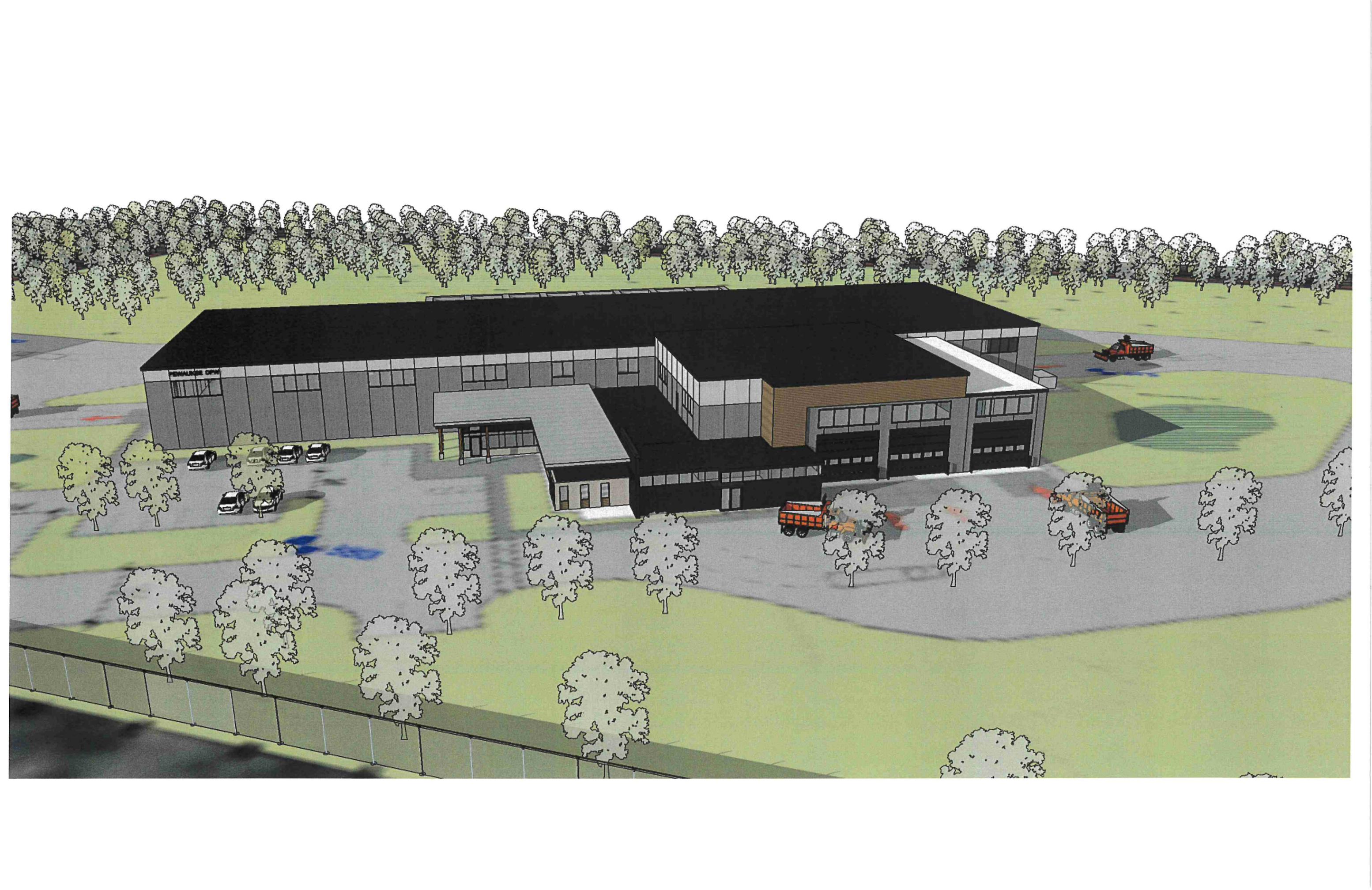
PROJECT NORTH  
1 SITE PLAN - LINEWORK  
A200/AS100 1/64" = 1'-0"

.AS100





PEWAUKEE  
DPW



## ITEM D

# Fiscal Analysis Worksheets

	Budget for Reporting Year	Annual Expenditures for Reporting year	Budget for Upcoming Year
Public Education and Outreach	\$1,500.00	\$1,465.50	\$1,500.00
Public Involvement and Participation	\$1,500.00	\$1,465.50	\$1,500.00
Illicit Discharge Detection and Elimination	\$1,430.00	\$2,770.00	\$1,470.00
Construction Site Pollution Control	\$36,575.00	\$113,970.00	\$38,065.50
Post-Construction Storm Water Management	\$44,575.00	\$97,840.00	\$46,065.50
Pollution Prevention	\$824,815.10	\$1,231,841.24	\$692,439.64
Storm Water Quality Management	\$350,000.00	\$7,260.36	\$350,000.00
Storm Sewer System Map	\$5,000.00	\$0.00	\$5,000.00
<b>Totals</b>	<b>\$1,265,395.10</b>	<b>\$1,456,612.60</b>	<b>\$1,136,040.64</b>

# Public Information and Outreach

Budget for Reporting Year	\$1,500.00
Expenditures for Reporting Year	\$1,465.50
Budget for Upcoming year	\$1,500.00

*Budget item for reporting purposes is identified as Permit Compliance-Information and Education and includes contracted amount to Waukesha County. This dollar figure is half of the reported/budgeted number as the Public Involvement and Participation program is included in here as well.*

*Note: for upcoming year budget, dollars are estimated for reporting purposes and may not necessarily correspond to the City's Budget summary. DNR categories do not correspond to City Budget Accounting Fields.*

# Public Involvement and Participation

Budget for Reporting Year	\$1,500.00
Expenditures for Reporting Year	\$1,465.50
Budget for Upcoming year	\$1,500.00

*Budget item for reporting purposes is identified as Permit Compliance-Information and Education and includes contracted amount to Waukesha County. This dollar figure is half of the reported/budgeted number as the Public Education and Outreach program is included in here as well.*

*Note: for upcoming year budget, dollars are estimated for reporting purposes and may not necessarily correspond to the City's Budget summary. DNR categories do not correspond to City Budget Accounting Fields.*

# Illicit Discharge Detection and Elimination Program

Budget item for reporting purposes is an estimation of Engineering Technicians time and Civil Engineers time to inspect identified MS4 outfalls and review reports. Costs will include estimates of time spent pursuing spills/dumping complaints by Engineering Staff and by City Fire Services.

Note: for upcoming year budget, dollars are estimated for reporting purposes and may not necessarily correspond to the City's Budget summary. DNR categories do not correspond to City Budget Accounting Fields. Fire Dept. projections are not included for budget purposes as Fire is a 24/7 service and is a required service regardless of whether or not a spill occurs.

Budget for Reporting Year	Annual Expenditures for Reporting Year			Budget Upcoming Year		
	Hourly Wage	Hours	Cost	Hourly Wage	Hours	Cost
Engineering Staff						
Engineering Technician	\$38.91	20.00	\$778.20	\$39.89	20.00	\$797.80
Senior Engineering Technician	\$42.42	4.00	\$169.68	\$43.37	4.00	\$173.48
Civil Engineer	\$42.12	6.00	\$252.72	\$43.39	6.00	\$260.34
Chief Engineer-Utilities	\$59.62	2.00	\$119.24	\$62.48	2.00	\$124.96
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00	\$60.08	0.00	\$0.00
DPW Director	\$77.34	1.00	\$77.34	\$80.04	1.00	\$80.04
Mileage costs			\$28.00			\$29.25
			\$1,425.18			\$1,465.87
			Subtotal			Subtotal
Fire Department Staff						
Fire Paid on Premise Division Chief	\$35.00	0.00	0.00	\$35.00	0.00	\$0.00
Fire Paid on Premise Driver/Paramedic	\$25.56	0.00	0.00	\$28.40	0.00	\$0.00
Fire Paid on Premise Fire Fighter	\$17.04	0.00	0.00	\$17.75	0.00	\$0.00
Paramedic	\$21.30	0.00	0.00	\$24.14	0.00	\$0.00
Engine Cost	\$650.00	0.00	0.00	\$650.00	0.00	\$0.00
Ambulance	\$500.00	0.00	0.00	\$500.00	0.00	\$0.00
Command Vehicle	\$62.00	0.00	0.00	\$62.00	0.00	\$0.00
			0.00			\$0.00
			Subtotal			Subtotal
			1,425.18			\$1,465.87
			Total			Total
			1,430.00			\$1,470.00
			Use			Use

Engine cost assumed based on apparatus cost of 650,000 with 10 year life cycle and 100 hours of use per year.  
 Command Vehicle assumed based on cost of 49,613 with 8 year life cycle and 100 hours of use per year.  
 ALS Unit assumed based on cost of 350,000 with 7 year life cycle and 100 hours of use per year.  
 Mileage costs based on vehicle distance of 30 miles (expenditures) and 50 miles (budget) at mileage rate of 56 cents for 2021 and 58.5 cents for 2022.  
 Wages based upon hourly rate multiplied by 1.42 to account for benefits, etc.

# Construction Site Pollutant Control Program

Note: The City's Construction Site Pollution Control Program includes compliance inspections, enforcement, erosion control plan review and permitting. The financial estimates contained in this spreadsheet are for construction sites over an acre only and do not include estimates of Building Inspection costs. Developer driven expenditures are generally billed back to the Developer. Budget dollars are taken from line items under "Permit Compliance" in the Storm Water Utility Budget (one half of Numbers 230-53656-51290 and 230-53656-51950 and all of 230-53656-53530).

