



Common Council Chambers – City Hall Room 100
7325 W. Forest Home Ave, Greenfield, Wisconsin

BOARD OF PUBLIC WORKS MEETING Agenda

Tuesday, January 25, 2022 - 6:30 PM

1. Call to order
2. Roll Call
3. Approval of the November 23, 2021 meeting minutes.
4. Citizen Commentary
5. Discussion and decision to approve paying a portion of wetland mitigation costs for Infinity Development's approved Greatlife Senior Development on approximately 118th Street and Edgerton Avenue.
6. Discussion and decision to adopt the watershed restoration plan for the Oak Creek watershed as set forth in SEWRPC Community Assistance Planning Report No. 330.
7. Superintendent of Public Works report
8. Engineering Report
9. Other topics for future agendas
10. Adjournment

PLEASE NOTE: Upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through sign language interpreters or other auxiliary aids. For additional information or to request this service, contact the Department of Human Resources at 329-5208, (FAX) 543-6158, TDD 1-800-947-6644 (Wisconsin Telecommunications Relay System), or by writing to the Director of Human Resources/ADA Coordinator at Greenfield City Hall, 7325 West Forest Home Avenue, Room 101, Greenfield, WI 53220. Greenfield City Hall is wheelchair accessible from the west and south entrances.

MINUTES OF THE BOARD OF PUBLIC WORKS MEETING HELD AT THE GREENFIELD CITY HALL
ON TUESDAY, NOVEMBER 23, 2021

1. Call to order

The meeting was called to order by Alderperson Bruce Bailey at 6:30 pm.

2. Roll Call

Present: Alderperson Bruce Bailey, Alderperson Denise Collins, Citizen Members: John Rivera, John Graber

Excused: Alderperson Pam Akers

Also present: Jeff Katz, Director, Neighborhood Services; John Laskoski, Superintendent of Public Works; Bryan Haas, City Engineer

3. Approval of the September 28, 2021 meeting minutes

Motion by Alderperson Denise Collins, seconded by Alderperson Bruce Bailey to approve the September 28, 2021 meeting minutes. Motion carried unanimously.

4. Citizen Commentary

No Citizen Commentary

5. Discussion and decision to approve an agreement for a Targeted Runoff Management Grant from the Wisconsin Department of Natural Resources to fund channel improvements within Honey Creek.

Mr. Katz stated that the south side of Honey Creek in Konkel Park is in need of improvements to reduce flooding and improve water flow. Mr. Katz said this grant will allow for the restoration of this area in order to improve storm sewer discharge. The grant will allow for the development of a pond to reduce flooding and improve the undeveloped areas of Konkel Park between W. Layton Ave and S. 48th Street. The Wisconsin Department of Resources awarded the City of Greenfield \$225,000 towards this project. Mr. Katz stated that work will begin in spring 2022 and continue throughout the year.

Motion by Alderperson Denise Collins, seconded by John Rivera to approve. Motion carried unanimously.

6. Discussion and decision to approve a license agreement with WE Energies for the Powerline Trail.

Mr. Katz stated that this license agreement is between WE Energies and the City of Greenfield to allow the development of the Powerline Trail on the WE Energies Right of Way. Mr. Katz said that the plan is to start Phase 1 on South 106th and Cold Spring Road to South 60th Street and Cold Spring Road.

Motion by Alderperson Denise Collins, seconded by John Graber to approve. Motion carried unanimously.

7. Discussion and decision to approve an agreement with Resource Environmental

Solutions for maintenance along the Wildcat Creek in Kulwicki Park.

Mr. Katz stated that in 2018, Kulwicki Park was cleaned up between Hwy 100 and the north parking lot to prevent further flooding and erosion. Mr. Katz said native plants were added to Kulwicki Park to control flooding, water flowage, and erosion control. These native plants require a few years of early maintenance in order for them to thrive with low maintenance in the future. Mr. Katz said this two-year contract with Resource Environmental Solutions to maintain the plants along Wildcat Creek in Kulwicki Park.

Motion by Alderperson Denise Collins, seconded by John Graber to approve. Motion carried unanimously.

8. Superintendent of Public Works report

Mr. Laskoski gave an update on the Layton Avenue road project. The new lighting on Layton Ave from 27th Street to Loomis Road is up and ready to be connected to power. Mr. Laskoski said traffic control should be removed within the next 1-2 weeks. He also stated that Public Works is working on decorating the City Center and City Hall for the Holidays. He stated that DPW is finishing the last leaf collection routes and next week, Friday, December 3rd, they should be done with leaf collection for the season. Public Works is also working on reinstalling the warming shelter for the City's ice rink.

