Department of Public Works

CITY OF PEWAUKEE

W240 N3065 Pewaukee Road
Pewaukee, WI 53072

DPW Main Office:	691-0804	Fax: 691-5729
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Engineering Division:	691-0804	Fax: 691-5729

PUBLIC WORKS COMMITTEE
MEETING NOTICE AND AGENDA
Thursday, April 22, 2021
6:00 PM

Common Council Chambers
W240N3065 Pewaukee Road ~ Pewaukee, Wisconsin

Call to Order and Pledge of Allegiance

1. Public Comment - Please limit your comments to 2 minutes. If further time for discussion is needed, please contact your local Alderperson prior to the meeting.
2. Communications
3. Discussion and Action Regarding the Minutes
4. Old Business
5. Storm Water Management Division
   - 5.1. Discussion and possible action regarding the 2020 Annual Report for the MS4 Permit.
   - 5.2. Discussion and possible action regarding Kathryn Court/Springdale Estates Flood Mitigation Project alternatives.
6. Water and Sewer Division
   - 6.1. Discussion and possible action regarding the Well 5 HMO Treatment Facility & Building update.
7. Status Reports
8. Engineering Division
   - 8.1. Discussion and possible action regarding a pedestrian crossing across Green Road from Littlefield Court to private Five Fields Park.
   - 8.2. Discussion and possible action to establish future meeting date and times.
   - 8.3. Discussion and possible action regarding Duplainville Road Reconstruction and Trail construction including Lindsay Road Trail construction.
   - 8.4. Discussion regarding Novus Training for Committee Members.
9. Highway Division
10. Public Comment - Please limit your comments to 2 minutes. If further time for discussion is needed, please contact your local Alderperson prior to the meeting.

11. Adjournment

Jeff Weigel
Director of Public Works

April 20, 2021

NOTICE

It is possible that members of other governmental bodies of the municipality may be in attendance to gather information that may form a quorum. At the above stated meeting, no action will be taken by any governmental body other than the governmental body specifically referred to above in this notice.

Any person who has a qualifying disability under the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible format must contact the DPW Main Office, at (262) 691-0804 by 12:00 p.m. the Tuesday prior to the meeting so that arrangements may be made to accommodate your request.

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 5.1.

DATE: April 22, 2021

DEPARTMENT: PW - Stormwater

PROVIDED BY:

SUBJECT:

Discussion and possible action regarding the 2020 Annual Report for the MS4 Permit.

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

2020 Annual MS4 Report Memo

2020 Annual MS4 Report

Department of Public Works
Engineering Division
W240N3065 Pewaukee Road
Pewaukee, WI 53072
(262) 691-0804 Fax: (262) 691-5720

Memorandum

To: **Magdelene Wagner, P.E.**

From: **Richard J. Wirtz, P.E., CFM**

Subject: **City of Pewaukee Annual MS4 Report for 2020**

Date: **March 31, 2021**

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 whom must report on specific program components and the measureable 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 three 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, C, D and E were submitted to the DNR along with the City's eReport. A copy of the 2020 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, 2021

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 and document the findings. The measurable goal of the Spills Response program is to document and report on the spills reported to the City.

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 a diesel fuel leak on August 31, 2020. Approximately 50 gallons of fuel had spread over a 150 square foot area of pavement on Spring Hill Drive. The fuel did not enter into the City's MS4 system or enter any waterways. Ten 5 gallon bags of oil dry was used to mitigate the spill along with additional oil dry provided by the contractor. The Department of Natural Resources (DNR) and the City Department of Public Works were both contacted. The contractor was responsible for cleanup of the oil absorbent products applied to the roadway which was verified by the PFD later that day. Follow up conversations were conducted with the DNR and additional evaluations were made by the PFD to evaluate staining of the roadway and any remaining odor.

City Staff responded to a potential illicit discharge to the road side ditch system along Lexington Drive. A resident was complaining of a sewage odor coming from the water in the ditch line. The complaint was initially investigated by the City's Water and Sewer Utility Staff before forwarding to Engineering Staff. The discharge originated in the City of Waukesha and was being investigated by their Staff. At the time City of Pewaukee Engineering Staff conducted their field evaluation, there was no odor present within the ditch lines and all remaining water was clear. The City of Pewaukee was later informed by the City of Waukesha that the discharge was pool water from a multi-family development in the City of Waukesha.

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 2020. The City's MS4 map needs to be adjusted based upon inventory data collected on the City's storm sewer system between 2014 and 2016. 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 in 2021/2022. 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 the ordinance 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 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 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 4 erosion control permits for new development and conducted approximately 389 compliance inspections in 2020. Eight Notices of Noncompliance, four Notices of Violation, one Enforcement Conference and $8500.00 in Recommendations for Fines were issued during the reporting year.

The Building Inspection Department conducted approximately 209 erosion bond and 108 erosion control inspections in 2020.

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 site. The City's ordinance generally requires the discharge from the 1, 2, 10 and 100-year storm events from the post developed site be at or below the 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 2 permits for post-construction site discharges from new development in 2020. City Staff and consultants have conducted reviews of submittals for 6 different proposed developments for compliance with the post-construction site storm water management requirements of the Municipal Code during the reporting year.

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 generally 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: drafting the procedures for the inspection of the existing storm water management facilities; and a program for the tracking of inspections, maintenance and violations 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. A copy of the draft program is included as Item B along with copies of the inspection forms created thus far.

Pollution Prevention

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

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 8 municipal facilities between Wagner Park, the City Hall Campus and the newly constructed Pewaukee Sports Complex.

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 adequately conduct inspections of the 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 two municipal facilities located in Wagner Park are inspected annually by City Staff. Five of the remaining six facilities (4 facilities at the Pewaukee Sports Complex, 1 bioretention facility at Wagner Park and 1 bioretention facility at the City Hall Campus site) were inspected in 2020, the exception being the bioretention facility at Wagner Park. Asbuilt surveys of the Sports Complex ponds, the City Hall biofiltration device and the Wagner Park biofiltration device were not completed during the reporting year.

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 28 pond asbuilts, 30 maintenance agreements and 92 storm water management plans have been located and scanned into the City's network.

Inspections of the 2 wet ponds at Wagner Park, 1 wet pond at the Pewaukee Sports Complex and the City Hall biofiltration device show the facilities are in need of maintenance activities. City Staff also conducted 2 inspections of privately owned storm water management ponds and received an additional 6 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 components which are in process of being prepared 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 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 26 tons of solids were removed as a result of catch basin cleanings in 2020. Additionally, 13 storm sewer structures were repaired by the Highway Department in 2020. The City released a contract in late 2020 for the repair or replacement of approximately 228 storm sewer structures. As of the end of 2020, approximately 48 storm sewer structures had been repaired or replaced.

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 has been occurring annually over the last several 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. 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 96 hours were spent sweeping 804 miles of streets in 2020. This effort removed approximately 68.2 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 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. One City Staff member from the Engineering Department attended the Wisconsin Salt Wise training over the winter in 2021 and 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 number 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.

The City implemented the use of salt brines with the 2011-2012 winter season. Prior to that 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".

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

*Total includes salt and salt/sand mixture.

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 shown.

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 2020-2021 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 2020-2021 winter season is calculated to be 210 tons lower than the previous season with approximately 2250 total tons of salt used. This translates to approximately 12.2 tons per lane mile of salt applied to City Streets which is 1.2 tons per lane mile lower than the previous year. By comparison, Waukesha County was reported to have utilized approximately 13.7 tons of salt/lane mile for the 2019-2020 winter season which was 0.3 tons per lane mile higher 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. The winter management summary tables for each year of the program are attached to this report as Item C.

Describe Any Planned Changes to the Program

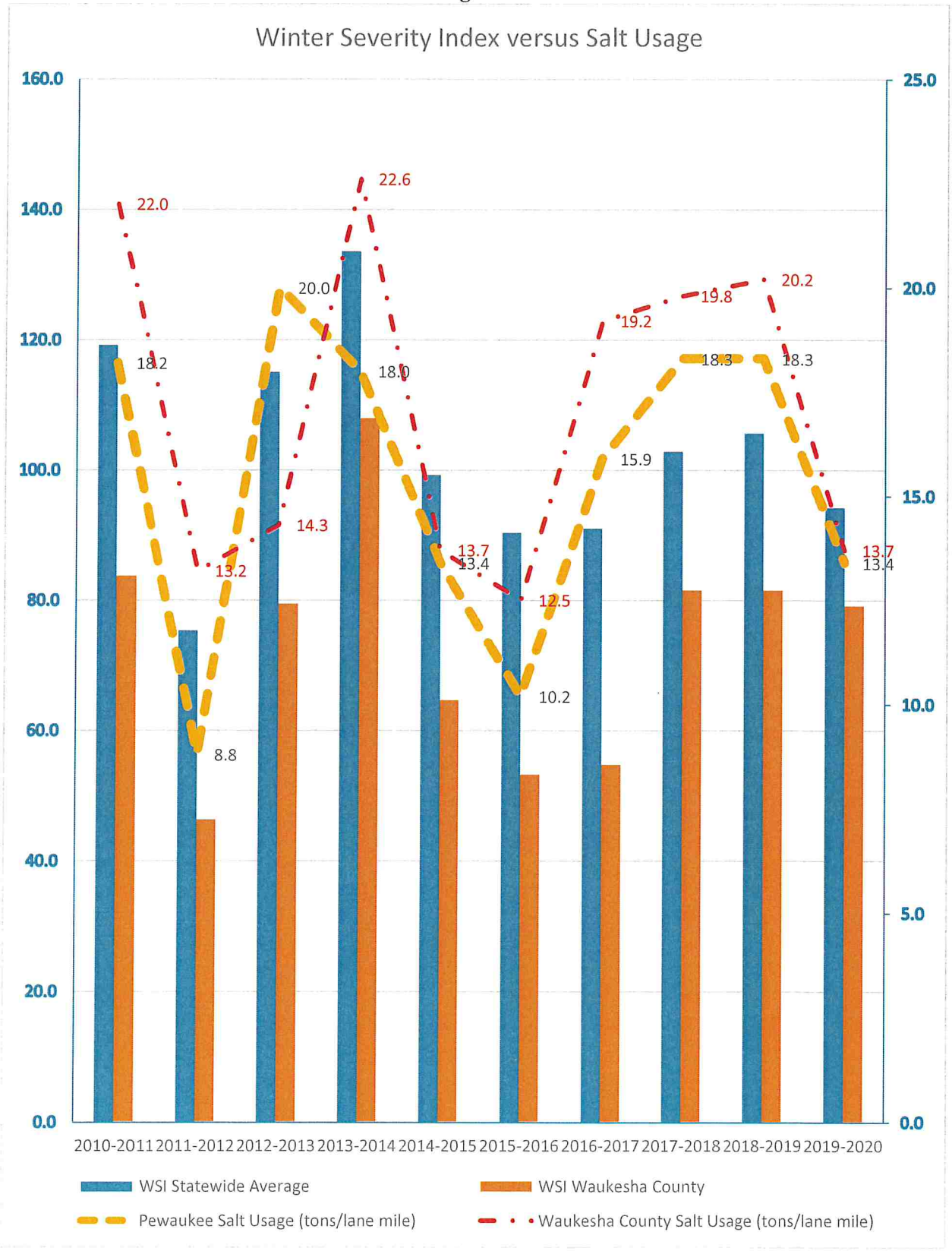
None at this time.

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**
Approx. Total Snowfall (inches)	61.9	29.6	45.0	63.4	43.0	39.1	37.6	46.7	55.8	36.7	47.0
Number of Measurable Events	45	26	31	52	38	25	23	36	40	31	28
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
Total Tons of Salt	3203*	1558	3548	3174	2396	1881	2914	3372	3376	2460	2250
Total Hours Worked	NA	596	1272	1863	903	812	1171	1215	1564	1213	1230
Tons of Salt per lane mile of Road	**18.2**	**8.8**	**20.0**	**18.0**	**13.4**	**10.2**	**15.9**	**18.3**	**18.3**	**13.4**	**12.2**
Average Pavement Temp. (degrees F)	NA	NA	NA	20.1	20.9	26.7	25.3	23.1	26.4	28.3	16.8
WisDOT Statewide WSI	**119.2**	**75.4**	**115.1**	**133.6**	**99.3**	**90.4**	**91.1**	**102.9**	**105.7**	**94.3**	**
WSI for Waukesha County	**83.7[a]**	**46.3[a]**	**79.4[a]**	**107.9**	**64.6**	**53.2**	**54.7**	**81.5[b]**	**81.5[b]**	**79.1**	**
Waukesha County Tons of Salt per Lane mile	**22.0**	**13.2**	**14.3**	**22.6**	**13.7**	**12.5**	**19.2**	**19.8**	**20.2**	**13.7**	**

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

Figure 1


Winter Severity Index versus Salt Usage
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
25.0
20.0
15.0
10.0
5.0
0.0
22.0
13.2
8.8
14.3
20.0
22.6
18.0
13.7
13.4
12.5
10.2
19.2
15.9
19.8
18.3
20.2
18.3
13.7
13.4
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
WSI Statewide Average
WSI Waukesha County
Pewaukee Salt Usage (tons/lane mile)
Waukesha County Salt Usage (tons/lane mile)

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 931 tons of material. The City's waste hauler reported collecting approximately 6.3 tons of yard waste in 2020.

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 handled. 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 2020.

Describe Any Planned Changes to the Program

A facility plan of the Public Works Highway Department was prepared for the City in 2020 to evaluate options for upgrading the existing facility and improvements to operations. To date, it is anticipated to construct a new highway garage at an offsite location. The offsite location would also include provisions for recycling operations, salt brine and salt storage, cold storage and a refueling station. The relocation of the facility and repurposing of the current City Hall Campus site will necessitate the preparation of a new SWPPP.

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 575,000 gallons of municipal water.

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 number of its roadside swales of sediment. Last year the Highway Department cleaned approximately 3632 feet of roadside swales which netted roughly 729 tons of soil.

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 2020. These included:

- 2020 Waukesha County Storm Water Management Workshop, May 5-7, 2020 (2 attendees)
- NASECA Construction Site Erosion Control and Storm Water Permit Compliance Training, Dec. 10-11, 2020 (1 attendee)
- Ruekert-Mielke, Inc. webinar, Erosion and Sediment Control Best Management Practices, Apr. 22, 2020 (1 attendee)
- Ruekert-Mielke, Inc. webinar, The MS4 Da Vinci Code, May 20, 2020 (2 attendees)
- NASECA-WI's 17th Annual Conference and Trade Show, Feb. 5-6, 2020 (1 attendee)

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 E contains the County's 2020 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 general 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 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.**

Reporting Information

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

Project Name:	2020 City of Pewaukee Annual Report
County:	Waukesha
Municipality:	Pewaukee, City
Permit Number:	S050105
Facility Number:	30726
Reporting Year:	2020

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 *(S050075-03 General Permit and S058416-04 Madison Area Group Permit shall have a written storm water management program that describes in detail how the permittee intends to comply with the permit requirements for each minimum control measure. Updated programs are due to the department by March 31, 2021.)*
    - 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 *(S050075-03 General Permit and S058416-04 Madison Area Group Permit 2.6.1 - inventory due to the department by March 31, 2021.)*
      - Municipal Storm Water Management Facility (BMP) Inspection and Maintenance Plan *(S050075-03 General Permit and S058416-04 Madison Area Group Permit 2.6.2 – document due to the department by March 31, 2021.)*
  - 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
☐ IDDE Personnel Procedure Manual

Individual with responsibility for: (Check all that apply)	☑ 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.

Event Start Date	1/1/2020
Project/Event Name	See Waukesha County Education Group Spreadsheet for regional effort
Delivery Mechanism	Other *Active

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
☑ Illicit discharge detection and elimination ☑ Household hazardous waste disposal/pet waste management/vehicle washing ☑ Yard waste management/pesticide and fertilizer application ☑ Stream and shoreline management ☑ Residential infiltration ☑ Construction sites and post-construction storm water management ☑ Pollution prevention ☑ Green infrastructure/low impact development ☐ Other:	☑ General Public ☐ Public Employees ☐ Residents ☑ Businesses ☑ Contractors ☑ Developers ☐ Industries ☐ Other	101 +	◉ Yes ○ 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 Waukesha County Education Group 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.

Event Start Date	1/1/2020
Project/Event Name	Ongoing discussions regarding City storm water and erosion control requir...
Delivery Mechanism	Other

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)

☐ MS4 Annual Report ☐ Storm Water Management Program ☑ Storm Water related ordinance ☐ Other:	☐ General Public ☐ Public Employees ☐ Residents ☐ Businesses ☑ Contractors ☑ Developers ☐ Industries ☑ Other	11-50	○ Yes ◉ 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.

Event Start Date	5/1/2020
Project/Event Name	WAV
Delivery Mechanism	Stream monitoring

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	☑ General Public ☐ Public Employees ☐ Residents ☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	11-50	◉ Yes ○ No

Event Start Date	7/1/2020
Project/Event Name	Adopt A Drain
Delivery Mechanism	Storm drain stenciling

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	☑ General Public ☐ Public Employees ☐ Residents ☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	51-100	◉ Yes ○ No

Event Start Date	3/1/2020
Project/Event Name	Green Home Make Over
Delivery Mechanism	Public Workshop

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	☑ General Public ☐ Public Employees ☐ Residents ☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	51-100	◉ Yes ○ No

Event Start Date	5/5/2020
Project/Event Name	Storm Water Workshop
Delivery Mechanism	Presentation of Storm Water Information

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	☐ General Public ☐ Public Employees ☐ Residents ☐ Businesses ☑ Contractors ☑ Developers ☐ Industries ☐ Other	101 +	◉ Yes ○ 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

Minimum Control Measures - Section 3 : Complete

3. Illicit Discharge Detection and Elimination

a.	How many total outfalls does the municipality have?	126	☐ Unsure
b.	How many outfalls did the municipality evaluate as part of their routine ongoing field screening program?	20	☐ Unsure
c.	From the municipality's routine screening, how many were confirmed illicit discharges?	0	☐ Unsure
d.	How many illicit discharge complaints did the municipality receive?	1	☐ Unsure
e.	From the complaints received, how many were confirmed illicit discharges?	0	☐ Unsure
f.			☐ Unsure

How many of the identified illicit discharges did the municipality eliminate in the reporting year (from both routine screening and complaints)? 0

(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 0
- ☑ Written Warning (including email) 0
- ☑ Notice of Violation 0
- ☑ Civil Penalty/ Citation 0

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

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? 11 ☐ 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? 4 ☐ Unsure

c. How many erosion control inspections did the municipality complete in the reporting year? 389 ☐ 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) 8
- ☑ Notice of Violation 4
- ☑ Civil Penalty/ Citation 2
- ☑ Stop Work Order 0
- ☐ Forfeiture of Deposit
- ☑ Other - Describe below 1

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

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 ? 2 ☐ 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 municipality utilize privately owned storm water management facilities in its pollutant reduction analysis? ○ Yes ◉ No ☐ Unsure

c. If Yes, How many privately owned storm water management facilities were inspected in the reporting year ? 8 ☐ Unsure

Inspections completed by private land owners 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

☐ No Authority	
☐ Verbal Warning	
☑ Written Warning (including email)	0
☑ Notice of Violation	0
☑ Civil Penalty/ Citation	0
☐ Forfeiture of Deposit	
☑ Complete Maintenance	0
☑ Bill Responsible Party	0
☐ Other - Describe below	

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*.