Budget for Reporting Year \$36,575.00 Budget for Upcoming Year \$38,065.50

Annual Expenditures for Reporting Year \$113,970.00

Project		Wages	Hours	Total
Briohn Bldrs-Angulus Bldg Springdale Rd	R/M Bills			\$1,359.85
	AECOM Bills			\$0.00
	Engineer Tech	\$38.91	0.00	\$0.00
	Sr. Engineer Tech	\$42.42	0.00	\$0.00
	Civil Engineer	\$42.12	0.00	\$0.00
	Chief Engineer-Utilities	\$59.62	2.25	\$134.15
	Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
	DPW Director	\$77.34	0.00	\$0.00
	<b>Total</b>			<b>\$1,494.00</b>
Rainbow Childcare	R/M Bills			\$1,335.55
	AECOM Bills			\$0.00
	Engineer Tech	\$38.91	0.00	\$0.00
	Sr. Engineer Tech	\$42.42	0.00	\$0.00
	Civil Engineer	\$42.12	0.00	\$0.00
	Chief Engineer-Utilities	\$59.62	2.00	\$119.24
	Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
	DPW Director	\$77.34	0.00	\$0.00
	<b>Total</b>			<b>\$1,454.79</b>
Briohn Builders Northmound Bldg	R/M Bills			\$1,447.20
	AECOM Bills			\$0.00
	Engineer Tech	\$38.91	0.00	\$0.00
	Sr. Engineer Tech	\$42.42	0.00	\$0.00
	Civil Engineer	\$42.12	0.00	\$0.00
	Chief Engineer-Utilities	\$59.62	1.75	\$104.34
	Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
	DPW Director	\$77.34	0.00	\$0.00
	<b>Total</b>			<b>\$1,551.54</b>
Christ Evangelical Lutherine Church	R/M Bills			\$1,051.50
	AECOM Bills			\$0.00
	Engineer Tech	\$38.91	0.00	\$0.00
	Sr. Engineer Tech	\$42.42	0.00	\$0.00
	Civil Engineer	\$42.12	0.00	\$0.00
	Chief Engineer-Utilities	\$59.62	1.75	\$104.34
	Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
	DPW Director	\$77.34	0.00	\$0.00
	<b>Total</b>			<b>\$1,155.84</b>
Swan View Farms Ph. 1	R/M Bills			\$12,970.71
	AECOM Bills			\$0.00
	Engineer Tech	\$38.91	0.00	\$0.00
	Sr. Engineer Tech	\$42.42	0.00	\$0.00
	Civil Engineer	\$42.12	0.25	\$10.53
	Chief Engineer-Utilities	\$59.62	27.50	\$1,639.55
	Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
	DPW Director	\$77.34	0.00	\$0.00
	<b>Total</b>			<b>\$12,970.71</b>

Total \$14,620.79

Swan View Farms Ph. 2

	Wages	Hours	Total
R/M Bills			\$3,456.00
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	16.00	\$673.92
Chief Engineer-Utilities	\$59.62	15.50	\$924.11
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$5,054.03

Woodleaf Reserve Phase 3

	Wages	Hours	Total
R/M Bills			\$0.00
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	0.00	\$0.00
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$0.00

Glen of Parkway Ridge

	Wages	Hours	Total
R/M Bills			\$9,597.77
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.50	\$21.06
Chief Engineer-Utilities	\$59.62	10.25	\$611.11
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$10,229.94

James Craig Builders-Swan Road

	Wages	Hours	Total
R/M Bills			\$0.00
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	0.00	\$0.00
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$0.00

Baenen\_Northview Road

	Wages	Hours	Total
R/M Bills			\$0.00
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	1.25	\$74.53
Chief Engineer-Roads/Develop	\$55.71	4.75	\$264.62
DPW Director	\$77.34	0.00	\$0.00

Total \$339.15

Klein Dickert Glass

	Wages	Hours	Total
R/M Bills			\$1,718.65
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	2.50	\$149.05
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$1,867.70

Oak and Peninsula Road Project and Water Main

	Wages	Hours	Total
R/M Bills			\$9,045.00
AECOM Bills			\$0.00

Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	11.00	\$655.82
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$9,700.82

Green Acres LLC Office Building

	Wages	Hours	Total
R/M Bills			\$0.00
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	3.50	\$147.42
Chief Engineer-Utilities	\$59.62	6.00	\$357.72
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$505.14

Pewaukee Industrial South

	Wages	Hours	Total
R/M Bills			\$8,288.05
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.25	\$10.53
Chief Engineer-Utilities	\$59.62	15.00	\$894.30
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$9,192.88

Waters Senior Living

	Wages	Hours	Total
R/M Bills			\$7,950.97
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	38.00	\$1,600.56
Chief Engineer-Utilities	\$59.62	41.25	\$2,459.33
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	3.75	\$290.03

Total \$12,300.88

Woodleaf Reserve Phase 4

	Wages	Hours	Total
R/M Bills			\$10,636.80
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.25	\$10.53
Chief Engineer-Utilities	\$59.62	12.00	\$715.44
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$11,362.77

Emerald Acres Flood Mitigation

	Wages	Hours	Total
R/M Bills			\$0.00
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	8.00	\$339.36
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	4.00	\$238.48
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$577.84

Zignego Repair Building

	Wages	Hours	Total
R/M Bills			\$8,589.91
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.25	\$10.53
Chief Engineer-Utilities	\$59.62	9.25	\$551.49
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00

DPW Director	\$77.34	0.00	\$0.00	Total	\$9,151.93
Roundy's Cricle/Amazon					
	Wages	Hours	Total		
R/M Bills			\$2,983.60		
AECOM Bills					
Engineer Tech	\$38.91	0.00	\$0.00		
Sr. Engineer Tech	\$42.42	0.00	\$0.00		
Civil Engineer	\$42.12	9.00	\$379.08		
Chief Engineer-Utilities	\$59.62	12.00	\$715.44		
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00		
DPW Director	\$77.34	0.00	\$0.00	Total	\$4,078.12
Lakewood Bapt. Church Expansion					
	Wages	Hours	Total		
R/M Bills			\$1,254.42		
AECOM Bills					
Engineer Tech	\$38.91	0.00	\$0.00		
Sr. Engineer Tech	\$42.42	0.00	\$0.00		
Civil Engineer	\$42.12	14.75	\$621.27		
Chief Engineer-Utilities	\$59.62	11.75	\$700.54		
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00		
DPW Director	\$77.34	0.00	\$0.00	Total	\$2,576.23
Greenland/Cardinal Meadow Subd.					
	Wages	Hours	Total		
R/M Bills			\$4,218.80		
AECOM Bills					
Engineer Tech	\$38.91	0.00	\$0.00		
Sr. Engineer Tech	\$42.42	0.00	\$0.00		
Civil Engineer	\$42.12	6.50	\$273.78		
Chief Engineer-Utilities	\$59.62	9.50	\$566.39		
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00		
DPW Director	\$77.34	0.00	\$0.00	Total	\$5,058.97
Woodleaf Reserve Phase 5					
	Wages	Hours	Total		
R/M Bills			\$1,304.66		
AECOM Bills					
Engineer Tech	\$38.91	0.00	\$0.00		
Sr. Engineer Tech	\$42.42	0.00	\$0.00		
Civil Engineer	\$42.12	11.00	\$463.32		
Chief Engineer-Utilities	\$59.62	18.00	\$1,073.16		
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00		
DPW Director	\$77.34	0.00	\$0.00	Total	\$2,841.14
J & R Dreamfields					
	Wages	Hours	Total		
R/M Bills			\$0.00		
AECOM Bills					
Engineer Tech	\$38.91	0.00	\$0.00		
Sr. Engineer Tech	\$42.42	0.00	\$0.00		
Civil Engineer	\$42.12	1.50	\$63.18		
Chief Engineer-Utilities	\$59.62	1.25	\$74.53		
Chief Engineer-Roads/Develop	\$55.71	0.75	\$41.78		
DPW Director	\$77.34	0.00	\$0.00	Total	\$179.49
Yench/Lynddale CSM					
	Wages	Hours	Total		
R/M Bills			\$0.00		
AECOM Bills					
Engineer Tech	\$38.91	0.00	\$0.00		
Sr. Engineer Tech	\$42.42	0.00	\$0.00		
Civil Engineer	\$42.12	1.75	\$73.71		
Chief Engineer-Utilities	\$59.62	0.00	\$0.00		
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00		
DPW Director	\$77.34	0.00	\$0.00	Total	\$73.71
Century Fence Storage Area					
	Wages	Hours	Total		
R/M Bills			\$905.28		
AECOM Bills					
Engineer Tech	\$38.91	0.00	\$0.00		
Sr. Engineer Tech	\$42.42	0.00	\$0.00		
Civil Engineer	\$42.12	0.25	\$10.53		

Chief Engineer-Utilities	\$59.62	6.75	\$402.44
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$1,318.25

Paul Road/Joseph Road Water Main Relay and Road project

	Wages	Hours	Total
R/M Bills			\$3,807.00
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	3.75	\$223.58
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$4,030.58

DPW Highway Garage

	Wages	Hours	Total
R/M Bills			\$0.00
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	9.00	\$381.78
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	48.00	\$2,861.76
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00

Total \$3,243.54

# Post Construction Storm Water Management

Note: The City's Post Construction Site Storm Water Management Program Program includes pond inspections, review of maintenance agreements, plan review and permitting. Estimates are provided for Engineer Tech's review of Wagner Park Ponds and Civil Engineer's review of the Green Road Pond, the Pewaukee Sports Complex Ponds, City Hall Bio-infiltration device and the Rockwood Drive Pond. Developer driven expenditures are generally billed back to the Developer. Budget dollars are taken from line items under "Permit Compliance" in the Storm Water Utility Budget (one half of Numbers 230-53656-51290 and 230-53656-51950 and all of numbers 230-53656-52150 and 230-53656-53510).