9. Engineering Report

Mr. Haas stated the following items have been completed this year in Greenfield:

- Reconstruction of the neighborhood south of Morgan Ave is complete. In Spring 2022, they will pave the top layer of asphalt.
- The concrete panel replacements on Cold Spring Rd near City Hall.
- The sanitary sewer on Ramsey Ave has been repaired.
- Many of the sanitary sewers throughout the City have been cleaned.
- Engineering worked with DPW to do some street lighting upgrades on Layton Ave and 60th Street.
- There have been about 600 trees planted throughout the City.

Mr. Haas gave an update on the Milwaukee County projects:

- The Layton Ave road project is nearly complete and the road may be re-opened by the end of November. They were able to do some of the work that was planned for next spring because the November weather has been favorable this year. The remaining work will be completed next spring 2022.

Wisconsin DOT projects:

- The resurfacing project of Highway 100 is essentially complete.

- Noise wall replacement between Cold Spring Rd and Howard Ave may be completed in the next month. There will be night-time closures of Cold Spring Rd to finish the work.

Mr. Haas said there are several design plans underway for future Greenfield projects:

- Plans for a sidewalk on 43rd St between Cold Spring Rd and Bottsford Ave with a Public Involvement Meeting (PIM) on Tuesday, December 7th from 4-6PM in City Hall Council Chambers.
- Plans to resurface several asphalt roads in 2022 with a Public Involvement Meeting (PIM) on Wednesday, December 15th from 4-6PM in City Hall Council Chambers.
- Traffic signal upgrades at Layton Ave/47th St and Edgerton Ave/60th St.
- Concrete road repair on 84th St from Cold Spring Rd to Howard Ave.
- Powerline Trail from the Oak Leaf Trail to 60th St.
- Sanitary sewer extension on 92nd St.
- Honey Creek restoration and improvement project.
- The design of The Turf Skatepark.

Future Milwaukee County construction projects for 2022:

- Resurfacing of Beloit Rd from 124th St to Wollmer Rd. We're partnering with the County to add additional pedestrian improvements around the Oak Leaf Trail and improve lighting around the intersection of Beloit Rd and Hwy 100.

Future Wisconsin DOT construction projects for 2022:

- 60th St Bridge replacement with a Public Involvement Meeting (PIM) on Wednesday, December 1st from 5-7PM in Council Chambers. Preconstruction meeting next week where we'll learn more about the schedule.

Aldersperson Collins stated that "Cruising with Santa" in the City of Greenfield is Wednesday, December 15th, at the same day and time as the Public Involvement Meeting for resurfacing several roads in Greenfield. Mr. Haas made a note of that information. Aldersperson Bailey inquired as to who would be notified about the PIM meeting on the 60th Street Bridge. Mr. Haas said that the Dept. of Transportation sent out letters to all of the major businesses and neighborhoods in the area of the 60th Street Bridge.

Minutes are not official until formally approved by the Board of Public Works at the next scheduled meeting.

10. Other topics for future agendas

Aldersperson Bailey stated at the next meeting he would like to discuss speed bumps on Cold Spring Road.

11. Adjournment

Motion by Aldersperson Denise Collins, seconded by John Rivera to adjourn at 6:58 PM. Motion carried unanimously.

Minutes transcribed by Stefanie Richter, Administrative Assistant, Engineering
Distributed: 12/21/21

Common Board of Public Works Meeting

Introduced By: Department of Neighborhood Services (Katz)

Date Introduced: January 25, 2021

RELATING TO:

Discussion and decision to approve paying a portion of wetland mitigation costs for Infinity Development's approved Greatlife Senior Development on approximately 118th Street and Edgerton Avenue.

SUMMARY:

Infinity Development is proposing a 132 unit senior living development near 118th and Edgerton.

The design and layout of the site will impact some wetlands. Efforts were made by the developer to keep those impacts to a minimum.

The Wisconsin Department of Natural Resources is requiring the developer to mitigate some of the wetland impacts. Mitigation is accomplished by purchasing credits from a wetland bank.

Based on map records, the developer determined that the overall size of wetland areas on his property increased in 2014 after the city reconstructed the existing neighborhood to the west.

Specifically, the impacted wetland areas requiring mitigation increased by 13,300 square feet as a result of the city's project.

The developer is asking the city to pay for wetland mitigation credits in proportion to the increase caused by the city's 2014 project.