The City's latest WinSLAMM analysis showed that road side swales alone provided a 31 percent reduction in TSS. If all of the wet detention facilities within the City were included the TSS reduction would be 59 percent.

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 ? 8 ☐ Unsure

b. How many new municipally owned storm water management facilities were installed in the reporting year ? 0 ☐ Unsure

c. How many municipally owned storm water management facilities were inspected in the reporting year? 7 ☐ Unsure

d. What elements are looked at during inspections (250 character limit)?

Embankments, outlets, vegetaion status, erosion, pretreatment, accumulated trash and debris, etc.

e. How many of these facilities required maintenance? 4 ☐ 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? 1 ☐ Unsure

h. How many inspections of municipal properties have been conducted in the reporting year? 1 ☐ 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? 68 ☐ 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? 26 ☐ 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? 185 ☐ 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	0	0	440	1000	800	0

Liquids (gallons) (ex. brine)

	Oct	Nov	Dec	Jan	Feb	Mar
Brine	0	0	2268	4751	800	0

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

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, NASECA Annual Conference, NASECA Construction Site Erosion Control Training and consultant sponsored MS4 seminars.

When: various times in 2020

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 attached 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 Attached City of Pewaukee Annual Report

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*.

See attached City of Pewaukee Annual Report

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.

Annual Expenditure Reporting Year	**Budget** Reporting Year	**Budget** Upcoming Year	**Source of Funds**
Element: Public Education and Outreach			
1466	1500	1500	Storm water utility
Element: Public Involvement and Participation			
1466	1500	1500	Storm water utility
Element: Illicit Discharge Detection and Elimination			
2610	1370	1430	Storm water utility
Element: Construction Site Pollutant Control			
75790	25161	36575	Other
Element: Post-Construction Storm Water Management			
30290	33161	44575	Other
Element: Pollution Prevention			
639761	729226	824101	Storm water utility
Other (describe)			
			Select...

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:

Pewaukee River below the Village Dam was delisted (WBIC 771700)

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:

Pewaukee River above the Village Dam was 303d listed (WBIC 771800)

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_EO

File Attachment — 2020-ms4-reporting.xlsx

AR_IP

File Attachment — 2020-2024MS4PublicEducationandOutreachPlan.pdf

AR_Other

File Attachment — 20210331_CityofPewaukeeAnnualReportfor2020.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 2021-03-31T15:39:01

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

Draft Post-Construction Site Storm Water Management Program and Inspection Forms

City of Pewaukee Post-Construction Storm Water Management Program

Introduction

The City of Pewaukee is required under its WPDES permit to continue to implement and enforce its program to control the quantity and quality of discharges from areas of new development and redevelopment. The City is also required to establish measurable goals for its post construction storm water management program. More specifically, the City's program at a minimum is required to:

- Enforce the applicability and jurisdiction of Chapter 19 of the Municipal Code.
- Enforce the design criteria, standards and specifications for the design and implementation of post-construction storm water management control practices which meet or exceed the criteria of those approved by the Department of Natural Resources.
- Review and approve plans that meet or exceed the City's Post Construction Storm Water Management Ordinance (Chapter 19 of the Municipal Code), the City of Pewaukee Technical Standards and the Conservation Practice Standards approved by the Department of Natural Resources.
- Update and enforce the City's Post Construction Storm Water Management Ordinance to meet or exceed the requirements of NR 151.121-NR 151.128 and 151.241-NR 151.249 of the Wisconsin Administrative Code.
- Enforce storm water management plan requirements which meet or exceed those contained in NR 216.47 of the Wisconsin Administrative Code.
- Enforce the permitting requirements, procedures and fees established in Chapter 19 of the Municipal Code.
- Establish written procedures to track and enforce the long-term maintenance of storm water management facilities implemented to meet the applicable post-construction performance standards of NR 216 and NR 151 of the Wisconsin Administrative Code and Chapter 19 of the Municipal Code.

The purpose of this document is to memorialize the aspects, procedures, forms and records of the City's program to ensure adequate and consistent regulation, inspection and enforcement of the City's ordinance in compliance with the City's WPDES permit.

Ordinance

The City is granted authority to adopt a post-construction storm water management ordinance under §62.234 Wis. Stats. The City Engineer or designee is granted the authority by the Common Council to administer and enforce the provisions of the ordinance. Portions of the ordinance have been revised from time to time to comply with the applicable provisions of NR 216 and NR 151 as required under the City's WPDES permit.

The purpose and intent of the post-construction storm water management ordinance is to establish requirements for post-construction runoff that will minimize the amount of sediment and other pollutants carried by runoff to waters of the state and that will diminish the threats to public health, safety, welfare and the aquatic environment. Specific purposes of the ordinance are to:

- Further the maintenance of safe and healthful conditions

- Prevent and control water pollution.
- Prevent and control the adverse effects of storm water.
- Control the exceedance of the safe capacity of existing drainage facilities and receiving water bodies.
- Prevent undue channel erosion and control increases in the scouring and transportation of particulate matter.
- Minimize the amount of pollutants discharged from the municipal separate storm sewer system to protect waters of the state.
- Prevent conditions that endanger downstream property.

The ordinance applies to any post-construction site after final stabilization that had one or more acres of land disturbing construction activity. The post-construction storm water management ordinance does not apply to:

- A post-construction site with less than 10 percent connected imperviousness based on the area of land disturbance, provided the cumulative area of all impervious surfaces is less than one acre. However, the exemption in this paragraph does not include an exemption from the protective area standard in s. NR 151.125 Wis. Adm. Code and this ordinance.
- Agricultural facilities and practices.
- Underground utility construction but not including the construction of above ground structures associated with utility construction.

Any person or entity subject to the post-construction storm water management requirements of the City's ordinance must submit an application for a permit accompanied by a storm water management plan and maintenance agreement. The storm water management plan shall be prepared to meet the requirements of Section 19.09 and 19.12 of the City's Municipal Code. The maintenance plan shall be prepared to meet the requirements of Section 19.13 of the City's Municipal Code. A copy of the of the permit application is contained in Appendix A and a copy of the Chapter 19 of the Municipal Code (Construction Site Erosion Control, Post-Construction Storm Water Management, and Illicit Discharge Ordinance) is contained in Appendix B.

Plan Review

The storm water management plan, maintenance plan and associated grading plans and details are subject to review by the City's Engineering Staff or Engineering Consultant. Best Management Practices (BMP's) incorporated into the plans are reviewed for conformance with the design criteria, standards and specifications of:

- The design guidance and technical standards identified or developed by the Wisconsin Department of Natural Resources under subchapter V of NR 151, Wis. Administrative Code.
- Other such standards approved by the City Engineer or designee.
- The City of Pewaukee Technical Standards (contained in Appendix C).

Storm water management plans and practices shall comply with the performance standards identified in Section 19.09 of the Municipal Code. In general storm water management plans will: employ practices designed, installed and maintained to control total suspended solids in runoff from the post-construction site; to maintain or reduce the peak rate of runoff from the post-developed site as compared to pre-settlement conditions; design, install and maintain practices to infiltrate runoff to the maximum extent practicable; enforce wetland protective areas; and require BMP's for fueling and vehicle maintenance areas. The

minimum plan requirements are identified in Section 19.12 and the minimum maintenance agreement requirements are identified in Section 19.13 of the Municipal Code. The City has a standard storm water management practices maintenance agreement to be used as a template. Approved agreements are to be signed by both the developer and the City and recorded at the Waukesha County Register of Deeds. A copy of the recorded agreement should be provided to the City for its files.

The Waukesha County Register of Deeds requires documents submitted for recording be legible and reproducible. The maximum page size of the documents is to be either 8.5x11 or 8.5x14 inches. The clarity of full-size drawings which are reduced to fit on the page sizes acceptable to the County is often poor. Should the County reject the recording the agreement for not being legible or reproducible, the City can provide a certification to the County stating the City has legible copies of all figures within the agreement (generally full-size documents). Care must be taken when providing the certification that any full-size figures provided are exact copies of those in the agreement. All copies of the agreements and associated figures shall be kept in a central and easily accessible location and must be maintained for the life of the practices. Currently, that location is within the office of the Chief Engineer-Utilities.

Submitted storm water management plans and maintenance agreements which do meet the minimum plan requirements, performance standards or technical and design criteria shall not be accepted. Plans and maintenance agreements which are not accepted will be temporarily retained until such time as the development has met the requirements of the City. A letter documenting the plan deficiencies (see sample letter in Appendix D) will be provided to the applicant and their engineer. Plans and maintenance agreements meeting the requirements of the Municipal Code will be accepted and a post construction storm water permit and letter issued to the applicant (see sample letter and permit in Appendix E). Only accepted plans and maintenance agreements will be retained for City files. Previously submitted plans and agreements will be disposed of once the permits have been issued.

Permitting

Post construction storm water management permits require the permittee or responsible party to generally: design and install the storm water management measures in accordance with the accepted plans; notify the City Engineer before commencing work in conjunction with the storm water management plan and after completion of the practices; complete the storm water management practice installations; provide a certified as-built by a licensed professional engineer documenting the completed installations are in accordance with the accepted plans and pass an inspection by the City Engineer; Notify the City Engineer of any significant modifications intended to be made to the accepted storm water management plan; and to maintain all installed storm water management practices consistent with the terms of the maintenance agreement. Permits for post construction site storm water management are valid from the date of issuance through the date the City Engineer notifies the permittee that all practices have passed a final inspection.

Long Term Maintenance and Inspection of Permitted Facilities

Enforcement

Filing, Records Retention and Database

City of Pewaukee Public Works Bioretention Pond Inspection Report

Facility ID: Location:
Facility/Site Contact Person:
Mailing Address:
Email Address:
Phone Number:

Name of Person Conducting the Inspection:	Inspection Date:
Tempertaure:_____°F	Inspection Time:_____ ☐AM ☐PM
Weather Conditions: ☐Sunny ☐Partly Sunny ☐Partly Cloudy ☐Cloudy ☐Rain ☐Freezing Rain or Sleet ☐Snow ☐Windy ☐Other:_____	
Rain in Last 48 Hours ☐ Yes ☐ No ☐ N/A If yes:	Amount in inches:_____ and timing:_____
	Standing water present: ☐ Yes ☐ No ☐ N/A If yes, describe color, odor, and sheen: _____ _____ _____
Pretreatment: ☐ Vegetated Filter Strip ☐ Swale ☐ Forebay ☐ None ☐ Other:_____	
Plan Available: ☐ As-Built ☐ Site ☐ No plan available	
Other Site Conditions:	

Pretreatment

1. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
2. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
3. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
5. Bypassing flow	☐ Yes ☐ No ☐ N/A

Embankments

1. Visible cracks or sinkholes	☐ Yes ☐ No ☐ N/A
2. Unwanted trees or woody vegetation	☐ Yes ☐ No ☐ N/A
3. Animal burrows	☐ Yes ☐ No ☐ N/A
4. Vegetation inadequately maintained	☐ Yes ☐ No ☐ N/A
5. Unhealthy vegetative cover	☐ Yes ☐ No ☐ N/A
6. Seepage	☐ Yes ☐ No ☐ N/A
7. Sinkholes	☐ Yes ☐ No ☐ N/A

Inlets

1. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
2. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
3. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
5. Poor structural condition	☐ Yes ☐ No ☐ N/A

Vegetation

1. Undesirable vegetation	☐ Yes ☐ No ☐ N/A
2. Desired vegetation is dying or receding due to climate, competition or disease	☐ Yes ☐ No ☐ N/A

Bioretention Area

1. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
2. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
3. Erosion/undercutting	☐ Yes ☐ No ☐ N/A
4. Animal burrows or sinkholes are present	☐ Yes ☐ No ☐ N/A
5. Topsoil is covered with sediment	☐ Yes ☐ No ☐ N/A
6. Mulch is compacted	☐ Yes ☐ No ☐ N/A

Outlets and Overflow Structures

1. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
2. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
3. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
4. Poor structural condition	☐ Yes ☐ No ☐ N/A
5. Visible leaks/joint failure	☐ Yes ☐ No ☐ N/A
6. Insufficient depth for pond to function correctly	☐ Yes ☐ No ☐ N/A

Emergency Spillway

1. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
2. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
3. Spillway obstructed	☐ Yes ☐ No ☐ N/A

Miscellaneous Feature

1. Restricted access	☐ Yes ☐ No ☐ N/A
2. Lack of maintenance	☐ Yes ☐ No ☐ N/A
3. Issues with additional features	☐ Yes ☐ No ☐ N/A
4. Unapproved modification	☐ Yes ☐ No ☐ N/A

Additional Notes

Attached Pictures or Sketches:

Inspection Results:

☐ Pass

The dry pond is operating without observed issues.

☐ Pass with conditions

The dry pond is operating as intended. Issues exist and should be addressed; however they do not currently prevent the pond from operating as intended.

☐ Fail

Issues exist and are preventing the dry pond from operating as intended.

Inspector certifies accuracy of information:

Inspector Signature: _____

Date of Inspection: _____

City of Pewaukee Public Works Dry Pond Inspection Report

Facility ID: Location:
Facility/Site Contact Person:
Mailing Address:
Email Address:
Phone Number:

Name of Person Conducting the Inspection:	Inspection Date:
Tempertaure:_____°F	Inspection Time:_____ ☐AM ☐PM
Weather Conditions: ☐Sunny ☐Partly Sunny ☐Partly Cloudy ☐Cloudy ☐Rain ☐Freezing Rain or Sleet ☐Snow ☐Windy ☐Other:_____	
Rain in Last 48 Hours ☐ Yes ☐ No ☐ N/A	If yes, amount in inches:_____ and timing:_____
Pretreatment: ☐ Vegetated Filter Strip ☐ Swale ☐ Forebay ☐ None ☐ Other:_____	
Plan Available: ☐ As-Built ☐ Site ☐ No plan available	
Other Site Conditions:	

Pretreatment

1. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
2. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
3. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
5. Bypassing flow	☐ Yes ☐ No ☐ N/A

Embankments

1. Visible cracks or sinkholes	☐ Yes ☐ No ☐ N/A
2. Unwanted trees or woody vegetation	☐ Yes ☐ No ☐ N/A
3. Animal burrows	☐ Yes ☐ No ☐ N/A
4. Vegetation inadequately maintained	☐ Yes ☐ No ☐ N/A
5. Unhealthy vegetative cover	☐ Yes ☐ No ☐ N/A
6. Seepage	☐ Yes ☐ No ☐ N/A

Inlets

1. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
2. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
3. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
5. Displacement of filter fabric	☐ Yes ☐ No ☐ N/A
6. Poor structural condition	☐ Yes ☐ No ☐ N/A

Basin or Bowl Area

1. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
2. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
3. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
5. Animal burrows or sinkholes	☐ Yes ☐ No ☐ N/A
6. Standing water (at least five days after most recent storm)	☐ Yes ☐ No ☐ N/A

Outlets and Overflow Structures

1. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
2. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
3. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
4. Poor structural condition	☐ Yes ☐ No ☐ N/A
5. Visible leaks/joint failure	☐ Yes ☐ No ☐ N/A
6. Displacement of filter fabric	☐ Yes ☐ No ☐ N/A

Emergency Spillway

1. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
2. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
3. Spillway obstructed	☐ Yes ☐ No ☐ N/A

Miscellaneous Feature

1. Restricted access	☐ Yes ☐ No ☐ N/A
2. Lack of maintenance	☐ Yes ☐ No ☐ N/A
3. Issues with additional features	☐ Yes ☐ No ☐ N/A
4. Unapproved modification	☐ Yes ☐ No ☐ N/A

Additional Notes

Attached Pictures or Sketches:

Inspection Results:

☐ Pass

The dry pond is operating without observed issues.

☐ Pass with conditions

The dry pond is operating as intended. Issues exist and should be addressed; however they do not currently prevent the pond from operating as intended.

☐ Fail

Issues exist and are preventing the dry pond from operating as intended.

Inspector certifies accuracy of information:

Inspector Signature: _____

Date of Inspection: _____

City of Pewaukee Public Works Infiltration Pond Inspection Report

Facility ID: Location:
Facility/Site Contact Person:
Mailing Address:
Email Address:
Phone Number:

Name of Person Conducting the Inspection:	Inspection Date:
Tempertaure:_____°F	Inspection Time:_____ ☐AM ☐PM
Weather Conditions: ☐Sunny ☐Partly Sunny ☐Partly Cloudy ☐Cloudy ☐Rain ☐Freezing Rain or Sleet ☐Snow ☐Windy ☐Other:_____	
Rain in Last 48 Hours ☐ Yes ☐ No ☐ N/A If yes:	Amount in inches:_____ and timing:_____
	Standing water present: ☐ Yes ☐ No ☐ N/A If yes, describe color, odor, and sheen: _____ _____ _____
Pretreatment: ☐ Vegetated Filter Strip ☐ Swale ☐ Forebay ☐ None ☐ Other:_____	
Plan Available: ☐ As-Built ☐ Site ☐ No plan available	
Other Site Conditions:	

Pretreatment

1. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
2. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
3. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
5. Bypassing flow	☐ Yes ☐ No ☐ N/A

Embankments

1. Visible cracks or sinkholes	☐ Yes ☐ No ☐ N/A
2. Unwanted trees or woody vegetation	☐ Yes ☐ No ☐ N/A
3. Animal burrows	☐ Yes ☐ No ☐ N/A
4. Vegetation inadequately maintained	☐ Yes ☐ No ☐ N/A
5. Unhealthy vegetative cover	☐ Yes ☐ No ☐ N/A
6. Seepage	☐ Yes ☐ No ☐ N/A
7. Sinkholes	☐ Yes ☐ No ☐ N/A

Inlets

1. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
2. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
3. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
5. Poor structural condition	☐ Yes ☐ No ☐ N/A

Vegetative Basin

1. Undesirable non-native vegetation	☐ Yes ☐ No ☐ N/A
2. Desired vegetation is dying or receding	☐ Yes ☐ No ☐ N/A
3. Debris/Pollution/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Shoreline erosion	☐ Yes ☐ No ☐ N/A
5. Outfall erosion	☐ Yes ☐ No ☐ N/A
6. Pond walls in poor condition	☐ Yes ☐ No ☐ N/A
7. Encroachment into easement or pond area by other activities	☐ Yes ☐ No ☐ N/A

Outlets and Overflow Structures

1. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
2. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
3. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
4. Poor structural condition	☐ Yes ☐ No ☐ N/A
5. Visible leaks/joint failure	☐ Yes ☐ No ☐ N/A
6. Inappropriate depth for pond to function correctly	☐ Yes ☐ No ☐ N/A

Emergency Spillway

1. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
2. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
3. Spillway obstructed	☐ Yes ☐ No ☐ N/A

Miscellaneous Feature

1. Restricted access	☐ Yes ☐ No ☐ N/A
2. Lack of maintenance	☐ Yes ☐ No ☐ N/A
3. Issues with additional features	☐ Yes ☐ No ☐ N/A
4. Unapproved modification	☐ Yes ☐ No ☐ N/A
5. Invasive species	☐ Yes ☐ No ☐ N/A

Additional Notes

Attached Pictures or Sketches:

Inspection Results:

☐ Pass

The dry pond is operating without observed issues.