**Budget for Reporting Year** \$44,575.00 **Budget for Upcoming Year** \$46,065.50

**Annual Expenditures for Reporting Year** \$97,840.00

Project	Green Acres LLC Office Building	Wages	Hours	Total
	AECOM Bills			\$4,238.97
	Engineer Tech	\$38.91	0.00	\$0.00
	Sr. Engineer Tech	\$42.42	0.00	\$0.00
	Civil Engineer	\$42.12	3.50	\$147.42
	Chief Engineer-Utilities	\$59.62	6.25	\$372.63
	Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
	DPW Director	\$77.34	0.00	\$0.00
	<b>Total</b>			<b>\$4,759.02</b>
	<b>Yench/Lynddale CSM</b>	<b>Wages</b>	<b>Hours</b>	<b>Total</b>
	AECOM Bills			\$2,910.90
	Engineer Tech	\$38.91	0.00	\$0.00
	Sr. Engineer Tech	\$42.42	0.00	\$0.00
	Civil Engineer	\$42.12	1.75	\$73.71
	Chief Engineer-Utilities	\$59.62	1.00	\$59.62
	Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
	DPW Director	\$77.34	0.00	\$0.00
	<b>Total</b>			<b>\$3,044.23</b>
	<b>Greenland/Cardinal Meadow Subd.</b>	<b>Wages</b>	<b>Hours</b>	<b>Total</b>
	AECOM Bills			\$4,468.14
	Engineer Tech	\$38.91	0.00	\$0.00
	Sr. Engineer Tech	\$42.42	0.00	\$0.00
	Civil Engineer	\$42.12	6.50	\$273.78
	Chief Engineer-Utilities	\$59.62	5.50	\$327.91
	Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
	DPW Director	\$77.34	0.00	\$0.00
	<b>Total</b>			<b>\$5,069.83</b>
	<b>Lakewood Bapt. Church Expansion</b>	<b>Wages</b>	<b>Hours</b>	<b>Total</b>
	AECOM Bills			\$11,492.70
	Engineer Tech	\$38.91	0.00	\$0.00
	Sr. Engineer Tech	\$42.42	0.00	\$0.00
	Civil Engineer	\$42.12	14.25	\$600.21
	Chief Engineer-Utilities	\$59.62	11.50	\$685.63
	Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
	DPW Director	\$77.34	0.00	\$0.00
	<b>Total</b>			<b>\$12,778.54</b>
	<b>Swan View Farms Ph 2</b>	<b>Wages</b>	<b>Hours</b>	<b>Total</b>
	AECOM Bills			\$15,816.66
	Engineer Tech	\$38.91	0.00	\$0.00
	Sr. Engineer Tech	\$42.42	0.00	\$0.00
	Civil Engineer	\$42.12	15.25	\$642.33
	Chief Engineer-Utilities	\$59.62	12.50	\$745.25
	Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
	DPW Director	\$77.34	0.00	\$0.00
	<b>Total</b>			<b>\$17,204.24</b>

Roundy's Cricle/Amazon			
	Wages	Hours	Total
AECOM Bills			\$11,387.88
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	8.75	\$368.55
Chief Engineer-Utilities	\$59.62	10.25	\$611.11
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00
Total			\$12,367.54

Baenen_Northview Road			
	Wages	Hours	Total
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	1.50	\$89.43
Chief Engineer-Roads/Develop	\$55.71	4.75	\$264.62
DPW Director	\$77.34	0.00	\$0.00
Total			\$354.05

Pewaukee Industrial South			
	Wages	Hours	Total
AECOM Bills			\$2,226.93
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	7.00	\$417.34
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00
Total			\$2,644.27

Waters Senior Living			
	Wages	Hours	Total
AECOM Bills			\$29,997.51
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	37.50	\$1,579.50
Chief Engineer-Utilities	\$59.62	36.25	\$2,161.23
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	3.75	\$290.03
Total			\$34,028.26

Woodleaf Reserve Phase 4			
	Wages	Hours	Total
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	0.00	\$0.00
Chief Engineer-Utilities	\$59.62	0.00	\$0.00
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00
Total			\$0.00

Woodleaf Reserve Phase 5			
	Wages	Hours	Total
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	10.75	\$452.79
Chief Engineer-Utilities	\$59.62	17.75	\$1,058.26
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00
DPW Director	\$77.34	0.00	\$0.00
Total			\$1,511.05

Swan View Farms Ph 1			
	Wages	Hours	Total
AECOM Bills			\$0.00
Engineer Tech	\$38.91	0.00	\$0.00
Sr. Engineer Tech	\$42.42	0.00	\$0.00
Civil Engineer	\$42.12	2.00	\$84.24
Chief Engineer-Utilities	\$59.62	0.00	\$0.00
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00

DPW Director	\$77.34	0.00	\$0.00	
				Total \$84.24

Klein Dickert Glass	Wages	Hours	Total	
AECOM Bills			\$0.00	
Engineer Tech	\$38.91	0.00	\$0.00	
Sr. Engineer Tech	\$42.42	0.00	\$0.00	
Civil Engineer	\$42.12	0.00	\$0.00	
Chief Engineer-Utilities	\$59.62	0.75	\$44.72	
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00	
DPW Director	\$77.34	0.00	\$0.00	
				Total \$44.72

Green Road Pond Inspection	Wages	Hours	Total	
AECOM Bills			\$0.00	
Engineer Tech	\$38.91	0.00	\$0.00	
Sr. Engineer Tech	\$42.42	0.00	\$0.00	
Civil Engineer	\$42.12	1.50	\$63.18	
Chief Engineer-Utilities	\$59.62	0.00	\$0.00	
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00	
DPW Director	\$77.34	0.00	\$0.00	
				Total \$63.18

Sports Complex Pond Inspections	Wages	Hours	Total	
AECOM Bills			\$0.00	
Engineer Tech	\$38.91	0.00	\$0.00	
Sr. Engineer Tech	\$42.42	0.00	\$0.00	
Civil Engineer	\$42.12	7.00	\$294.84	
Chief Engineer-Utilities	\$59.62	0.00	\$0.00	
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00	
DPW Director	\$77.34	0.00	\$0.00	
				Total \$294.84

Rockwood Drive Pond Inspection	Wages	Hours	Total	
AECOM Bills			\$0.00	
Engineer Tech	\$38.91	0.00	\$0.00	
Sr. Engineer Tech	\$42.42	0.00	\$0.00	
Civil Engineer	\$42.12	3.00	\$126.36	
Chief Engineer-Utilities	\$59.62	0.00	\$0.00	
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00	
DPW Director	\$77.34	0.00	\$0.00	
				Total \$126.36

Wagner Park Pond Inspections	Wages	Hours	Total	
AECOM Bills			\$0.00	
Engineer Tech	\$38.91	2.75	\$107.00	
Sr. Engineer Tech	\$42.42	0.00	\$0.00	
Civil Engineer	\$42.12	0.00	\$0.00	
Chief Engineer-Utilities	\$59.62	3.00	\$178.86	
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00	
DPW Director	\$77.34	0.00	\$0.00	
				Total \$285.86

City Hall Biofiltration Device	Wages	Hours	Total	
AECOM Bills			\$0.00	
Engineer Tech	\$38.91	0.00	\$0.00	
Sr. Engineer Tech	\$42.42	0.00	\$0.00	
Civil Engineer	\$42.12	1.50	\$63.18	
Chief Engineer-Utilities	\$59.62	0.00	\$0.00	
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00	
DPW Director	\$77.34	0.00	\$0.00	
				Total \$63.18

Glen at Parkway Ridge	Wages	Hours	Total	
AECOM Bills			\$0.00	
Engineer Tech	\$38.91	0.00	\$0.00	
Sr. Engineer Tech	\$42.42	0.00	\$0.00	

Civil Engineer	\$42.12	0.00	\$0.00	
Chief Engineer-Utilities	\$59.62	2.75	\$163.96	
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00	
DPW Director	\$77.34	0.00	\$0.00	
				Total \$163.96

<b>J &amp; R Dreamfields</b>				
	Wages	Hours	Total	
AECOM Bills			\$0.00	
Engineer Tech	\$38.91	0.00	\$0.00	
Sr. Engineer Tech	\$42.42	0.00	\$0.00	
Civil Engineer	\$42.12	0.00	\$0.00	
Chief Engineer-Utilities	\$59.62	1.50	\$89.43	
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00	
DPW Director	\$77.34	0.00	\$0.00	
				Total \$89.43

<b>DPW Highway Garage</b>				
	Wages	Hours	Total	
AECOM Bills			\$0.00	
Engineer Tech	\$38.91	0.00	\$0.00	
Sr. Engineer Tech	\$42.42	0.00	\$0.00	
Civil Engineer	\$42.12	0.00	\$0.00	
Chief Engineer-Utilities	\$59.62	48.00	\$2,861.76	
Chief Engineer-Roads/Develop	\$55.71	0.00	\$0.00	
DPW Director	\$77.34	0.00	\$0.00	
				Total \$2,861.76

## Pollution Prevention

	2021 Budgeted	2021 Expenditure	2022 Budgeted
Catch Basin Cleaning and Maintenance	\$45,000.00	\$20,467.00	\$44,000.00
Storm Inlets and Catch Basins	\$250,000.00	\$641,929.05	\$75,000.00
Street Sweeping	\$21,000.00	\$23,485.06	\$22,850.00
Ditch and Culvert Maintenance	\$272,796.00	\$219,944.56	\$293,925.00
Storm Sewer Maintenance	\$133,518.00	\$235,978.25	\$151,859.00
Yard Maintenance	\$10,000.00	\$0.00	\$10,000.00
Yard Waste Recycling	\$92,501.10	\$90,037.32	\$94,805.64
<b>Totals</b>	<b>\$824,815.10</b>	<b>\$1,231,841.24</b>	<b>\$692,439.64</b>

*Items reported here were typically broken out in the budget. Yard Maintenance used to be found under Permit Compliance. Storm Inlets and Catch Basins was found under Storm Water Projects. Yard Waste Recycling was taken as a fraction of the budgeted and actual expenditures from Refuse Collection and Recycling (10.307% of totals). Actual expenditures for Storm Sewer Maintenance include expenses the Roundy's Industrial Park #2 (420-57422-58210) and Spice Creek/Meadowbrook Farms #1 (420-57554-58210) for storm sewer lining and half the curb repair. Actual expenditures for Storm Inlets and Catch Basins include expenses from Spice Creek/Meadowbrook Farms #1 (420-57554-58210) for inlet repair and curb repair.*

# Storm Water Quality Management

Budget for Reporting Year	\$350,000.00
Expenditures for Reporting Year	\$7,260.36
Budget for Upcoming year	\$350,000.00

*Storm Water Quality Management within the permit is the maintenance of the City's pollution reduction total at the time the law was changed to negate the 40% requirement. As there is no budget line item for this, I have included the budgeted costs for a new Storm Water Study found under Projects (230-57340-58210). This would include a complete remodel for water quality purposes. Expenditures for the reporting year were for the City's application for a Storm Water Management Planning Grant through the Wisconsin Department of Natural Resources.*

# Storm Sewer System Mapping

Budget for Reporting Year	\$5,000.00
Expenditures for Reporting Year	\$0.00
Budget for Upcoming year	\$5,000.00

*Storm Sewer System Mapping is lumped within Storm Sewer Maintenance budget category. The breakout for this is under 230-53651-53520 within the budget software General Ledger. Dollars shown here have been removed from the Storm Sewer Maintenance category.*

# Item E

## City of Pewaukee MS4 Program Audit Summary



February 22, 2022

Magdelene Wagner  
City of Pewaukee  
W240 N3065 Pewaukee Road  
Pewaukee, WI 53072

Subject: City of Pewaukee MS4 Permit Program Audit Summary  
WPDES Permit No. WI-SO50105-3 MS4 Permit

Dear Magdelene Wagner,

On September 8<sup>h</sup>, 2021, Department of Natural Resources (Department) staff met with City of Pewaukee (City) staff to evaluate implementation of the City's Municipal Separate Storm Sewer System (MS4) Permit Program. During the evaluation, the Department identified "Required Actions" and "Recommendations" as reflected in Table 1 of the enclosed summary. The "Required Actions" listed in the table are necessary to comply with the permit. Please review this information carefully as it is intended to help inform the City's internal processes and procedures to improve overall consistency and effectiveness of the MS4 Permit Program.