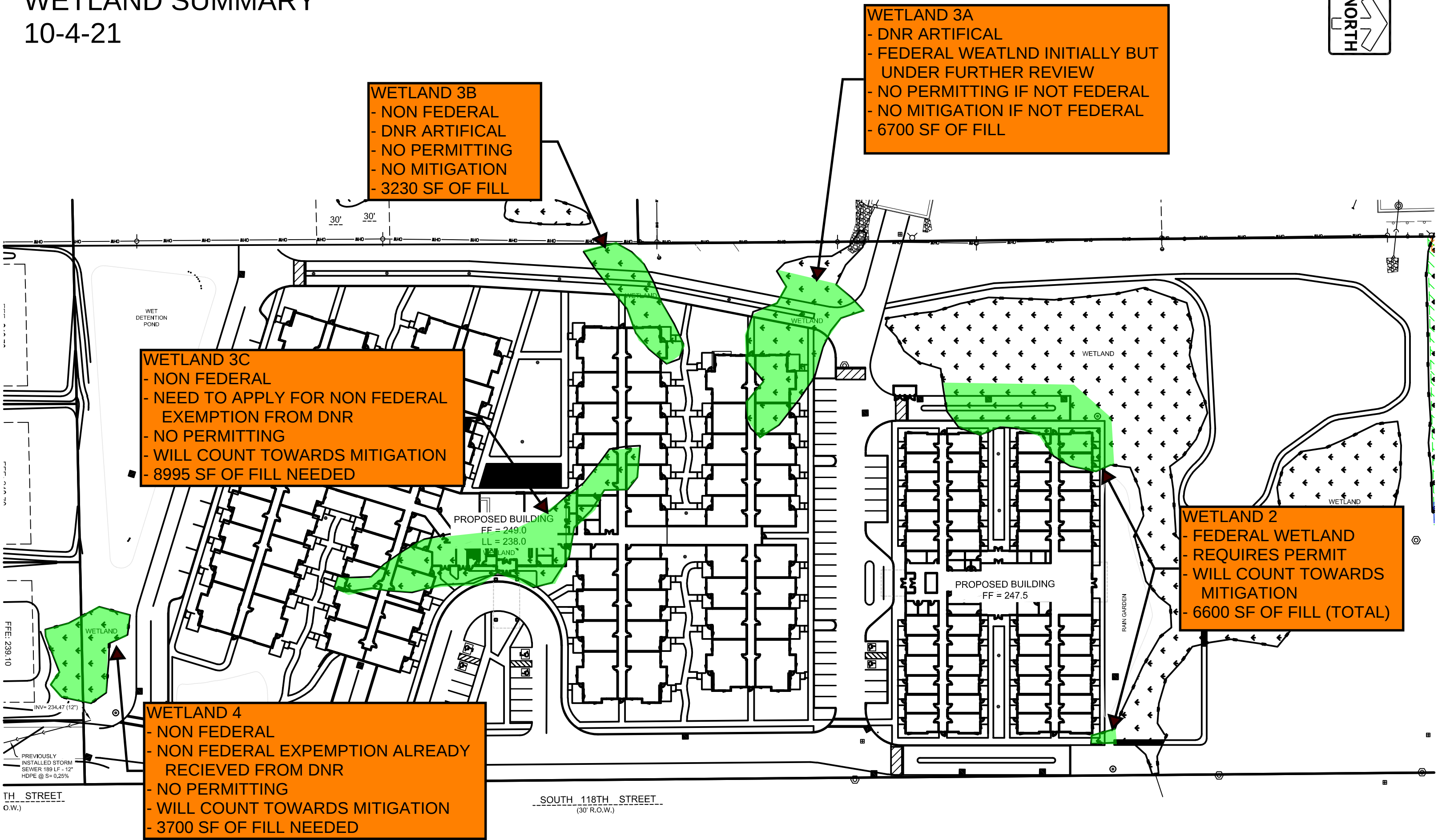
The developer is also asking that the city pay for a culvert needed to drain water that flows from the existing neighborhood through his property.

Financial:

The city would pay \$34,365 for wetland credits and \$7,100 for the culvert. The funds would come from the stormwater utility account.

ATTACHMENTS: KEY ISSUES ___ BACKGROUND ___ RESOLUTION ___ FISCAL NOTE ___
MOTION ___ OTHER ___

GREATLIFE
WETLAND SUMMARY
10-4-21



Page 8 of 18

9/9/2015

LEGAL DESCRIPTION:

Tax Key No. 811884000

The West 13.3 acres of the Southwest 1/4 of the Northwest 1/4 of Section 30, Township 6 North, Range 21 East, in the City of Greenfield, County of Milwaukee, State of Wisconsin, EXCEPTING Tax Key No. 811884000 being the South 200 feet of the West 13.3 acres of the Southwest 1/4 of the Northwest 1/4 of Section 30, Township 6 North, Range 21 East, in the Village of Hales Corners, County of Milwaukee, State of Wisconsin.