☐ Pass with conditions

The dry pond is operating as intended. Issues exist and should be addressed; however they do not currently prevent the pond from operating as intended.

☐ Fail

Issues exist and are preventing the dry pond from operating as intended.

Inspector certifies accuracy of information:

Inspector Signature: _____

Date of Inspection: _____

City of Pewaukee Public Works Wet Pond Inspection Report

Facility ID: Location:
Facility/Site Contact Person:
Mailing Address:
Email Address:
Phone Number:

Name of Person Conducting the Inspection:	Inspection Date:
Tempertaure:_____°F	Inspection Time:_____ ☐AM ☐PM
Weather Conditions: ☐Sunny ☐Partly Sunny ☐Partly Cloudy ☐Cloudy ☐Rain ☐Freezing Rain or Sleet ☐Snow ☐Windy ☐Other:_____	
Rain in Last 48 Hours ☐ Yes ☐ No ☐ N/A	If yes, amount in inches:_____ and timing:_____
Pretreatment: ☐ Vegetated Filter Strip ☐ Swale ☐ Forebay ☐ None ☐ Other:_____	
Plan Available: ☐ As-Built ☐ Site ☐ No plan available	
Other Site Conditions:	

Pretreatment

1. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
2. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
3. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
5. Bypassing flow	☐ Yes ☐ No ☐ N/A

Embankments

1. Visible cracks or sinkholes	☐ Yes ☐ No ☐ N/A
2. Unwanted trees or woody vegetation	☐ Yes ☐ No ☐ N/A
3. Animal burrows	☐ Yes ☐ No ☐ N/A
4. Vegetation inadequately maintained	☐ Yes ☐ No ☐ N/A
5. Unhealthy vegetative cover	☐ Yes ☐ No ☐ N/A
6. Seepage	☐ Yes ☐ No ☐ N/A

Inlets

1. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
2. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
3. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
5. Displacement of filter fabric	☐ Yes ☐ No ☐ N/A
6. Poor structural condition	☐ Yes ☐ No ☐ N/A

Permanent Pool

1. Undesirable vegetation	☐ Yes ☐ No ☐ N/A
2. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
3. Debris/Pollution/Trash has accumulated	☐ Yes ☐ No ☐ N/A
4. Shoreline erosion	☐ Yes ☐ No ☐ N/A
5. Outfall erosion	☐ Yes ☐ No ☐ N/A
6. Pond walls in poor condition	☐ Yes ☐ No ☐ N/A
7. Encroachment into easement or pond area by other activities	☐ Yes ☐ No ☐ N/A

Outlets and Overflow Structures

1. Sediment has accumulated	☐ Yes ☐ No ☐ N/A
2. Debris/Trash has accumulated	☐ Yes ☐ No ☐ N/A
3. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
4. Poor structural condition	☐ Yes ☐ No ☐ N/A
5. Visible leaks/joint failure	☐ Yes ☐ No ☐ N/A
6. Displacement of filter fabric	☐ Yes ☐ No ☐ N/A

Emergency Spillway

1. Erosion/Undercutting	☐ Yes ☐ No ☐ N/A
2. Vegetation has accumulated	☐ Yes ☐ No ☐ N/A
3. Spillway obstructed	☐ Yes ☐ No ☐ N/A

Miscellaneous Feature

1. Restricted access	☐ Yes ☐ No ☐ N/A
2. Lack of maintenance	☐ Yes ☐ No ☐ N/A
3. Issues with additional features	☐ Yes ☐ No ☐ N/A
4. Unapproved modification	☐ Yes ☐ No ☐ N/A

Additional Notes

Attached Pictures or Sketches:

Inspection Results:

☐ Pass

The dry pond is operating without observed issues.

☐ Pass with conditions

The dry pond is operating as intended. Issues exist and should be addressed; however they do not currently prevent the pond from operating as intended.

☐ Fail

Issues exist and are preventing the dry pond from operating as intended.

Inspector certifies accuracy of information:

Inspector Signature: _____

Date of Inspection: _____

Item C

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 to28		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"*
[illegible]-Feb-12	Pre-Wetting	1100									*Pre- storm Pre- Wet*
10-Feb-12	Plow	450	Salt	120	32 to 18		3	64	8	0	*11 AM start 5PM*
[illegible]-Feb-12	Pre-Wetting	1050									*Pre- storm Pre- Wet*
[illegible]-Feb-12	Plow	500	Salt	70	29		1	32	8	0	*3 PM start 1 AM ended*
[illegible]-Feb-12	Plow	450	Salt	80	31		2	31	8	0	*5AM start 8Am ended 2"*
[illegible]-Feb-12	Pre-Wetting	1425									*Pre- storm Pre- Wet*
24-Feb-12	Plow	925	Salt	120	30		4	32	8	24	*Started 8PM ended 6 Am on 24th*
[illegible]-Mar-12	Pre-Wetting	1450									*Pre- storm Pre- Wet*
[illegible]-Mar-12	Plow	700	Salt	120	30		5	29	8	0	*Started at 2 pm and ended at 6 pm*
	Total Brine Used (gal)	*14200*	*Total Salt Used (tons)*	*1540*			*Total event hours worked*	*596*	*Number of Entries*	*18*	

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	*1 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*
23-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 be 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 run*
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*
	Total Brine Used (gal)	*22679*	*Total Salt Used (tons)*	*3520*			*Total event hours worked*	*1272*	*Number of Entries*	*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 Range during event (°F)	Precipitation Amount (inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
25-Nov-13	Salting 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	
[illegible]-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*
[illegible]-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*
[illegible]-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 Range during event (°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 drapping*
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*
	Total Brine Used (gal)	*11490*	*Total Salt Used (tons)*	*3160*	*Average Air Temp per Entry (deg F)*	*18.7*	*Average Pavement Temp. per Entry (deg F)*	*20.13*	*Number of Entries*	*54*	
							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 iceing*
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 iceing*
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 iceing*
18-Dec-14	Plow	200	Salt	60	31	30	Ice	24	8	0	*Light iceing*
-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*
-Jan-15	Plow	0	Salt	80	-2	0	1	30	9	0	*1" during rush hour*
-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 slush 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 iceing*
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*

	Total Brine Used (gal)	*4800*	*Total Salt Used (tons)*	*2390*	*Average Air Temp per Entry (deg F)*	*19.48*	*Average Pavement Temp. per Entry (deg F)*	*20.89*	*Number of Entries*	*27*
							Total Event hours worked	*903*		

Road Salt / Deicers Usage
City of Pewaukee
2015-2016

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
21-Nov-15	Plow	500	Salt	110	32	32	4	60	7		
21-Dec-15	Plow	500	Salt	150	30	30			9		
22-Dec-15	Plow	0	Salt	90	35	35	10	100	9		*Very Heavy.*
7-Jan-16	Salt	200	Salt	60	32	32	1	32	8		
9-Jan-16	Plow	350	Salt	80	29	28	2	27	9		
10-Jan-16	Plow	0	Salt	100	13	13	1	36	9		
12-Jan-16	Plow	0	Salt	175	4	6	2	75	9		*High wind followed by a slush run and a lot of drifting.*
25-Jan-16	Plow	350	Salt	75	32	33	1	24	9		
26-Jan-16	Plow	200	Salt	75	31	32	0.5	24	8		
1-Feb-16	Salt	200	Salt	75	26	24	Ice	24	8		*Rain froze over night.*
7-Feb-16	Salt	300	Salt	75	35	31	slush	24	8		*Rain /slush mix.*
8-Feb-16	Plow	300	Salt	80	30	28	1+4	26	8		*One inch with areas of 4 inches.*
9-Feb-16	Plow	0	Salt	80	14	16	1	36	9		*One inch overnight with high winds.*
10-Feb-16	Plow	0	Salt	80	12	15	1	36	9		*One inch overnight.*
14-Feb-16	Plow	0	Salt	80	22	18	1	27	9		*One inch - very dry.*
15-Feb-16	Plow	300	Salt	100	21	18	1	36	9		*One inch overnight.*
1-Mar-16	Plow	800	Salt	160	28	28	4	90	9		*One inch overnight. Three inches during the day.*
3-Mar-16	Plow	300	Salt	60	32	31	2	27	9		*Two inches overnight.*
24-Mar-16	Plow/Salt	500	Salt	200	31	31	Ice/3 inches	76	8		*Light icing to 3 inches of wet snow.*
2-Apr-16	Plow	300	Salt	50	29	30	2	32	9		*Two inches fast mover*

Total Brine Used (gal) 5100 | *Total Salt Used (tons)* 1955 | *Average Air Temp per Entry (deg F)* 27.26 | *Average Pavement Temp. per Entry (deg F)* 26.89 | *Number of Entries* 19

Total Event Hours Worked 812

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 Range during event (°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.*
0-Jan-17	Plow/salt	400	Salt	260	34	31	1	84	9		*1 inch snowfall overnight followed by freezing rain.*
1-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.*

	Total Brine Used (gal)	*11225*	*Total Salt Used (tons)*	*2900*	*Average Air Temp per Entry (deg F)*	*28.19*	*Average Pavement Temp. per Entry (deg F)*	*28.23*	*Number of Entries*	*29*
						Total Event Hours Worked	*1171*			

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 Range during event (°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*
[illegible]-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		*Rain to ice*
15-Jan-18	Plow	300	Salt	120	28	24	3	56	9		*3 inches overnight - slow mover*
16-Jan-18	Plow	200	Salt	80	24	22	3	36	9		*3 inches - same storm lake effect*
16-Jan-18	Plow	200	Salt	50	24	28	0	24	9	24	*Slush run*
23-Jan-18	Plow	400	Salt	160	28	28	4	72	9		*Heavy rain changing to snow turning to hardpack*
28-Jan-18	Salt	400	Salt	60	28	28	1	20	9		*Fast moving storm - 1 inch*
3-Feb-17	Plow	400	Salt	160	29	29	1	27	9		*1 inch beginning of storm*
4-Feb-18	Plow	400	Salt	240	16	18	7	108	9		*7 inches of snow - total storm was 8 inches*
5-Feb-18	Plow	0	Salt	120	8	8	1	27	9		*1 inch - still snowing*
6-Feb-18	Plow	0	Salt	120	6	6	1	36	9		*1 inch overnight.*
9-Feb-18	Plow	0	Salt	180	14	16	4	72	9		*4 inches - 12 hour storm*
17-Feb-18	Salt	400	Salt	100	28	28	0.5	18	9		*Light Dusting*
4-Mar-18	Plow	400	Salt	100	31	31	3	36	9		*Fast moving storm - 3 inches*
4-Apr-18	Plow	0	Salt	100	21	22	2	36	9		*Rain changing to snow*
4-Apr-18	Plow	0	Salt	100	24	26	0	0	9		*Hard pack ice*
14-Apr-18	Plow	0	Salt	100	28	28	ice	20	9		*Light icing*
15-Apr-18	Plow	0	Salt	250	30	30	4	108	9		*Rain with heavy snow*
16-Apr-18	Plow	0	Salt	180	28	28	1	36	9		*1 inch - slow mover*
18-Apr-18	Plow	0	Salt	140	32	32	2	63	9		*2 inches - still snowing*
19-Apr-18	Plow	0	Salt	75	34	34	3	36	9		*5 inches total from storm -wet and heavy*

	Total Brine Used (gal)	*5650*	*Total Salt Used (tons)*	*3365*	*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 Range during event (°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*
[illegible]-Dec-18	Salt	200	Salt	80	32	32	0	27	9	0	*Ice - very slippery*
[illegible]1-Dec-18	Plow	200	Salt	80	30	30	2	45	9	0	*All day - changed to snow*
[illegible]2-Jan-19	Salt	200	Salt	70	32	31	Ice	32	9	0	*Melt off and re-freeze*
[illegible]2-Jan-19	Salt	150	Salt	80	32	32	0.05	27	9	0	*Light Dusting*
[illegible]-Jan-19	Pre-wet	700	Brine	0				8	1	0	*Pre-wet run*
[illegible]8-Jan-19	Plow	200	Salt	100	22	21	1	30	9	0	*Beginning of storm - 6 inches expected*
[illegible]9-Jan-19	Plow	0	Salt	160	22	21	5	80	9	0	*Snow all night - total clean up*
[illegible]2-Jan-19	Plow	200	Salt	80	21	21	1	27	9	0	*Beginning of storm - 5 inches expected*
[illegible]5-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
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 Range during event (°F)	Precipitation Amount (inches)	Hours of Event (worked)	# of Drivers/# of Trucks	Hours of Post-Event Clean-Up	Other Information
23-Feb-19	Salt	400	Salt	80	32	31	Ice	30	10	0	*Ice with rain to follow*
24-Feb-19	Salt	100	Salt	80	31	29	Ice	24	10	0	*Heavy rain over night that turned to ice with 60 mph wind*
27-Feb-19	Plow	100	Salt	80	25	24	1	40	10	0	*1 inch over night*
2-Mar-19	Plow	0	Salt	80	13	11	2	30	9	0	*2 inches from fast moving over night storm*
5-Mar-19	Plow	0	Salt	10	6	4	0.05	25	10	0	*Light Dusting*
10-Mar-19	Plow	300	Salt	10	32	31	1	30	10	0	

	Total Brine Used (gal)	*9070*	*Total Salt Used (tons)*	*3365*	*Average Air Temp per Entry (deg F)*	*29.18*	*Average Pavement Temp. per Entry (deg F)*	*28.76*	*Number of Entries*	*36*
						Total Event Hours Worked	*1564*			

	Salt	Brine
October	0	0
November	275	1300
December	460	1200
January	1210	1650
February	1320	4620
March	100	300

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
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 @ 3AM 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-wet	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 Storm10" 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 Strom*
11-Jan-20	Salt	300	Salt	120	24	25	3"	50	10		*End of Strom*
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 Storm8" Total*
9-Feb-20	Plow	300	Salt	100	32	31	2	30	10		*Start of storm 5" perdicted.*
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)* 30.56 | *Average Pavement Temp. per Entry (deg F)* 29.4 | *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
	Salt	Brine									
October	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
12-Dec-20	Plow	600	Salt	180	32	31	2	86	10		*Heavey snow all day long; 2 runs*
27-Dec-20	Plow	400	Salt	100	31	30	1	32	10		*Light snow but very icy*
29-Dec-20	Pre-wet	768									*Pre-wet application prior to event*
30-Dec-20	Plow	500	Salt	160	33	31	7	90	10		*Heavy wet snow, fast mover; 2 runs*
1-Jan-21	Plow	400	Salt	160	32	30	4	100	11		*1 inch of snow predicted, received 4 inches; 2 runs*
15-Jan-21	Plow	300	Salt	100	34	32	2	36	10		*Overnight storm, fast mover*
16-Jan-21	Plow	300	Salt	100	32	31	1	36	10		*Overnight storm, fast mover*
19-Jan-21	Plow	300	Salt	100	26	25	1	30	10		*Snowfall not originally forcasted, still received 1 inch*
13-Jan-21	Pre-wet	951									*Pre-wet application prior to event*
24-Jan-21	Plow	500	Salt	150	24	26	3	70	10		*Light and fluffy snow*
25-Jan-21	Plow	800	Salt	210	26	25	8	120	10		*2 inches of snow predicted, received 8 inches with high winds; 3 runs*
[illegible]-Jan-21	Pre-wet	600									*Pre-wet application prior to event*
[illegible]1-Jan-21	Plow	600	Salt	180	28	26	8	100	10		*8 inches of heavy wet snow; 2 runs*
[illegible]-Feb-21	Salt	200	Salt	40	20	18	trace	14	7		*Light dusting overnight*
[illegible]4-Feb-21	Plow	300	Salt	120	32	26	3	80	10		*Temperatures falling with high winds; 2 runs*
[illegible]-Feb-21	Plow	0	Salt	100	10	11	2	120	10		*Packed snow/ice with high winds, lots of drifting; 3 runs*
[illegible]-Feb-21	Plow	0	Salt	150	6	10	2	80	10		*2 inches of snow overnight; 2 runs*
13-Feb-21	Plow	0	Salt	150	0	4	3	100	10		*3 inches of snow and cold temperatures; 2 runs*
[illegible]-Feb-21	Plow	0	Salt	160	4	5	2	64	10		*2 inches of snow overnight; 2 runs*
[illegible]-Feb-21	Plow	300	Salt	80	31	26	4	72	10		*4 inches of snow overnight, fast mover; 2 runs*

Total Brine Used (gal) 7819 *Total Salt Used (tons)* 2240 *Average Air Temp per Entry (deg F)* 17.43 *Average Pavement Temp. per Entry (deg F)* 16.83 *Number of Entries* 26

Total Event Hours Worked 1230

Road Salt / Deicers Usage
City of Pewaukee
2020-2021

Date(s) of Event	Activity	Salt Brine Used (gal)	Produet 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	2268	440									
January	4751	1000									
February	800	800									
March	0	0									

Item D

Fiscal Analysis Worksheets

Spreadsheet for Fiscal Analysis Portion of City of Pewaukee's 2020 MS4 Annual Report

	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 Ellimination	$1,370.00	$2,610.00	$1,430.00
Construction Site Pollution Control	$25,161.00	$75,790.00	$36,575.00
Post-Construction Storm Water Management	$33,161.00	$30,290.00	$44,575.00
Pollution Prevention	$729,226.00	$639,760.56	$824,101.10
Storm Water Quality Management	$350,000.00	$0.00	$350,000.00
Storm Sewer System Map	$5,000.00	$6,999.90	$5,000.00
Totals	**$1,146,918.00**	**$758,381.46**	**$1,264,681.10**

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 catagories 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 catagories do not correspond to City Budget Accounting Fields.