This evaluation was conducted through the Department's authority under Permit Section IV.K and focused on the City's implementation of the following program elements:

Illicit Discharge Detection and Elimination  
Construction Site Pollutant Control  
Pollution Prevention

The evaluation was attended by:

Department Staff

Samantha Katt – Storm Water Specialist  
Jacob Zimmerman – Storm Water Engineer

City Staff

Maggie Wagner – Director of Public Works and City Engineer  
Rich Wirtz – Chief Engineer  
Brian Leightner – Engineer  
Jeff Faber – Engineer  
Matt Stevens – Street Superintendent  
Dan Neubauer – Parks Maintenance Supervisor

**Please provide a written response within forty-five (45) calendar days of receipt of this letter addressing efforts on behalf of the City to resolve any issues described in the summary.** This response should include both completed and proposed action items as well as a proposed schedule. Please feel free to annotate Table 1 with your responses for this purpose.

Thank you for your cooperation with the Department's Municipal Storm Water Management Program. If you have any questions or concerns regarding this letter, then please contact me at (414) 522-0073 or [samantha.katt@wisconsin.gov](mailto:samantha.katt@wisconsin.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Samantha Katt', written in a cursive style.

Samantha Katt  
Storm Water Specialist  
Watershed Bureau

Enclosure: City of Pewaukee MS4 Program Audit Summary Report w/exhibits

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## **BACKGROUND**

The City of Pewaukee was first permitted in November 2004 under the Department's Storm Water Municipal Group Permit, WPDES Permit No. WI-SO50105-1, along with co-permittees City of Waukesha, the Villages of Pewaukee and Sussex, and Towns of Brookfield, Delafield, Lisbon, and Waukesha. The MS4 permit was reissued coverage under WPDES Permit No. WI-SO50105-2 in October 2009, and again in December 2014 under WPDES Permit No. WI-SO50105-3. The Village's current MS4 permit, WPDES Permit No. WI-SO50105-3, is provided in Exhibit A.

According to the US Census Bureau's webpage, the City is approximately 19.5 square miles and has experienced a positive population growth of 10.9% from 2010 to 2019 (estimated population in 2010 was 13,190 with a population density of 676.4 per square mile; and 14,631 in 2019 with a population density of 750.3 per square mile). The City, found within the Upper Fox River Watershed, contains a mix of residential, commercial, industrial, and many natural resource areas.

Completed in 2011, the City's pollutant loading analysis showed the City is achieving developed urbanized area performance standards as required by s. NR 151.13 Wis. Admin. Code reporting a 32% TSS reduction<sup>1</sup>. A copy of this report is provided in Exhibit B.

### **Audit Overview**

As part of the audit, the Department requested the City submit specific documentation pertaining to the MS4 Permit Program according to Permit Part IV.L: Duty to Provide Information. During this request, it was noted these documents were to be discussed specifically with the City staff implementing them during the audit. The purpose of these discussion was to 1) obviate any inconsistencies between documented procedures and program implementation, 2) identify areas where program implementation is deficient in meeting the minimum permit requirements, 3) identify areas where the City is improving or excelling at MS4 program implementation, and 4) clear up any concerns or questions regarding a permit requirement, purpose and intent, and implementation.

The MS4 audit occurred September 8, 2021 and consisted of in-office discussions and field inspections. See Exhibit C for audit agenda, locations of the activities, and attendees.

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<sup>1</sup> The City is achieving a 32% TSS reduction utilizing roadside grassed swales and City-owned wet detention ponds. This report explains a 59% TSS reduction could be achieved if the City obtained maintenance authority on the numerous privately owned wet ponds.

## **ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM**

### **Overview**

To comply with MS4 Part II.C, the City is required to implement a program to detect and remove illicit connections and discharges to the municipal separate storm sewer systems. The program shall maintain and enforce the municipal ordinance regarding the prevention and elimination of illicit discharges and illicit connections to the MS4, include an on-going dry weather field screening of outfalls, and contain a procedure for responding to, with the ultimate goal of eliminating, known or suspected illicit discharges.

### ***Illicit Discharge City Ordinance***

The City's ordinance regarding the prevention and elimination of illicit discharges and illicit connections to the MS4 is located in Section 19.20 of the City's Municipal Code. A copy of the ordinance can be found within Exhibit D. The ordinance defines and prohibits illicit discharges and illicit connections, identifies non-storm water discharges or flows that are not considered illicit discharges, and provides inspection and enforcement authority.

### ***Dry-weather Outfall Screening Procedure***

The City is required to conduct dry-weather outfall screenings at all priority outfalls at least once per year and all other major (non-priority) outfalls at least once every five years. Field screenings shall include a narrative description of visual observations including color, odor, turbidity, oil sheen or surface scum, flow rate or any other relevant observations regarding the potential presence of illicit discharges. If flow is observed, a field analysis shall be conducted to determine the presence of illicit discharges and shall include testing for one or more indicator parameters (e.g., ammonia, detergents, pH, chlorine, copper, or phenol) or by conducting video, smoke, or dye testing in the storm sewer system.

Jeff Faber, City Engineer, is the main person responsible for conducting dry-weather outfall screenings. Twice per year (once in May or June, the second time in July or August), Faber inspects each of the 20 MS4 outfalls identified as major. Each outfall is screened and documented for visual observations; however, it was said during the audit that some outfalls with flow are not tested as the flow from these outfalls are assumed to be base flow. Consequently, though the City has a test kit, the test kit is said to not be brought to dry-weather screenings as it is never used.

Though it hasn't occurred in recent years, if a screening showed signs of a potential illicit discharge<sup>2</sup>, Faber said he would attempt to locate the source and notify Maggie Wagner (the City's Director of Public Works/City Engineer) and/or Rich Wirtz (the City's Chief Engineer). Wagner and Wirtz are ultimately responsible for continuing the investigation and elimination – this includes assigning the most appropriate person to investigate the potential illicit discharge, notify appropriate parties (e.g., neighboring municipalities, DNR, violating party, etc.), documentation, and enforcement.

If an illicit discharge or connection is found, the City may order compliance by written notice of

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<sup>2</sup> In the event of a hazardous substance, Pewaukee Fire Department would be contacted and is responsible for further investigation and elimination.

violation to the responsible person. Enforcement mechanisms include cease and desist within 72 hours, abatement or remediation of storm water pollution or contaminated hazards and the restoration of any affected property, and forfeitures for each day of the violation and costs of prosecution.

### ***Response to Known or Suspected Illicit Discharges***

To comply with the permit, the City shall conduct a field investigation in the contributing drainage area within 24 hours after a known or suspected illicit discharge is detected or reported. If the source is found, the City is required to take appropriate action to remove the illicit discharge as soon as practicable but no later than 30 days. If the source cannot be found, the associated outfall shall be added to the list of priority outfalls for on-going dry weather screening. If indirect sources, such as sanitary leakage or contaminated groundwater are suspected, the City shall develop and implement a strategy to locate and eliminate these sources. If the City plans to conduct a dye test, identifies a spill or release of a hazardous substance which has resulted or may result in the discharge to waters of the state, or identifies an illicit discharge that originates from or discharges to another MS4, they shall notify the Department and/or appropriate municipality.

Noted on past MS4 Annual Reports and discussed during the audit, detection or reports of known or suspected illicit discharges are uncommon. However, the public can report known or suspected illicit discharges by calling the City or filling out an online form – these reports are directed to Wirtz. Wirtz tracks the complaints and writes the summary reports that are submitted to the Department. As with known or suspected illicit discharges found during dry-weather outfall screenings, the City Engineer is the main person responsible for continuing the investigation, elimination, and enforcement.<sup>3</sup>

### **Required Actions**

After the audit, Department and City staff had further discussions concerning the City's major outfalls with observed flow which are not undergoing field analysis (i.e., tested for indicator parameters and/or conducting a video, smoke, or dye test). Outfall P14-5 was specifically discussed however, other major outfalls may be similar. Through this discussion, it was determined that while the screening location for P14-5 may fit the definition of major, due to hydrological and other physical conditions such as vegetation, it is not the most effective location to screen for potential illicit discharges. Similar to the *submerged outfalls* and *storm water practices* scenarios in the Department's Illicit Discharge Detection and Elimination Guidance<sup>4</sup>, it is recommended screening occur upstream where there is less background influence which may mask the presence of an illicit discharge. The City should re-evaluate screening locations using the considerations provided in Permit Part II.C.1 and the Department's Illicit Discharge Detection and Elimination Guidance. If flow is observed at these revised

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<sup>3</sup> Local police and fire departments are the primary people responsible for responding to hazardous spills, such as gasoline resulting from a car accident. Discussions pertaining to the City's response (e.g., investigation, elimination, and enforcement) to known or suspected hazardous discharges do not necessarily reflect their response to these hazardous discharges.