GENERAL NOTES

- Underground utility locations shown are based on field location markings by Digpro's Hydro Probe 8/2014/000000 and 8/2014/000000 both with a clear date of NOVEMBER 21, 2015. The location and size of underground structures and utilities shown herein have been located based on a reasonable visual observation and are shown for informational purposes only. PINNACLE ENGINEERING GROUP, LLC does not guarantee the location of utilities shown. Contact Digpro's Hydro Probe prior to the start of any activity.
- Vertical Datum: CITY OF GREENFIELD National Geodetic Vertical Datum of 1929 (NGVD29) 820.87 minus (-) M81.81. Contours are shown at a 1' interval based on actual ground survey of the current ground terrain. Elevation Benchmarks: Concrete Monument with Brass Cap at the Southwest corner of the Northwest 1/4 Section 30, Town 6 North, Range 21 East, City Datum Elevation 820.28.
- Survey prepared for: Greg Petrusini - Apple-Hales Corners LLC.
- No title commitment or title report was provided for this survey.
- Wetlands delineated September 9 & 10, 2015 by Christopher Jone of the Southwestern Wisconsin Regional Planning Commission (SEWRPC).
- Gross Land Area: 496,940 Square Feet (11.4082 Acres).
- The subject property is currently Zoned R1-GDULE FAMILY RESIDENTIAL DISTRICT per the City of Greenfield. See Zoning Ordinance for full listing of exceptions affecting setbacks.



Drawings referenced to the Wisconsin State Plane Coordinate System, South Zone PLAD 1027, the south one of the Northw 1/4 of Section 30, Township 6 North, Range 21 East and a bearing of S89°45'00"E

GRAPHICAL SCALE (FEET)

0 1" = 50' 100'

LEGEND OF SYMBOLS & ABBREVIATIONS

- | | |
|---------------------|--------------------------------|
| ● SANITARY MANHOLE | CL - CENTERLINE |
| ○ STORM MANHOLE | CONC - CONCRETE |
| □ STORM INLET | EL - ELEVATION |
| □ SANITARY INLET | EXT - EXISTING |
| □ CATCH BASIN | F.P. - FOUND 1" IRON PIPE |
| □ LATERAL | F.M. - FOUND 6" IRON MANHOLE |
| □ TIE IN | H - HORIZONTAL |
| □ WATER VALVE | MON - MONUMENT |
| □ WATER SERVICE BOX | P.C. - POINT OF COMMENCEMENT |
| □ SPRINKLER VALVE | P.O.C. - POINT OF COMMENCEMENT |
| □ LIGHT POLE | R.O.W. - RIGHT OF WAY |
| □ SIGN | SEC. - SECTION |
| □ MAIL BOX | SET PT. - SETTING POINT |
| □ BOLLARD | T.O.C. - TOP OF CURB |
| □ CROSS CUT | W - WIDTH |
| □ IRON PIPE | W.C. - WETLAND |
| □ IRON MANHOLE | |
| □ IRON MANHOLE | |
| □ SECTION MONUMENT | |
| □ SECTION MONUMENT | |
| □ TELEPHONE FEEDER | |
| □ TELEPHONE MANHOLE | |
| □ UTILITY POLE | |
| □ UTILITY POLE | |
| □ TRANSFORMER | |
-
- | | |
|----------------------------|------------------|
| — UNDERGROUND UTILITY LINE | — SANITARY SEWER |
| — STORM SEWER | — WATER MAIN |
| — TELEPHONE | — OVERHEAD WIRE |
| — GAS PIPE | — WETLAND |

I, John P. Koppstadt, Professional Land Surveyor, hereby certify that this survey map is correct to the best of my knowledge and belief with the information provided.

SIGNED: [Signature] JOHN P. KOPPEL, PROFESSIONAL LAND SURVEYOR D-249



LOCATION: 11940 W. EDGERTON AVENUE
SE 1/4 OF THE NW 1/4 OF SEC. 30, T 6 N, R 21 E, CITY OF GREENFIELD, MILWAUKEE COUNTY, WISCONSIN

PLAN | DESIGN | DELIVER
PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

PLAT OF SURVEY

REVISIONS

SHEET 1 of 1

SURVEY

AFFIDAVIT OF COMPENSATORY MITIGATION WWCT CREDIT PURCHASE

(Form Revised 6/2021)

Page 1 of 1

CONTACT INFORMATION		APPLICANT		AUTHORIZED REPRESENTATIVE	
Entity Name		Infinity Development LLC			
Address		6090 S Rosetree Pass			
City, State, Zip		New Berlin, WI 53151			
Contact Name & Title		Greg Petruski, Managing Member			
Phone Number		414.688.8911			
Email Address		Gpetruski@hotmail.com			
PROJECT INFORMATION					
Name	Edgerton Ave Senior Center Construction	Lat / Long	42.95401° N 88.06044° W		
Invoice Number	370-0000022062	TRS	T6N R21E S30		
Customer Number	0000057505	Municipality	City of Greenfield		
Brief Description	Senior Living Center construction	County	Milwaukee		

WWCT CREDIT PURCHASE INFORMATION

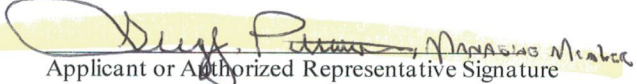
Wetland Classification (per 2013 WI Mitigation Guidelines)	Acres Impacted (Nearest 0.01)	Replacement Ratio (credits to acres)	Credits	Service Area	HUC8	TOTAL Credits Purchased
Fresh wet meadow	0.09	1.45	0.13	SWLM	04040002	0.52
Hardwood swamp	0.27	1.45	0.39	SWLM	04040002	

PERMIT INFORMATION

WI Department of Natural Resources Permit Docket #	U.S. Army Corps of Engineers Permit Docket #
IP-SE-2021-41-03623	

Applicant Certification:

Upon affixing my signature below, I hereby certify the above detailed credit purchase was **completed on November 3, 2021** from the WI Wetland Conservation Trust (WWCT), an authorized compensatory mitigation provider.