Illicit Discharge Detection and Ellimination Program

Budget item for reporting purposes is an estimation of Engineering Tecnicians time and Civil Engineers time to inspect identified MS4 outfalls and review reports. Costs will include estimates of time spent persuing 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 catagories 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 Rporting Year**				**Budget Upcoming Year**			
Engineering Staff	**Hourly Wage**	**Hours**	**Cost**		**Hourly Wage**	**Hours**	**Cost**		**Hourly Wage**	**Hours**	**Cost**	
Engineering Technician	$37.59	20.00	$751.80		$37.59	40.00	$1,503.60		$38.91	20.00	$778.20	
Senior Engineering Technician	$41.18	4.00	$164.72		$41.18	0.00	$0.00		$42.42	4.00	$169.68	
Civil Engineer	$41.10	6.00	$246.60		$41.10	0.00	$0.00		$42.12	6.00	$252.72	
Chief Engineer-Utilities	$56.32	2.00	$112.64		$56.32	3.50	$197.12		$59.62	2.00	$119.24	
DPW Director	$67.34	1.00	$67.34		$67.34	0.00	$0.00		$77.34	1.00	$77.34	
Mileage costs			$26.75				$16.05				$27.25	
			$1,369.85	Subtotal			$1,716.77	Subtotal			$1,424.43	Subtotal
Fire Department Staff												
Fire Paid on Premise Division Chief	$35.00	0.00	0.00		$35.00	0.67	$23.45		$35.00	0.00	$0.00	
Fire Paid on Premise Driver/Paramedic	$25.56	0.00	0.00		$25.56	1.33	$33.99		$28.40	0.00	$0.00	
Fire Paid on Premise Fire Fighter	$17.04	0.00	0.00		$17.04	1.33	$22.66		$17.75	0.00	$0.00	
Paramedic	$21.30	0.00	0.00		$21.30	0.00	$0.00		$24.14	0.00	$0.00	
Engine Cost	$650.00	0.00	0.00		$650.00	0.67	$435.50		$650.00	0.00	$0.00	
Ambulance	$500.00	0.00	0.00		$500.00	0.67	$335.00		$500.00	0.00	$0.00	
Command Vehicle	$62.00	0.00	0.00		$62.00	0.67	$41.54		$62.00	0.00	$0.00	
			0.00	Subtotal			$892.15	Subtotal			$0.00	Subtotal
			1,369.85	Total			**$2,608.92**	**Total**			$1,424.43	Total
			1,370.00	**Use**			**2,610.00**	**Use**			**$1,430.00**	**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 cyle 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 53.5 cents for 2017 and 54.5 cents for 2018.
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 $25,161.00 **Budget for Upcoming Year** $36,575.00

Annual Expenditures for Reporting Year $75,790.00

Project	Briohn Bldrs-Angulus Bldg Springdale Rd	Wages	Hours	Total		
	R/M Bills			$6,033.01		
	AECOM Bills			$0.00		
	Engineer Tech	$37.59	0.00	$0.00		
	Sr. Engineer Tech	$41.18	0.00	$0.00		
	Civil Engineer	$41.10	0.00	$0.00		
	Chief Engineer-Utilities	$56.32	10.25	$577.28		
	DPW Director	$67.34	0.00	$0.00		
					Total	$6,610.29
	Rainbow Childcare					
	R/M Bills			$7,513.08		
	AECOM Bills			$0.00		
	Engineer Tech	$37.59	0.00	$0.00		
	Sr. Engineer Tech	$41.18	0.00	$0.00		
	Civil Engineer	$41.10	3.75	$154.13		
	Chief Engineer-Utilities	$56.32	20.25	$1,140.48		
	DPW Director	$67.34	0.00	$0.00		
					Total	$8,807.69
	Briohn Builders Northmound Bldg					
	R/M Bills			$5,745.62		
	AECOM Bills			$0.00		
	Engineer Tech	$37.59	0.00	$0.00		
	Sr. Engineer Tech	$41.18	0.50	$20.59		
	Civil Engineer	$41.10	0.00	$0.00		
	Chief Engineer-Utilities	$56.32	11.00	$619.52		
	DPW Director	$67.34	0.00	$0.00		
					Total	$6,385.73
	Christ Evangelical Lutherine Church					
	R/M Bills			$5,974.79		
	AECOM Bills			$0.00		
	Engineer Tech	$37.59	0.00	$0.00		
	Sr. Engineer Tech	$41.18	0.00	$0.00		
	Civil Engineer	$41.10	0.00	$0.00		
	Chief Engineer-Utilities	$56.32	13.50	$760.32		
	DPW Director	$67.34	0.00	$0.00		
					Total	$6,735.11
	Swan View Farms Ph. 1					
	R/M Bills			$9,100.24		
	AECOM Bills			$4,001.20		
	Engineer Tech	$37.59	0.00	$0.00		
	Sr. Engineer Tech	$41.18	0.00	$0.00		

Civil Engineer	$41.10	0.00	$0.00		
Chief Engineer-Utilities	$56.32	56.00	$3,153.92		
DPW Director	$67.34	0.00	$0.00		
				Total	$16,255.36

Swan View Farms Ph. 2

R/M Bills			$0.00		
AECOM Bills			$1,314.73		
Engineer Tech	$37.59	0.00	$0.00		
Sr. Engineer Tech	$41.18	0.00	$0.00		
Civil Engineer	$41.10	0.00	$0.00		
Chief Engineer-Utilities	$56.32	1.75	$98.56		
DPW Director	$67.34	0.00	$0.00		
				Total	$1,413.29

Woodleaf Reserve Phase 3

R/M Bills			$2,778.43		
AECOM Bills			$0.00		
Engineer Tech	$37.59	0.00	$0.00		
Sr. Engineer Tech	$41.18	0.00	$0.00		
Civil Engineer	$41.10	0.00	$0.00		
Chief Engineer-Utilities	$56.32	5.50	$309.76		
DPW Director	$67.34	0.00	$0.00		
				Total	$3,088.19

Glen of Parkway Ridge

R/M Bills			$4,231.95		
AECOM Bills			$598.29		
Engineer Tech	$37.59	0.00	$0.00		
Sr. Engineer Tech	$41.18	0.00	$0.00		
Civil Engineer	$41.10	2.00	$82.20		
Chief Engineer-Utilities	$56.32	18.00	$1,013.76		
DPW Director	$67.34	0.00	$0.00		
				Total	$5,926.20

James Craig Builders-Swan Road

R/M Bills			$0.00		
AECOM Bills			$0.00		
Engineer Tech	$37.59	0.00	$0.00		
Sr. Engineer Tech	$41.18	0.50	$20.59		
Civil Engineer	$41.10	0.00	$0.00		
Chief Engineer-Utilities	$56.32	1.25	$70.40		
DPW Director	$67.34	0.00	$0.00		
				Total	$90.99

Baenen_Northview Road

R/M Bills			$0.00		
AECOM Bills			$0.00		
Engineer Tech	$37.59	0.00	$0.00		
Sr. Engineer Tech	$41.18	0.00	$0.00		
Civil Engineer	$41.10	0.00	$0.00		
Chief Engineer-Utilities	$56.32	7.75	$436.48		
DPW Director	$67.34	0.50	$33.67		
				Total	$470.15

Klein Dickert Glass

R/M Bills			$7,475.15		
AECOM Bills			$0.00		
Engineer Tech	$37.59	0.00	$0.00		
Sr. Engineer Tech	$41.18	0.00	$0.00		
Civil Engineer	$41.10	0.00	$0.00		
Chief Engineer-Utilities	$56.32	16.00	$901.12		
DPW Director	$67.34	0.00	$0.00		

			Total	$8,376.27

Oak and Peninsula Road Project and Water Main

R/M Bills			$4,441.45	
AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	22.75	$1,281.28	
DPW Director	$67.34	0.00	$0.00	
			Total	$5,722.73

Green Acres LLC Office Building

R/M Bills			$0.00	
AECOM Bills			$359.70	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	3.75	$211.20	
DPW Director	$67.34	0.00	$0.00	
			Total	$570.90

Pewaukee Industrial South

R/M Bills			$0.00	
AECOM Bills			$962.20	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	1.00	$41.10	
Chief Engineer-Utilities	$56.32	3.50	$197.12	
DPW Director	$67.34	0.00	$0.00	
			Total	$1,200.42

Waters Senior Living

R/M Bills			$0.00	
AECOM Bills			$971.57	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	3.00	$123.30	
Chief Engineer-Utilities	$56.32	5.75	$323.84	
DPW Director	$67.34	0.00	$0.00	
			Total	$1,418.71

Woodleaf Reserve Phase 4

R/M Bills			$0.00	
AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	2.25	$92.48	
Chief Engineer-Utilities	$56.32	7.50	$422.40	
DPW Director	$67.34	0.00	$0.00	
			Total	$514.88

Emerald Acres Flood Mitigation

R/M Bills			$0.00	
AECOM Bills				
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	34.00	$1,400.12	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	9.50	$535.04	
DPW Director	$67.34	0.00	$0.00	
			Total	$1,935.16

Zignego Repair Building

R/M Bills			$0.00	
AECOM Bills				
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	2.25	$126.72	
DPW Director	$67.34	2.00	$134.68	
			Total	$261.40

R/M Bills			$0.00	
AECOM Bills				
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$0.00

R/M Bills			$0.00	
AECOM Bills				
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$0.00

R/M Bills			$0.00	
AECOM Bills				
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$0.00

R/M Bills			$0.00	
AECOM Bills				
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$0.00

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 $33,161.00 **Budget for Upcoming Year** $44,575.00

Annual Expenditures for Reporting Year $30,290.00

Project		Building	Wages	Hours	Total		
	Green Acres LLC Office	AECOM Bills			$1,078.50		
		Engineer Tech	$37.59	0.00	$0.00		
		Sr. Engineer Tech	$41.18	0.00	$0.00		
		Civil Engineer	$41.10	0.00	$0.00		
		Chief Engineer-Utilities	$56.32	4.50	$253.44		
		DPW Director	$67.34	0.00	$0.00		
						Total	$1,331.94
	Pewaukee Industrial South	AECOM Bills			$2,886.59		
		Engineer Tech	$37.59	0.00	$0.00		
		Sr. Engineer Tech	$41.18	0.00	$0.00		
		Civil Engineer	$41.10	1.00	$41.10		
		Chief Engineer-Utilities	$56.32	3.50	$197.12		
		DPW Director	$67.34	0.00	$0.00		
						Total	$3,124.81
	Glen at Parkway Ridge	AECOM Bills			$1,794.87		
		Engineer Tech	$37.59	0.00	$0.00		
		Sr. Engineer Tech	$41.18	0.00	$0.00		
		Civil Engineer	$41.10	2.25	$92.48		
		Chief Engineer-Utilities	$56.32	14.00	$788.48		
		DPW Director	$67.34	0.00	$0.00		
						Total	$2,675.83
	Swan View Farms Ph 1	AECOM Bills			$12,003.59		
		Engineer Tech	$37.59	0.00	$0.00		
		Sr. Engineer Tech	$41.18	0.00	$0.00		
		Civil Engineer	$41.10	0.00	$0.00		
		Chief Engineer-Utilities	$56.32	56.25	$3,168.00		
		DPW Director	$67.34	0.00	$0.00		
						Total	$15,171.59
	Swan View Farms Ph 2	AECOM Bills			$1,314.74		
		Engineer Tech	$37.59	0.00	$0.00		
		Sr. Engineer Tech	$41.18	0.00	$0.00		
		Civil Engineer	$41.10	2.25	$92.48		
		Chief Engineer-Utilities	$56.32	0.00	$0.00		

DPW Director	$67.34	0.00	$0.00	
			Total	$1,407.22

Klein Dickert Glass

AECOM Bills			$1,143.24	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	7.75	$436.48	
DPW Director	$67.34	0.00	$0.00	
			Total	$1,579.72

Green Road Pond Inspection

AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	1.50	$61.65	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$61.65

Christ Evangelical Church

AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	2.75	$154.88	
DPW Director	$67.34	0.00	$0.00	
			Total	$154.88

Waters Senior Living

AECOM Bills			$2,914.72	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	3.25	$133.58	
Chief Engineer-Utilities	$56.32	6.25	$352.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$3,400.30

Rainbow Childcare

AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	3.75	$154.13	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$154.13

Woodleaf Reserve Phase 4

AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	2.25	$92.48	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$92.48

City Hall Biofiltration Device

AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	

Civil Engineer	$41.10	1.50	$61.65	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$61.65

Baenen_Northview Road

AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	8.25	$464.64	
DPW Director	$67.34	0.75	$50.51	
			Total	$515.15

Briohn Builders Northmound Bldg

AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	4.00	$164.40	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$164.40

Sports Complex Pond Inspections

AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	7.00	$287.70	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$287.70

Rockwood Drive Pond Inspection

AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$0.00

Wagner Park Pond Inspections

AECOM Bills			$0.00	
Engineer Tech	$37.59	2.75	$103.37	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$103.37

AECOM Bills			$0.00	
Engineer Tech	$37.59	0.00	$0.00	
Sr. Engineer Tech	$41.18	0.00	$0.00	
Civil Engineer	$41.10	0.00	$0.00	
Chief Engineer-Utilities	$56.32	0.00	$0.00	
DPW Director	$67.34	0.00	$0.00	
			Total	$0.00

Pollution Prevention

	2020 Budgeted	2020 Expenditure	2021 Budgeted
Catch Basin Cleaning and Maintenance	$20,636.00	$29,131.00	$45,000.00
Storm Inlets and Catch Basins	$250,000.00	$192,954.94	$250,000.00
Street Sweeping	$20,286.00	$17,288.79	$20,286.00
Ditch and Culvert Maintenance	$225,026.00	$254,628.72	$272,796.00
Storm Sewer Maintenance	$113,287.00	$54,643.66	$133,518.00
Yard Maintenance	$10,000.00	$0.00	$10,000.00
Yard Waste Recycling	$89,991.00	$91,113.45	$92,501.10
Totals	**$729,226.00**	**$639,760.56**	**$824,101.10**

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. Ditch and culvert maintenance excludes any improvements associated with the Oak and Peninsula Project. Yard Waste Recycling was taken as a fraction of the budgeted and actual expenditures from Refuse Collection and Recycling (10.307% of totals).

Storm Water Quality Management

Budget for Reporting Year	$350,000.00
Expenditures for Reporting Year	$0.00
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 Management Plan found under Projects. This would include a complete remodel for water quality purposes.

Storm Sewer System Mapping

Budget for Reporting Year	$5,000.00
Expenditures for Reporting Year	$6,999.90
Budget for Upcoming year	$5,000.00

Storm Sewer System Mapping is lumped within Storm Sewer Maintenance budget category. There is not breakout for this Asbuilt And Mapping in the 2020 Budget listing. Carried over the previous year budget amount for reporting purposes.

Item E

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

Target Audience	Topic #	Topic #	Topic #	Program Title	Activity/Event	Month	Year	Date	Location	# People see footnote	Description
Teachers and Students	2	3	5	soil/water	Presentation	Jan	2020	1-3-20	Oconomowoc	25	soil and water program for earth science class
Teachers and Students	2	3	5	soil/water	Presentation	Jan	2020	1-3-20	Oconomowoc	18	soil and water program for earth science class
Teachers and Students	2	3	5	career	Presentation	Jan	2020	1-10-20	New Berlin	60	career day at Orchard Lane Elementary
Teachers and Students	5			groundwater	Presentation	Jan	2020	1-29-29	Retzer	24	groundwater program for Kettle Moraine students
Teachers and Students	8	6			Presentation	Feb	2020	2-5-20	WCTC	6	presentation for sustainable building class
Teachers and Students	8	6			Presentation	Feb	2020	2-6-20	WCTC	12	presentation for sustainable building class
Teachers and Students	2	3	5	career	Presentation	Feb	2020	2-7-20	New Berlin	79	Elmwood Elementary Career Day
General Public	2	3	5		Displays and handouts	Feb	2020	2-8-20	Retzer	500	Wild Winter night event
Teachers and Students	7	5			Green Schools	Feb	2020	2-10-20	Prairie Hill Waldorf	1	provided rain barrel and diverter for use at the school
Teachers and Students	3	5		healthy soils	Presentation	Feb	2020	2-19-20	Waukesha	20	Banting Elementary 2nd grade
Teachers and Students	3	5		healthy soils	Presentation	Feb	2020	2-19-20	Waukesha	20	Banting Elementary 2nd grade
Teachers and Students	3	5		healthy soils	Presentation	Feb	2020	2-19-20	Waukesha	20	Banting Elementary 2nd grade
Teachers and Students	2	3	5	career	Presentation	Feb	2020	2-28-20	New Berlin	25	Poplar Creek Elementary Career Day
Teachers and Students	3	5		healthy soils	Presentation	Mar	2020	3-4-20	Retzer	24	Kettle Moraine School Disrict
General Public	3	5		home composting	Presentation	Mar	2020	3-5-20	Waukesha	16	Waukesha Wellness Center Lunch n Learn
General Public	9				Stream Monitoring	Mar	2020	3-7-20	Retzer	32	volunteer appreciation event
General Public	2	3	5	green home	Presentation	Mar	2020	3-9-20	Muskego	64	lunch n learn at Inpro
General Public	3	5		home composting	Presentation	Mar	2020	3-10-20	Waukesha	11	Waukesha Wellness Center Lunch n Learn
General Public	2	3	5	green home	Presentation	Mar	2020	3-14-20	Retzer	COV	spring workshops
General Public	3	5		home composting	Presentation	Mar	2020	3-14-20	Retzer	COV	spring workshops
Contractors, Dev. & Consul	1	6	8	stormwater wkshop	Presentation	Mar	2020	3-17-20	UW-Waukesha	154	annual stormwater workshop moved to virtual and was held in May
Busninesses	7	1	2	green masters	presentation	Mar	2020	3-18-20	Retzer	COV	stormwater infromation for businesses through Green Masters program
General Public	1	2	3		Displays and handouts	Mar	2020	3-18-20	Waukesha	COV	employee health and wellness fair
Teachers and Students	2	3	5	career	presentation	Mar	2020	3-19-20	New Berlin	COV	Ronald Reagan Elementary career day
Teachers and Students	5				presentation	Mar	2020	3-24-20	Retzer	COV	grade 2/3 workshop
General Public	2	3	5	green home	presentation	Mar	2020	3-31-20	Eagle	COV	program at Eagle library
Teachers and Students	3	5		healthy soils	presentation	Apr	2020	4-14-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	presentation	Apr	2020	4-14-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	presentation	Apr	2020	4-14-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	presentation	Apr	2020	4-15-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	presentation	Apr	2020	4-15-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	presentation	Apr	2020	4-15-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	presentation	Apr	2020	4-17-20	Brookfield	COV	Brookfield Elementary
Teachers and Students	3	5		healthy soils	presentation	Apr	2020	4-17-20	Brookfield	COV	Brookfield Elementary
General Public	3	5		social media	social media	Apr	2020	4-19-20		1	composting message to kick off virtual earth week celebration
General Public	2	3	5	green home	presentaton	Apr	2020	4-20-20	Retzer	COV	Earth Day Event
Teachers and Students	3	5		soils	presentation	Apr	2020	4-21-20	Retzer	COV	Middle school
Teachers and Students	2	3	5	career	presentation	Apr	2020	4-22-20	Muskego	COV	Muskego HS career day
General Public	2			household elf	presentation	Apr	2020	4-23-20	Retzer	COV	girl scout night
Teachers and Students	2	3	5	career	presentation	Apr	2020	4-24-20	Mukwonago	800	Parkview middle school virtual career day-recorded program available to all students
General Public	2	3				Apr	2020	4-25-20	Retzer	COV	Earth day event
Teachers and Students	2	3	5	water resources	presentation	Apr	2020	4-28-20	Pewaukee	COV	5th grade
General Public	2	3	5	green home	presentation	Apr	2020	4-28-20	Pewaukee	COV	program at Pewaukee Library
General Public	5			social media	social media	May	2020	5-4-20		1	May the 4th composting and healthy soil message
General Public	5			social media	social media	May	2020	5-5-20		1	Revenge of the 5th--turn your soil to the dark side....with compost!
Contractors, Dev. & Consul	6	8			workshop	May	2020	5-5-20	statewide	149	online stormwater workshop- BMP maintenance and inspection and dewatering
Contractors, Dev. & Consul	6	8			workshop	May	2020	5-6-20	statewide	142	online stormwater workshop - artificial wetlands, green infrastructure and wetlands
Contractors, Dev. & Consul	6	8	3		workshop	May	2020	5-7-20	statewide	135	online stormwater workshop - constructed wetlands, leaf management
General Public	5	1		rain gardens and bar	presentation	May	2020	5-12-20	Muskego	20	online rain garden and rain barrel class for Inpro
General Public	2			social media	social media	May	2020	5-18-20		1	Green cleaners
Teachers and Students	5			green schools	green schools	May	2020	5-19-20	Menomonee Falls	1	rain garden plants for St. Mary's Menomonee Falls
General Public	2			social media	social media	May	2020	5-25-20		1	how to properly dispose of hazardous waste while spring cleaning
General Public	9			benchmark	Stream Monitoring	May	2020	5-26-20	Sussex	1	benchmark on Sussex Creek
General Public	9			benchmark	Stream Monitoring	May	2020	5-29-20	Waukesha	2	benchmark on Pewaukee River at the junction with the Fox
General Public	9			benchmark	Stream Monitoring	May	2020	5-28-20	Eagle	1	benchmark on Scuppernong river @Hwy Z
General Public	9			benchmark	Stream Monitoring	May	2020	5-29-20	Mukwonago	1	benchmark on Mukwonago River
General Public	9			benchmark	Stream Monitoring	May	2020	5-30-20	Waukesha	1	benchmark for level 2 on Pebble Creek at TT
General Public	9			benchmark	stream monitoring	Jun	2020	6-8-20	Oconomowoc	2	benchmark on Rosenow Creek
General Public	2			social media	social media	Jun	2020	6-8-20		1	storm drain education for world ocean day
General Public	2	3	5	green home	presentation	Jun	2020	6-16-20	Sussex	3	virtual Green home program through Sussex Library
General Public	9			benchmark	Stream Monitoring	Jun	2020	6-18-20	Waukesha	2	biotic index on Pewaukee River
General Public	9			benchmark	stream monitoring	Jun	2020	6-22-20	Genesee	2	benchmark monitoring on Genesee Creek and Spring Brook
General Public	9			benchmark	Stream Monitoring	Jun	2020	6-25-20	Mukwonago	2	benchmark on Mukwonago river at Rainbow Springs.
General Public	4	9		Asian Clam	Asian Clam survey	Jul	2020	7-7-20	Pewaukee	14	Asian Clan survey on Pewaukee River
General Public	3	5	6	Soil and Water	Soil and Water merit badg	Jul	2020	7-15-20	Retzer	19	Soil and Water merit badge workshop