<sup>4</sup> The Department's IDDE Guidance and other publications can be found here: <https://dnr.wisconsin.gov/topic/Stormwater/publications.html>

locations during screening, the City must conduct a field analysis according to the permit to determine the presence of illicit discharges.

Provided in Exhibit E, the City's storm sewer system map does not identify MS4 outfalls. To comply with Permit Part II.H.2, the City must revise their map to identify all MS4 outfalls. Noting that screening locations should be re-evaluated, the Department is requesting the City submit a map identifying the current screening locations. After screening locations have been re-evaluated, a revised map shall be submitted to the Department with the Annual Report as required by Permit Part II.I.2.

## CONSTRUCTION SITE POLLUTANT CONTROL PROGRAM

### **Overview**

To comply with MS4 Part II.D, the City is required to implement and enforce a program consistent with all permit conditions. At a minimum, this includes: maintaining inspection and enforcement authority; enforcing permitting requirements, procedures, and fees, reviewing and approving plans with design criteria, standards, and specifications that meet or exceed the technical standards approved by the Department; update and enforce the ordinance to incorporate s. NR 151 Wis. Adm. Code requirements by March 31, 2016; conduct erosion control inspections at all permitted sites according to their program; and maintain records of erosion control inspections and any enforcement actions taken.

The City's requirements for construction site erosion control are located in Section 19.11 of the City's Municipal Code. It includes s. NR 151 Wis. Adm. Code requirements and describes other aspects of the construction program like persons responsible and available enforcement mechanisms. A copy of the ordinance can be in Exhibit D. The City also has a written program procedure which provides much more detail and example templates used to implement the program, a copy of this is provided in Exhibit F.

Applicants intending to develop in the City of Pewaukee can find information on design standards and permitting process on the City's website, the City will also send this information to the applicant. Plans for sites that will disturb one acre or more of soil are sent to the City's Engineering Department where the City's Chief Engineer, Rich Wirtz, reviews plans. If Wirtz has comments about the plan, he electronically marks the plan and sends it back to the developer. After comments have been addressed, Wirtz issues the permit. Pre-construction meetings are usual but do not always occur as part of the permitting process. During the permitting process, the City also informs the applicant to apply for a DNR construction permit.

Consultants from the engineering firm Ruekert & Mielke, Inc. are the main persons responsible for conducting construction site inspections. Inspections occur weekly and after ½ inch rain events. Inspectors submit inspection reports to Wirtz for review and will notify him of any egregious or outstanding noncompliance. If noncompliance issues are noted, the City typically compels compliance using noncompliance letters (NON) followed by notice of violation letters (NOV). The NON identifies the problem(s) to be resolved and a time frame for its resolution and is proceeded with a follow up inspection to verify problem(s) have been addressed. If the problem(s) identified have not been resolved, the City will issue a NOV. The NOV identifies the problem(s) to be resolved in an expected time frame, informs the responsible party that financial penalties are being assessed for each day the problem(s) remain unresolved, and identifies the date which fines will begin. A follow up inspection is also performed to verify problem(s) have been addressed. NON and NOV are typically all that is required to bring a construction site back into compliance, however, the City also has the authority to issue citations and stop-work orders, and perform the necessary work to return the site to compliance charging back the cost to the developer, using the collected security deposit bond, or collecting the costs via a special assessment against the property on the tax roll.

**Recommendations**

Verified through the audit process and through various WPDES permitted construction site compliance checks completed by the Department, the City is following their written procedure as described. The Department is highly encouraged by the City's construction site pollutant control program and only recommends the City continue current procedures.

## **POLLUTION PREVENTION PROGRAM**

### **Overview**

To comply with MS4 Part II.F, the City is required to implement and enforce a program that is consistent with all permit conditions. In general, pollution prevention activities can be grouped into six areas: inspection, maintenance, and inventory of post-construction storm water management facilities<sup>5</sup>; storm water pollution prevention for municipal garages, storage areas, and other municipal owned sources of storm water pollution; proper management of collected leaves and grass clippings, catch basin cleaning, and street sweeping materials; winter road management, and turf management.

### ***Inspection, maintenance, and inventory of post-construction storm water management facilities***

During the audit, it was said City Engineers (Wirtz and/or Brian Leightner), inspect nine BMPs once per year, either in the fall or spring. However, there are more than nine BMPs in the community. In 2010, the City identified approximately 190 BMPs using air photos (inventory is provided in Exhibit G) however, this inventory must still be verified. Deficiencies surrounding required documentation for this permit section (e.g., a verified and complete BMP inventory, long-term maintenance agreement for private BMPs, inspection results such, maintenance logs, etc.) was discussed.

As part of the audit, a City owned BMP, a wet pond located at Wagner Park, was inspected – Department photographs of the inspection are available upon request. Overall, both Department and City staff determined maintenance was required – slumping on the banks need repairing and muskrats must be removed to prevent further damage. While at this pond, Department and City staff discussed the important of maintaining BMPs (i.e., for effective storm water treatment) and the importance of creating a maintenance schedule. In other words, the Department understands the City has multiple matters to attend to and every project cannot be completed immediately, however, a schedule, maintenance plan, or another commitment to action must be in place to provide assurance BMPs, will be maintained. If BMPs are not maintained the City may stand to lose the pollutant reduction credit from the corresponding controls, necessitating the need for construction of additional controls to meet permit requirements.

### ***Storm water pollution prevention for municipal owned sources***

The City has one property requiring a storm water pollution prevention plan (SWPPP) – the DPW yard located at W240N3065 Pewaukee Road – adjacent to City Hall. Last updated in 2015, the SWPPP appears adequate for existing site activities – a copy of the original SWPPP with revisions is provided in Exhibit H. Overall, the DPW Yard appeared to be well organized and maintained. Salt is stored inside of a covered storage shed, the majority of equipment is stored inside storage buildings, and materials stored outside are limited (additionally, materials appear to leave the site quickly which limits their potential to generate storm water pollution. Department photographs of the inspection are available upon request.

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<sup>5</sup> Also referred to as storm water management controls or BMPs.

As the City is in the process of constructing a new DPW Yard, the Department provided a few temporary BMP recommendations (e.g., perimeter controls surrounding stockpiled materials) for current site and site activities.

***Collected Materials: Leaf Collection, Street Sweeping, and Catch Basin Cleanings***

The City of Pewaukee does not collect residential leaves. However, residents can bring leaves to the City Recycling Center (located within the DPW Yard adjacent to City Hall). Though atypical, if residential leaves are found pushed onto the street, the City sends a letter to the property owner requesting the leaves be removed.

Street sweeping in the City occurs three times per year: once after the winter thaw (March or April), a second time in June or July, and a third time in late fall (after leaves drop). During the late fall sweep, the areas around the lake are swept four or five times. Currently, street sweeping material is brought to the DPW Yard for temporary storage before being brought to the Emerald Park Landfill for final disposal. The City has plans to buy a new street sweeper in the near future which will discharge collected material directly to a dumpster, thus eliminating the need to stage material on the ground at the DPW Yard.

The City cleans catch basins at least once per year and, like street sweeping, concentrates on areas surrounding the lake. Since cleaning all of the catch basins is said to take weeks, the City follows a route (similar to a plow or street sweeping route) to track which basins have been cleaned. Catch basin materials are staged and disposed with street sweeping materials.

***Winter Road Management***

The City Street Superintendent, Matt Stevens, is the main person responsible for winter road management and is responsible for determining application rates (typically starting at 100 pounds per lane mile and may go up to 400 pounds per lane mile) and products (salt, brine, and pre-wetting). Trucks are calibrated each year by the City's mechanic and quantity and type of deicing products used are tracked per storm event. Storm event (e.g., duration, event type, temperature) are also tracked which Stevens uses to better determine application rates and products for each storm.

***Turf Management***

Required under Permit Part II.F.8, nutrient management plans based on appropriate soil tests are required on all municipally controlled properties (e.g., parks, athletic fields, golf courses, lawns, etc.) over five acres of pervious area which receive fertilizer. The City contracts with TruGreen to apply fertilizer once per year.

**Required Actions**

To comply with the MS4 permit, the City's program shall be consistent with permit conditions listed in Part II.F. The City's areas of non-compliance are listed below.

***Storm Water Management Facilities Inspection and Maintenance***

The City must inspect, maintain, and inventory post-construction management facilities (BMPs) according to permit conditions. As indicated by the submitted materials (e.g., revision to the 2010 inventory, copies of existing maintenance agreements, as-builts, etc.), the City is aware of

the documentation deficiencies and has begun gathering missing information. The Department recommends the City focus their efforts on BMPs utilized in their pollutant reduction analysis (i.e., the BMPs the City is utilizing for “credit”) first and requests the City provide the name, type, year built, location, last date of inspection, ownership (if privately-owned, confirmation if long-term maintenance agreement exists) for these BMPs.

As previously discussed, City staff recognize maintenance is needed on BMPs. To provide reasonable assurance the BMPs will be maintained, the City should develop a schedule, a maintenance plan, or other form of commitment to BMP maintenance. If BMPs are not maintained, the City may stand to lose the pollutant reduction credit from the corresponding controls, necessitating the need for construction of additional controls to meet permit requirements.

## **Recommendations**

### ***Collection Services: Street Sweeping and Catch Basin Cleanings***

Street sweeping and catch basin cleaning are best management practices to remove pollutants carried by storm water. Consequently, this collected material should be stored in a manner that prevents stormwater runoff to surface or ground water. Ultimately, the Department recommends these materials be staged in a location that eliminates the potential to generate storm water pollution (e.g., covered or immediately disposed) and/or discharges to sanitary sewer (i.e., staged on an impervious surface that drains to sanitary or stored in liquid tight container and decanted into sanitary). However, as the City has plans to purchase new equipment that eliminates the need for staging and will be constructing a new DPW Yard, the Department’s recommendation is to continue their practice of temporary staging<sup>6</sup> and incorporate best management practices for collected materials at the new DPW Yard.

### ***Winter Road Management***

The Department recognizes communities must consider multiple factors for winter road management: predicted forecasts and changing weather conditions, maintaining public safety, reducing storm water pollution, balancing the cost and staff time with other public work functions, etc. Given these complexities and obvious challenges, the Department is encouraged by the City’s actions to evaluate and reduce their salt usage. The Department recommends the City continue to track, evaluate, and update their winter road management procedures. As procedures are updated, the Department recommends the City update their written road management plan and provide training to staff to ensure they are implementing the procedure as planned.

### ***Turf Management***

Though the City applies fertilizer to turf areas over five acres, the fertilizers applied do not contain phosphorous. Thus, the Department recommends the City develop a written program which includes language that a nutrient management plan based on appropriate soil test will be conducted if fertilizers containing phosphorous are applied to turf areas over five acres.

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<sup>6</sup> Based on site observations, Department staff found the duration of temporarily staged collected materials sufficient.

**TABLE 1**

<b>Permit WI-SO50105-3</b>	<b>Observations (A – Required Action*, B – Recommended Action)</b> <i>*necessary to maintain compliance with referenced permit condition</i>
Illicit Discharge Detection and Elimination	<p><b>A.1</b> Re-evaluate screening locations for major outfalls.</p> <p><b>A.2</b> Submit map with identifying all MS4 outfalls.</p> <p><i>Noting that outfall screening locations should be re-evaluated, the Department requests the City submit a map identifying the current screening locations.</i></p>
Pollution Prevention	<p><b>A.3</b> Identify BMPs utilized in their pollutant reduction analysis and submit the following information for said BMPs in a tabular format: BMP name, type, year built, location, last date of inspection, ownership (if privately-owned, confirmation if long-term maintenance agreement exists).</p> <p><b>A.4</b> Develop a schedule, maintenance plan, or other form of commitment to City owned or operated BMP maintenance.</p> <p><b>B.1</b> Continue to update written road management plan and provide training to staff to ensure procedures are implemented as planned.</p> <p><b>B.2</b> Develop a turf management written program which includes language that a nutrient management plan based on appropriate soil test will be conducted if nutrients containing phosphorous are applied to turf areas over five acres.</p>

# Item F

## Waukesha County Contracted Program Summary Report & 2020-2024 Public Education and Outreach Plan

Target Audience	Requ #	Requ #	Requ #	Program Name	Activity	Month	Year	Date	Location	# People	Description
General Public	7				news releases/articles	Jan	2021	1-5-21		1	press release for Salt Awareness Week
General Public	7				social media	Jan	2021	1-11-21		1	social media for Salt Awareness Week
General Public	7				presentation	Jan	2021	1-11-21	statewide-virtual	154	statewide virtual salt awareness week program- an ecosystem perspective on salt by Hillary Dugan and Bill Hintz
General Public	7				presentation	Jan	2021	1-12-21	statewide-virtual	163	statewide virtual salt awareness week program - be saltwise and pet smart with veterinarian Brian Ray
General Public	7				presentation	Jan	2021	1-13-21	statewide-virtual	144	statewide virtual salt awareness week program - salt in our drinking water with Kevin Masarek and Amy Barilleaux
General Public	7				presentation	Jan	2021	1-14-21	statewide-virtual	138	statewide virtual salt awareness week program - Put your house on a low salt diet with Juan Lopez and Matthew Meier
General Public	7				presentation	Jan	2021	1-15-21	statewide-virtual	135	statewide virtual salt awareness week program - salt reduction champions stories from around the state
General Public	7				news releases/articles	Jan	2021	1-15-21		1	salt awareness segment on The Morning Blend TV show on WTMJ4
General Public	3	5			presentation	Jan	2021	1-21-21		1400	Ask the Experts program on Green lawn practices-live on facebook then recording posted
General Public	3	5			social media	Jan	2021	1-29-21		1	social media with crossword puzzle of nonpoint words
General Public	3	5		Crystal	presentation	Feb	2021	2-4-21	Retzer	13	Outdoor classroom: Crystal's Clean Water Adventure - kids take a hike to see where water down the storm drain goes and how to keep it clean
General Public	3	5		Crystal	presentation	Feb	2021	2-4-21	Retzer	6	Outdoor classroom: Crystal's Clean Water Adventure - kids take a hike to see where water down the storm drain goes and how to keep it clean
General Public	3	5		Crystal	presentation	Feb	2021	2-9-21	Retzer	3	Outdoor classroom: Crystals Clean Water Adventure - kids take a hike to see where water down the stormdrain goes and how to keep it clean
General Public	3				social media	Feb	2021	2-26-21		1	social media post for National Tell a Fairy Tale Day--Poop Fairy isn't real...pick up after your dog!
General Public	2	3		Water Cycle	presentation	Mar	2021	3-3-21	Retzer	6	outdoor classroom program covering water cycle highlighting runoff in a game and hike
General Public	2	3		Water Cycle	presentation	Mar	2021	3-3-21	Retzer	9	outdoor classroom program covering water cycle highlighting runoff in a game and hike
General Public	9			asian clam	presentation	Mar	2021	3-9-21	virtual state-wide	109	lightning talk on Asian Clam Monitoring as part of Wisconsin Water Week
General Public	1	9		Adopt a Drain	Presentation	Mar	2021	3-10-21	virtual state wide	48	presentation on Adopt a Drain program as part of Wisconsin Water Week
General Public	2	3		Water Cycle	Presentation	Mar	2021	3-16-21	Retzer	2	outdoor classroom program covering water cycle highlighting runoff in a game and hike
General Public	1				social media	Mar	2021	3-22-21		1	social media post for World Water Day launch of Adopt a Drain campaign in Pewaukee
General Public	1				press release	Mar	2021	3-22-21		1	press release for Adopt a Drain program launch in Pewaukee
Teachers and Students	5				rain barrels	Mar	2021	3-24-21	Prairie Hill Waldorf	1	Provided 2 rain barrels to Prairie Hill Waldorf School
General Public	2	3		Water Cycle	Presentation	Mar	2021	3-25-21	Retzer	12	outdoor classroom program covering water cycle highlighting runoff in a game and hike
General Public	2	3		Water Cycle	Presentation	Mar	2021	3-25-21	Retzer	6	outdoor classroom program covering water cycle highlighting runoff in a game and hike
General Public	3				social media	Mar	2021	3-28-21		1	social media about weed control without chemicals for National Weed Appreciation Day
Teachers and Students	4	5			Presentation	Mar	2021	3-30-21	Carroll Field Station	15	environmental science lab for Carroll University on water quality in Genesee Creek at field station
General Public	2	3	5	Green Home Makeover	Presentation	Mar	2021	3-31-21	Muskego Public Libr	13	virtual program for Muskego Library on "green" home practices
General Public	1	2	3		press release	Apr	2021	4-1-21		1	press release promoting 30 day Earth Day activities including pet waste pickup, adopt a drain, green cleaning and lawn care practices
General Public	3				social media	Apr	2021	4-1-21		1	social media post about picking up pet waste
Teachers and Students	4	5			presentation	Apr	2021	4-1-21	Carroll Field Station	10	environmental science lab for Carroll University on water quality in Genesee Creek at field station
Teachers and Students	4	5			presentation	Apr	2021	4-1-21	Carroll Field Station	19	Environmental science lab for Carroll University on water quality in Genesee Creek at field station
General Public	4			Stream life	presentation	Apr	2021	4-8-21	Retzer	11	outdoor classroom on Stream Life - macroinvertebrates that live in streams and how pollution affects them
General Public	4			Stream Life	presentation	Apr	2021	4-8-21	Retzer	9	outdoor classroom on Stream Life - macroinvertebrates that live in streams and how pollution affects them
General public	3				social media	Apr	2021	4-11-21		1	social media post on pet waste and picking up
General Public	1				TV media	Apr	2021	4-13-21	Retzer	1	Fox 6 at Retzer - segment on Adopt a Drain program
General Public	4			Stream Life	presentation	Apr	2021	4-14-21	Retzer	13	outdoor classroom on Stream Life - macroinvertebrates that live in streams and how pollution affects them
Teachers and Students	2	3	5	water resources	presentation	Apr	2021	4-16-21	New Berlin	16	program for Hoover Elementary, Wauwatosa that includes a portion of New Berlin, program on causes of pollution and prevention
General Public	4			Stream Life	presentation	Apr	2021	4-20-21	Retzer	4	outdoor classroom on Stream Life - macroinvertebrates that live in streams and how pollution affects them
General Public	4			Stream Life	presentation	Apr	2021	4-20-21	Retzer	11	outdoor classroom on Stream Life - macroinvertebrates that live in streams and how pollution affects them
Contractors, Dev & Consul				Stormwater Workshop	workshop	Apr	2021	4-20-21	virtual	173	stormwater updates - training on green infrastructure and other BMP's
Contractors, Dev & Consul				Stormwater Workshop	workshop	Apr	2021	4-21-21	virtual	164	green infrastructure case studies as part of annual stormwater workshop
General Public	4			Natural Shorelines	presentation	Apr	2021	4-21-21	virtual	25	presentation for Lake Country Clean Waters on natural shorelines for healthy lakes
General Public				clean up	River Clean up	Apr	2021	4-24-21	Fox River Park	3	Earth day clean up of River and banks in Fox River Park
General Public	5	3		podcast	presentation	Apr	2021	4-21		29	Gardening, Landscaping and Rain Barrel podcast for health and wellness series for Waukesha County and Waukesha School District employees
Teachers and Students	9	7		stream monitoring	field work	May	2021	5-4-21	Jericho Creek	12	taught 2nd chance high school students monitoring procedures to participate in WAV at Jericho Creek
General Public	6	7		BMP maintenance	Presentation	May	2021	5-5-21	Merton	21	Homeowners Association meeting to teach care and maintenance of BMP's
Teachers and Students	3	5		Healthy Soils	Presentation	May	2021	5-7-21	New Berlin	16	Healthy Soils program for Hoover Elementary that serves a portion of New Berlin, program on causes of pollution and prevention methods
Teachers and Students	3	5		Healthy Soils	Presentation	May	2021	5-7-21	Waukesha	27	Healthy Soils program for Montessori School in Waukesha covers infiltration and importance of organic matter
General Public	5			Wetlands	Presentation	May	2021	5-11-21	Retzer	3	Outdoor Classroom to teach about Wetlands--nature's stormwater filtration
Teachers and Students	5			green schools		May	2021	5-11-21	Delafield	1	Delivered 5 trays of native plants to Prairie Hill Waldorf School for students to plant on school grounds
General Public	5			Wetlands	Presentation	May	2021	5-12-21	Retzer	24	Outdoor Classroom to teach about Wetlands--nature's stormwater filtration
General Public	5			Wetlands	Presentation	May	2021	5-12-21	Retzer	7	Outdoor Classroom to teach about Wetlands--nature's stormwater filtration
General Public	2	3	5	Green home makeover	Presentation	May	2021	5-13-21	Menomonee Falls	8	virtual program on environmentally friendly house and lawn care for Menomonee Falls Public Library
General Public	9			stream monitoring	benchmark	May	2021	5-18-21	Genesese	2	trained new volunteer to monitor at Genesee Creek and Spring Brook
General Public	9			stream monitoring	benchmark	May	2021	5-20-21	Pewaukee	10	trained new volunteers to monitor at Coco Creek and Pewaukee Lake outlet
General Public	9			stream monitoring	benchmark	May	2021	5-20-21	Pewaukee	2	trained volunteers to monitor at Pewaukee River at Hwy F
General Public	5			Wetlands	Presentation	May	2021	5-27-21	Retzer	5	Outdoor Classroom to teach about Wetlands--nature's stormwater filtration
General Public	5			rain barrels	Presentation	May	2021	5-27-21	virtual	828	Ask the Experts broadcast through Facebook on the topic of rain gardens and rain barrels
General Public	2				social media	Jun	2021	6-1-21	virtual	1	post about fertilizer use for National Go Barefoot Day
General Public	7			invasives	presentation	Jun	2021	6-3-21	Retzer	10	Outdoor Classroom program about aquatic invasives and how to not spread them
General Public	2				social media	Jun	2021	6-5-21		1	Social media post about HHW collections
Teachers and Students	3	5		healthy soils	presentation	Jun	2021	6-7-21	Retzer	22	healthy soils program for home school group
General Public	1				press release	Jun	2021	6-8-21		1	press release for Adopt a Drain in Oconomowoc
General Public	1				social media	Jun	2021	6-8-21		1	social media post about World Ocean Day and start of adopt a drain in Oconomowoc
General Public	7			invasives	presentation	Jun	2021	6-9-21	Retzer	4	Outdoor Classroom program about aquatic invasives and how to not spread them
General Public	7			invasives	presentation	Jun	2021	6-9-21	Retzer	5	Outdoor Classroom program about aquatic invasives and how to not spread them
General Public	2				social media	Jun	2021	6-13-21		1	social media post for National Weed Your Garden Day about weeding instead of using chemicals
Teachers and Students	7			aquatic insects	presentation	Jun	2021	6-22-21	Retzer	33	Aquatic insects of the stream for school group including pollution effects on aquatic life
Teachers and Students	7			aquatic insects	presentation	Jun	2021	6-22-21	Retzer	32	Aquatic insects of the stream for school group including pollution effects on aquatic life

Teachers and Students	7		aquatic insects	presentation	Jun	2021	6-24-21	Retzer	29	Aquatic insects of the stream for school group including pollution effects on aquatic life	
Teachers and Students	7		aquatic insects	presentation	Jun	2021	6-24-21	Retzer	30	Aquatic insects of the stream for school group including pollution effects on aquatic life	
General Public	3	5		displays and handouts	Jun	2021	6-26-21	Pewaukee	250	Display about simple actions homeowners can take to protect water and aquatic invasives at Pewaukee Clean Water Festival	
General Public	3	5		displays and handouts	Jun	2021	6-28-21	Brookfield	20	Display with enviroscape model covering pollution sources at Altar'D State in The Corners shopping in Brookfield	
General Public	1	5	7	thermodynamics	presentation	Jul	2021	7-1-21	Retzer	2	program about thermodynamics of water -benefits of infiltration vs runoff
General Public	1	5	7	thermodynamics	presentation	Jul	2021	7-1-21	Retzer	2	program about thermodynamics of water - benefits of infiltration vs runoff
General Public	9		asian clam	citizen science survey	Jul	2021	7-8-21	Pewaukee River	0	asian clam survey on the Pewaukee River at Steinhafels - no participants	
General Public	1	5	7	thermodynamics	presentation	Jul	2021	7-13-21	Retzer	5	program about thermodynamics of water -benefits of infiltration vs runoff
General Public	1	5	7	thermodynamics	presentation	Jul	2021	7-13-21	Retzer	2	program about thermodynamics of water - benefits of infiltration vs runoff
General Public	9		asian clam	citizen science survey	Jul	2021	7-15-21	Bark River	0	asian clam survey on the Bark River at Nixon Park Hartland - no participants	
General Public	4	5	Env Science	merit badge class	Jul	2021	7-20-21	Retzer	20	Environmental Science merit badge class covering water pollution and soil erosion	
General Public	2			social media	Jul	2021	7-27-21		1	social media on proper disposal of used motor oil	
General Public	1			displays and handouts	Jul	2021	7-28-21	Hartland	2000	Staffed Outreach with stormwater runoff information at Hartland Kids Fest	
General Public	1	3	7	displays and handouts	Jul	2021	7-28-21	Pewaukee	300	Stormdrain display with fertilizer use highlighted at Pewaukee Library for 2 weeks	
General Public	2	3	4	WI MN training	presentation	Jul	2021	7-30-21	Retzer	20	day long training for Wisconsin Master Naturalist training covering sources of pollution, prevention, AIS and more
General Public	2			social media	Jul	2021	7-31-21		1	social media about proper disposal of pet waste	
General Public	2	3	5	Nat Night Out	displays and handouts	Aug	2021	8-3-21	Mukwonago	150	watershed model at National Night Out in Mukwonago
General Public	2	3	5	Nat Night Out	displays and handouts	Aug	2021	8-4-21	Sussex	200	watershed model at National Night Out in Sussex
General Public	2	3	5	Nat Night out	displays and handouts	Aug	2021	8-5-21	Hartland	100	recycling and water at National Night Out in Hartland
General Public	9		Asian Clam	citizen science survey	Aug	2021	8-5-21	Oconomowoc	0	asian clam survey on the Oconomowoc river - no participants	
General Public	2			social media	Aug	2021			1	social media post about proper disposal of pet waste	
General Public	9		Cit stream monitor	appreciation	Aug	2021	8-7-21	Retzer	16	volunteer appreciation event for stream monitors with program updates, dragonfly program and lunch	
General Public	3			social media	Aug	2021	8-8-21		1	social media post about pet waste	
General Public	3			social media	Aug	2021	8-10-21		1	social media post on healthy lawncare for National Lazy Day	
General Public	1			displays and handouts	Aug	2021	8-10-21	Oconomowoc	2000	staffed outreach with stormwater runoff information at Oconomowoc Kids Fest	
contractors, Dev & consul	7		Smart Salting	presentation	Aug	2021	8-10-21	virtual	43	Smart Salting training for roads by Fortin consulting	
general public			soil health field day	field day	Aug	2021	8-11-21	Oconomowoc	18	Soil health field day in Oconomowoc in partnership with Farmers for Lake Country and ORWPP	
general public	3			social media	Aug	2021	8-11-21		1	social media post about not mowing for National Lazy Day	
general public	7		aquatic insects	presentation	Aug	2021	8-17-21	Retzer	32	Stream health and aquatic insects for Brookfield area YMCA daycamp	
Teachers and Students	3	5	8	green schools	teacher training	Aug	2021	8-18-21	Retzer	6	green school training for teachers covering parking lot management, runoff and rain gardens
Teachers and Students	8	6		sustainable building	presentation	Aug	2021	8-23-21	WCTC	14	presentation to Sustainable Building class at WCTC with BMP's and green infrastructure
General Public	2	3	5	Sustainability Fair	displays and handouts	Aug	2021	8-28-21	Retzer	300	unstaffed outreach at Sustainability Fair with runoff information
General Public	1			social media	Aug	2021	8-31-21		1	social media about caring for Storm Drains for National Beach Day	
General Public	7			social media	Sep	2021	9-1-21		1	social media about salt damage for National No Rhyme or Reason Day	
General Public	3			social media	Sep	2021	9-4-21		1	social media about lawn care for National Lazy Mom Day	
Teachers and Students	3	5	healthy soils	presentation	Sep	2021	9-7-21	Waukesha	48	healthy soils program as part of the Cooperative at Rose Glen Elementary	
Teachers and Students	3	5	healthy soils	presentation	Sep	2021	9-7-21	Waukesha	48	healthy soils program as part of the Cooperative at Rose Glen Elementary	
General Public	1	7	Aquatic Insects	presentation	Sep	2021	9-8-21	Retzer	10	Secrets of Stream Life program for Outdoor Classroom at Retzer covering effects of pollution on aquatic life	
Teachers and Students	2	3	5	water resources	presentation	Sep	2021	9-9-21	Waukesha	33	water resources program as part of the Cooperative at Prairie Elementary - covers pollution sources and prevention
Teachers and Students	2	3	5	water resources	presentation	Sep	2021	9-16-21	Waukesha	30	water resources program as part of the Cooperative at Lowell Elementary - covers pollution sources and prevention
Teachers and Students	2	3	5	water resources	presentation	Sep	2021	9-16-21	Waukesha	30	water resources program as part of the Cooperative at Lowell Elementary - covers pollution sources and prevention
General Public	1	3		displays and handouts	Sep	2021	9-16 to 30-21	Oconomowoc	300	storm drain display on fertilizer runoff with adopt a drain information	
General Public	3	5		displays and handouts	Sep	2021	9-17 to 19-21	North Prairie	3000	unstaffed display at Harvest Fest with information on rain gardens/barrels, natural shorelines. Pet waste and fertilizers	
General Public	1			displays and handouts	Sep	2021	9-18-21	Retzer	4000	staffed outreach at Apple Harvests Fest with information on storm drains	
General Public	2			social media	Sep	2021	9-19-21		1	social media about pet waste for National Talk Like a Pirate Day	
Teachers and Students	3	5	healthy soils	presentation	Sep	2021	9-20-21	Waukesha	22	healthy soils as part of the Cooperative for Banting Elementary	
Teachers and Students	3	5	healthy soils	presentation	Sep	2021	9-22-21	Waukesha	50	healthy soils as part of the Cooperative for Prairie Elementary	
Teachers and Students	3	5	healthy soils	presentation	Sep	2021	9-23-21	Waukesha	20	healthy soils as part of the Cooperative for Banting Elementary	
Teachers and Students	1	3	5	water monitoring	field experience	Sep	2021	9-30-21	Eagleville	33	water testing with students at Eagleville Elementary in Jericho Creek
General Public	1			social media	Oct	2021	10-1-21		1	World Smile Day about adopting and caring for a storm drain	
contractors, Dev & Consul	7		open house	presentation	Oct	2021	10-5-21	Waukesha	54	Smart Salting open house at Waukesha County DPW facility	
Teachers and Students	3	5	healthy soils	presentation	Oct	2021	10-7-21	Eagleville	33	healthy soils program for Eagleville Elementary	
General Public	3	5	Nat Night Out	displays and handouts	Oct	2021	10-12-21	Oconomowoc	200	watershed model at National Night Out event	
Teachers and Students	1	3	5	career	presentation	Oct	2021	10-14-21	Pewaukee	54	Pewaukee High School Junior Achievement Career Day - covers pollution sources and prevention
General Public	1	3	5	I live in a watershed	presentation	Oct	2021	10-14-21	Mukwonago	5	watershed discussion with AmerCorps volunteers covering pollution sources and prevention
General Public	1	3	5	Green Home	presentation	Oct	2021	10-16-21	Retzer	2	part of fall workshops - covers environmentally friendly tips for the home inside and out
General Public	3		composting	presentation	Oct	2021	10-16-21	Retzer	9	part of fall workshops - learn to "recycle" yard waste by making compost and improve your soil health too	
Teachers and Students	3	5	healthy soils	presentation	Oct	2021	10-18-21	Waukesha	21	Healthy Soils program as part of Cooperative for Banting Elementary	
Teachers and Students	3	5	healthy soils	presentation	Oct	2021	10-18-21	Waukesha	20	Healthy Soils program as part of Cooperative for Banting Elementary	
General Public	2			social media	Oct	2021	10-24-21		1	post about pet waste disposal for National Make a Difference Day	
Teachers and Students	8	6	sustainable building	presentation	Oct	2021	10-25-21	WCTC	19	presentation to Sustainable Building class at WCTC covering BMP's and green infrastructure	
Teachers and Students	2	3	5	I Live/Healthy Soils	presentation	Oct	2021	10-26-21	Retzer	34	Cushing Elementary program with parts of both I Live in a Watershed and Healthy Soils
Teachers and Students	2	3	5	I Live/Healthy Soils	presentation	Oct	2021	10-26-21	Retzer	35	Cushing Elementary program with parts of both I Live in a Watershed and Healthy Soils
Contractors, Dev & Consul	7	3		presentation	Nov	2021	11-1-21	Wisconsin Dells	4	presentation for school grounds and facilities professionals on salt use, nutrient management and stormwater management	
General Public	7	3	United Way mini golf	displays and handouts	Nov	2021	11-4-21	Waukesha	80	sponsored a hole of mini golf with education on salt use and clean water highlighted in the course	
General Public	3	5	healthy soils	presentation	Nov	2021	11-6-21	Retzer	12	soil ninja hike at science fest covering healthy soil for a healthy environment	
General Public	2	3	5	Crystal	presentation	Nov	2021	11-6-21	Retzer	25	Crystal's clean Water adventure at science fest - hike to learn about stormdrains, sources of pollution and prevention
General Public	2	3	5	I Live in a watershed	presentation	Nov	2021	11-6-21	Retzer	30	I Live in a Watershed at science fest - covers pollution sources and prevention
General Public	2	3	5	science fest	displays and handouts	Nov	2021	11-6-21	Retzer	400	dissecting scope with macroinvertebrates and information about keeping water clean for science fest
General Public	1			stenciling	Nov	2021	11-13-21	North Prairie	20	Girl Scout troop marked drains in North Prairie	

General Public	2	3	5	I Live in a watershed	presentation	Nov	2021	11-15-21	Pewaukee	18	watershed program for girl scouts covering pollution sources and prevention
Teachers and Students	3	5		healthy soils	presentation	Nov	2021	11-16-21	Waukesha	24	healthy soils program as part of Cooperative for Hawthorne Elementary
Teachers and Students	3	5		healthy soils	presentation	Nov	2021	11-16-21	Waukesha	24	healthy soils program as part of Cooperative for Hawthorne Elementary
General Public	2	3	5	I Live in a watershed	presentation	Nov	2021	11-18-21	Waukesha	2	watershed program for 4-H at Expo as part of a special event covering pollution sources and prevention
Teachers and Students	2	3		water testing	presentation	Nov	2021	11-30-21	Sussex	30	water testing with AP Environmental Science students at Sussex Hamilton High School
Teachers and Students	2	3		water testing	presentation	Nov	2021	11-30-21	Sussex	20	water testing with AP Environmental Science students at Sussex Hamilton High School
General Public	7			tax inserts	displays and handouts	Dec	2021	12-21		68000	tax inserts provided to communities with recycling and smart salting information
Teachers and Students	1	3	5	career	presentation	Dec	2021	12-16-21	Muskego	44	Junior achievement career day for Muskego High School covering pollution sources and prevention
General Public	1				displays and handouts	Dec	2021	12-22 to 31-2	Pewaukee	200	storm sewer display with Adopt a Drain information at City Hall during tax time

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**MS4 Public Education and Outreach Plan for Waukesha County Partner Communities 2020 to 2024**

Permit Topic Areas	I&E Programs	Audience	Municipal I&E Plan Program Descriptions	2020	2021	2022	2023	2024	Municipal Activities (describe)	Passive or Active P/A
1. Illicit Discharge and Elimination	Storm Drain Stenciling	Teachers/Students, General Public	Continue to promote Storm Drain Stenciling (markers) especially as service learning project	X	X	X	X	X		A
	Adopt a Storm Drain	General Public, Businesses	Launch Adopt a Storm Drain Program with press release associated with World Water Day Set goal for # of adopters/year.	X	X	X	X	X		A
	social media	general public	media posts to help with launch of storm drain program	X	X	X	X	X		P
2. Household Hazardous Waste Disposal/Pet Waste Management/Vehicle Washing	HHW Collections	General Public	Partner with communities to host HHW collection events, website to help residents know how to dispose of items	X	X	X	X	X		A
	Watershed educational programs	Teachers/Students , general public	educational programs that cover pet waste and car washing	X	X	X	X	X		A
	Home Makeover: Green Edition program	General Public	program that covers pet waste, car washing and more	X	X	X	X	X		A
	Green Cleaning and Household Elf programs	General Public	program that covers toxic cleaners and safer alternatives	X	X	X	X	X		
	Displays and Handouts	General Public	Display that covers pet waste and car washing	X	X	X	X	X		P
	social media	General Public	timely posts on seasonal topics	X	X	X	X	X		P
	3. Yard Waste Management/Pesticide and Fertilizer Application	Watershed educational programs	Teachers/Students , general public	educational programs that cover leaf management and fertilizers	X	X	X	X	X	
Home Makeover: Green Edition program		General Public	program that covers leaf management and fertilizer use	X	X	X	X	X		A
Healthy Soils through Composting program		Teachers/Students	program that covers composting leaves and other yard waste	X	X	X	X	X		A

	Home Composting for Healthy Soils program	General Public	program that covers composting leaves and other yard waste	X	X	X	X	X		A
	Displays and Handouts	General Public	display with handouts that covers yard waste management and fertilizer use	X	X	X	X	X		P
	yard waste collection/processing	municipalities	work with municipalities to provide processing of yard wastes in partnership with Johnson Nursery	X	X	X	X	X		A
	social media	General public	timely posts on seasonal topics	X	X	X	X	X		P
4. Stream and Shoreline Management	Displays and Handouts	General Public	display with handouts that covers native plantings for shorelines	X	X	X	X	X		P
	Healthy Lakes Conference	Lakeshore property owners	Conference that covers shoreline restoration		X		X			A
5. Residential Infiltration	Rain Barrels/rain gardens workshop	General Public	program covering installation and use of rain gardens and rain barrels		X		X			A
	Displays and Handouts	General Public	Display that covers rain gardens and rain barrels as well as native plants	X	X	X	X	X		P
	Composting for Healthy Soils workshop	General Public	program that covers using compost to increase infiltration and water holding capacity of soils	X	X	X	X	X		A
	social media	General Public	timely posts on seasonal topics	X	X	X	X	X		
6. Construction Sites/Post-Construction Stormwater Management	Annual Stormwater Workshop	Developers, Builders, Contractors, Municipal Staff	workshop that covers a variety of topics regarding constructions sites and BMP management and maintenance	X	X	X	X	X		A
	Homeowners Association BMP maintenance workshop	Homeowners Associations	workshop that covers management and maintenance for BMP's	X	X	X	X	X		A
7. Pollution Prevention	Salt Management for Parking Lots Workshop	Businesses, Municipal staff, school facility staff	workshop that covers salting best management practices for sidewalks and parking lots	X			X			A

	Adopt a Storm Drain	Businesses	Launch Adopt a Storm Drain Program with press release associated with World Water Day Set goal for # of adopters/year.	X	X	X	X	X		A
	business resource webpage	businesses	launch website with resources specific to businesses	X	X	X	X	X		
8. Green Infrastructure/Low Impact Development	Green Infrastructure class	WCTC students	teach session in WCTC class on planning and development/building	X	X	X	X	X		A
	Annual Stormwater Workshop	Developers, Builders, Contractors, Municipal Staff	workshop that covers a variety of topics regarding constructions sites and BMP management and maintenance	X	X	X	X	X		A
9. Miscellaneous	Citizen Stream Monitoring	General Public	citizens trained to collect water quality data on local streams	X	X	X	X	X		A
	Municipal board/council meeting	General Public, elected officials	present annual workplan and report to public	X	X	X	X	X		A
	web page	General public	up to date information on pollution prevention and available programs	X	X	X	X	X		P