Applicant or Authorized Representative Signature

11/10/21
Date (MM/DD/YYYY)

Compensatory Mitigation Provider Certification:

Upon affixing my signature below, I hereby certify the completion of the above detailed credit purchase, accept the responsibility to perform compensatory mitigation on behalf of the Applicant and have recorded the debit in my accounting system to adjust my available credits.

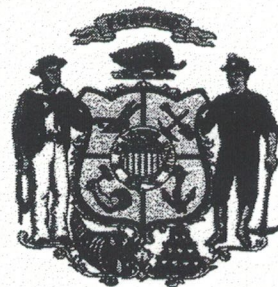
Provider Signature

WI Wetland Conservation Trust (WWCT)

Business or Program Name

Date (MM/DD/YYYY)

Please Remit To:
DNR ACCOUNTS RECEIVABLE
STATE OF WISCONSIN
PO BOX 78816
MILWAUKEE WI 53278-0816



INVOICE
State of Wisconsin
Dept of Natural Resources

Bill To:

000001
INFINITY DEVELOPMENT
GREG PETRAUSKI
6090 SOUTH ROSETREE PASS
NEW BERLIN WI 53151-8320

Invoice No: 370-0000022062
Invoice Date: 10/18/21
Page: 1 of 1

Customer Number: 0000057505
Payment Terms: NET30
Due Date: 11/17/21

AMOUNT DUE: 40,612.00 USD

\$ 40,612
Amount Remitted

This invoice is for the sale of wetland compensatory mitigation credits for impacted wetlands through the WDNR In-Lieu Fee Program. Thank you.
For billing questions, please call (608) 800-1643 TOM PEARCE

Line	Identifier	Description	Project	Quantity	UOM	Unit Amt	Original Net Amount
1		WWCT - 0.52 Adv Cr - Admin	3700000000000 015	1.00		4,061.20	4,061.20
2		WWCT - 0.52 Adv Cr - Contingen	3700000000000 015	1.00		2,030.60	2,030.60
3		WWCT - 0.52 Adv Cr - SWLK MICH	3700000000000 015	1.00		34,520.20	34,520.20

ILF credit sales are divided into Administration (10%), Contingency (5%), and Service Area (85%) funds.

40,612.00

40,612.00

80-568/1012
SECURED BY EZSHIELD
1040
Date 10/19/21

GREGORY JAMES PETRAUSKI, TRUSTEE
GREG J. PETRAUSKI REV. TRUST

Pay to the Order of WI DNR Accounts Receivable \$ 40,612
Forty Thousand Six Hundred Twelve 00 Dollars

FIDELITY INVESTMENTS
UMB BANK, N.A.
WARSAW, MISSOURI

For Inv. 370-0000022062

[Signature]

Board of Public Works Meeting

Item Number:

Introduced By: Neighborhood Services (Katz)

Date Introduced: January 25, 2022

RELATING TO:

Discussion and decision to **adopt the watershed restoration plan for the Oak Creek watershed as set forth in SEWRPC Community Assistance Planning Report No. 330.**

SUMMARY:

The Oak Creek watershed is located in Milwaukee County and includes portions of the Cities of Greenfield, Cudahy, Franklin, Milwaukee, Oak Creek, and South Milwaukee.

The City of South Milwaukee, Milwaukee County, and the Milwaukee Metropolitan Sewerage District executed an agreement with the Regional Planning Commission on January 5, 2016, for the development of a watershed restoration plan for the Oak Creek.

The plan contains recommendations to address issues and problems related to water quality, recreational access and use, habitat conditions, problems related to flooding, and the status of the Oak Creek Mill Pond and Mill Pond dam in the Oak Creek watershed.

The recommendations, including all studies, data, maps, figures, charts, and tables are set forth in a published report entitled SEWRPC Community Assistance Planning Report No. 330, A Restoration Plan for the Oak Creek Watershed, published in December 2021.

City of Greenfield staff has supported and generally concurred in the watershed and other regional planning programs undertaken by the Southeastern Wisconsin Regional Planning Commission and believes that the watershed restoration plan for the Oak Creek watershed is a valuable guide to the development of not only the watershed, but the community.

The adoption of such plan by the City of Greenfield will assure a common understanding by the several governmental levels and agencies concerned and enable these levels and agencies of government to program the necessary area-wide and local plan implementation work.