General Public	1	2		Sustainability	Sustainability merit badge	Jul	2020	7-16-20	Retzer	19	Sustainability merit badge workshop
General Public	2			social media	social media	Jul	2020	7-20-20		1	proper disposal of household hazardous waste
General Public	1			social media	social media	Jul	2020	7-25-20		1	adopt a drain promo
General Public	1				news releases/articles	Jul	2020	7-27-20		1	adopt a drain press release
General Public	1			social media	social media	Jul	2020	7-27-20		1	proper disposal of used motor oil
General Public	1			social media	social media	Jul	2020	7-28-20		1	adopt a drain promo
General Public	1			morning blend	news releases/articles	Jul	2020	7-28-20			Adopt a drain segment on Morning Blend TV show
General Public	2			outreach	displays and handouts	Jul	2020	7-29-20		250	pick up after your pet message on coloring sheet for Hartland Kids Fest
General Public	2			social media	social media	Jul	2020	7-31-20		1	pet waste message for talk in an elevator day
General Public	1				Storm Drain Stenciling	Jul	2020		Menomonee Falls	1	volunteer contacted us and received 60 storm drain markers
General Public	1				Storm Drain Stenciling	Aug	2020		Brookfield	1	volunteer contacted us and received 20 storm drain markers
General Public	2			social media	social media	Aug	2020	8-3'20		1	pet waste message for work like a dog day
General Public	3			social media	social media	Aug	2020	8-8-20		1	composting message for sneak some zucchini on your neighbors porch day
General Public	1			social media	social media	Aug	2020	8-9-20		1	post on books--All the Way to the Ocean
General Public	3			social media	social media	Aug	2020	;8-10-20		1	post on lawn care for national lazy day
Teachers and Students	9			workshop	teacher workshop	Aug	2020	;8-11-20	Retzer	9	Citizen Science in the Classroom workshop
General Public	9			benchmark	Stream Monitoring	Aug	2020	8-13-20	Sussex	1	benchmark flow at Sussex Creek
General Public	1			morning blend	news releases/articles	Aug	2020	8-17-20		1	repeat of Adopt a drain segment on Morning Blend TV show
Teachers and Students	3	5		healthy soils	presentaition	Aug	2020	8-19-20	Retzer	30	virtual healthy soils for Sussex Day Camp
General Public	7				social media	Sep	2020	9-1-20		1	social media post on salt use
General Public	1			adopt a drain	Newsletters/articles	Sep	2020	9-3-20		79	newsletter for adopt a drain participants
General Public	4				social media	Sep	2020	9-4-20		1	social media post on lawn care
General Public	5				social media	Sep	2020	9-6-20		1	social media post on books--Handful of dirt
Contractors, Dev. & Consul	7			smart salting	training	Sep	2020	9-8-20		26	Smart salting for roads virtual workshop
Teachers and Students	3	5		healthy soils	Presentation	Sep	2020	9-9-20	Waukesha	23	healthy soils program for Prairie Elementary
Teachers and Students	3	5		healthy soils	presentation	Sep	2020	9-17-20	Waukesha	57	virtual healthy soils program for 3 classes at Rose Glen
Teachers and Students	3	5		healthy soils	presentation	Sep	2020	9-17-20	Oconomowoc	#	virtual healthy soils program for St. Jerome's-technical issues cancelled program
General Public	2				social media	Sep	2020	9-19-20		1	social media about pet waste
Contractors, Dev. & Consul	7			smart salting	training	Sep	2020	9-22-20		19	Smart Salting Parking lots virtual workshop
Teachers and Students	3	5		healthy soils	Presentation	Oct	2020	10-1-20	Muskego	72	program for Lakeview Elementary in Muskego Norway district
General Public	2				social media	Sep	2020	9-26-20		1	social media post about green cleaning
Teachers and Students	1				Presentaiton	Oct	2020	10-1-20	Retzer	14	stream life workshop at Retzer for school kids
Teachers and Students	1				Presentation	Oct	2020	10-1-20	Retzer	8	stream life workshop at Retzer for school kids
General Public	1				social media	Oct	2020	10-2-20		1	World smile day about adopting a storm drain
General Public	2	3		outreach	Displays and handouts	Oct	2020	10-6-20	Oconomowoc	125	National night out event
General Public	3	5			social media	Oct	2020	10-12-20		1	national farmer day post about testing soils before fertilization
General Public	1	3	5		social media	Oct	2020	10-13-20		1	national train your brain day crossword puzzle
Teachers and Students	3	5		healthy soils	Presentation	Oct	2020	10-15-20	Waukesha	35	healthy soils for Hadfield Elementary
Teachers and Students					Presentation	Oct	2020	10-15-20	Retzer	12	stream life workshop at Retzer for school kids
General Public	3	5		healthy soils	Presentaiton	Oct	2020	10-17-20		3	virtual program for science fest
General Public	3	5		soils	Presentaiton	Oct	2020	10-15-20		*	virtual program for soils and basement wetness for adults as part of science fest
General Public	2				social media	Oct	2020	10-24-20		1	post includes picking up pet waste for national make a difference day
Teachers and Students	1				Presentation	Oct	2020	10-27-20	Retzer	10	stream life workshop at Retzer for school kids
Teachers and Students	1				Presentation	Oct	2020	10-27-20	Retzer	7	stream life workshop at Retzer for school kids
General Public	2				social media	Nov	2020	11-1-20		1	social media post about using vinegar for green cleaning
General Public	3	5		healthy soils	presentation	Nov	2020	11-3-20	Retzer	4	outdoor classroom on soils
General Public	3	5		healthy soils	presentation	Nov	2020	11-3-20	Retzer	3	outdoor classroom on soils
General Public	3	5		healthy soils	presentation	Nov	2020	11-4-20	Retzer	12	outdoor classroom on soils
General Public	3	5		healthy soils	presentation	Nov	2020	11-4-20	Retzer	4	outdoor classroom on soils
Teachers and Students	2	3	5	water resources	presentation	Nov	2020	11-5-20	Waukesha	30	virtual program for school district of waukesha
General Public	3	5			social media	Nov	2020	11-8-20		1	social media post about soil health
General Public					social media	Nov	2020	11-17-20		1	social media post to get people to see exhibits at Retzer
General Public	3	5		healthy soils	presentation	Nov	2020	11-19-20	Retzer	10	outdoor classroom on soils
General Public	3	5		healthy soils	presentation	Nov	2020	11-19-20	Retzer	10	outdoor classroom on soils
General Public	7				social media	Dec	2020	12-8-20		1	social media post about salt use
Teachers and Students	1	3	5		presentation	Dec	2020	12-17-20	Sussex	18	water testing with biology students
General Public	1	3	5		social media	Dec	2020	12-21-20		1	social media post with crossword puzzle
Teachers and Students	1	3	5		presentation	Dec	2020	12-22-20	Sussex	14	water testing with AP students
Teachers and Students	1	3	5		presentation	Dec	2020	12-22-20	Sussex	21	water testing with AP students

COV indicates that program was cancelled due to COVID
* indicates that there were no participants
\# technical issues prevented program from happening

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		A
	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 Assocation 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
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

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 5.2.

DATE: April 22, 2021

DEPARTMENT: Public Works

PROVIDED BY: Magdelene Wagner

SUBJECT:

Discussion and possible action regarding Kathryn Court/Springdale Estates Flood Mitigation Project alternatives.

BACKGROUND:

Staff received a complaint regarding standing water in the rear yard of a property. Upon review, it was noted this area has had a long standing water ponding issue on the Zignago property. From a review a historical topography and photos, it appears when Kathryn Court subdivision was developed, it was filled and blocked the natural drainage patterns. A 20 foot easement on the subdivision was platted, but does not drain this area.

The City Common Council authorized a study in 2019 which was finalized in 2020. The Study of alternatives was developed to address this long standing issue.

Staff is seeking a recommendation of the recommended alternative for a construction project to address this issue.

FINANCIAL IMPACT:

The 2021 budget included $500,000.00.

RECOMMENDED MOTION:

Public Works Committee to concur with the report and Staff to recommend Alternative 1 to the Common Council.

ATTACHMENTS:

Description

Kathryn Ct Alternatives Report

AECOM
1555 N RiverCenter Drive
Suite 214
Milwaukee, WI 53212
www.aecom.com

414 944 6080 tel
414 944 6081 fax

Technical Memorandum

To	Magdelene Wagner, Director of Public Works, Pewaukee Rich Wirtz, PE, CFM, Chief Engineer-Utilities, Pewaukee	Page	1
CC			
Subject	Foxwood – Kathryn Court Drainage Study AECOM Project #: 60339891		
From	Steve Parse, PE, CPMSM, Rick Eilertson, PE, Ashley Leisgang, PE		
Date	August 21, 2020, Revised September 11, 2020		

Introduction

A hydrologic and hydraulic analysis using XP-SWMM, a software program, was conducted by AECOM for the City of Pewaukee. This analysis specifically focused on an area north of Foxwood Lane and along Kathryn Court. The water flows west to east and discharges to the storm sewer system along Springdale Rd.

During storm events, storm water ponds southwest of the Kathryn Court cul-de-sac and north of Foxwood Lane in a localized low spot in an existing ditch (Foxwood ditch). The localized ponding has not impacted the street or neighboring houses, however, local residents have complained of smell and insects as result of standing water. In general, surface water runoff comes from a mix of urban and agricultural areas which drains from the west to the localized low spot southwest of Kathryn Court. The City contracted with AECOM to evaluate alternatives that would improve storm water drainage away from the low spot and ultimately to the Springdale Rd storm sewer system. The location of the ponding, the Foxwood Ditch, and Springdale Rd storm sewer system are found on Figure 1.

The specific goals for this analysis was:

- Document existing drainage issues found within the watershed.
- Evaluate three (3) alternatives that could alleviate the localized flooding and ponded water near Foxwood Lane and Kathryn Court.
- Provide the City with updated storm sewer GIS information based on the site survey.

Background

The objective of this study is to relieve standing water from the ditch located north of Foxwood Lane and southwest of Kathryn Court, in hopes of reducing odor and insects. Historically, the Foxwood ditch conveyed approximately 275 acres of storm water runoff from the upstream portions of the watershed to Springdale Road. The watershed of the Foxwood ditch is shown on Figure 1.

In the late 1980's, the Briarwood Homesites Plat was developed (which includes Kathryn Court and the residential properties around it). During this time, the ditch was relocated from its original location to a public drainage easement in Outlot 1 north of Kathryn Court and South of the Canadian Pacific (CP) Railway via a ditch along the eastern perimeter of the Zignego property. A copy of the Briarwood Homesites Plat showing the public drainage easement is included as Attachment A. The Briarwood Homesites Grading and Erosion Control Plan is included in Attachment B.

GIS contours from 2015, provided by the City, show the bottom of ditch elevation at the start of the Briarwood ditch (~846') is higher than the bottom of ditch elevation of the Foxwood ditch (~844'), creating a low spot at the ponding location. In general, the entire study area is clayey soils within the hydrologic soil groups B/D, C, and D, which allow very little to no infiltration. Visual evidence of standing water in the ponding area even during dry periods further suggests little to no infiltration is occurring in the ditch.

Drainage Conditions

Hydrology

Basins were delineated using 1-foot contour data from 2015 in ArcGIS for the entire study area. Once the basins were delineated, the longest flow paths were drawn, and a spreadsheet was used to determine the Time-of-Concentration (Tc) values for each basin, representing the time that it takes for water to flow from the most remote point in the basin to the outlet node. It was assumed that runoff in the area consists of primarily sheet flow and shallow concentrated flow. Slope flow, flow length, land type, and other factors were considered in the calculations.

In addition, an SCS curve number (CN) was calculated for all basins based on a weighted average using the formula below.

*CN_Basin = [(Area_Impervious * CN_Impervious) + (Area_Pervious * CN_Pervious)] / Area_Basin*

A CN value of 98 was used for impervious surfaces, and values for pervious surfaces were selected based on the land characteristics of the area, considering that soils are primarily within soil groups C, D, and B/D. Areas were delineated using ArcGIS.

Model Setup

The existing and proposed conveyance system was modeled using Version 2018.2.2 of XP-SWMM software. XP-SWMM is a dynamic model using a link-node representation for ditches/conduits and junctions. The hydrologic calculations for the study area were completed using the SCS runoff method. The amount (volume) of runoff and peak flow (rate) of runoff, generated by each sub-basin area is dependent on the CN and Tc.

The model was run for multiple rainfall events using NOAA Atlas 14, MSE3, 24-hour rainfall distributions. The rainfall depths utilized were:

- 1-year, 24-hour - 2.38 in
- 2-year, 24-hour - 2.69 in
- 10-year, 24-hour - 3.81 in
- 100-year, 24-hour - 6.23 in

Existing Conditions

The existing model includes ditches, storm sewers, culverts, and storm water ponds located within the drainage basin. The drainage basin area upstream of the ponding area is approximately 275 acres. As-built drawings and GIS culvert, storm sewer, and topographic contour information were used to build the model. Following an analysis of the collected information, a supplemental site survey was conducted. This was done to verify the as-built and GIS information, and locate additional storm water structures that were not included in the provided information. The survey team also collected data on the ditch cross sections and elevations. The existing GIS shapefiles were then updated with the surveyed and field verified information. This data was then imported from GIS into XP-SWMM software. Ditches were incorporated in XP-SWMM based on the as-builts, GIS contours, and surveyed information. The existing drainage conditions are illustrated on Figure 1.

The Briarwood ditch north of Kathryn Court ends at a weir with a 15-inch culvert near Springdale Road. This weir was designed to control the 10-year peak rate flow from the Briarwood Homesites development (Kathryn Court) and allow overtopping of the weir during larger storm events.

Storm water from the Briarwood ditch is conveyed into a 42-inch storm sewer along the west side of Springdale Road. For the purposes of this study, the 42-inch storm sewer was only analyzed from its inlet north of Kathryn Court to its connection with a 15-inch sewer located south of Kathryn Court and north of Indianwood Court.

Flood Relief Alternative Evaluation

Following the completion of the existing conditions analysis, three potential flood reduction alternatives were evaluated by AECOM and City staff. The existing conditions model was used as a starting point. The following section describes the management alternatives that are modeled.

Proposed - Alternative 1

Alternative 1 involves constructing a 12-inch storm pipe from the ponding area along the Zignego property and through the existing public drainage easement (Outlot 1 of Briarwood Homesites Plat) on the north side of Kathryn Court. The 12-inch storm pipe will outlet into the 42-inch storm sewer system along Springdale Rd. This would drain the area experiencing ponding while minimally affecting flows and/or potential issues downstream.

The 12-inch storm pipe will begin at a structure located at the low point of the ponding area where the Foxwood ditch and Briarwood ditch meet. It is modeled as a catch basin with an invert of 841.50, 2.5 feet below the existing low point in the ditch. The invert is set 2.5 feet below the existing low point of the ponding area so future underdrains can be constructed at the Foxwood ditch as part of a future storm water best management practice (BMP) devise.

The 12” storm pipe will discharge into the 42-inch diameter sewer located on the west side of Springdale Road at the existing manhole northwest of the intersection with Kathryn Court. This will allow for a sufficient slope of 0.32% for the overall proposed pipe.

The layout for Alternative 1 is found in Figure 2.

Proposed - Alternative 2

Alternative 2 involves adding a 12-inch storm pipe from the ponding area, along a small portion of the Zignego property then through an existing 20-foot drainage easement located on the south side of parcels on Kathryn Court. This would drain the area experiencing ponding while minimally affecting flows and/or potential issues downstream.

The 12-inch storm pipe will outlet into a proposed storm sewer on Maplewood Lane. The existing 10- and 12-inch diameter storm sewer on Maplewood Lane, is currently undersized resulting in reported localized flooding. Thus, as part of Alternative 2, the Maplewood Lane storm sewers are recommended to be replaced with deeper 18-inch storm pipes to reduce localized flooding and provide the necessary slope to construct the 12-inch storm pipe.

As in Alternative 1, the inlet is modeled as a catch basin with an elevation of 841.50, 2.5 feet below the lowest ditch elevation for future storm water BMP installation while maintaining a slope of 0.39%.

The layout for Alternative 2 is found in Figure 3.

Proposed - Alternative 3

Alternative 3 involves re-grading the ditch along the Zignego property and then through the existing Briarwood ditch (Outlot 1) on the north side of Kathryn Court to obtain positive slope. This would drain the area experiencing ponding.

Alternative 3 will not involve any modifications to the weir structure in the public drainage easement. The layout for Alternative 3 is found in Figure 4.

Model Results

Ponding Area

The model results for the ponding area were analyzed to evaluate the impact of the ponding area in the proposed alternatives when compared to the existing conditions. The water surface elevation (WSE) and the time it takes to drain the ponding area were compared (duration). The ground/overbank elevations represent either the approximate elevation of surrounding structures (i.e. house, garages, sheds) or the surrounding edge of pavement (EOP) of a roadway.

Table 1 summarizes the water surface elevation for the existing conditions and three proposed alternatives. Table 2 summarizes the duration of ponding for each of the alternatives. The location of the XP-SWMM Nodes is found on Figure 1.

Table 1: Water Surface Elevations

XP-SWMM Node[1]	Ground/ Overbank Elev.	10-year, 24-hour Water Surface Elevation (WSE) (ft)				100-year, 24-hour Water Surface Elevation (WSE) (ft)			
		Existing	Alt. 1	Alt. 2	Alt. 3	Existing	Alt. 1	Alt. 2	Alt. 3
Node 1364	855.00 (Structure)	848.86	848.83	848.83	847.29	850.31	850.29	850.29	848.49
Node 1412.1	847.00 (Structure)	845.87	845.86	845.85	846.02	846.86	846.85	846.84	846.83
Node 1413	847.00 (Road)	845.70	845.69	845.64	845.94	846.82	846.82	846.81	846.80
Node 1413.1	843.00 (Road)	843.41	843.45	843.36	843.58	844.36	844.43	844.36	844.34
Node 1414	841.00 (Road)	840.10	840.11	840.07	840.20	840.88	840.90	840.88	840.85
Node 1420	840.00 (Road)	836.05	836.05	836.04	836.06	836.14	836.14	836.14	836.14

(1) For node locations, see Figure 5.

Table 2: Duration of Ponding

Scenario	100-year, 24-hour Storm Event			
	Existing	Alternative 1	Alternative 2	Alternative 3
Duration of Ponding (hours)	>72	22.00	21.75	20.50

In Alternative 1 and 2, the change in peak WSE is negligible relative to the WSE in the existing conditions. However, the ponding area will drain within the recommended 24-hour time frame.

Alternative 2, will also provide improvements to Maplewood Lane. The proposed storm sewer pipes are sized to convey the 10-year 24-hour storm.

Alternative 3, provides the greatest reduction in the peak WSE at the ponding area. The regraded ditch allows the storm water runoff to efficiently drain and move downstream, thus causing an increase in peak WSE through the Briarwood ditch. According to WisDOT FDM 13-20-1, ditches are recommended to have a minimum slope of 0.5% with an absolute minimum slope of 0.3% to allow for proper drainage. The slope for Alternative 3 is limited to 0.09%. Due to the low slope and increased peak WSE downstream, this alternative is not recommended.

Drainage Basin Upstream of Ponding Area

This model can be utilized to analysis potential concerns upstream of the Foxwood ditch. The City typically designs new storm sewer systems to convey a minimum of the 10-year – 24-hour storm event. There are many locations throughout this basin where the existing storm sewer does not meet this criteria.

As the existing condition results were analyzed, there were three locations that appeared to have greater recurrence in surface ponding. The following locations experience flooding for storm events greater than the 1-year, 24-hour storm:

A. Duplainville Road below the CP Railway
B. Storm water easement south of Kathryn Court and north of Indianwood Court between Maplewood Lane and Springdale Road
C. Foxwood Lane north of the intersection with Foxwood Court

Opinion of Probable Cost

Opinions of Probable Cost (OPCs) for the three alternatives are summarized in Table 3. Details spreadsheets for each alternative can be found in Attachment C.

Table 3: Opinion of Probable Cost Summary

Alternative	Cost
1	$274,000
2	$1,004,000
3	$349,000

Recommendations

Considering cost, constructability, and achieving the goal of eliminating the standing water in the ponding area without adversely affecting the drainage conditions downstream, Alternative 1 is the recommended option. Further, Alternative 1 provides opportunity for potential conversion of the Foxwood ditch into a biofilter or similar best management practice that could help improve water quality of the downstream waters which may prove useful in meeting future Total Maximum Daily Load (TMDL) requirements for the watershed.

Attachments

A – Briarwood Homesites Plat
B – Briarwood Homesites Grading & Erosion Control Plan
C – Opinions of Probable Cost Spreadsheets

Figures

1 – Drainage Basin Study Area
2 – Alternative 1
3 – Alternative 2
4 – Alternative 3
5 – XP SWMM Model Node Locations

Attachments

Attachment A

See Amended Deed Restrictions in R-1031 I-692
See Developers Agreement in R-945 I-55
See Declaration of Restrictions in R-945 I-37

1450003

SHEET 1 OF 2

WC0000280

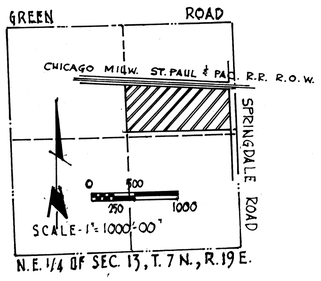
BRIARWOOD HOMESITES

BEING A SUBDIVISION OF C.S.M. NO. 1778, BEING A PART OF THE NE. 1/4 OF THE NE. 1/4 OF SEC. 13, T.7N., R.19E., IN THE TOWN OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

NOTE:

1) ○ INDICATES 2" IRON PIPE 30" IN LENGTH WT. 3.65 LBS. PER LINEAL FT.
2) ALL OTHER LOT CORNERS HAVE 1" IRON PIPE 24" IN LENGTH WT. 1.13 LBS. PER LINEAL FT.
3) PLAT IS REFERENCED TO GRID NORTH WISCONSIN STATE PLANE CO-ORDINATE SYSTEM SOUTH ZONE
4) ALL DIMENSIONS ARE MEASURED AND SHOWN TO THE NEAREST HUNDREDTH OF A FOOT.
5) LOTS 1 AND 25 RESTRICTED TO NO DIRECT VEHICULAR ACCESS TO SPRINGDALE ROAD

VICINITY MAP

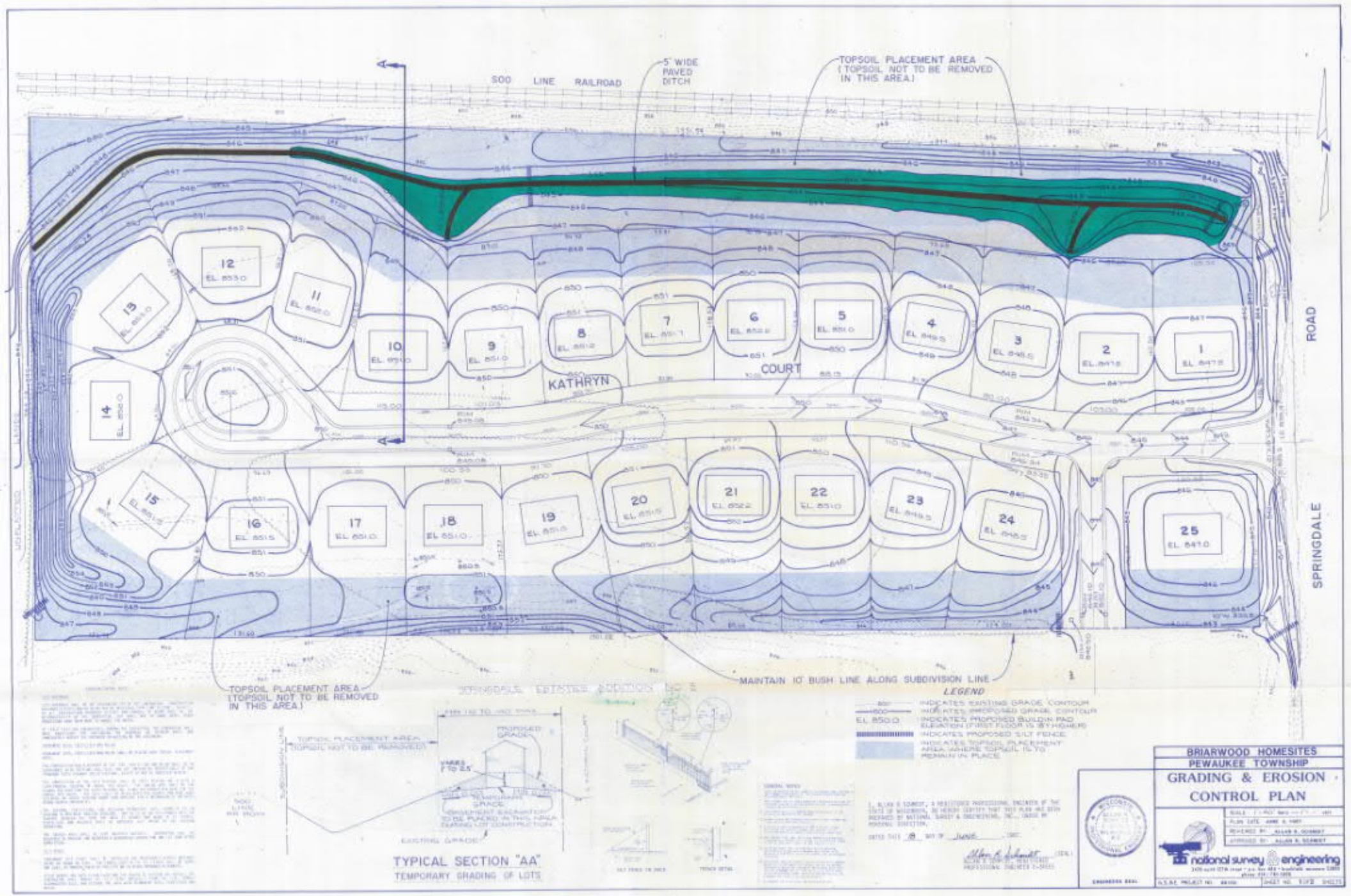


N.E. 1/4 OF SEC. 13, T. 7 N., R. 19 E.

REVISED 7/14/87

national survey & engineering
3470 north 127th street • p.o. box 444 • brookfield, wisconsin 53005
phone 414 / 781-1000

Attachment B


SOO LINE RAILROAD
5' WIDE PAVED DITCH
TOPSOIL PLACEMENT AREA (TOPSOIL NOT TO BE REMOVED IN THIS AREA)
KATHRYN COURT
SPRINGDALE ROAD
MAINTAIN 10' BUSH LINE ALONG SUBDIVISION LINE
TOPSOIL PLACEMENT AREA (TOPSOIL NOT TO BE REMOVED IN THIS AREA)
LEGEND
INDICATES EXISTING GRADE CONTOUR
INDICATES PROPOSED GRADE CONTOUR
EL 850.0 INDICATES PROPOSED BUILDING PAD ELEVATION (FIRST FLOOR IS 8' HIGHER)
INDICATES PROPOSED SILT FENCE
INDICATES TOPSOIL PLACEMENT AREA WHERE TOPSOIL IS TO REMAIN IN PLACE
TYPICAL SECTION "AA"
TEMPORARY GRADING OF LOTS
BRIARWOOD HOMESITES
PEWAUKEE TOWNSHIP
GRADING & EROSION CONTROL PLAN
national survey engineering

Attachment C

AECOM

1555 Rivercenter Dr., Suite 214
Milwaukee, Wisconsin 53212

CLIENT:	**City of Pewaukee**		
PROJECT:	**Stormwater Management Plan Review Assistance**		
CONTRACT NO:	**Foxwood-Kathryn Court Drainage Study Tasks**		
AECOM PROJECT NO.:	**60339891**		
SUBMITTAL:	**Opinion of Probable Construction Cost**		
DATE CREATED/MODIFIED:	**08/12/2020**	BY:	SDP
DATE CHECKED:	**08/12/2020**	BY:	RE

Opinion of Probable Construction Cost

Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total Cost
1	619.1000	Mobilization, Bonds, and Insurance (~7%)	LS	1	$14,000	$14,000
2	SP	Clearing & Grubbing	LS	1	$15,000.00	$15,000
3	628.1504	Silt Fence	LF	2,036	$3.00	$6,108
4	628.7504	Ditch Checks	LF	90	$15.00	$1,350
5	628.7560	Tracking Pad	EACH	1	$3,500.00	$3,500
6	SP	6" Topsoil Restoration, w/ Class 1, Urban, Type B Erosion Mat	SY	4,500	$5.00	$22,500
7	630.0140	Turfgrass Seed Mix	SY	4,500	$2.00	$9,000
7	SP	Storm Sewer Pipe HDPE 12-Inch	LF	1,990	$60.00	$119,400
8	SP	Drop Inlet Structure w/ Grate	EACH	1	$2,000.00	$2,000
9	611.2004	Manholes 4-FT Diameter w/ Casting	EA	6	$2,000.00	$12,000
10	SP	Construction Staking Storm Sewer	LS	1	$1,500.00	$1,500
11	416.1720	Concrete Flume Removal and Replacement	SY	50	$80.00	$4,000
12	SP	Core into Existing Storm Manhole	EA	1	$750.00	$750

Total Opinion of Probable Construction Cost	**$198,000**
Surveying & Design Engineering (~10%)	**$20,000**
Construction Administration/Observation (~10%)	**$20,000**
Contingency (~15%)	**$36,000**
Total Opinion of Probable Surveying, Engineering Design, Construction, and Administration/Inspection Cost Estimate	**$274,000**

AECOM

1555 Rivercenter Dr., Suite 214
Milwaukee, Wisconsin 53212

CLIENT:	**City of Pewaukee**
PROJECT:	**Stormwater Management Plan Review Assistance**
CONTRACT NO:	**Foxwood-Kathryn Court Drainage Study Tasks**
AECOM PROJECT NO.:	**60339891**
SUBMITTAL:	
DATE CREATED/MODIFIED:	**08/06/2020** BY: SDP
DATE CHECKED:	**08/13/2020** BY: RE

Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total Cost
1	619.1000	Mobilization, Bonds, and Insurance (~7%)	LS	1	$51,000	$51,000
2	SP	Clearing & Grubbing	LS	1	$5,000.00	$5,000
3	628.1504	Silt Fence	LF	200	$3.00	$600
4	628.7504	Ditch Checks	LF	20	$15.00	$300
5	628.7560	Tracking Pad	EACH	2	$3,500.00	$7,000
6	SP	6" Topsoil Restoration, w/ Class 1, Urban, Type B Erosion Mat	SY	500	$5.00	$2,500
7	630.0140	Turfgrass Seed Mix	SY	500	$2.00	$1,000
8	SP	Storm Sewer Pipe HDPE 12-Inch via Trenchless Installatior	LF	1,115	$525.00	$585,375
9	SP	Storm Sewer Pipe RCP 18-Inch	LF	40	$80.00	$3,200
10	SP	Storm Sewer Pipe HDPE 18-Inch via Trenchless Installatior	LF	185	$575.00	$106,375
11	SP	Drop Inlet Structure w/ Grate	EACH	1	$2,000.00	$2,000
12	SP	Remove and Replace Inlets, 2' x 3', w/ Casting and Grate	EA	3	$2,000.00	$6,000
13	SP	Construction Staking Storm Sewer	LS	1	$1,500.00	$1,500
14	SP	Curb and Gutter Removal and Replacement	LF	40	$25.00	$1,000
15	SP	Asphalt Roadway and CABC Removal and Replacement	SY	75	$50.00	$3,750
16	SP	Core into Existing Field Inlet	EA	1	$750.00	$750

Total Opinion of Probable Construction Cost	**$727,000**
Surveying & Design Engineering (~10%)	**$73,000**
Construction Administration/Observation (~10%)	**$73,000**
Contingency (~15%)	**$131,000**
Total Opinion of Probable Surveying, Engineering Design, Construction, and Administration/Inspection Cost Estimate	**$1,004,000**

AECOM

1555 Rivercenter Dr., Suite 214
Milwaukee, Wisconsin 53212

CLIENT:	**City of Pewaukee**		
PROJECT:	**Stormwater Management Plan Review Assistance**		
CONTRACT NO:	**Foxwood-Kathryn Court Drainage Study Tasks**		
AECOM PROJECT NO.:	**60339891**		
SUBMITTAL:			
DATE CREATED/MODIFIED:	**08/06/2020**	BY:	SDP
DATE CHECKED:	**08/13/2020**	BY:	RE

Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total Cost
1	619.1000	Mobilization, Bonds, and Insurance (~7%)	LS	1	$18,000	$18,000
2	SP	Clearing & Grubbing	LS	1	$30,000.00	$30,000
3	628.1504	Silt Fence	LF	200	$3.00	$600
4	628.7504	Ditch Checks	LF	360	$15.00	$5,400
5	628.7560	Tracking Pad	EACH	1	$3,500.00	$3,500
6	205.0100	Excavation Common	CY	4,400	$22.00	$96,800
7	SP	6" Topsoil Restoration, w/ Class 1, Urban, Type B Erosion Mat	SY	7,800	$5.00	$39,000
8	630.0140	Turfgrass Seed Mix	SY	7,800	$2.00	$15,600
9	SP	Construction Staking	LS	1	$3,500.00	$3,500
10	416.1720	Concrete Flume Removal and Replacement	SY	700	$80.00	$56,000

Total Opinion of Probable Construction Cost	**$251,000**
Surveying & Design Engineering (~10%)	**$26,000**
Construction Administration/Observation (~10%)	**$26,000**
Contingency (~15%)	**$46,000**
Total Opinion of Probable Surveying, Engineering Design, Construction, and Administration/Inspection Cost Estimate	**$349,000**

Figures

FOXWOOD-KATHRYN COURT DRAINAGE STUDY
DRAINAGE BASIN STUDY AREA BASIN

City of Pewaukee, WI

Legend

- EXISTING MODELED STORM PIPE
- EXISTING MODELED DITCH
- STORM STRUCTURES
- FOXWOOD CT DITCH PONDING AREA DRAINAGE BASIN
- 1 — SUB-BASINS (LABELED WITH SUB-BASIN ID)
- PONDING AREA

REDFORD BLVD
GREEN RD
DUPLAINVILLE RD
CANADIAN NATIONAL RAILWAY
SPRINGDALE RD
CANADIAN PACIFIC RAILWAY
MARJEAN LN
KATHRYN CT
FOXWOOD CT