ATTACHMENTS: KEY ISSUES ____ BACKGROUND ____ RESOLUTION ____ FISCAL NOTE ____
MOTION ____ OTHER ____

RESOLUTION NO.

RESOLUTION TO ADOPT THE OAK CREEK
WATERSHED RESTORATION PLAN

WHEREAS, the Southeastern Wisconsin Regional Planning Commission, which was duly created by the Governor of the State of Wisconsin in accordance with Section 66.0309(2) of the Wisconsin Statutes on the 8th day of August 1960, upon petition of the Counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha, has the function and duty of making and adopting a master plan for the physical development of the Region; and

WHEREAS, the City of South Milwaukee, Milwaukee County, and the Milwaukee Metropolitan Sewerage District executed an agreement with the Regional Planning Commission on January 5, 2016, for the development of a watershed restoration plan for the Oak Creek watershed leading to recommendations for the management of water resources in the watershed, including recommendation to address issues and problems related to water quality, recreational access and use, habitat conditions, problems related to flooding, and the status of the Oak Creek Mill Pond and Mill Pond dam in the Oak Creek watershed; and

WHEREAS, such plan has been completed and;

WHEREAS, such plan contains recommendations to address issues and problems related to water quality, recreational access and use, habitat conditions, problems related to flooding, and the status of the Oak Creek Mill Pond and Mill Pond dam in the Oak Creek watershed; and

WHEREAS, the aforementioned recommendations, including all studies, data, maps, figures, charts, and tables are set forth in a published report entitled SEWRPC Community Assistance Planning Report No. 330, A Restoration Plan for the Oak Creek Watershed, published in December 2021; and

WHEREAS, the Commission has transmitted copies of the aforementioned SEWRPC Community Assistance Planning Report No. 330, to the local units of government; and

WHEREAS, the City of Greenfield has supported and generally concurred in the watershed and other regional planning programs undertaken by the Southeastern Wisconsin Regional Planning Commission and believes that the watershed restoration plan for the Oak Creek watershed prepared by the Commission is a valuable guide to the development of not only the watershed, but the community, and that the adoption of such plan by the City of Greenfield will assure a common understanding by the several governmental levels and agencies concerned and enable these levels and agencies of government to program the necessary areawide and local plan implementation work.

NOW, THEREFORE, BE IT RESOLVED that, pursuant to Section 66.0309(12) of the Wisconsin Statutes, the City of Greenfield hereby adopts the watershed restoration plan for the Oak Creek watershed as set forth in SEWRPC Community Assistance Planning Report No. 330 as a guide for watershed management.

BE IT FURTHER HEREBY RESOLVED that the city clerk transmit a certified copy of this resolution to the Southeastern Wisconsin Regional Planning Commission.

PASSED AND ADOPTED by the Common Council of the City of Greenfield on the 1st day of February, 2022.

APPROVED:

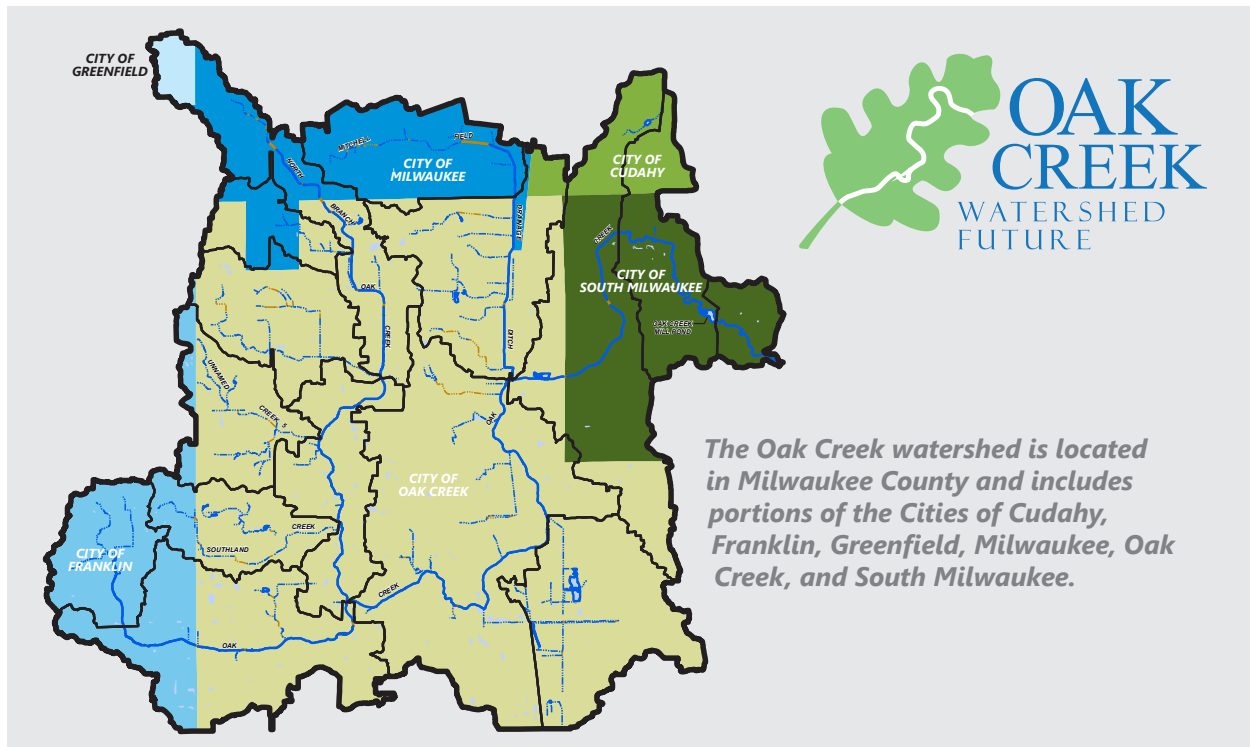
Michael J. Neitzke, Mayor

ATTEST:

Jennifer Goergen, City Clerk

A RESTORATION PLAN FOR THE OAK CREEK WATERSHED

EXECUTIVE SUMMARY



PURPOSE

The Oak Creek Watershed Restoration Plan (Plan) is a comprehensive resource developed to provide a set of specific, targeted recommendations to improve Oak Creek, its tributaries, and the watershed as a whole. The recommendations are for focused implementation over the next thirty years, but the Plan is comprehensive in scope and it is likely that it will be implemented well beyond that timeframe.

The Plan is coordinated with other recent plans and recommendations. Notably, the 2007 SEWRPC regional water quality management plan update provides comprehensive recommendations related to land use, pollution abatement, and water quality management that are directly related to the Oak Creek watershed. This Plan includes a detailed review of the implementation status of these recommendations.

This Plan is also intended to meet the U.S. Environmental Protection Agency's Nine Key Elements for a Watershed Plan. The elements specify requirements that include identifying the sources of pollutants, describing watershed management measures and timeline for implementation, estimating costs, setting milestones and criteria for plan progress, and providing information and education.

The four focus areas for this Plan include water quality, habitat, recreational access and use, and targeted flooding. A review for these focus areas was also completed specifically for the Mill Pond and Mill Pond dam near the downstream end of the watershed in the City of South Milwaukee. This Plan was developed in consultation with an Advisory Group of experts and interested parties. Stakeholders participated through the project webpage and numerous public meetings.

The Oak Creek Watershed Restoration Plan seeks to preserve, restore, and enrich the natural environment by focusing on these four areas:

- Water Quality
- Habitat Conditions
- Recreational Access and Use
- Flooding

A RESTORATION PLAN FOR THE OAK CREEK WATERSHED

PLAN SUMMARY

The Oak Creek Watershed Restoration Plan is divided into six chapters and 21 appendices. The first three chapters provide background on how the Plan was developed, prior work that has been completed in the watershed that relates to this Plan, and a general characterization of the watershed.

The fourth Plan chapter provides a detailed inventory of the state of the watershed based on research, field work, and existing data. Major findings for each category are summarized below.

Stream Characteristics

Commission staff surveyed about 22 miles of Oak Creek, North Branch Oak Creek, and the Mitchell Field Drainage Ditch inventorying and geolocating stream components such as channel and water dimensions, habitat types, streambank erosion, outfalls, culverts and bridges, large debris jams, and large trash items. Historical modifications to the stream channels, the loss of wetlands, and increases in impervious surfaces due to rapid urbanization have led to many impairments to Oak Creek and its tributaries. Impairments include excessive streambed and bank erosion, disconnection of the streams from a functional floodplain, excessive sedimentation, and loss of critical instream and terrestrial habitat. In addition, impediments to aquatic organism passage between Oak Creek, its tributaries, and Lake Michigan have contributed to a relatively poor-quality aquatic organism community.



Commission staff conducted instream surveys to assess the existing conditions of the waterways. This included an assessment of habitat conditions and an inventory of the physical attributes and infrastructure associated with the stream system.

Water Quantity

Flows on Oak Creek are very flashy and adversely impact the streams of the watershed. Stream and stormwater flooding impacts are scattered throughout the watershed.

Mill Pond and Dam

The Mill Pond has significant sediment accumulation that has adversely impacted its water quality, fishery, and recreational use. The Mill Pond dam is in good condition, except that its maintenance sluice gate is inoperable.

Surface Water Quality

While instream levels of pH and concentrations of total suspended solids and some heavy metals have improved, high concentrations of fecal indicator bacteria, total phosphorus, total nitrogen, and chloride are present and constitute ongoing water quality problems. Low concentrations of dissolved oxygen are present in some tributaries and the upper reaches of Oak Creek, which is another water quality problem.

High levels of bacteria have been found in streams within the Oak Creek watershed. Potential sources of bacteria include wildlife, pet waste, or cross-connections between sanitary and storm sewers. The presence of dry-weather flow from stormwater outfalls may be an indication of illicit connections to the storm sewer system

Biological Conditions

While the quality of the biological community in some reaches of the mainstem of Oak Creek has improved, the watershed contains poor to fair quality fish and aquatic macroinvertebrate communities, reflecting the combined effects of poor water quality, habitat alteration, and habitat fragmentation.

Recreation Access and Use

Commission staff conducted various recreational use surveys to better understand the patterns of outdoor recreation throughout the watershed. While the existing 1,165 acres of County Parkway, 12 miles of Oak Leaf Trail, the many acres of parks and open spaces, the Mill Pond warming house, and fishing access offer good opportunities for outdoor recreation along Oak Creek, interested plan participants identified the desire for high quality trails that support walking, hiking, and bicycling and restoration of the Mill Pond to expand and enhance the watershed recreational use and access opportunities.



Credit: Ken Mattison

The Oak Creek watershed contains many miles of recreational trails, including over 12 miles of Oak Leaf Trail and over nine miles of Forked Aster trails that support walking, hiking, biking, and other passive recreational uses.



Fishing is an important recreational activity in the Oak Creek watershed. The most popular fishing locations are located between the Creek's confluence with Lake Michigan and the Mill Pond dam. During the fall, this stretch is known for its salmon and brown trout runs.

The fifth chapter of the Plan summarizes the goals and management objectives to improve conditions in the watershed. These goals and objectives were used to develop the Plan recommendations.

PLAN RECOMMENDATIONS

The sixth and final Plan chapter summarizes the recommendations to improve conditions related to water quality, habitat, recreational access and use, flooding, and the Mill Pond and dam in the Oak Creek watershed. This includes a list of projects to be implemented over time. Recommendations include the following types of projects.

Water Quality

The Plan includes recommendations to address water pollution from point sources and urban and rural runoff. A major emphasis is placed on installing green infrastructure. The Plan also includes recommendations for implementing innovative runoff management practices to address specific pollutants such as phosphorus and pathogens. In addition, the Plan offers example stormwater management projects to retrofit current infrastructure for both water quantity and quality improvements.

Strategies to Reduce Pollution from Urban Runoff:

Grassed swales	Rain barrels	Fertilizer application controls
Bioretention facilities	Soil amendments	Pet litter and debris controls
Rain gardens	Pervious pavement	Iron enhanced sand filters
Green roofs	Stormwater treatment facilities	Riparian buffers
Native landscaping	Storm sewer systems	Regenerative stormwater conveyance
Cisterns	Leaf and lawn waste management	

A RESTORATION PLAN FOR THE OAK CREEK WATERSHED

Recommended Water Quality Monitoring Includes Analyzing Indicators Related To:

Dissolved oxygen	Metals	Phosphorus	Water flow
Fecal indicator bacteria	Nitrogen compounds	Stream invertebrates	Water temperature
Fish	Organic compounds	Suspended solids	Water transparency

Habitat

Recommended actions to maintain and re-establish natural surface water hydrology include to; protect, restore, expand, and connect riparian buffers; restore and connect wildlife habitat; restore the quality and diversity of instream habitat; mitigate the negative impacts on aquatic and terrestrial ecosystems that are associated with climate change; and reduce trash and debris within the stream channels and riparian areas.



A well-connected floodplain can provide many beneficial functions related to water quality, aquatic and terrestrial wildlife habitat, and flood reduction. Many stream reaches within the Oak Creek watershed have been disconnected from their floodplains through channelization and erosion of the streambeds. An important recommendation in this Plan is to improve the connection of streams to a functional floodplain.

Recreational Access and Use

Recommended actions include providing a better connected trail system to both local and regional trail systems; continue to expand passive recreational opportunities throughout the watershed; pursue opportunities for voluntary acquisitions of lands adjacent to publicly owned open spaces; additional access sites for fishing; examine additional uses for the Mill Pond warming house; and continue to strive for equal access and use of recreational facilities for all interested users.

Targeted Flooding

Due to the scattered nature of flooding concerns, solutions should be evaluated on a case-by-case basis as opportunities arise. Retaining runoff onsite as much as possible and protecting areas for infiltration and flood storage is also recommended.

Mill Pond and Dam

Five alternatives and one optional spillway enhancement are summarized to improve the Mill Pond and dam area. Sediment core sampling in the Mill Pond is recommended to refine the alternatives.

The final chapter also provides details regarding Plan implementation, including public participation, measuring plan success—including water quality monitoring, a schedule and interim milestones, and potential funding sources.

The Oak Creek Watershed Restoration Plan can be accessed online at:
www.sewrpc.org/OakCreekWRP

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