AECOM

Drawn By:	SDP
Checked By:	RE
Date:	8/20/2020
Project #:	60339891

Projection:
NAD 1927 StatePlane Wisconsin South FIPS 4803

FIGURE 1

600 300 0 Feet

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FOXWOOD-KATHRYN COURT DRAINAGE STUDY ALTERNATIVE 1

City of Pewaukee, WI

ZIGNEGO PROPERTY

ALTERNATIVE 1
1940 LF - 12" LOW FLOW PIPE @ 0.32% SLOPE

OUTLOT 1
EXISTING PUBLIC DRAINAGE EASEMENT

EXISTING WEIR WITH 15" OUTLET PIPE TO REMAIN

WOODFIELD CT

CANADIAN PACIFIC RAILWAY

EXISTING CONCRETE FLUME TO REMAIN

KATHRYN CT

RIM = 843.27
PROP INV 12"=835.49
EX INV 42"=835.49

STORM WATER EASEMENT

42" SPRINGDALE RD STORM SEWER

DROP INLET STRUCTURE
GRATE ELEVATION = 844.00
PROP 12" INV = 841.50

FOXWOOD LN

INDIANWOOD CT

MAPLEWOOD CT

SPRINGDALE RD

Legend

- EXISTING MODELED STORM PIPE
- EXISTING MODELED DITCH
- EXISTING CONCRETE FLUME MODELED AS DITCH
- STORM STRUCTURES
- NON-MODELED EXISTING STORM PIPE
- PONDING AREA
- PROPOSED 12" STORM SEWER
- 5' CONTOUR
- 1' CONTOUR
- PROPERTY LINE

AECOM

Drawn By:	SDP
Checked By:	RE
Date:	8/20/2020
Project #:	60339891

Projection:
NAD 1927 StatePlane Wisconsin South FIPS 4803

FIGURE 2

1 : 1,500

0 50 100 200 Feet

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FOXWOOD-KATHRYN COURT DRAINAGE STUDY ALTERNATIVE 2

City of Pewaukee, WI

Legend

- EXISTING MODELED STORM PIPE
- EXISTING MODELED DITCH
- EXISTING CONCRETE FLUME MODELED AS DITCH
- STORM STRUCTURES
- NON-MODELED EXISTING STORM PIPE
- PONDING AREA
- PROPOSED 12" STORM SEWER
- PROPOSED 18" STORM SEWER
- 5' CONTOUR
- 1' CONTOUR
- PROPERTY LINE

ZIGNEGO PROPERTY

EXISTING CONCRETE FLUME TO REMAINE

EXISTING WEIR WITH 15" OUTLET PIPE TO REMAIN

WOODFIELD CT

CANADIAN PACIFIC RAILWAY

KATHRYN CT

INDIANWOOD CT

FOXWOOD LN

MAPLEWOOD CT

SPRINGDALE RD

REPLACE INLET GRATE 839.19
INV 12" 836.38 (W)
INV 18" 836.38 (E)

169 LF - 18" STORM SEWER @ 0.39% SLOPE

REPLACE INLET GRATE 841.80
INV 12" 837.14 (W)
INV 18" 837.14 (E)

14 LF - 18" STORM SEWER @ 0.39% SLOPE

CORE INTO FIELD INLET
INV 18"
836.32 (W)

DROP INLET STRUCTURE
GRATE ELEVATION = 844.00
PROP 12" INV = 841.50

ALTERNATIVE 2
1115' - 12" LOW FLOW PIPE @ 0.39 % SLOPE

EXISTING 20' WIDE DRAINAGE EASEMENT

25 LF - 18" STORM SEWER @ 0.39% SLOPE

REPLACE INLET GRATE 841.80
INV 12" 837.04 (W)
INV 18" 837.04 (E)

42" SPRINGDALE RD STORM SEWER

Drawn By:	SDP
Checked By:	RE
Date:	8/20/2020
Project #:	60339891

Projection:
NAD 1927 StatePlane Wisconsin South FIPS 4803

FIGURE 3

1 : 1,500

0 50 100 200 Feet

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

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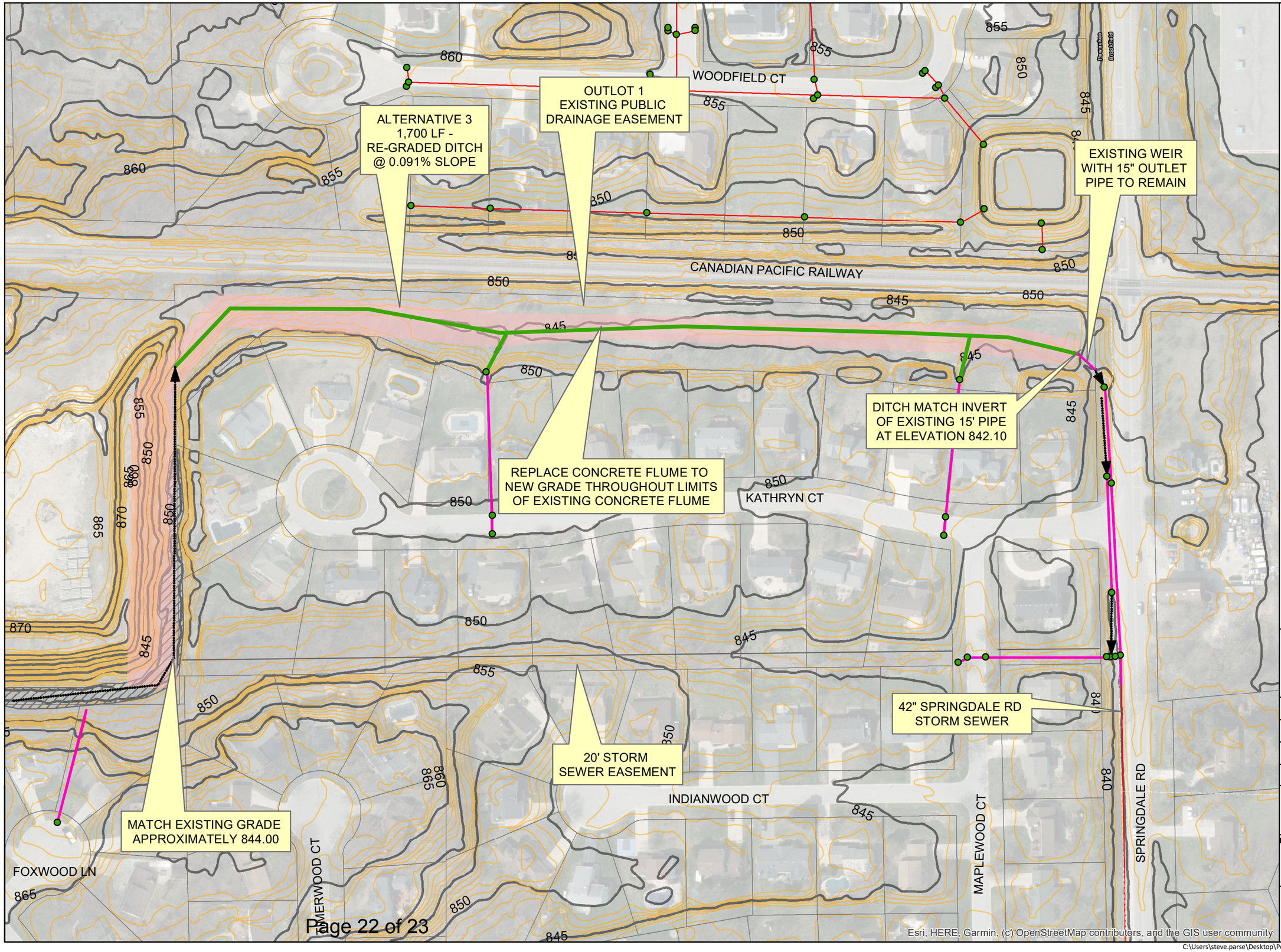

FOXWOOD-KATHRYN
COURT DRAINAGE STUDY
ALTERNATIVE 3

City of Pewaukee, WI

Legend

- EXISTING MODELED STORM PIPE
- EXISTING MODELED DITCH
- PROPOSED CONCRETE FLUME MODELED AS DITCH
- STORM STRUCTURES
- NON-MODELED EXISTING STORM PIPE
- PONDING AREA
- 5' CONTOUR
- 1' CONTOUR
- PROPERTY LINE
- RE-GRADED DITCH

AECOM

Drawn By:	SDP
Checked By:	RE
Date:	8/20/2020
Project #:	60339891

FIGURE
4

Projection:
NAD 1927 StatePlane Wisconsin
South FIPS 4803

1 : 1,500
0 50 100 200 Feet

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FOXWOOD-KATHRYN COURT DRAINAGE STUDY XP SWMM MODEL NODE LOCATIONS

City of Pewaukee, WI

OUTLOT 1
EXISTING PUBLIC
DRAINAGE EASEMENT

NODE 1412.1

NODE 1413

NODE 1413.1

NODE 1414

NODE 1420

NODE 1364

20' STORM
SEWER EASEMENT

42" SPRINGDALE RD
STORM SEWER

CANADIAN PACIFIC RAILWAY

KATHRYN CT

INDIANWOOD CT

FOXWOOD LN

TIMERWOOD CT

MAPLEWOOD CT

SPRINGDALE RD

BURNINGWOOD LN

Legend

- EXISTING MODELED STORM PIPE
- EXISTING MODELED DITCH
- PROPOSED CONCRETE FLUME MODELED AS DITCH
- STORM STRUCTURES
- NON-MODELED EXISTING STORM PIPE
- PONDING AREA
- 5' CONTOUR
- 1' CONTOUR
- PROPERTY LINE
- RE-GRADED DITCH
- XP SWMM MODEL NODE LOCATION

AECOM

Drawn By:	SDP
Checked By:	RE
Date:	9/11/2020
Project #:	60339891

Projection:
NAD 1927 StatePlane Wisconsin South FIPS 4803

FIGURE
5

1 : 1,500
0 50 100 200 Feet

P:\60339891\400_Technical\405 Hydrology Hydraulics\Foxwood-Kathryn Drainage Study\Memo\FIGURES

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.1.

DATE: April 22, 2021

DEPARTMENT: PW - Water/Sewer

PROVIDED BY: Magdelene Wagner/Jane Mueller

SUBJECT:

Discussion and possible action regarding the Well 5 HMO Treatment Facility & Building update.

BACKGROUND:

Well #5 is located on Northmound Dr. in the Bluemound Industrial Park in the northwest corner of Bluemound Rd and Springdale Rd. The well drilled in 1992 drilled to a depth of 1000 ft. At the time, we were told that it was quite an unusual well in that caverns containing pyrite were seen in the well videos. Since the well siting, we have come to learn that this site is likely in close proximity of the Waukesha Fault line.

At the end of 2010, the Utility started to experience Gross Alpha exceedances from this well, eventually causing us to be in non-compliance with Gross Alpha and enforcement of a DNR Consent Order in August 2014. This required the Utility to investigate several treatment systems for removal of Gross Alpha (radiologicals) in the well. Pilot testing of the well took place in 2015 and a treatment system was identified and preliminary design of the treatment system took place.

As a result of the Gross Alpha exceedance, the Utility reduced the use of this well. The site continued to be used periodically throughout each month and was utilized more frequently during high demand periods or when we had other well pumps out of service. The well and reservoir was also available to meet fire protection demand for the area. During this period of reduced use, the Utility found that the levels of Gross Alpha diminished. In 2016, the site became compliant with Gross Alpha without adding treatment and the Consent Order was closed in August 2016.

In 2018 – 2019 we began to experiencing the rise in the levels of Radium 226/228 eventually leading to non-compliance and Consent Order for Radium in September 2020. The draft treatment plant plans were resurrected and updated. Plan approvals were received from the DNR and later the Public Service Commission.

In preparation of the construction of the treatment plant, staff took the pump station off line. Staff emptied and cleaned the reservoir for our 5 year inspection. Unfortunately, they discovered a roof leak in the reservoir. Also the piping internal to the reservoir showed coating failure.
The Utility also planned to conduct well and pump maintenance at the site to make sure the pump and motor work was completed prior to construction. Consultant's review of old well video identified that the well had partially collapsed or bridged. A contractor was hire to pull the pump and attempt to remove the bridge.

The replacement of the reservoir roof membrane and the replacement well pump and motor were included in the contracts for the HMO treatment plant construction.

The contractor videotaped the well after pulling the pump. The video showed the bore hole has several areas of unconsolidated formation. Typical (good) well formations will have smooth bore holes with cracks or seams that will be seen along the walls. There are areas of this well that look like loose cobblestones. The contracts attempt to remove the collapse were futile as the equipment kept getting stuck. Additionally, there is major concern about the water quality in

this well. There is significant microbiological activity.

To date.
The condition of the well formation if very concerning to Staff. We are concerned that due to the unconsolidated nature of this well that the well could continue to deteriorate over time. Particularly when quarrying starts to the west of the pump station. The construction of the treatment system and garage are estimated at $3.4 million. That is a huge investment that may not be reliable in the future. The Utility is holding the bids for the construction of the treatment plant at this time. We have asked our consultants to prepare a formal request to the DNR asking for a time extension for our Consent Order that requires compliance by May 31, 2023.
Staff recommends requesting an extension of the consent order by one year to May 31, 2024. This will allow staff time to work with either identifying ways to fortify the current well formation that would give more assurance that the well won't continue to collapse or identify an alternative supply to this well; whether that be additional water main loops or well site.

FINANCIAL IMPACT:

RECOMMENDED MOTION:

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 8.1.

DATE: April 22, 2021

DEPARTMENT: PW - Engineering

PROVIDED BY:

SUBJECT:

Discussion and possible action regarding a pedestrian crossing across Green Road from Littlefield Court to private Five Fields Park.

BACKGROUND:

Staff was approached by several Five Fields residents and the Homeowners Association President regarding replacing a crosswalk across Green Road from Littlefield to the private Five Fields Park. During the reconstruction of Green Road in 2012, Staff was not aware of this crossing, but in review of historical aerials, a pedestrian crossing was present. This crossing was not maintained which is why it was not installed as part of the reconstruction of Green Road.

The HOA is asking for a new crossing to be installed to the private Five Fields Park. The Bike & Pedestrian Committee concurred with installing a pedestrian crossing at this location at the March 24, 2021 meeting. The crossing will require curb cuts, handicamp ramps, etc to be in compliance with ADA requirements.

FINANCIAL IMPACT:

A cost estimate has not been created for this work. It would be included in the 2022 budget if authorized.

RECOMMENDED MOTION:

ATTACHMENTS:

Description

2005 Aerial

2020 Aerial

LAND INFORMATION SYSTEMS DIVISION

Waukesha County GIS Map

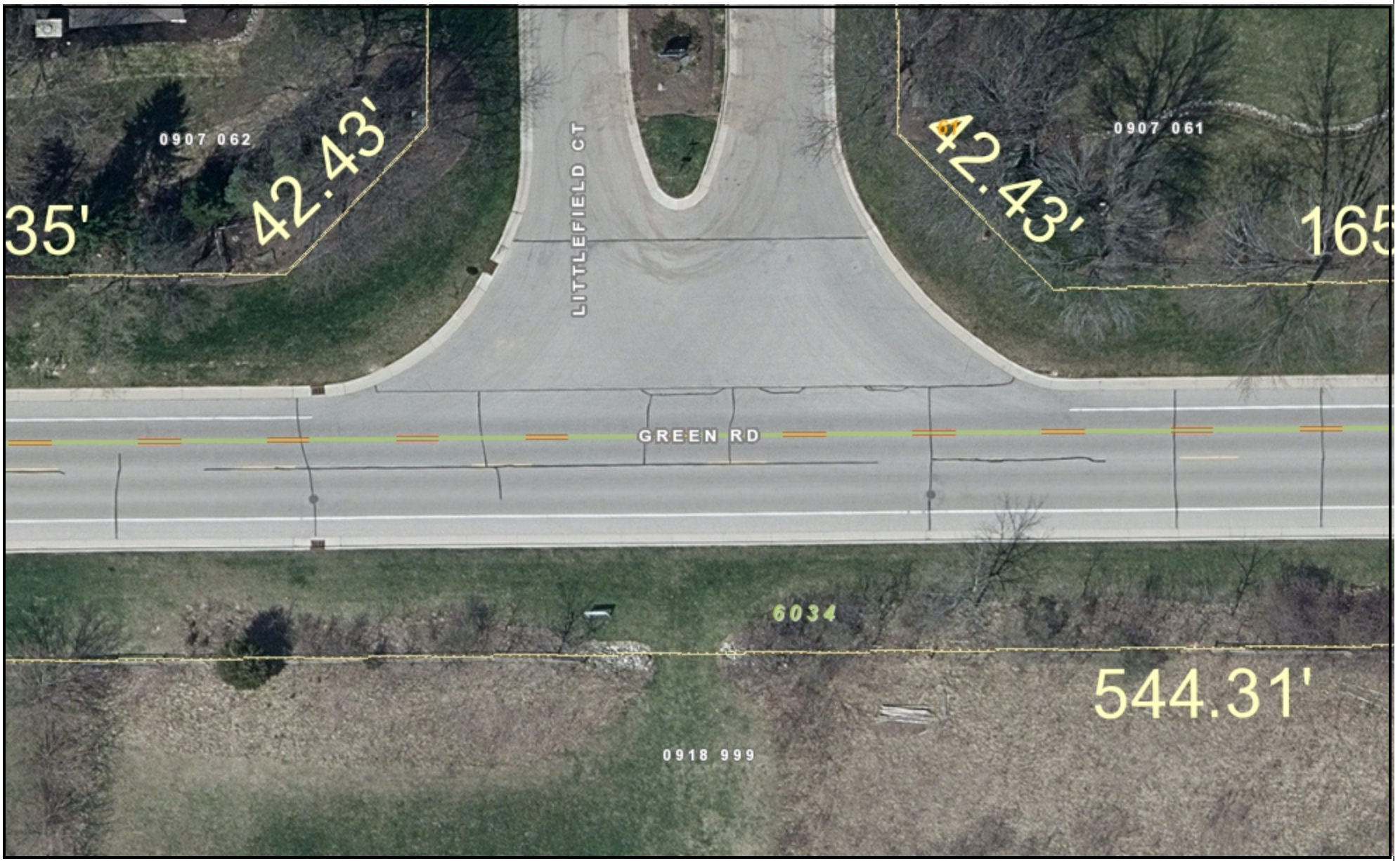
0 28.62 Feet

Notes: 2005 Five Fields Crossing

Printed: 3/23/2021

LAND INFORMATION SYSTEMS DIVISION

Waukesha County GIS Map



0 28.62 Feet

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Notes: 2020 Five Fields Crossing

Printed: 3/23/2021

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 8.2.

DATE: April 22, 2021

DEPARTMENT: Public Works

PROVIDED BY: Magdelene Wagner

SUBJECT:

Discussion and possible action to establish future meeting date and times.

BACKGROUND:

Staff is looking to hold regular Public Works Committee meeting at a frequency of once per month. We would like to find a regular time that will work for all committee members. Please bring your schedule to review a time and date for future meetings.

FINANCIAL IMPACT:

RECOMMENDED MOTION:

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 8.3.

DATE: April 22, 2021

DEPARTMENT: PW - Engineering

PROVIDED BY: Magdelene Wagner

SUBJECT:

Discussion and possible action regarding Duplainville Road Reconstruction and Trail construction including Lindsay Road Trail construction.

BACKGROUND:

Duplainville Road is in poor condition and is in the City's plan to complete a reconstruction in 2022. As such, Staff has begun the design of the roadway.

Given the local arterial nature of this roadway and the trucking that occurs along the corridor, Staff hired a consultant to review a few alternatives for the road section and composition. See the attached Alternative Analysis.

The first alternative included asphalt as the surface for the entire length of the roadway for an estimated cost of $5,688.500. The second alternative included concrete as the surface for the entire length of the roadway for an estimated cost of $7,188,500. The third alternative included asphalt north of Capital Drive and concrete south of Capital Drive for an estimated cost of $6,188,500. The third alternative was reviewed as the truck turning movements caused by the Quad Graphics operations take place south of Capital Drive and have a large impact on the roadway while north of Capital Drive, it is mainly a through trucking route which has less impact on the roadway.

In general, a concrete roadway will hold up better when there are large amounts of truck turning movements. In addition, concrete generally has a longer life than asphalt pavements. However, we have not completed a full life cycle cost to compare these types of payments at this time.

Staff would like to recommend pursuing the concrete roadway and complete the life cycle cost analysis to confirm this is the best decision long term for the City.

As part of the road reconstruction, the City has authorized installing a trail system along Duplainville Road in conformance with the Bike & Pedestrian Plan. The Bike and Pedestrian Committee recommended an off trail system preferably on the west side of Duplainville Road. However, topography and existing impediments indicate the east side is a more economical location. Therefore, a 10' wide bike/pedestrian path is planned for the east side. The estimated cost for this trail is $361,500 when completed as part of the road project.

Just recently, the Common Council authorized the design of the trail along Lindsay Road from Duplainville Road to the Pewaukee Sports Complex to be completed as part of this project. The Bike and Pedestrian Committee also recommended an off road system on the north side of Lindsay Road. A cost estimate has not yet been prepared for this portion of a trail.

The above costs do not include any land acquisition costs which will likely be required from 10 properties to accommodate the bike/pedestrian path. This is being further analyzed to determine the final impacts, but the road

section needs to be decided first.

FINANCIAL IMPACT:

RECOMMENDED MOTION:

Public Works Committee recommend pursuing a concrete roadway for the entire length (alternative 2) with a life cycle cost analysis being completed.

ATTACHMENTS:

Description

Duplainville Road and Trail Alternative Analysis

Strand Associates, Inc.®
126 N. Jefferson Street, Suite 350
Milwaukee, WI 53202
(P) 414.271.0771

November 24, 2020

Ms. Magdelene Wager
City of Pewaukee
W240 N3065 Pewaukee Road
Pewaukee, WI 53072

Re: Duplainville Road Reconstruction Alternative Analysis
City of Pewaukee, Wisconsin (City)

Dear Ms. Wager,

The City has hired Strand Associates, Inc.® to complete an alternative analysis for the reconstruction of Duplainville Road from just south of Green Road to Weyer Road. A total of three alternatives were evaluated for the Duplainville Road reconstruction analysis. The proposed typical section for all alternatives is an undivided two-lane roadway with 12-foot lanes, 5-foot paved shoulders, 3-foot aggregate shoulders, 16-foot-wide ditches, and an 8-foot-wide paved path outside of the ditch along the east side of the roadway. The proposed typical section includes 30-inch curb and gutter near the intersection with Green Road and the underpass at Capitol Drive. Additional curb and gutter may be required as determined necessary in the design phase. Right-of-way (ROW) impacts are expected because of the path throughout the project area; those costs have not been quantified. Approximately one acre of fee ROW will be required with the addition of the path, and temporary limited easements (TLE) will be required for grading. Enclosed is a typical section and project overview map demonstrating the conceptual layout.

An opinion of probable construction costs (OPCC) was prepared for the following alternatives:

1. Alternative 1–Asphalt Pavement Throughout the Entire Corridor

The asphalt pavement structure includes 2-inches of 4 LT 58-28 S over 4-inches 3 LT 58-28 S over 5 inches of 3/4-inch base aggregate dense (BAD) over 8 inches of 1 1/4-inch BAD.

2. Alternative 2–Concrete Pavement Throughout the Entire Corridor

The concrete pavement structure includes 7 inches of concrete pavement over 3 inches of 3/4-inch BAD over 5 inches of 1 1/4-inch BAD.

3. Alternative 3–Concrete Pavement from the South Project Limits to Capitol Drive, and Asphalt Pavement From Capitol Drive to the North Limit

The pavement structures listed for Alternatives 1 and 2 were used for Alternative 3.

Pavement structures used for this alternative analysis were based on the findings from the Duplainville Road Bridge Replacement project (Wisconsin Department of Transportation ID: 2370-04-70) pavement design, as well as the City Technical Standards. Further analysis to determine final pavement structure will be completed during final engineering and will be based on the geotechnical report and pavement structure design. This additional analysis will gather soil borings throughout the project corridor and account for the different traffic and truck volumes that are experienced within the

project limits. Additional geotechnical analysis will also provide insight to an anticipated amount of excavation below subgrade, which can have a significant impact on overall project cots. Final design standards may influence the OPCC. A preliminary OPCC for each alternative can be found in Table 1.

	Alternative 1	Alternative 2	Alternative 3
Roadway Items	$ 5,688,500	$ 7,188,500	$ 6,188,500
Trail Items	$ 361,500	$ 361,500	$ 361,500
OPCC	**$ 6,050,00**	**$ 7,550,000**	**$ 6,550,000**

Table 1–OPCC Alternatives

A more detailed OPCC for each alternative is enclosed. A life-cycle cost analysis was not completed as a part of this evaluation. The trail OPCC should only be considered when included with the roadway reconstruction. Should the City construct the path independent of the roadway, the OPCC will increase. The bid items for the trail OPCC include excavation common, 1 1/4-inch BAD, and asphaltic surface needed for the footprint of the 8-foot-wide trail.

Should you have any questions or like to discuss further, please call me at 414-271-0771.

Sincerely,

STRAND ASSOCIATES, INC.®

Ashley L. Pridemore, P.E.

Enclosures

Duplainville Road
Alternative 1: Asphalt from Green Road to Weyer Road
Preliminary Opinion of Probable Construction Cost
November 23, 2020

	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL
	EARTHWORK					
	Excavation Common	CY	68,100	$15.00	$	1,021,500
1				**Earthwork Subtotal Cost**	$	1,021,500
	PAVING ITEMS					
	Base Aggregate Dense 1 1/4-Inch	TON	29,700	$20.00	$	594,000
	Base Aggregate Dense 3/4-Inch	TON	22,800	$17.00	$	387,600
	Concrete Pavement 7-Inch	SY		$55.00	$	-
	Concrete Driveway 6-Inch	SY	25	$53.00	$	1,300
	HMA Pavement 3 LT 58-28 S	TON	11,900	$70.00	$	833,000
	HMA Pavement 4 LT 58-28 S	TON	5,700	$80.00	$	456,000
	Concrete Curb & Gutter 30-Inch Type A	LF		$30.00	$	-
	Concrete Curb & Gutter 30-Inch Type D	LF	800	$30.00	$	24,000
2				**Paving Items Subtotal Cost**	$	2,295,900
	TRAIL ITEMS					
	Excavation Common	CY	2,700	$15.00	$	40,500
	Base Aggregate Dense 1 1/4-Inch	TON	4,500	$20.00	$	90,000
	Asphaltic Surface (Bike Path)	TON	2,200	$105.00	$	231,000
3				**Trail Items Subtotal Cost**	$	361,500
4				**Major Roadway Items Subtotal Cost (Lines 1 - 3)**	$	3,679,000
5	**ALLOWANCE FOR UNMEASURED ITEMS IN 1-2 ABOVE**	LS	25 % of Line 4	N/A	$	920,000
6				**Major Roadway Items Subtotal Cost (Lines 4 - 5)**	$	4,599,000
	OTHER ITEMS					
7	EROSION CONTROL/FINISHING	LS	5 % of Line 6	N/A	$	230,000
8	DRAINAGE/STORM SEWER/DITCH GRADING	LS	7 % of Line 6	N/A	$	321,900
9	SIGNING	LS	2 % of Line 6	N/A	$	92,000
10	MISCELLANEOUS ITEMS	LS	15 % of Line 6	N/A	$	689,900
11	PAVEMENT MARKING	LS	2 % of Line 6	N/A	$	92,000
12				**Other Items Subtotal Cost (Lines 7 - 11)**	$	1,426,000
				Total Cost (Lines 6 and 12)	$	6,025,000
OPINION OF PROBABLE CONSTRUCTION COST					**$**	**6,050,000**

Assumptions/Notes

1. Quantities are based on preliminary layout and 2020 prices.
2. Unit costs were taken from BidX using WisDOT projects in and around Waukesha county, as well as WisDOT average bid item prices.
3. Costs for items not measureable at the pre-30 percent design stage were determined by reviewing similar projects and what percentage these unmeasurable items typically comprised of the total removals, earthwork and paving items.
4. A pavement structure of 7-Inches of Concrete Pavement over 3-Inches B.A.D. 3/4-inch over 5-Inches B.A.D. 1 1/4-inch was used base on WisPave analysis. A pavement strucure of 6-Inches HMA pavement over 5-Inches B.A.D. 3/4-inch over 8-Inches B.A.D. 1 1/4-inch was used
5. Anticipated FEE and TLE costs not included.
6. Earthwork was approximated using the pavement structure depth multiplied by the length of the project.

Duplainville Road
Alternative 2: Concrete from Green Road to Weyer Road
Preliminary Opinion of Probable Construction Cost
November 23, 2020

	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL
	EARTHWORK					
	Excavation Common	CY	56,200	$15.00	$	843,000
1				**Earthwork Subtotal Cost**	$	843,000
	PAVING ITEMS					
	Base Aggregate Dense 1 1/4-Inch	TON	18,700	$20.00	$	374,000
	Base Aggregate Dense 3/4-Inch	TON	16,300	$17.00	$	277,100
	Concrete Pavement 7-Inch	SY	48,800	$55.00	$	2,684,000
	Concrete Driveway 6-Inch	SY	25	$53.00	$	1,300
	HMA Pavement 3 LT 58-28 S (for driveways)	TON	516	$70.00	$	36,100
	HMA Pavement 4 LT 58-28 S	TON		$80.00	$	-
	Concrete Curb & Gutter 30-Inch Type A	LF	800	$30.00	$	24,000
	Concrete Curb & Gutter 30-Inch Type D	LF		$30.00	$	-
2				**Paving Items Subtotal Cost**	$	3,396,500
	TRAIL ITEMS					
	Excavation Common	CY	2,700	$15.00	$	40,500
	Base Aggregate Dense 1 1/4-Inch	TON	4,500	$20.00	$	90,000
	Asphaltic Surface (Bike Path)	TON	2,200	$105.00	$	231,000
3				**Trail Items Subtotal Cost**	$	361,500
4				**Major Roadway Items Subtotal Cost (Lines 1 - 3)**	$	4,601,000
5	**ALLOWANCE FOR UNMEASURED ITEMS IN 1-2 ABOVE**	LS	25 % of Line 4	N/A	$	1,150,000
6				**Major Roadway Items Subtotal Cost (Lines 4 - 5)**	$	5,751,000
	OTHER ITEMS					
7	EROSION CONTROL/FINISHING	LS	5 % of Line 5	N/A	$	287,600
8	DRAINAGE/STORM SEWER/GRADING	LS	7 % of Line 5	N/A	$	402,600
9	SIGNING	LS	2 % of Line 5	N/A	$	115,000
10	MISCELLANEOUS ITEMS	LS	15 % of Line 5	N/A	$	862,700
11	PAVEMENT MARKING	LS	2 % of Line 5	N/A	$	115,000
12				**Other Items Subtotal Cost (Lines 7 - 11)**	$	1,783,000
				Total Cost (Lines 6 and 12)	$	7,534,000
OPINION OF PROBABLE CONSTRUCTION COST					**$**	**7,550,000**

Assumptions/Notes

1. Quantities are based on preliminary layout and 2020 prices.
2. Unit costs were taken from BidX using WisDOT projects in and around Waukesha county, as well as WisDOT average bid item prices.
3. Costs for items not measureable at the pre-30 percent design stage were determined by reviewing similar projects and what percentage these unmeasurable items typically comprised of the total removals, earthwork and paving items.
4. A pavement structure of 7-Inches of Concrete Pavement over 3-Inches B.A.D. 3/4-inch over 5-Inches B.A.D. 1 1/4-inch was used base on WisPave analysis. A pavement strucure of 6-Inches HMA pavement over 5-Inches B.A.D. 3/4-inch over 8-Inches B.A.D. 1 1/4-inch was used
5. Anticipated FEE and TLE costs not included.
6. Earthwork was approximated using the pavement structure depth multiplied by the length of the project.

Duplainville Road

Alternative 3: Concrete from Green Road to Capitol Drive and Asphalt from Capitol Drive to Weyer Road

Preliminary Opinion of Probable Construction Cost

November 23, 2020

	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL
	EARTHWORK					
	Excavation Common	CY	65,000	$15.00	$	975,000
1				**Earthwork Subtotal Cost**	$	975,000
	PAVING ITEMS					
	Base Aggregate Dense 1 1/4-Inch	TON	26,500	$20.00	$	530,000
	Base Aggregate Dense 3/4-Inch	TON	22,000	$17.00	$	374,000
	Concrete Pavement 7-Inch	SY	14,900	$55.00	$	819,500
	Concrete Driveway 6-Inch	SY	25	$53.00	$	1,300
	HMA Pavement 3 LT 58-28 S	TON	8,500	$70.00	$	595,000
	HMA Pavement 4 LT 58-28 S	TON	4,000	$80.00	$	320,000
	Concrete Curb & Gutter 30-Inch Type A	LF	700	$30.00	$	21,000
	Concrete Curb & Gutter 30-Inch Type D	LF	150	$30.00	$	4,500
2				**Paving Items Subtotal Cost**	$	2,665,300
	TRAIL ITEMS					
	Excavation Common	CY	2,700	$15.00	$	40,500
	Base Aggregate Dense 1 1/4-Inch	TON	4,500	$20.00	$	90,000
	Asphaltic Surface (Bike Path)	TON	2,200	$105.00	$	231,000
3				**Trail Items Subtotal Cost**	$	361,500
4				**Major Roadway Items Subtotal Cost (Lines 1 - 3)**	$	4,002,000
5	**ALLOWANCE FOR UNMEASURED ITEMS IN 1-2 ABOVE**	LS	25 % of Line 3	N/A	$	1,001,000
6				**Major Roadway Items Subtotal Cost (Lines 4 - 5)**	$	5,003,000
	OTHER ITEMS					
7	EROSION CONTROL/FINISHING	LS	5 % of Line 5	N/A	$	250,200
8	DRAINAGE/STORM SEWER/GRADING	LS	7 % of Line 5	N/A	$	350,200
9	SIGNING	LS	2 % of Line 5	N/A	$	100,100
10	MISCELLANEOUS ITEMS	LS	15 % of Line 5	N/A	$	750,500
11	PAVEMENT MARKING	LS	2 % of Line 5	N/A	$	100,100
12				**Other Items Subtotal Cost (Lines 7 - 11)**	$	1,551,000
				Total Cost (Lines 6 and 12)	$	6,554,000
OPINION OF PROBABLE CONSTRUCTION COST					**$**	**6,550,000**

Assumptions/Notes

1. Quantities are based on preliminary layout and 2020 prices.
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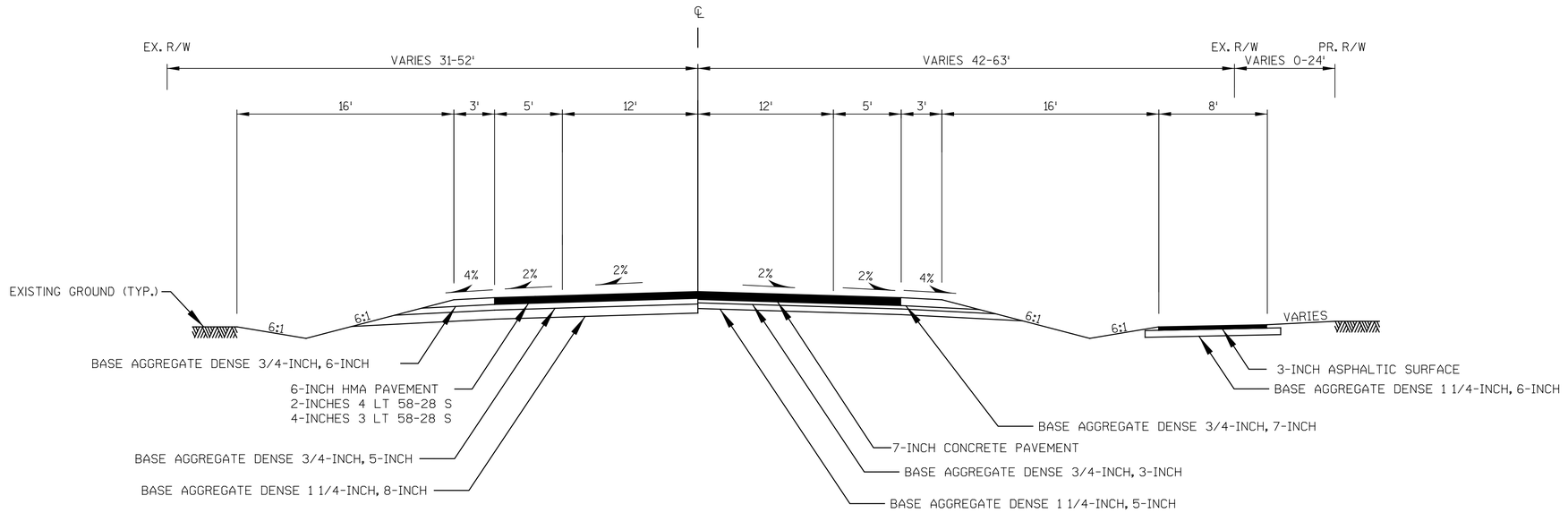
5. Anticipated FEE and TLE costs not included.
6. Earthwork was approximated using the pavement structure depth multiplied by the length of the project.

2



TYPICAL FINISHED SECTION

TYPICAL ASPHALT PAVEMENT SECTION, LT.
TYPICAL CONCRETE PAVEMENT SECTION, RT.

NOTES:

1. PAVEMENT STRUCTURE SUBJECT TO CHANGE FOLLOWING GEOTECHNICAL ANALYSIS AND PAVEMENT DESIGN.

PROJECT NO: 20-01	HWY: LOCAL ROAD	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 1	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42


N
OVERHILL ROAD
HEYER ROAD
LINDSAY ROAD
VICTORIA STREET
SCHOOL HOUSE DRIVE
ROCKWELL ROAD
OVERHILL LANE
CAPITOL DRIVE
GREEN ROAD

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 8.4.

DATE: April 22, 2021

DEPARTMENT: Public Works

PROVIDED BY: Magdelene Wagner

SUBJECT:

Discussion regarding Novus Training for Committee Members.

BACKGROUND:

The City of Pewaukee typically distributes the agenda packets and information through Novus Agenda. In order to complete this, we need to schedule a time for some basic training on how to use Novus Agenda. Staff can have this training ahead of the next meeting or at some other time before the next meeting at your preference.

FINANCIAL IMPACT:

RECOMMENDED MOTION: