

AGENDA
BOARD OF PUBLIC WORKS MEETING
Tuesday, November 30, 2021 at 7:00 p.m.
Jackson Municipal Complex
Village Board Room
N168 W19851 Main Street
Jackson, WI 53037

1. Call to Order and Roll Call
2. Approval of the Board of Public Works Minutes of October 26, 2021
3. Review of License Agreement to Farm Public Land – Robert Loduha
4. Review of CSM for W198 N16876 Ridgeway Dr Lot line Correction
5. Final Review of Water & Sewer Expansion Analysis – City Water
6. Funding for Urban NPS & Stormwater Management Program Grant
7. Review of Service for Stormwater Pond Compliance – CDM Smith
8. Changes to Village of Jackson Floodplain Zoning Ordinance
9. Revised Pay Request #4 – 2019 Jackson Park Alley Project
10. Pay Request #3 - Willow Ridge Reconstruction Project – Soper Companies
11. Purchase of SnowEx Liquid Spray System
12. Director of Public Works Report
13. Citizens/Village Staff to address the Board
14. Adjourn

Persons with disabilities requiring special accommodations for attendance at the meeting should contact the Village Hall at least one (1) business day prior to the meeting.

It is possible that members of the Village Board may attend the above meeting. No action will be taken by any governmental body at this meeting other than the governmental body specifically referred to in this meeting notice. This notice is given so that members of the Village Board may attend the meeting without violating the open meeting law.

DRAFT Minutes
Board of Public Works Meeting
Tuesday, October 26, 2021 at 7:00 p.m.
Jackson Village Hall
N168 W20733 Main Street
Jackson, WI 53037

1. Call to Order and Roll Call

Chair Heckendorf called the meeting to order at 7:00 p.m.

Members Present: Tr. Engelhardt, Tim Meffert, Steve Schoen and Gloria Teifke

Members Excused: Sarah Malchow and Tr. Matter

Staff Present: Administrator Jen Keller, Director of Public Works Brian Kober, and Clerk Jilline Dobratz

2. Approval of the Board of Public Works Minutes of September 28, 2021

Motion by Gloria Teifke, second by Steve Schoen to approve the Board of Public Works minutes of September 28, 2021.

Vote: 5 ayes, 0 nays. Motion carried.

3. Presentation of Water & Sewer Expansion Analysis – City Water

Tom Nanning and Eric Fulsas of City were present. Eric Fulsas presented information on existing sanitary system capacity analysis, water and sanitary system expansion for future developments and recommended infrastructure improvements. The final report will be completed next month.

4. Change Order #4 – (Final) Spruce St and Ridgeway Dr Extensions

Director Kober reviewed the final reconciliation of the project.

Motion by Chair Heckendorf, second by Gloria Teifke to recommend Budget & Finance and Village Board approve Change Order #4 – (Final) Spruce St and Ridgeway Dr Extensions in the amount of \$5,337.55.

Vote: 5 ayes, 0 nays. Motion carried.

5. Pay Request #8 – (Final) Spruce St and Ridgeway Dr Extensions

Director Kober stated this will close out the project and includes releasing the retainage. The streetlights will need to be completed.

Motion by Chair Heckendorf, second by Tr. Engelhardt to recommend Budget & Finance and Village Board approve Pay Request #8 – (Final) Spruce St and Ridgeway Dr Extensions in the amount of \$69,818.51.

Vote: 5 ayes, 0 nays. Motion carried.

6. Review of SRF Quote ICE Study Eagle Dr & STH 60

Director Kober explained the purpose of the study. The study is required to be completed in order to improve the intersection. SRF Consulting, Inc. (SRF) coordinates with the Wisconsin Department of Transportation for review of the intersection control evaluation. Motion by Chair Heckendorf, second by Tim Meffert to recommend Budget & Finance and Village Board approve the proposal from SRF Consulting Group, Inc. in an amount not to exceed \$8,200.00.

Vote: 5 ayes, 0 nays. Motion carried.

7. Pay Request #2 – Coffee Connection Trail Project – Poblocki Paving

Director Kober commented the total amount has been reduced by five percent for retainage.

Motion by Tim Meffert, second by Tr. Engelhardt to recommend Budget & Finance and Village Board approve Pay Request #2 – Coffee Connection Trail Project – Poblocki Paving in the amount of \$71,662.12.

Vote: 5 ayes, 0 nays. Motion carried.

8. Review of Quotes for New Bucket Truck

Director Kober stated a bucket truck is needed due to increased usage and safety. The truck was scheduled to be replaced in 2014 but because of condition and usage, the replacement was held off until now. The purchase will come from the Sewer Department DNR replacement fund. Delivery of the truck is expected to be next year at this time.

Motion by Chair Heckendorf, second by Tr. Engelhardt to recommend Budget & Finance and Village Board approve the purchase of the New Bucket Truck with Option #2 in an amount not to exceed \$130,000.00.

Vote: 5 ayes, 0 nays. Motion carried.

9. Director of Public Works Report

Director Kober gave the report.

Motion by Chair Heckendorf, second by Tim Meffert to place the Director of Public Works Report on file.

Vote: 5 ayes, 0 nays. Motion carried.

10. Citizens/Village Staff to Address the Board

None.

11. Adjourn.

Motion by Chair Heckendorf, second by Tr. Engelhardt to adjourn.

Vote: 5 ayes, 0 nays. Meeting was adjourned at 8:13 p.m.

Respectfully submitted,

Jilline Dobratz, *CMC/WCPC*
Village Clerk

License Agreement to Farm Public Land

THIS LICENSE AGREEMENT TO FARM PUBLIC LAND is made this ____ day of _____, 2021, between the VILLAGE OF JACKSON, a municipal corporation, of Washington County, Wisconsin ("VILLAGE"), and Robert Loduha, ("Licensee").

WITNESSETH:

The VILLAGE is the owner of a parcel of land located in the Village of Jackson, which is vacant public land located Sec. 20, T10N, R20E PT OF NE NW LOT 1 and LOT 2 DOC 1466506 + 1466507 EXC CSM 6969 and identified by Tax Keys: V3_053600B and V3_053600C. As the VILLAGE has no current plans to develop the property in 2021 and to limit weed growth during 2021, the VILLAGE will grant a license to Robert Loduha for the purpose of farming. In the event the VILLAGE chooses to change the use of these subject lands as commonly defined, a "Term of Convenience" of no less than 120 days shall be provided to the Licensee. Any financial loss for the removal of planted crops, due to termination of the agreement, shall be reimbursed to the Licensee by the VILLAGE.

NOW THEREFORE, IT IS AGREED between the VILLAGE and Licensee as follows:

1. **Premises.** VILLAGE, in consideration of the covenants contained herein, agree to issue a License Agreement to Robert Loduha for the space and area referred to below as the "demised premises" for a fee upon the terms set forth for the purposes of farming.

2. **Demised Premises.** The demised premise consists of vacant public land located in Sec. 20, T10N, R20E PT OF NE NW LOT 1 and LOT 2 DOC 1466506 + 1466507 EXC CSM 6969 and identified by Tax Keys: V3_053600B and V3_053600C which consists of 20 acres. This land is not currently maintained by the Village of Jackson. See EXHIBIT A for map details.

3. **Term.** The term of this license agreement is from January 1, 2022 to November 30, 2022.

4. **Obligations of Licensee.**

A. **Type of Operation.** The demised premises shall be occupied and used by Licensee for farming purposes only. The Village benefits by the continued maintenance of the property. These crops may be harvested and sold by the Licensee as he/she sees fit. The Village is not entitled to any proceeds from the sale of these crops.

B. **Cleanliness, Trash, Etc.** Licensee shall maintain the demised premises in a clean, neat and sanitary condition.

5. **License Fee.** The License Fee shall be 20 acres at \$125.00 per acre for a total of \$2,500 per year. The full License Fee shall be payable upon cropping of the land, or before November 30th, 2022.

6. **Insurance.**

A. **Fire Insurance.** Licensee shall procure and keep in force fire and extended coverage insurance upon its improvements, furniture, furnishings, fixtures and equipment to their full insurable value and shall furnish the VILLAGE'S Clerk with evidence that coverage has been procured and is being maintained in full force.

B. **Liability Insurance.** Licensee shall maintain with insurance underwriters satisfactory to the VILLAGE a standard form of policy or policies of insurance in such amounts as may from time to time be approved by VILLAGE protecting both Licensee and VILLAGE against public liability, products liability and property damage. Licensee shall promptly, after the execution of this License Agreement, furnish such policy or policies for property damage growing out of any one accident or other cause in the sum of not less than \$1 million, for personal injury/death growing out of any one accident or other cause with liability of not less than \$1 million, the coverage to include products liability. It is understood that the specified amounts of insurance in no way limits the liability of Licensee and that Licensee shall carry insurance in amounts so as to indemnify the VILLAGE from all claims, suits, demands and actions. Licensee shall furnish a certificate from the insurance carrier or carriers showing insurance to be in full force during the term of this contract or shall deposit copies of the policies that give this coverage with VILLAGE'S Clerk.

7. **Indemnity.** Licensee agrees to defend and indemnify the VILLAGE from all fines, suits, claims, demands and actions of any kind by reason of any of its operations under this license agreement and agrees to assume all the risk in the operation of its business and shall be solely responsible and answerable in damages for any accidents or injuries to persons or property.

8. **Signs.** Licensee shall not erect, install, operate or cause or permit to be erected, installed or operated in or upon the demised premises, any signs or other similar advertising device without having first obtained the approval of the VILLAGE.

9. **Land Condition at End of License.** Licensee shall disc/till the land after crops have been removed and return the land to its original condition, unless otherwise approved by the Village Board, by no later than December 31, 2022.

10. **Nonassignment or Subletting.** Licensee shall not assign this agreement and its rights, in whole or in part, except with the prior written consent of the VILLAGE.

11. Default. In the event that Licensee shall fail to pay the agreed upon License Fee the VILLAGE shall have the right to terminate this License Agreement. In the event Licensee fails to keep and perform or shall violate the terms, covenants and conditions of this license agreement on its part to be kept and performed and Licensee shall not have cured or corrected this failure or violation within ten (10) days after written notice shall have been given to Licensee, the VILLAGE shall have the right to terminate this license agreement.

Upon the occurrence one or more of the events of default, Licensee's right to possession of the demised premises shall terminate, and Licensee shall surrender possession of the demised premises immediately. In this event, Licensee grants to the VILLAGE full and free license to enter into and upon the premises or any part of them to take possession with or without process of law and to expel and remove the Licensee.

12. Not Joint Venture. It is mutually understood and agreed that nothing contained in this License Agreement is intended, or shall be construed as, in any way creating or establishing the relationship of co-partners or joint venturers between the parties or as constituting the Licensee as the agent or representative of VILLAGE for any purpose or in any manner.

13. Rules and Regulations. Licensee shall observe all of the VILLAGE'S and Washington County ordinances as well as the State of Wisconsin Statutes regarding activity on the farmed property.

14. Termination Without Cause. If this License Agreement is determined to be invalid or beyond the authority of the VILLAGE or if the Village Board without cause acts to terminate this License Agreement, Licensee shall cease using the demised premises as an extension of its operation and shall abandon the same within 10 days after written notification of the termination.

15. Entire Agreement/Amendment. The License Agreement contains the entire agreement of the parties and there are no other promises or conditions in any other agreement whether oral or written. This License Agreement may be modified or amended in writing, if the writing is signed by both parties and approved by the Village Board with a favorable recommendation from the Board of Public Works.

16. Severability. If any portion of this License Agreement shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a Court finds that any provision of the License Agreement is invalid or enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.

17. Governing Law. The License shall be construed in accordance with the laws in the State of Wisconsin.

IN WITNESS WHEREOF, the parties hereto have executed this license agreement on the day and year first above written.

License Issuer:

Licensee:

VILLAGE OF JACKSON

Robert Loduha

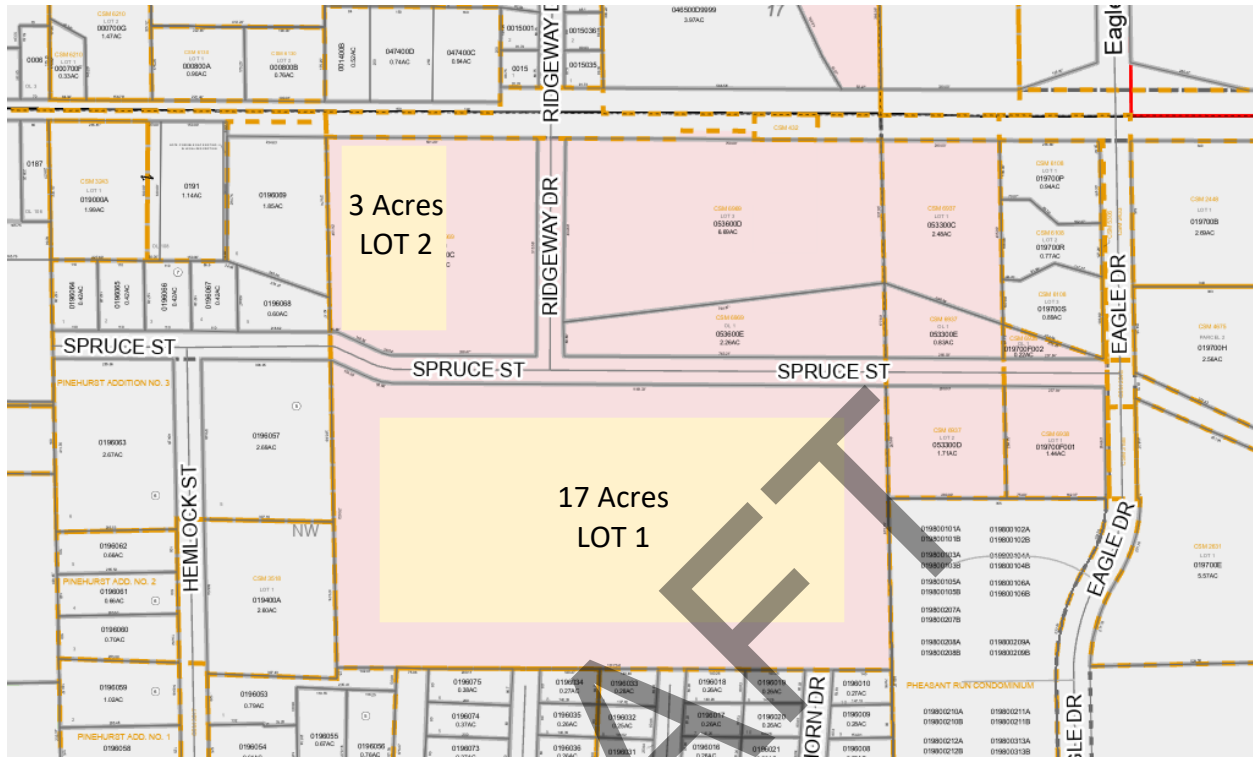
By: _____
Mike Schwab, Village President

By: _____
Robert Loduha

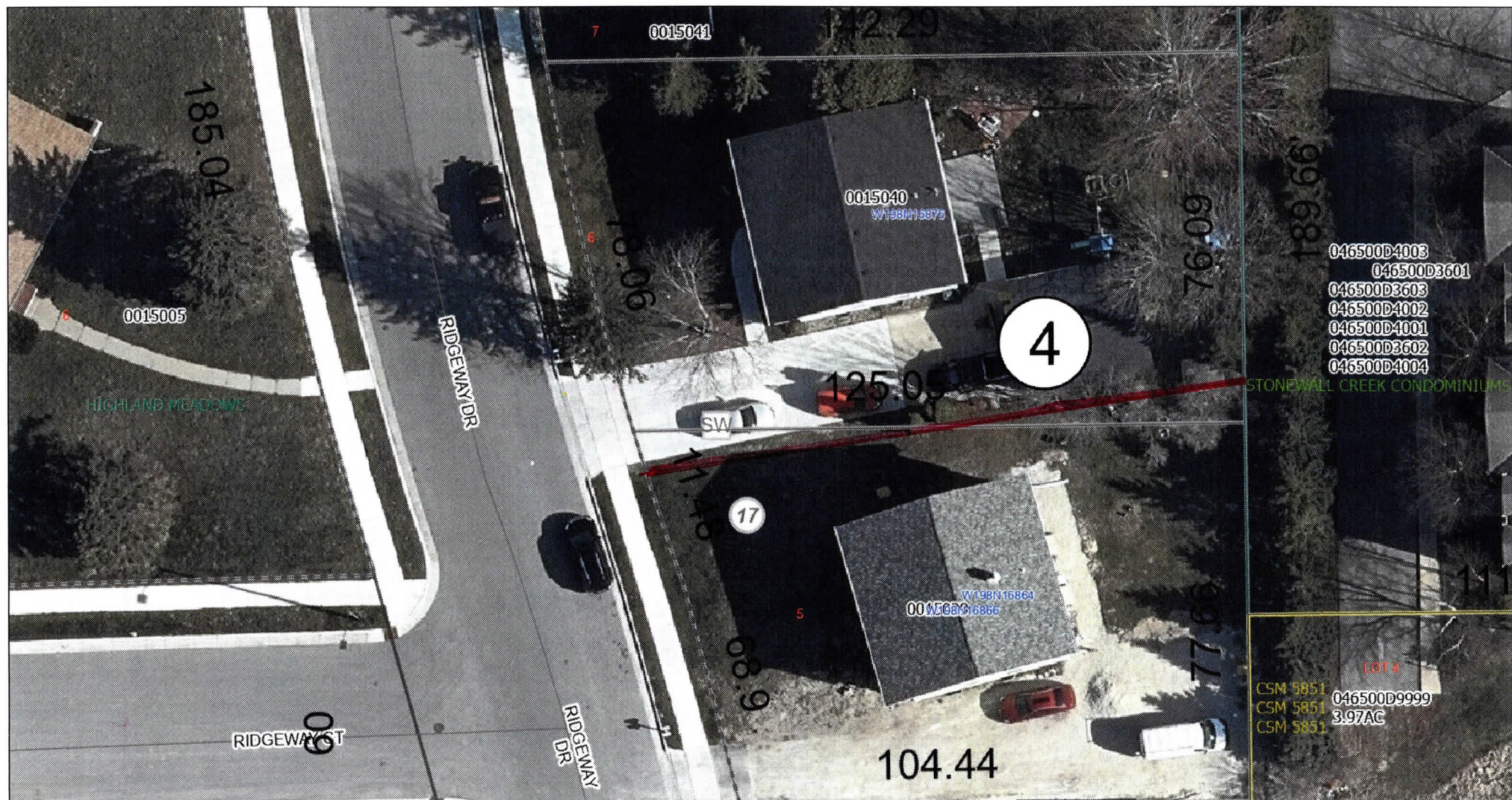
Attest: _____
Jilline Dobratz, Village Clerk

DRAFT

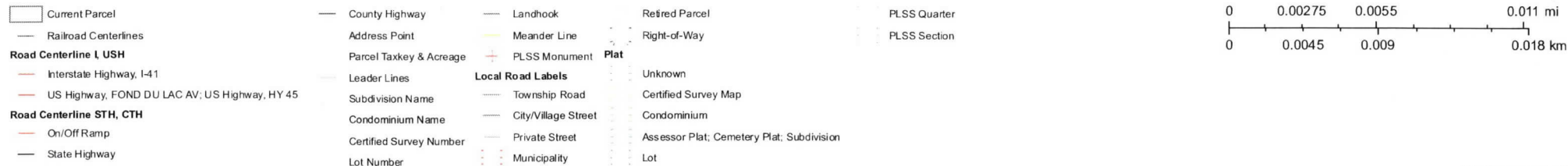
EXHIBIT A



Washington County, Wisconsin

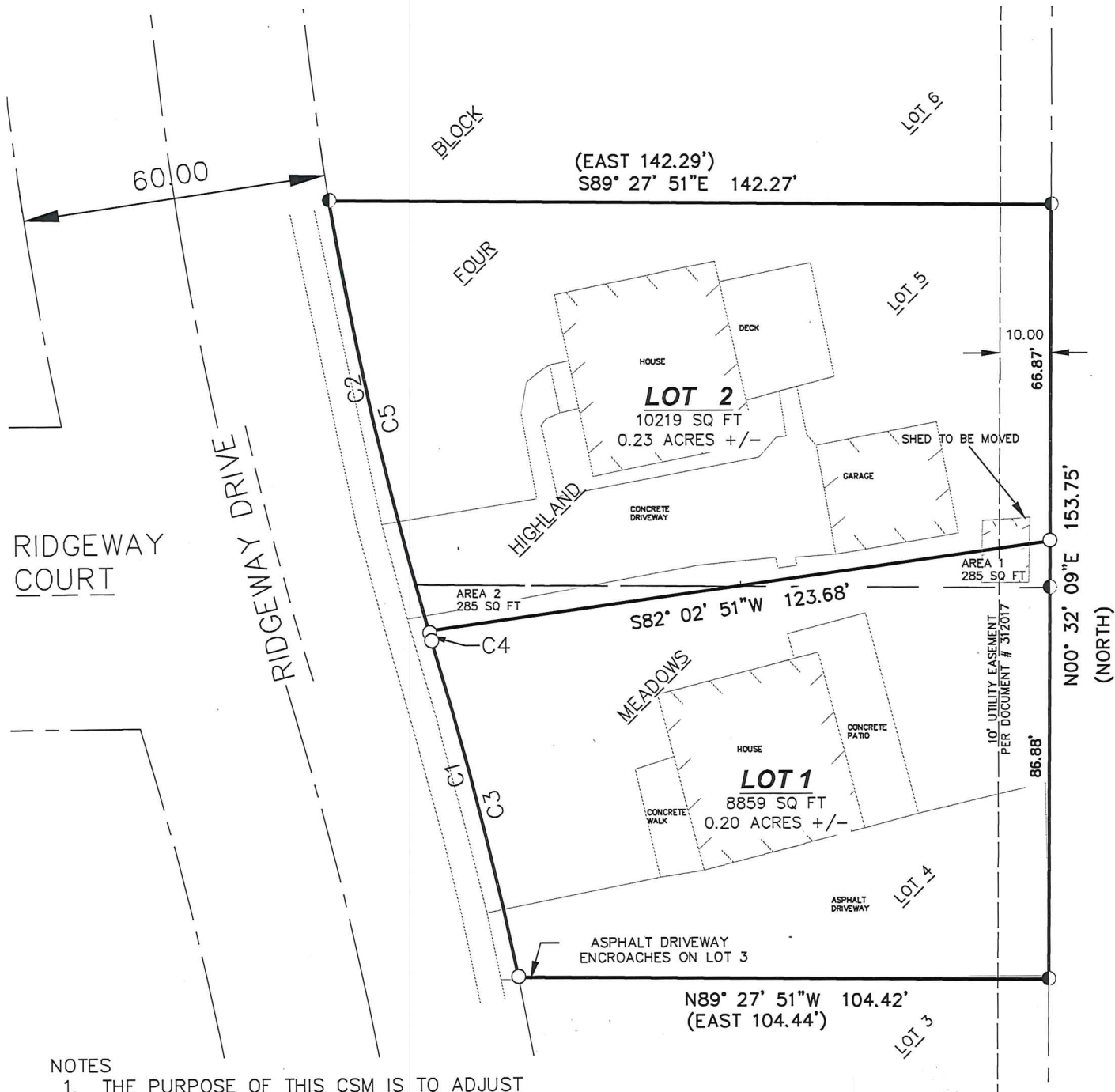


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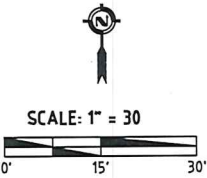
CERTIFIED SURVEY MAP NO. _____
VOLUME _____, PAGE _____.

A REDIVISION OF LOT 4 AND LOT 5, BLOCK 4 OF HIGHLAND MEADOWS SUBDIVISION, LOCATED IN THE SE $\frac{1}{4}$ OF THE SW $\frac{1}{4}$ OF SECTION 17, TOWNSHIP 10 NORTH, RANGE 20, EAST, VILLAGE OF JACKSON, WASHINGTON COUNTY, WISCONSIN



- NOTES
1. THE PURPOSE OF THIS CSM IS TO ADJUST THE COMMON PROPERTY LINE OF LOT 3 AND LOT 4 OF HIGHLAND MEADOWS.
 2. AREA 1 TO BE RETAINED BY LOT 1, AREA 2 TO BE RETAINED BY LOT 2.
 3. FIELD WORK COMPLETED 8-20-2021.

Curve Table					
Curve #	Length	Radius	Central Angle	Chord Length	Chord Bearing
C1	68.90'	759.12'	5° 12' 02"	68.88'	N14° 01' 51"W
C2	87.48'	754.30'	6° 38' 40"	866.69'	N12° 39' 11"W
C3	68.90'	759.12'	5° 12' 02"	68.88'	N14° 01' 51"W
C4	2.05'	754.30'	0° 09' 20"	862.27'	N16° 03' 11"W
C5	89.52'	754.30'	6° 48' 00"	89.47'	N12° 43' 51"W



PREPARED FOR:
Village of Jackson
N168 W20733 Main Street
Jackson, WI 53037

North is referenced to the West line
line of Highland Meadows which
bears N00°32'09"E
Wisconsin County Coordinate System
(Washington County)

- LEGEND
- Set 3/4" x 18" Rebar Weighing 1502 Pounds/Lineal Foot
 - Found Iron as noted
 - () Recorded As

Mitchell J. Reimer
W61 N497 Washington Ave
Cedar Corporation
Cedarburg, Wisconsin 53012
SHEET 1 OF 3 SHEETS

CERTIFIED SURVEY MAP NO. _____
VOLUME _____, PAGE _____ .

A REDIVISION OF LOT 4 AND LOT 5, BLOCK 4 OF HIGHLAND MEADOWS SUBDIVISION, LOCATED IN THE SE 1/4 OF THE SW 1/4 OF SECTION 17, TOWNSHIP 10 NORTH, RANGE 20, EAST, VILLAGE OF JACKSON, WASHINGTON COUNTY, WISCONSIN

SURVEYOR'S CERTIFICATE

I, Mitchell J. Reimer, Wisconsin Professional Land Surveyor, hereby certify that I have surveyed, divided, and mapped Lot 4 and Lot 5, of Highland Meadows, recorded as document number 312258 as found in the Washington County Registry, Washington County, Wisconsin located the SE 1/4 of the SW 1/4 of Section 17, Township 10 North, Range 20 East, Village of Jackson, Washington County, Wisconsin.

That I have made such survey, land division, and map at the direction of Village of Jackson, N168 W20733 Main Street, Village of Jackson, Washington County, Wisconsin 53037. That such map is a correct representation of the exterior boundaries of the land surveyed, and the subdivision thereof made. That I fully complied with the provisions of Chapter 236.34 of the Wisconsin State Statutes, A-E 7 of the Wisconsin Administrative Code, in surveying, dividing and mapping the same, and Chapter 38 of the Village of Jackson Municipal Code. Said survey is subject to easements of record and as shown.

Dated this _____ day of _____, 2021.

Mitchell J Reimer, P.L.S. #3123-8

VILLAGE BOARD APPROVAL:

Resolved that this Certified Survey Map in the Village of Jackson, owner of said lands, being a re-division of C.S.M. 432 and the Northeast Quarter of the Northwest Quarter of Section 20, located in the Town 10 North, Range 20 East, Village of Jackson, Washington County, Wisconsin, is hereby approved and dedication accepted by the Village Board trustee to the Village of Jackson.

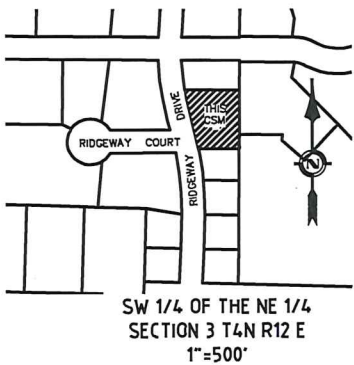
Approved this _____ day of _____, 2020.

Mike Schwab - Village President

Signed this _____ day of _____, 2020.

Jilline Dobratz - Village Clerk

Cedar Corporation
W61 N497 Washington Avenue
Cedarburg, Wisconsin 53012



CERTIFIED SURVEY MAP NO. _____
VOLUME _____, PAGE _____ .

A REDIVISION OF LOT 4 AND LOT 5, BLOCK 4 OF HIGHLAND
MEADOWS SUBDIVISION, LOCATED IN THE SE $\frac{1}{4}$ OF THE SW $\frac{1}{4}$ OF
SECTION 17, TOWNSHIP 10 NORTH, RANGE 20, EAST, VILLAGE OF
JACKSON, WASHINGTON COUNTY, WISCONSIN

OWNERS CERTIFICATE

As Owner, I hereby certify that I have caused the lands described herein to be surveyed, divided, and mapped, as represented on this map. I also certify that this map is required to be submitted to the Village of Jackson for approval.

Daniel T. Leonard

Dated _____, 2021

STATE OF WISCONSIN)
WASHINGTON COUNTY) ss

Personally came before me this _____ day of _____, 2018, the above named Daniel T Leonard to me known to be the same person who executed the foregoing certificate and acknowledged the same.

(Notary Seal) _____ Notary Public, _____ Wisconsin
(notary name)

My commission expires _____

CERTIFIED SURVEY MAP NO. _____
VOLUME _____, PAGE _____ .

A REDIVISION OF LOT 4 AND LOT 5, BLOCK 4 OF HIGHLAND
MEADOWS SUBDIVISION, LOCATED IN THE SE $\frac{1}{4}$ OF THE SW $\frac{1}{4}$ OF
SECTION 17, TOWNSHIP 10 NORTH, RANGE 20, EAST, VILLAGE OF
JACKSON, WASHINGTON COUNTY, WISCONSIN

OWNERS CERTIFICATE

As Owners, I hereby certify that I have caused the lands described herein to be surveyed, divided, and mapped, as represented on this map. I also certify that this map is required to be submitted to the Village of Jackson for approval.

Dennis R. Tischer

Dated _____, 2021

Elfried K. Tischer

Dated _____, 2021

STATE OF WISCONSIN)
WASHINGTON COUNTY) ss

Personally came before me this _____ day of _____, 2018, the above named Dennis R. Tischer and Elfried K. Tischer to me known to be the same person who executed the foregoing certificate and acknowledged the same.

(Notary Seal) _____ Notary Public, _____ Wisconsin
(notary name)

My commission expires _____



Water & Sewer Expansion Analysis

Village of Jackson, Wisconsin

October 2021



October 04, 2021

Brian W. Kober, P.E.
Director of Public Works / Village Engineer
Village of Jackson
PO Box 637
W194 N16660 Eagle Drive
Jackson, WI 53037

Re: Water Utility Master Plan Update

Brian,

Thank you for the opportunity to develop an expansion and capacity analysis of the water and sewer systems for the Village of Jackson Water Utility. The report includes following items:

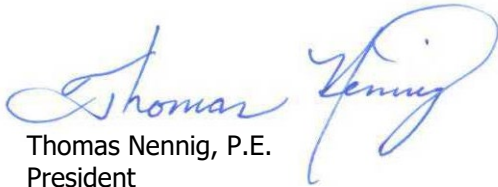
- Existing sanitary system capacity analysis
- Water and sanitary system expansion for future developments
- Recommended infrastructure improvements

This report is a working document that contains our analysis and constructive comments and suggestions from you and your staff. This report is meant as a planning tool for management and utility staff.

We greatly appreciate your time and cooperation with helping us complete this report. Please contact me if you have any questions or comments regarding this report.

Sincerely

CITY WATER, LLC



Thomas Nennig, P.E.
President



Eric Fulsaa
Project Engineer

Table of Contents

Introduction.....	1
Background.....	1
Project Scope	1
Part One: Water System Expansion	2
Proposed Development Location.....	2
Proposed Development Demands	2
Proposed Development Service.....	4
Estimated construction Costs FOR dEVELOPMENT	5
High Side Zone Expansion	5
Part Two: Sewer Expansion	8
Twin Creeks Lift Station	8
Interceptor Capacity	9
Sherman Rd Service Area.....	13
System Improvements	13
Summary & Recommendations	14
Summary	14
Part 1	14
Part 2	14
Recommendations	14
Part 1	14
Part 2	14
Low Pressure Served Hydraulic Model	16
Interceptor Study Areas	18

Introduction

BACKGROUND

In early 2021, the Village of Jackson has requested an analysis of both the water supply and sewer collection systems. The analysis was to be completed in two parts; Part 1 was to evaluate potential water service expansion and determine limits of supply for both the high- and low-pressure system. The second part of the analysis addressed a potential sanitary sewer extension and general system expansion on Sherman Road.

This analysis will be used to guide the development of the Jackson Sewer and Water Utilities into the future, as well as establish recommendations for future infrastructure projects to increase or address system capacity issues.

PROJECT SCOPE

The Village of Jackson requested the following items addressed in the study:

- Part One:
 - Review existing water system infrastructure and topographical information in the area of the proposed development to determine the maximum service elevation of the proposed development.
 - Determine potential water service demand and fire flow demand for the development and add it to the existing hydraulic model
 - Determine from which pressure district the proposed development will need to be served.
 - Provide cost estimate based on the proposed water expansion to serve the proposed development.
 - Investigate extending the existing high-pressure system on Pleasant Valley Rd to the proposed development
- Part Two:
 - Review existing sanitary sewer infrastructure in the area of the proposed extensions to determine the capacity of the Twin Creeks lift station, and existing collection system
 - Assign sanitary sewer flow rates based on the proposed development density and using gravity flow design, determine the capacity of sanitary sewer serving the proposed development, including minimum service elevation and maximum pipe capacity
 - Review and determine the maximum design capacity of the 30-inch diameter sanitary sewer interceptor from the Twin Creeks lift station to the Wastewater Treatment Plant (WWTP)
 - Review and determine the service area for sanitary sewer along Sherman Road east of Twin Creeks Subdivision.



Part One: Water System Expansion

PROPOSED DEVELOPMENT LOCATION

As shown in Figure 1, the proposed development is outside the current water system limits. The development is located east of Jackson Dr approximately 2,100 feet north of the connection point to the low-pressure side of the water distribution system. The development is around 67.5 acres in size. The development covers an elevation range from 846 feet to 908 feet above sea level.

PROPOSED DEVELOPMENT DEMANDS

To assess the average day, maximum day, and peak hour demand of the proposed development, the last 6 years of Public Service Commission (PSC) annual report data (2015-2020) was utilized. Table 1 shows the past 6 year's data. The average consumption per day for a residential unit is 116.5 gpcpd or 0.81 gpm. Given the acreage of the development and assuming 3 residential units per acre, the proposed development demands are shown in Table 2. The ratio used to calculate maximum day is also based on the past 6-year max day/avg day ratios, while the peak hour is develop based on industry standard factor of 4 from peak hour to avg day. The peak water main demand will be added to the minimum required Department of Natural Resources (DNR) fire flow demand of 500 gpm to develop water main sizing (minimum Utility sizing for water main is 8-inch diameter).

Table 1 – Historical Residential Demand

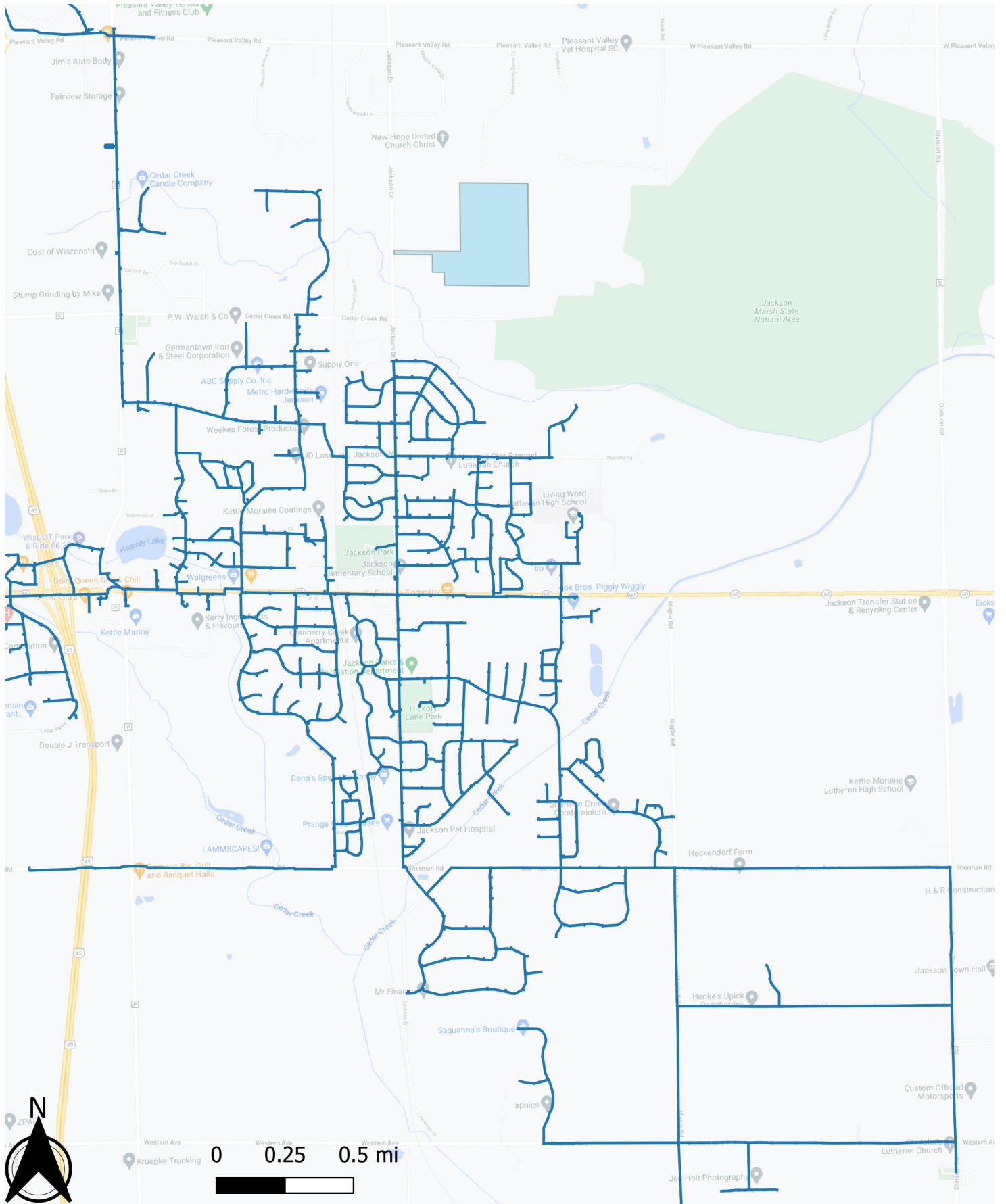
Year	2015	2016	2017	2018	2019	2020	Average
Usage (kgal)	124,948	127,372	129,803	129,922	128,136	135,563	
Customers (#)	2,871	2,958	3,018	3,089	3,128	3180	
Per Customer Usage (gpcpd)	119.2	118.0	117.8	115.2	112.2	116.8	116.5

Table 2 - Proposed Development Demands

	Avg Day	Max Day	Peak Hour
Demand (gpm)	16.4	29.8	65.5
Avg Day Ratios		1.82	4



Figure 1



The ground elevation of the current booster station that provides service to the high-pressure district is around 930 feet. As the proposed development elevation is below the current booster station, the hydraulic model first assumed the development was served from the low-pressure zone. Figure 2 shows the layout of the proposed development served from the low-pressure system.

Village of Jackson Water & Sewer Expansion



ESTIMATED CONSTRUCTION COSTS FOR DEVELOPMENT

The major components of a watermain project are the watermain, gate valves, and hydrant assemblies. The total estimated costs of these items are included in a preliminary construction cost estimate, with additional contingency and overhead assigned for engineering and unforeseen issues. The cost estimate presented in Table 3 is based on 600-foot spacing of hydrants and valves and the installation of granular backfill for the water main construction.

Table 3 – Estimated Construction Costs for Development

Item	Unit	Quantity	Unit Cost	Total Cost
12-inch PVC Water Main	LF	2,000.0	\$ 150.00	\$ 300,000.00
8-inch PVC Water Main	LF	7,100.0	\$ 110.00	\$ 781,000.00
8-inch Gate Valve	EA	17.0	\$ 4,000.00	\$ 68,000.00
Hydrant Assembly	EA	15.0	\$ 10,000.00	\$ 150,000.00
Connection to Existing Main	EA	1.0	\$ 10,000.00	\$ 10,000.00
Subtotal				\$ 1,309,000.00
20% Contingency				\$ 261,800.00
8% Engineering				\$ 104,720.00
15% Inspection				\$ 196,350.00
Total Cost				\$ 1,871,870.00

At this time, construction costs are difficult to estimate. Currently there is a material shortage impacting the public utility sector, which has inflated supply costs. Depending on the timing of any potential construction, a revised cost estimate should be performed which more closely reflects the current market conditions.

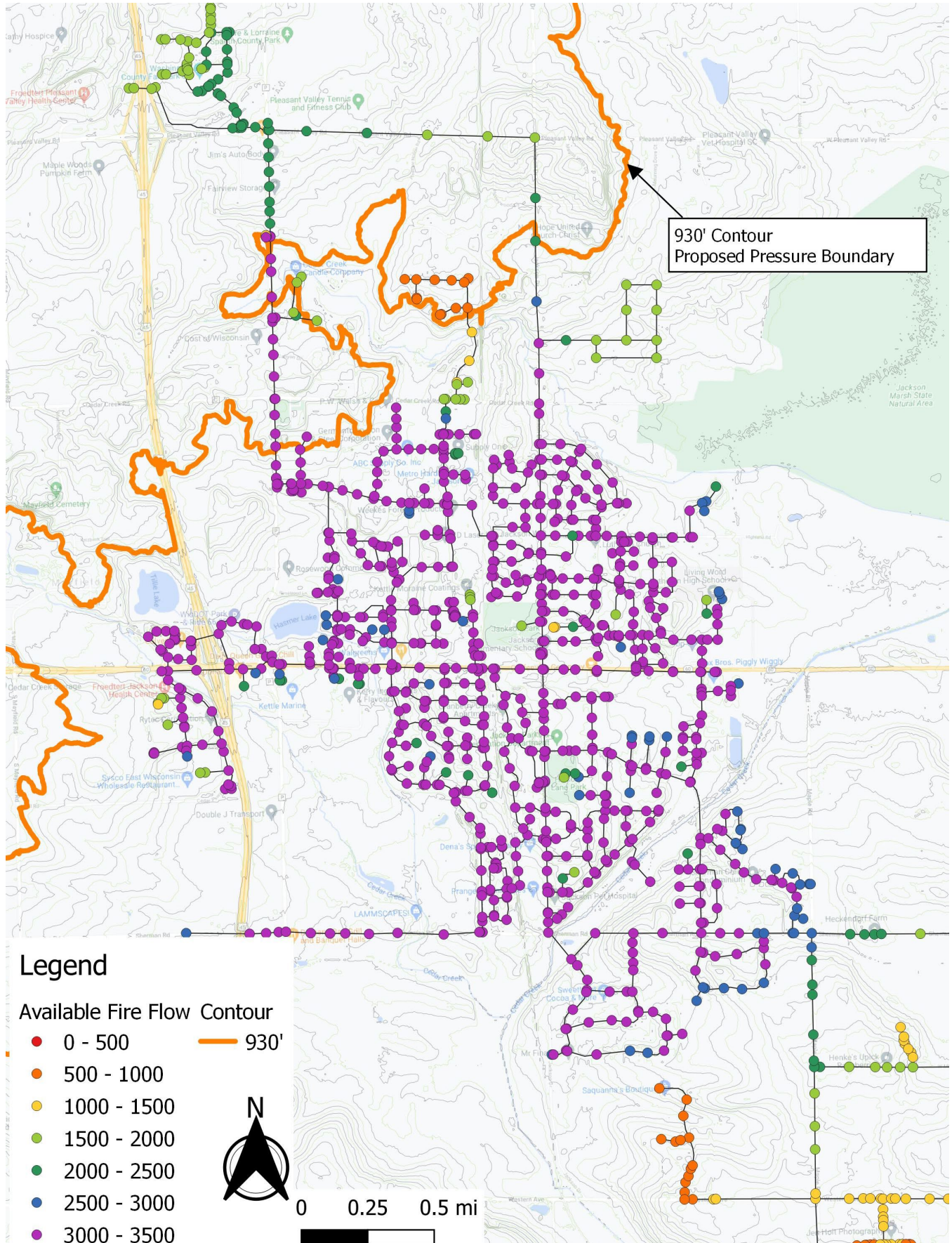
HIGH SIDE ZONE EXPANSION

Serving the proposed development from the high-pressure zone would result in pressures that exceed the DNR and PSC regulations (>100 psi). Therefore, no modeling needed to be performed to that effect. However, preliminary modeling was completed looping the high-pressure zone east along Pleasant Valley Rd and heading south on Jackson Dr to connect with the low-pressure zone of the proposed development. For modeling purposes, the pipe that crossed the 930-foot elevation mark was modeled with a check valve. This valve only allows flow in a single direction; in an emergency situation the low-pressure zone could backfeed the high-pressure zone, but the high-pressure zone would not be able to flow to the low-pressure zone. In practice, an electronically actuated valve tied to the SCADA system could allow flow in both directions in case of loss of pressure from either side.

Figure 3 shows the available fire flow in the system with the high-pressure zone looped. The booster station is only running at 780 gpm, so the additional available fire flow in the high-pressure zone is provided by a modeled check valve at the looped connection point. The figure also shows the 930-foot contour, indicating the proposed limits of the low-pressure zone.



Figure 3 - High Pressure Zone Loop



ESTIMATED CONSTRUCTION COSTS FOR HIGH SIDE LOOPING

The major components of a watermain project are the watermain, gate valves, and hydrant assemblies. The total estimated costs of these items are included in a preliminary construction cost estimate, with additional contingency and overhead assigned for engineering and unforeseen issues. The cost estimate presented in Table 4 is based on 600-foot spacing of hydrants and valves and the installation of granular backfill for the water main construction.

Table 4 - Estimated Construction Costs for High Side Looping

Item	Unit	Quantity	Unit Cost	Total Cost
12-inch PVC Water Main (from Development)	LF	2,000.0	\$ 150.00	\$ 300,000.00
12-inch PVC Water Main	LF	8,620.0	\$ 150.00	\$ 1,293,000.00
8-inch Gate Valve	EA	17.0	\$ 4,000.00	\$ 68,000.00
Hydrant Assembly	EA	15.0	\$ 10,000.00	\$ 150,000.00
Connection to Existing Main	EA	1.0	\$ 10,000.00	\$ 10,000.00
Subtotal				\$ 1,821,000.00
20% Contingency				\$ 364,200.00
8% Engineering				\$ 145,680.00
15% Inspection				\$ 273,150.00
Total Cost				\$ 2,604,030.00



SECTION 3

Part Two: Sewer Expansion

In 1996, Bonestroo and Associates (Bonestroo) completed a study addressing the future buildout of the Village and the proposed interceptor sewer work that would need to be completed to handle the additional capacity of future development. The scope of the 1996 Study was the 2015 municipal boundary. The study identified potential areas outside the 2015 boundary that could be considered for future growth, however the study did not size the interceptor for those additional areas. The Bonestroo study concluded a 30-inch interceptor would be needed to handle additional buildup in the municipal limits, but also added that the capacity and serviceability of the south interceptor would need to be re-evaluated if areas outside the municipal limits were added into the system.

In 2021, the Village asked City Water to re-evaluate the south sewer interceptor based on potential development along Sherman Rd. This analysis will first assess the local sewer system around the proposed development, and then evaluate the interceptor sewer.

TWIN CREEKS LIFT STATION

The proposed development would connect to the eastern portion of the Twin Creeks Subdivision. This subdivision is southeast of Cedar Creek, which therefore requires a sewage lift station to discharge into the 30-inch interceptor at the corner of Sherman & Jackson.

The current Twin Creek Pump Station serves 118 single-family residential lots. This is greater than the anticipated service area from the original pump station design. However, the original station was upsized to meet DNR code requirements for flow velocity in the force main, so the current demand is still within the original design parameters. Below are listed design criteria for both existing and proposed conditions. The original design of the lift station assumed 100 gpcpd, but more recent water usage and sewer trends have revised the per capita usage to 80 gpcpd.

- Current Pump Design: 80 gpm @ 17.4 feet TDH
- Existing
 - Service Population: 118 lots @ 2.5 population/lot = 295
 - Service Flow:
 - $295 \times 80 \text{ gpcpd} = 23,600 \text{ gpd average}$
 - $23,600 \times 4 \text{ (peak factor)} = 94,400 \text{ gpd} = 65.6 \text{ gpm peak}$
- Proposed
 - Service Population: 214 lots @ 2.5 population/lot = 535 (based on similar lot density)
 - Service Flow:
 - $535 \times 80 \text{ gpcpd} = 42,800 \text{ gpd average}$
 - $42,800 \times 4 \text{ (peak factor)} = 171,200 \text{ gpd} = 118.9 \text{ gpm peak}$

The Twin Creeks station has the capacity to pump up to 160 gpm with both pumps running but only a firm capacity of 80 gpm. If the proposed Maplewood Farms development feeds into the Twin Creeks Pump Station, there is a chance the flow entering the wet well is higher than a single pump's ability to empty the wet well, ultimately leading to surcharges and backups in the sewer system. The working



capacity of the wet well is only 317.5 gallons, so in a peak flow situation the wet well would be filled in just over 2 minutes.

INTERCEPTOR CAPACITY

An updated sewer demand was estimated based on the original 1996 Bonestroo study. In that study, 4 subdistricts were outlined with flow projections based on acres of residential, commercial, industrial, and public use. The figure from the 2015 Interceptor Study is shown in Appendix B. The areas from the 1996 study are shown in Table 5.

Table 5 - Land Use Summary

District	Residential [acres]	Commercial [acres]	Industrial [acres]	Park & Rec [acres]	Total [acres]
A	651	122	457	2	1,232
B	126	-	-	4	130
C	109	-	25	28	162
D	244	-	-	15	259
Total [acres]	1,130	122	482	49	1,783

Anticipated wastewater flows from the drainage districts were determined by applying unit flow rates to each of the land use categories. Flows were reduced from the 1996 study based on increasing application of low flow water use fixtures and are based on the values from the MMSD 2020 Facilities Plan, Conveyance Report. Values for commercial and industrial usage were increased from the MMSD listed values to strike a conservative middle between the Bonestroo and MMSD reports. Wastewater flow rates are presented in Table 6.

Table 6 - Average Wastewater Flows

Type of Usage	Gal/Acres/Day	gpm/Acre
Residential*	510	0.354
Commercial	1,800	1.250
Industrial	1,200	0.833
Park & Rec	250	0.174

*Assumes 68 gal per capita, 2.5 people per home, 3 unit per acre density

Average wastewater flows projections are presented in Table 7.



Table 7 - Average Wastewater Flow Projections

District	Residential [gpm]	Commercial [gpm]	Industrial [gpm]	Park & Rec [gpm]	Total [gpm]
A	231	153	381	0	764
B	45	-	-	1	45
C	39	-	21	5	64
D	86	-	-	3	89
Total	400	153	402	9	963

The interceptor must be sized for not only average flows, but also the peak flowrate. Peak flowrates are usually determined by a ratio of peak to average flow, called the peak flow factor. In general, the larger the system, the smaller the peak flow factor, as the peaks are diluted by the larger system. Given the relatively small size of the Village of Jackson system, a peak flow factor of 4 was applied for all average wastewater flows. The estimated peak wastewater flows are presented in Table 8. These peak flows represent a 28% reduction from the 1996 study.

Table 8 - Peak Wastewater Flow Projections

District	Residential [gpm]	Commercial [gpm]	Industrial [gpm]	Park & Rec [gpm]	Total [gpm]
A	922	610	1,523	1	3,057
B	179	-	-	3	181
C	154	-	83	19	257
D	346	-	-	10	356
Total	1,601	610	1,607	34	3,852

The 1996 Bonestroo study recommended a 30-inch interceptor at an 0.08% slope. This arrangement would allow a full capacity of 8.97 cfs or 4,025 gpm. The actual installed interceptor has much differing capacity based on actual slopes between the differing manholes. Table 9 shows the various capacities of the differing pipe segments of the interceptor. Segments are listed from west to east as the interceptor approaches the treatment plant.



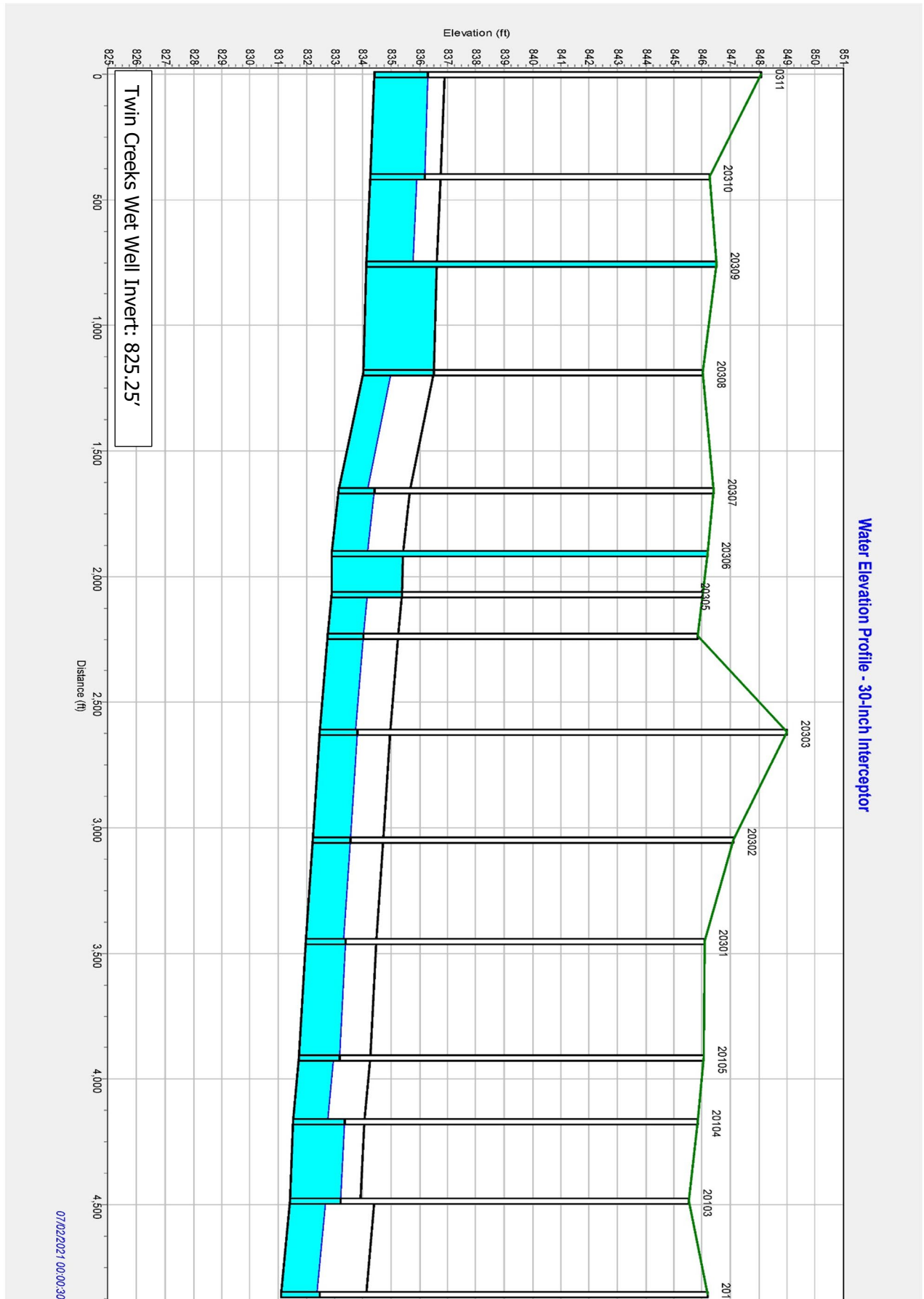
Table 9 - Current Interceptor Capacity

Conduit	Diameter [in]	% Slope	Capacity [gpm]
20311-20310	30	0.0319	3,290
20310-20309	30	0.0460	3,947
20309-20308	30	0.0208	2,655
20308-20307	30	0.1862	7,945
20307-20306	30	0.0954	5,685
20306-20305	30	0.0185	2,503
20305-20304	30	0.0713	4,915
20304-20303	30	0.0734	4,987
20303-20302	30	0.0585	4,451
20302-20301	30	0.0619	4,580
20301-20105	30	0.0495	4,094
20105-20104	30	0.0834	5,318
20104-20103	30	0.0379	3,585
20103-20102	36	0.0829	8,621

The highlighted pipe segments indicate a section that is currently over capacity. Figure 4 illustrates the current peak flow modeled in the interceptor sewer. The blue shaded area indicates the limits of flow within the pipe. The same sections highlighted in Table 9 can be seen at full capacity in the figure, with the manhole full indicating the pipe cannot handle the flow.



Figure 4 - Modeled Interceptor Capacity



SHERMAN RD SERVICE AREA

Given that the current interceptor is at capacity, any additional expansion along Sherman Rd to the west would require changes or improvements to the existing sanitary system. One potential future project may include the Village of Richfield connecting into the Jackson system at Sherman Rd. The Village of Richfield has projected their peak sanitary flow at 1,300 gpm.

Currently there is an 18-inch sewer that runs west on Sherman Rd from Glen Brooke Dr. The pipe segment capacities vary based on slope, but the limiting capacity in the path is 2,380 gpm. Considering the few customers currently on the 18-inch line, it is likely this sewer could handle the projected flows from the Village of Richfield. However, this additional flow would exceed the current 30-inch interceptor.

SYSTEM IMPROVEMENTS

Based on the current flow projections and pipe capacities, additional work and improvements will most likely need to be completed in the sewer system to serve additional developments west on Sherman Rd and the development east of Twin Creeks Subdivision.

Currently, the invert of the Twin Creeks Lift station is lower than the discharge to the treatment plant. This eliminates the possibility of the Twin Creeks Subdivision and future expansions being served solely by gravity sewer – some lift station will be required. This will require the existing lift station to either be modified or replaced to handle the increased additional flows.

The upstream invert of the current 30-inch interceptor is 834.4 feet and the interceptor discharges at 831.11 feet, an elevation drop of 3.29 feet over approximately 4,800 feet. Given the limited elevation to work with, a deeper second interceptor is not necessarily feasible, unless there was a lift station associated with the interceptor sewer. However, installing a second interceptor roughly parallel to the existing sewer would essentially double current capacity. There is even a potential for the secondary interceptor to be only over the partial distance, with a diversion manhole to redirect flow once the bottleneck pipe segment approaches capacity. This could be accomplished with an overflow weir in a manhole and a secondary pipe connection.



Summary & Recommendations

SUMMARY

There are several conclusions and recommendations that can be made from the project analysis and hydraulic modeling of the both the water and sewer systems:

PART 1

1. Serving the proposed development from the low-pressure district provides adequate static pressure and fire flow demands.
2. The boundary between the high- and low-pressure districts is currently around the 930-foot elevation contour.
3. Looping the high- and low-pressure districts serves the primary purpose of providing system redundancy to the high side. Currently there is only a single connection to the high side, which is a critical point of failure. Modeling indicates that the system loop would provide enough additional flow to meet fire flow in the high side even if the largest pumps were out of service in the existing booster station.

PART 2

1. The current Twin Creeks Lift Station is already at capacity per the original design. Additional sewer expansions in that vicinity will require some system modification or change to be served.
2. The current south sewer interceptor is at peak flow capacity. There is a limiting pipe segment that is currently at maximum capacity of 2,503 gpm.
3. Comparison of inverts indicate that some sort of lift station is needed to service areas southeast of Cedar Creek.

RECOMMENDATIONS

Based on the analysis conclusions, the following are recommendations for both the water and sewer systems.

PART 1

1. New developments can be served from the low-pressure zone until the elevation approaches and exceeds the current zone boundary of 930 feet.
2. Any future system looping between the high- and low-pressure districts should utilize the 930-foot elevation as the boundary point. At this elevation, either a secondary booster station or SCADA controlled valving should be installed to control flow between the two zones.

PART 2

1. To serve future developments southeast of Cedar Creek, the existing Twin Creeks lift station must be improved or replaced. Future study and analysis will be needed to design a lift station capable of meeting flow and head requirements.

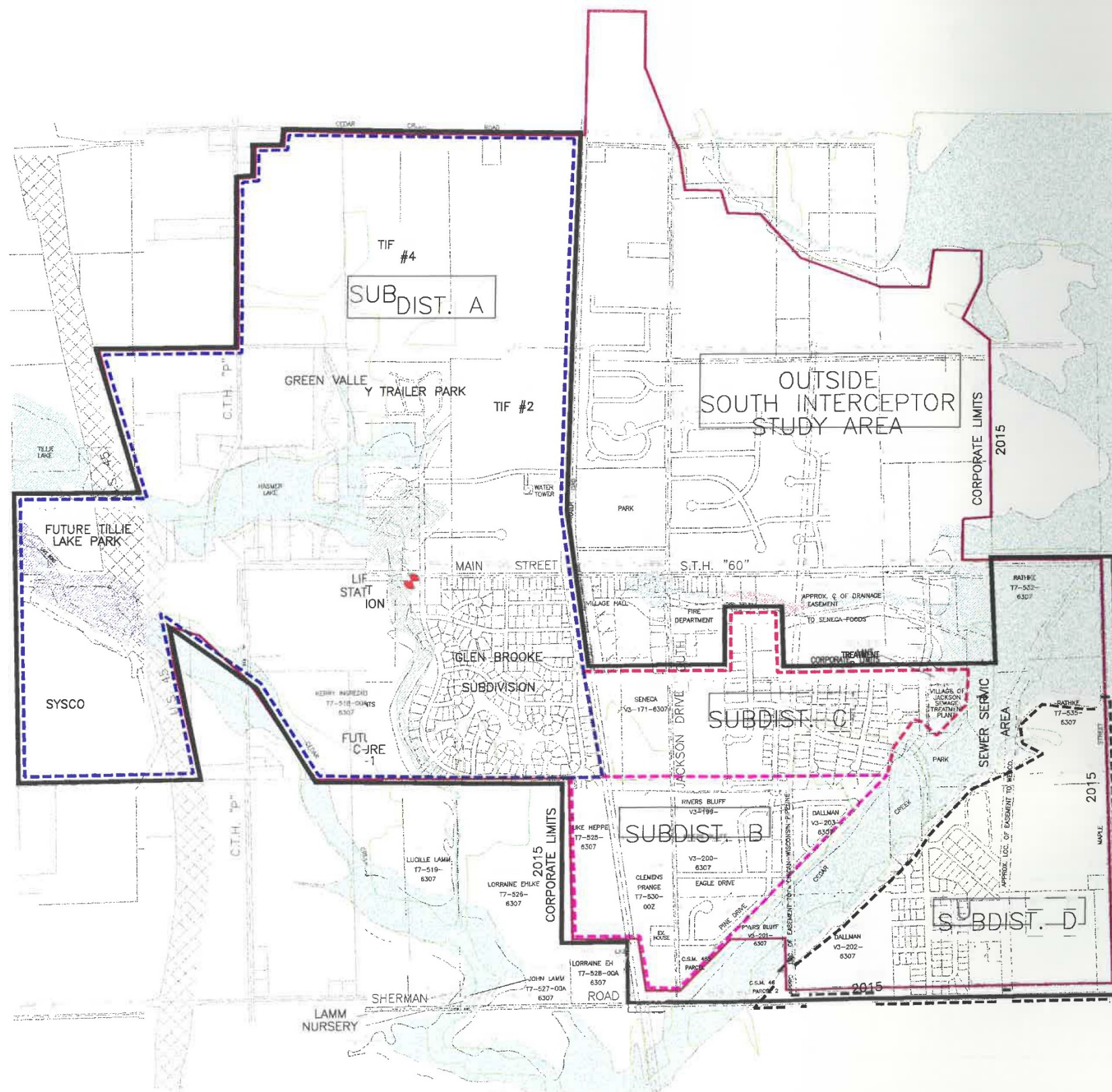


2. To serve future developments west on Sherman Rd and southeast of Cedar Creek, the existing 30-inch interceptor sewer must be improved or replaced. Options included relaying the existing 30-inch sewer or adding a secondary interceptor. A secondary interceptor could potentially be installed only over a partial distance, with an overflow or diversion manhole to redirect flow in excess of the current 30-inch capacity. Further study and analysis will be needed to design an interceptor that meets the future demand requirements.



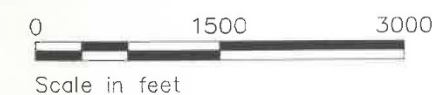
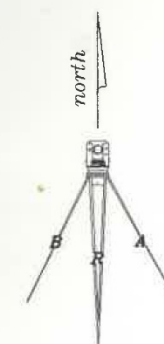
Low Pressure Served Hydraulic Model

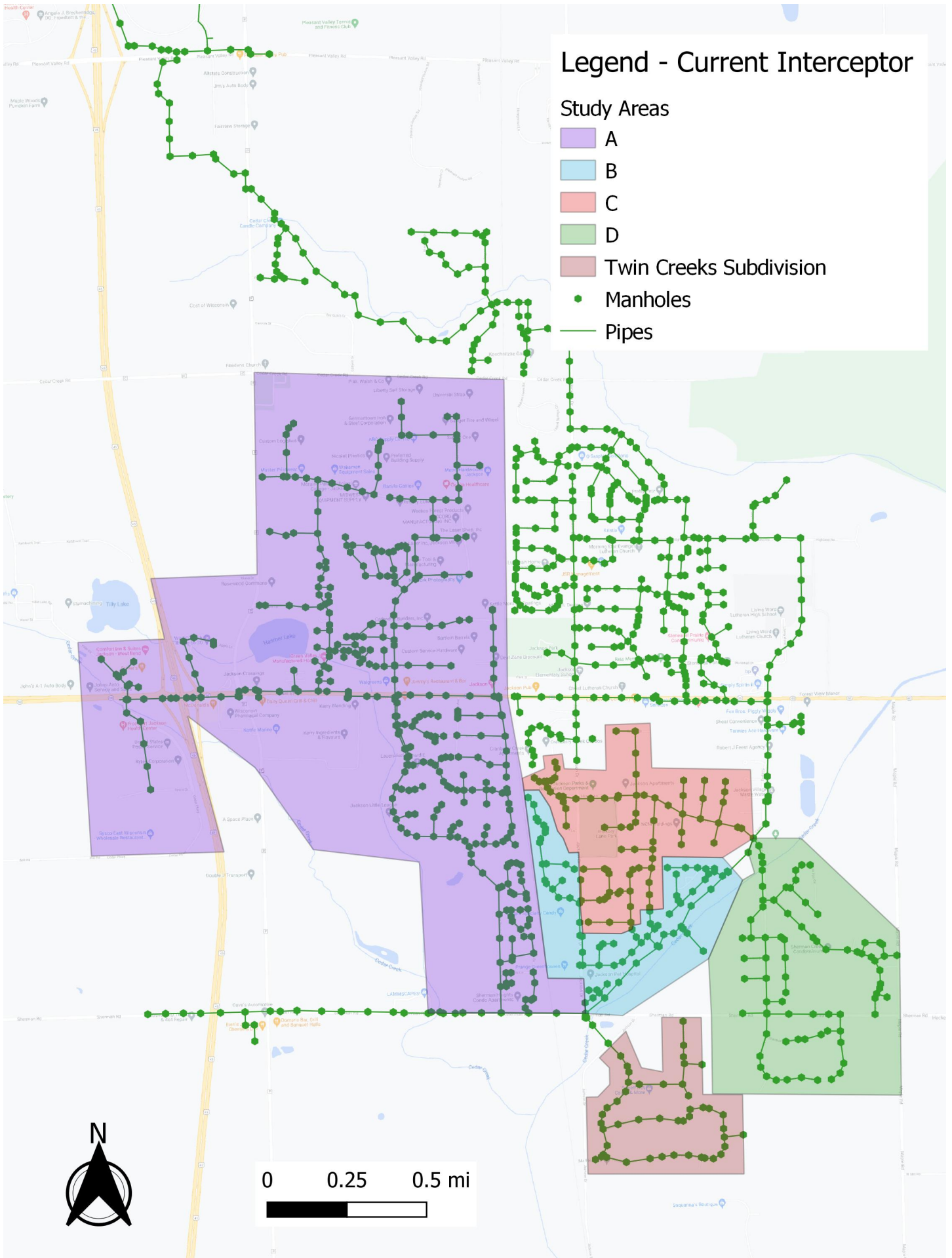




KEY:

-  INTERCEPT STUDY AREA
 SUBDISTRICT A
 SUBDISTRICT B
 SUBDISTRICT C
 SUBDISTRICT D





Memo

To: Jen Keller, Village Administrator

From: Brian W. Kober, P. E., Director of Public Works 

Subject: Funding for Urban Nonpoint Source & Storm Water Management Grant

Date: November 24, 2021

CC: Board of Public Works; Village Board

The Village of Jackson with the help of CDM Smith applied for two grants from the DNR. The two grants are Urban Nonpoint Source & Storm Water Management Grant and Targeted Runoff Management (TRM) Grant.

The Village received approval of the Urban Nonpoint Source & Storm Water Management Grant in the amount of \$30,153.00. The total project study cost is \$75,134.00. In order to receive the grant, the Village has to guarantee the remaining funding of \$44,981.00.

Recommend create a resolution to guarantee the funding. An example is per the resolution the Village created for the path project. The project benefits the Jackson Sewer Utility discharge permit, so the funding will be part of the Jackson Sewer Utility 2022 Budget.

If you have any questions, please let me know.

Brian W. Kober, P.E.

Village of Jackson
 Cedar Creek/Hickory Lane
 UNPS Planning Grant
 Level of Effort and Fee

	Bednarski	Petty	Cortez	Project Engineer	Drafting	Johnson	Hopper	Burbage	Survey Crew	Administrative Support	Hours	Labor	Expenses	Fee
1 Project Management & Plan Update	4	50								20	74	\$ 12,788	\$ 250	\$ 13,038
2 Hydrology & Hydraulics Include WinSLAMM A	16	4	80		12						112	\$ 12,832	\$ 250	\$ 13,082
3 BMP Evaluation	9	44	44	12	52	40	40	40			281	\$ 42,872	\$ 500	\$ 43,372
4 Field Data Collection & Infiltration Testing	1	4	8				12		12		37	\$ 5,392	\$ 250	\$ 5,642
	30	102	132	12	64	40	52	40	12	20	504	\$ 73,884	\$ 1,250	\$ 75,134

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711



November 11, 2021

► **REQUIRES IMMEDIATE ACTION** ◀
Urban NPS & Stormwater Mgmt. Program
Grant# USP66141Y22
Grant Amount: \$30,153.00

Brian W. Kober, PE, Director of Public Works
Village of Jackson
W194 N16660 Eagle Dr.
Jackson, WI 53037

Dear Mr. Kober:

Congratulations! On behalf of the Governor, we are pleased to forward to you a grant agreement for financial assistance for the following project: *Cedar Creek/Hickory Lane Streambank Stabilization & Storm Water Management Plan*.

This grant, and any reimbursements made under it, is governed by very specific statute and administrative code provisions. Accordingly, please read the grant documents thoroughly, paying particular attention to the Scope and Conditions sections for eligibility, grantee requirements and reimbursement provisions. There are also a number of activities where you must obtain prior departmental review and authorization before proceeding.

On January 27, 2022, DNR and UW-Madison Division of Extension will hold a grant administration webinar from 1:30 to 3:30 p.m. to provide information about seeking reimbursement from DNR, amending your grant, submitting the final report, etc. All grantees receiving CY 2022 grant awards must attend the webinar or view the webinar recording prior to submitting the first reimbursement request for their grant. Webinar registration information is included in the email from DNR with your grant agreement.

To accept this grant, please review the agreement and email a scanned copy signed by the authorized government official, along with the completed *Grantee Contact Page*, and *evidence that your community has committed the necessary funding for the local share*, to DNRCFANONPOINTGRANTS@wisconsin.gov.

Please review this grant thoroughly and if you have any questions, contact your Regional Nonpoint Source Coordinator, Jesse Bennett, at (414) 458-0448. Thank you for your continued cooperation with Wisconsin's Runoff Management Grant Programs.

Sincerely,


for Jim Ritchie, Director
Bureau of Community Financial Assistance

Enclosure(s)

C (e-copy): Jesse Bennett, Regional Nonpoint Source Coordinator, DNR Southeast Region
Corinne Johnson, Nonpoint Source Program Grant Manager, CF/2

PROJECT CONTACT PAGE

INSTRUCTIONS: In the spaces below, insert contact information for the person **most directly involved** with this particular project. The Department will contact the person named for all matters related to this project.

Grant No.	USP66141Y22
Governmental Unit	Village of Jackson
Project Contact Name	BRIAN W. KOBER
Project Contact Title	DIRECTOR OF PUBLIC WORKS/VILLAGE ENGINEER
Project Contact Mailing Address	PO Box 637, W194 N16660 EAGLE DRIVE JACKSON WI 53037
Project Contact Phone Number (direct):	(262) 677-0707 Extension:
Project Contact Email Address:	BRIAN.KOBER@VILLAGEOFJACKSON.COM

Address to which reimbursement checks should be sent if different than contact information above:

Name		
Title		
Mailing Address		
Phone Number (direct):	()	Extension:
Email Address:		

If information provided on this page -- or any information in Part 1 of the grant agreement changes during the grant period, please provide the updated information to DNR Nonpoint Source Program Grant Manager and the DNR Regional Nonpoint Source Coordinator.

Please complete this contact page and email it with the signed grant agreement to:
DNRCFANONPOINTGRANTS@wisconsin.gov.

State of Wisconsin
Department of Natural Resources
Bureau of Community Financial Assistance (CF/2)
PO Box 7921
Madison, Wisconsin 53707-7921

WISCONSIN URBAN NONPOINT SOURCE WATER POLLUTION ABATEMENT
& STORMWATER MANAGEMENT GRANT PROGRAM
PLANNING GRANT AGREEMENT

Form 8700-327 (rev. 07/2021)

Notice: By signing this grant agreement, grantees indicate concurrence with conditions of this agreement, authorized under ss. 281.66 and 283, Wis. Stats., and chs. NR 151, 154, 155 and 216, Wis. Adm. Code. This agreement must be signed and returned to the address above within 30 days so that funds will be reserved for this project. Failure to return a signed agreement will result in denial of grant funds. Personally identifiable information collected will be used for program administration and may be made available to requesters as required under Wisconsin's Open Records Law [ss. 19.31 - 19.39, Wis. Stats.].

PART 1. GRANT ADMINISTRATION INFORMATION

Grant Number USP66141Y22	Grant Award Date November 11, 2021		
Grantee (Unit of Government) Village of Jackson			Total Grant Amount \$30,153
Project Name Cedar Creek/Hickory Lane Streambank Stabilization & Storm Water Management Plan		Grant Period From January 1, 2022 Through December 31, 2023	
Authorized Government Official Brian W. Kober, PE, Director of Public Works		Grantee Contact Brian W. Kober, PE, Director of Public Works	
Government Official Address W194 N16660 Eagle Dr.		Contact's E-mail Address brian.kober@villageofjackson.com	
City, ZIP Code, County Jackson, 53037, Washington County		Contact's Telephone Number (262) 677-0707	
Name of Department Regional Nonpoint Source Coordinator, Phone Number and Email Address Jesse Bennett, (414) 458-0448, Jessiah.Bennett@wisconsin.gov			DNR Region Southeast Region

PART 2. ELIGIBLE COST-SHARE BUDGET DATA

Note: Line items cannot be exceeded without grant agreement amendment.

Budget Line Item Description	State Cost-Share Amount	Cost-Share Percentage
1. Urban Stormwater/Erosion Plan – BMP U8	\$30,153.00	40.1%
Total Maximum Grant Amount	\$30,153.00	

PART 3. PURPOSE AND SCOPE

This grant provides cost-share funding and authorizes reimbursement by the DEPARTMENT for the above-named project as described in the grant application submitted for the grant period in Part 1 above. Reimbursements may be made for work performed and expenses incurred for the following eligible local assistance activities to address storm water management under chs. NR 151 and NR 216, Wis. Adm. Code, or Total Maximum Daily Load goals.

1. Urban Stormwater/Erosion Plan – BMP U8

PART 4. CONDITIONS

A. General Conditions

A.1. The Wisconsin Department of Natural Resources (DEPARTMENT) and the GRANTEE identified in Part 1 above mutually agree to perform this agreement in accordance with the Urban Nonpoint Source Water Pollution Abatement and Storm Water Management Grant Program and ss. 281.66 and 283, Wis. Stats., and chs. NR 151, 154, 155, and 216, Wis. Adm. Code, and with the project proposal, application, terms, promises, conditions, plans, specifications, estimates, procedures, maps and also any assurances attached and made a part of this agreement.

A.2. This agreement, together with any referenced parts and attachments, shall constitute the entire agreement and previous communications or covenants pertaining to this agreement are superseded. Any revisions to this agreement must be made by written amendment, signed by both parties, prior to the termination date of this agreement, whether for changes in scope, grant period, or cost. Requests to extend the grant period must be made 45 days or more before the end of the grant period in Part 1.

- A.3. Failure by the GRANTEE to comply with the terms of this agreement shall not cause the suspension of all obligations of the State if, in the judgment of the Secretary of the DEPARTMENT, such failure was due to no fault of the GRANTEE. In such case, any amount required to settle at minimum costs any irrevocable obligations properly incurred shall be eligible for reimbursement under this agreement, at the DEPARTMENT's discretion.
- A.4. Eligibility for cost-sharing reimbursement is governed by the provisions of ch. NR 155, Wis. Adm. Code. Cost-share rates and applicability may be further limited by departmental contract approval(s), which may restrict the cost-share amount due to the eligibility requirements of the statute and codes.
- A.5. The amount listed in Part 2 above is the maximum amount the DEPARTMENT may reimburse under this agreement.
- A.6. The GRANTEE:
1. Agrees to comply with all applicable Federal, Wisconsin, and local laws in fulfilling the terms of this agreement. In particular, GRANTEE agrees to comply with all applicable local and state contract and bidding requirements. GRANTEE should consult its legal counsel with questions concerning contracts and bidding. For assistance, GRANTEE may consult Procurement Guide for Local Governments Receiving DNR Grants.
 2. Promises, in consideration of the promises made by the DEPARTMENT, to execute the project described in accordance with this agreement.
 3. May decline the offer of financial assistance provided through this agreement, in writing, at any time prior to the start of the project and before expending any funds. After the project has been started or funds expended, this agreement may be rescinded, modified, or amended only by mutual agreement in writing.
 4. Agrees that its employees or agents are not employees or agents of the DEPARTMENT for any purpose, including Worker's Compensation.
 5. Agrees, to save, keep harmless, defend and indemnify the DEPARTMENT and all its officers, employees and agents, against any and all liability claims, costs of whatever kind and nature, for injury to or death of any person or persons, and for loss or damage to any property (state or other) occurring in connection with or in any way incident to or arising out of the occupancy, use, service, operation or performance of work in connection with this agreement or omissions of GRANTEE's employees, agents or representatives.
 6. Agrees to reimburse the DEPARTMENT of any and all funds the DEPARTMENT deems appropriate in the event the GRANTEE fails to comply with the conditions of this agreement or project proposal as described or fails to provide public benefits as indicated in the project application, proposal description or this agreement. In addition, should the GRANTEE fail to comply with the conditions of this agreement, fail to progress due to non-appropriation of funds, or fail to progress with or complete the project to the satisfaction of the DEPARTMENT, all obligations of the DEPARTMENT under this agreement may be terminated, including further project cost payment.
 7. Agrees, in connection with the performance of work under this agreement, not to discriminate against any employee or applicant for employment because of age, race, religion, color, disability, handicap, sex, physical condition, developmental disability as defined in s. 51.01(5), Wis. Stats., sexual orientation or national origin. This provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship. Except with respect to sexual orientation, the GRANTEE further agrees to take affirmative action to ensure equal employment opportunities, as required by law. The GRANTEE agrees to post in conspicuous places available, for employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the nondiscrimination clause.
 8. Agrees that accounting for project funds shall conform to generally accepted accounting principles and practices, and that GRANTEE shall maintain a financial management system, separate from all other GRANTEE activities, for this agreement.
 9. Agrees to comply with the cost containment and procurement procedures in the applicable administrative codes governing this agreement.

10. Agrees that all contracts or scope of service agreements related to this grant-funded project must obtain prior approval of the DEPARTMENT Regional Nonpoint Source Coordinator for this grant, with respect to reimbursement eligibility and conformity with standards and storm water permitting requirements.
11. Agrees to retain and make available to the DEPARTMENT for inspection all fiscal records, including invoices and canceled checks, that support all project costs claimed by the GRANTEE, for three years from the date of final payment by the DEPARTMENT or three years after the end of the Grant period, whichever is later, or for a longer period if required by the DEPARTMENT for audit purposes.
12. Agrees to complete and submit project progress reports to the DEPARTMENT Regional Nonpoint Source Coordinator identified in Part 1 of this agreement with each request for partial grant reimbursement.
13. Agrees, within 60 days of the grant expiration date, to complete and submit a Final Report Form (Form # 3400-189P) or to complete and submit a final report, using the DEPARTMENT's "BMP Implementation Tracking System" (BITS) once it is operational to replace Form 3400-189P, including copies of grant deliverables, and submit a final request for grant reimbursement to the DEPARTMENT's Regional Nonpoint Source Coordinator for review and approval.
14. Agrees that reimbursements may only be made for work performed, and expenses incurred, during the grant period as specified in Part 1 above.
15. Agrees to comply with annual Single Audit requirement, at its own expense, if combined total state and federal grant awards received by the GRANTEE from all sources is \$750,000 or more during the calendar year. Annual Single Audit requirements are specified in 2 CFR Part 200 Uniform Administrative Requirements, Cost Principles, & Audit Requirements for Federal Awards (referred to as Uniform Guidance) and the Wisconsin State Single Audit Guidelines found at: <http://www.doa.state.wi.us/Divisions/budget-and-finance/financial-reporting/state-controllers-office/state-single-audit-guidelines> issued by the Wisconsin Department of Administration (DOA), State Controller's Office.
16. Should consider following methods for controlling, transporting and disposing of aquatic invasive plants and animals and water in which they may be contained, as described in the DEPARTMENT's Manual Code 9183.1 *Boat, Gear, and Equipment Decontamination and Disinfection* and available on the DEPARTMENT's website at: <http://dnr.wi.gov/topic/invasives/disinfection.html>.

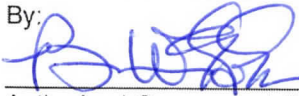
A.7. The DEPARTMENT:

1. Promises, in consideration of the covenants and agreements made by the GRANTEE, to obligate for the GRANTEE the amount identified in Part 2 above and to tender to the GRANTEE that portion of the obligation that is required to pay the DEPARTMENT's share of the costs based on the cost-share percentage listed in Part 2 above for eligible project work performed and expenses incurred during the grant period noted in Part 1 above.
2. Agrees that the GRANTEE shall have sole control of the method, hours worked, and time and manner of any performance under this agreement other than as specifically provided in this document. The DEPARTMENT reserves the right only to ensure that the project is progressing or has been completed in compliance with the agreement. The DEPARTMENT takes no responsibility of supervision or direction of the performance of the agreement to be performed by the GRANTEE or the GRANTEE's employees or agents. The DEPARTMENT further agrees that it will exercise no control over the selection and dismissal of the GRANTEE's employees or agents.
3. Shall reimburse the grantee at a rate of one-half the cost-share rate stipulated in Part 2 above until completed product(s) is submitted to, and approved by, the DEPARTMENT and the DEPARTMENT has approved the project's Final Report.
4. Shall reimburse costs incurred for completed grant project deliverables at amounts not to exceed those itemized for each grant deliverable in the DEPARTMENT's professional service agreement approval letter(s).

B – Special Condition

Environmental and Natural Heritage Concerns. Research and findings must include at least preliminary determinations on the potential for environmental hazards, cultural, historical, endangered and threatened resources, along with the potential for wetland and Chapter 30 conflicts, within the areas of prospective structural practice installations.

FOR THE GRANTEE

By: 

Authorized Government Official

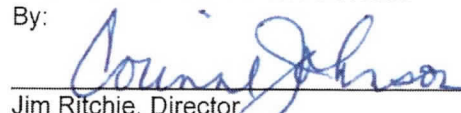
DIRECTOR OF PUBLIC WORKS

Title

NOVEMBER 11, 2021

Date Signed

FOR THE STATE OF WISCONSIN

By: for Jim Ritchie, Director
Bureau of Community Financial Assistance*November 11, 2021*

Date Signed

(Printed Name, If Different Than Authorized Government Official on P.1)

When returning the signed grant, you must also include evidence of your community's local share of the grant project costs – such as a copy showing its inclusion in the municipal budget, or other evidence that the community has, in fact, committed the necessary funding to complete the project.

DATE: September 8, 2021

TO: Land and Water Conservation Board (LWCB) and Advisors

FROM: Joanna Griffin
Watershed Management Bureau, DNR

SUBJECT: DNR Scoring and Ranking of Urban Nonpoint Source & Storm Water Management Applications for Calendar Year (CY) 2022 Funding

Recommended Action: DNR staff request that the Land and Water Conservation Board make recommendations on the DNR proposed funding of UNPS applications.

Summary: Through this memo, the DNR is informing the LWCB of Urban Nonpoint Source & Storm Water Management (UNPS) grant application scores for projects to be considered for CY 2022 grant funding. Scoring results for projects being considered for calendar year (CY) 2022 funding are presented in the attached table.

The DNR funds UNPS projects under the authority of s. 281.66, Wis. Stats. The purpose of this program is to control polluted runoff from urban project areas. Funds may be used for two types of projects: 1. Construction projects (may also include land acquisition) and 2. Planning projects. Each project type has its own application process and funding source. Consequently, construction projects and planning projects do not compete against each other for funding.

Beginning in January 2016, the DNR began implementing an alternating schedule for UNPS Planning and UNPS Construction grants. UNPS Planning grant applications were solicited in 2021 for the CY 2022 award cycle. The UNPS Construction grant application will be available in 2022 for CY 2023 awards. Due to the alternating schedule for the UNPS grants, only the scoring and ranking summary for UNPS Planning projects is provided here.

Current Scoring and Ranking Summary for UNPS – Planning Projects:

The maximum state cost share per successful application is \$85,000.

- Thirty-seven (37) applications were submitted; all are eligible for funding.
- Grant requests for the 37 applications total \$1,727,700.
- Based on available funding, the Department proposes to allocate \$924,256 to fund the CY 2022 UNPS Planning projects. This will fully fund fourteen (14) of the thirty-seven (37) projects.

The attached table shows the current ranked order of applications. However, a requirement in s. NR 155.20(2)(b), Wis. Adm. Code, states that no one applicant may receive multiple grants that exceed 20% of the total available funding. Applicants on the ranked list whose total funding requests exceed 20% of the total available funding may be awarded funds for the projects that do not exceed 20%; the balance of the applicant's requests are moved to the bottom of the ranked list. Additional funding is provided to those projects moved to the bottom of the ranked list only after all other eligible projects have been funded. Therefore, adjustments to the rank order may be made once total available funding is determined.

Once the *2022 Joint Final Allocation Plan* is signed, the DNR will develop grant agreements for successful applications. During the grant agreement development process, funding amounts may be adjusted as necessary to reflect final cost-share rates and eligible project components.

Materials Provided: *UNPS-Planning Scoring and Rank for CY 2022*

UNPS-Planning Grant Application Scoring by Rank for 2022

Rank	Applicant	Project Name	Region	Score	Total Eligible Project Cost	State Share Requested	Cumulative Requested
1	Wauwatosa City	City of Wauwatosa Citywide Storm Water Management Plan	SER	132.1	\$182,680	\$57,680	\$57,680
2	Sheboygan County	Stormwater Quality Management Plan Update	SER	118.9	\$132,000	\$66,000	\$123,680
3	Milwaukee City	Road Salt Reduction Education	SER	113.6	\$87,591	\$31,650	\$155,330
4	Watertown, City	Stormwater Program and TMDL Updates	SCR	112.4	\$147,597	\$70,000	\$225,330
5	Cedarburg Town	Stormwater Quality Management Plan Update	SER	112	\$109,500	\$54,750	\$280,080
6	Village of Jackson	Cedar Creek/Hickory Lane Streambank Stabilization & Stormwater Management Plan	SER	112	\$75,384	\$30,153	\$310,233
7	Milwaukee County	Milwaukee County Outfall Basin Delineation & TMDL WinSLAMM Modeling	SER	109.6	\$168,805	\$84,402	\$394,635
8	Manitowoc, City	Stormwater Quality Management Plan Update	NER	107.6	\$176,000	\$85,000	\$479,635
9	Village of Bellevue	Village of Bellevue- TMDL Implementation Planning Grant	NER	107	\$80,000	\$32,000	\$511,635
10	Fitchburg City	Fitchburg TMDL Stormwater Planning	SCR	105.1	\$195,920	\$85,000	\$596,635
11	Menasha, City	TMDL Planning	NER	104.8	\$172,950	\$85,000	\$681,635
12	Kenosha, City	City of Kenosha UNPS Water Quality Improvement Plan	SER	104.1	\$157,222	\$72,871	\$754,506
13	Menomonee Falls	Village of Menomonee Falls Water Quality Master Plan and MS4 Permit Compliance Activities	SER	104	\$282,785	\$85,000	\$839,506
14	Sheboygan Falls, City	Stormwater Quality Management Plan Update	SER	104	\$169,500	\$84,750	\$924,256
15	Milwaukee City	City of Milwaukee Storm Water Management Plan Update	SER	103.8	\$1,173,900	\$85,000	\$1,009,256
16	Port Washington City	Stormwater Management Plan Update	SER	103.55	\$128,892	\$64,446	\$1,073,702
17	Menomonie, City	2022 Addendum to City of Menomonie Urban Stormwater Plan	WCR	100.8	\$53,903	\$26,903	\$1,100,605
18	Town of Sheboygan	Stormwater Quality Management Plan Update	SER	97.2	\$98,000	\$30,000	\$1,130,605
19	City of Rice Lake	City of Rice Lake TMDL Implementation Plan Update: Feasibility Study for TMDL/Phosphorus Compliance Ponds	NOR	95	\$38,000	\$15,000	\$1,145,605
20	West Central Wisconsin Regional Planning Commission	Rain to Rivers of Western Wisconsin: Stormwater Training Series & Media Outreach Campaign	WCR	95	\$46,718	\$18,000	\$1,163,605

UNPS-Planning Grant Application Scoring by Rank for 2022

Rank	Applicant	Project Name	Region	Score	Total Eligible Project Cost	State Share Requested	Cumulative Requested
21	Grafton Village	Developing and Early Warning System - Streamlining Regional Pollution Detection Strategies	SER	93.9	\$131,889	\$60,000	\$1,223,605
22	Bayside Village	TMDL Stormwater Management Plan Update	SER	92.2	\$49,100	\$24,550	\$1,248,155
23	Beaver Dam, City	Beaver Dam Stormwater Quality Planning	SCR	91	\$52,200	\$20,880	\$1,269,035
24	City of Waupun	Waupun Stormwater Quality Planning	SCR	89	\$48,200	\$24,100	\$1,293,135
25	City of Pewaukee	Storm Water Management Plan Update	SER	87	\$274,200	\$75,250	\$1,368,385
26	Oregon, Village	Village of Oregon Storm Water Quality Master Plan	SCR	85	\$125,816	\$43,113	\$1,411,498
27	Wilson, Town	Comprehensive Stormwater Management Plan	SER	82.3	\$91,680	\$45,840	\$1,457,338
28	Columbus, City	City of Columbus Water Quality Master Plan	SCR	81	\$131,578	\$50,832	\$1,508,170
29	Green Bay Metropolitan Sewerage District	NEW Water Green Infrastructure Implementation Plan	NER	81	\$30,000	\$15,000	\$1,523,170
30	Village of Plover	Plover TMDL Stormwater Planning	WCR	78.4	\$178,110	\$85,000	\$1,608,170
31	Village of Mount Pleasant	Pike River Chloride Management Plan	SER	78	\$100,000	\$50,000	\$1,658,170
32	City of Racine	Racine Stormwater Planning	SER	74.6	\$84,260	\$42,130	\$1,700,300
33	Calumet County	Calumet County Planning Update	NER	73.8	\$25,000	\$12,500	\$1,712,800
34	Village of De Soto	De Soto Stormwater Discharge Phosphorus Reduction	WCR	62	\$10,500	\$5,250	\$1,718,050
35	Village of Stoddard	Stoddard Stormwater Discharge Phosphorus Reduction	WCR	60	\$6,800	\$3,400	\$1,721,450
36	Union Grove Village	Union Grove Stormwater Study	SER	56	\$8,000	\$4,000	\$1,725,450
37	City of Rhinelander	Rhinelander-Storm Water Ordinance Update	NOR	28	\$4,500	\$2,250	\$1,727,700

Black font = proposed to be fully funded

Red font = funding not available

CORRESPONDENCE/MEMORANDUM

DATE: September 9, 2021

TO: Land and Water Conservation Board (LWCB) and Advisors

FROM: Joanna Griffin
Watershed Management Bureau, DNR

SUBJECT: DNR Scoring and Ranking of Targeted Runoff Management (TRM) Applications for Calendar Year (CY) 2022 Funding

Recommended Action: DNR staff request that the Land and Water Conservation Board make recommendations on the DNR proposed funding of TRM applications.

Summary: The DNR, pursuant to s. 281.65(4c)(b), Wis. Stats., is informing the LWCB of the Targeted Runoff Management (TRM) grant application scores for projects to be considered for CY 2022 grant funding. Scoring results for projects being considered for calendar year (CY) 2022 funding are presented in the attached tables.

Chapter NR 153, Wis. Adm. Code, governs the TRM Grant Program, became effective on January 1, 2011, and includes four separate TRM project categories as noted below. Projects are scored and ranked against other projects in the same category. Once total available funding is determined, funds are allocated among the four project categories. The maximum possible awards are \$225,000 for Small-Scale projects and \$600,000 for Large-Scale projects.

Scoring and Ranking Summary to Date:

A. Small-Scale Non-TMDL

- Six (6) applications were submitted and are eligible for grant consideration.
- Funding requests for the applications total \$1,204,613.
- Based on available funding, the Department proposes to allocate \$591,513 to fully fund three (3) of the six (6) projects in this category.

B. Small-Scale Total Maximum Daily Load (TMDL)

- Fourteen (14) applications were submitted and are eligible for grant consideration.
- Funding requests for the applications total \$2,447,513.
- Based on available funding, the Department proposes to allocate \$1,340,318 to fully fund eight (8) of the fourteen (14) projects in this category.
- The final Small-Scale TMDL TRM ranked list includes the following changes from the preliminary ranked list.
 - The requested amounts for both Ozaukee County Small-Scale TMDL TRM grants were decreased at the request of the County.
 - The total award of both Ozaukee County Small-Scale TMDL TRM grants was below the 20% allowable allocation by category.
 - This allowed the DNR to allocate funds towards an additional Small-Scale TMDL TRM grant.

In these categories of Small-Scale Non-TMDL and Small-Scale TMDL, adjustments were made once the total available funding was determined. The attached tables show the preliminary rank order of applications. A requirement in s. NR 153.20(2)(d)3.b., Wis. Adm. Code, states that no one applicant may receive multiple grants that exceed 20% of the total available funding in a given project category. Applicants on the ranked list whose total funding requests exceed 20% of the total available funding will be awarded funds for the projects that do not exceed 20% and the balance of the applicant's requests will be moved to the bottom of the ranked list; additional funding is provided only after all other eligible projects have first been funded.

C. Large-Scale Non-TMDL

- Three (3) applications were submitted and are eligible for consideration.
- Funding request for these applications total \$809,550.
- Based on available funding, the Department proposes to allocate \$196,000 to fully fund one (1) of the three (3) projects in this category.

D. Large-Scale TMDL

- Six (6) applications were submitted and are eligible for consideration.
- Funding request for these applications total \$3,078,850.
- Based on available funding, the Department proposes to allocate \$1,577,200 to fully fund three (3) of the six (6) projects in this category.

The following process was used to score and rank projects and make funding decisions:

1. All projects were scored and then ranked by score for each project category.
2. For Small-Scale TMDL and Small-Scale Non-TMDL applications only, the highest scoring application from each DNR region that is above the median score in each of the two project categories was identified and moved ("region boost") to the top of the ranked list.

The Department will include final allocations to counties for TRM projects in the *CY 2022 Joint Final Allocation Plan*. Once the *2022 Joint Final Allocation Plan* is signed, DNR will develop grant agreements for successful applications. During the grant agreement development process, funding amounts may be adjusted as necessary to reflect final cost-share rates and eligible project components.

Materials Provided:

CY 2022 Small-Scale Non-TMDL TRM Scoring by Project Category & Rank
CY 2022 Small-Scale TMDL TRM Scoring by Project Category & Rank
CY 2022 Large-Scale Non-TMDL TRM Scoring by Project Category & Rank
CY 2022 Large-Scale TMDL TRM Scoring by Project Category & Rank

TRM Scoring by Project Category & Rank for 2022

Table 1. Small-Scale Non-TMDL Project Applications

Rank	Applicant	Project Name	Region	Score	Region Boost	Total Eligible Project Costs	Total State Share Requested	Cumulative Requested
1	Door County*	East Tributary to the Ahnapee River Groundwater Protection	NER	119.4	Yes	\$405,992	\$220,000	\$220,000
2	Marinette County	Drees Farm Feed Leachate Management	NER	100	No	\$777,495	\$225,000	\$445,000
3	Ozaukee County	Gasser Farm 313 Storage	SER	86.9	No	\$209,304	\$146,513	\$591,513
4	Dunn County	Val-O-Mo Manure Storage Replacement	WCR	84.2	No	\$506,527	\$225,000	\$816,513
5	Trempealeau County	Lundberg/Giese Manure Pit	WCR	72.6	No	\$233,000	\$163,100	\$979,613
6	Marinette County	Zeitler Farm Manure Management	NER	97.9	No	\$417,661	\$225,000	\$1,204,613

*Region Boost with score equal to or greater than median of 92.4

Black font = proposed to be fully funded

Red font = funding not available

TRM Scoring by Project Category & Rank for 2022

Table 2. Small-Scale TMDL Project Applications

Rank	Applicant	Project Name	Region	Score	Region Boost	Total Eligible Project Costs	Total State Share Requested	Cumulative Requested
1	Greenfield, City*	Honey Creek Headwaters Streambank Stabilization	SER	138.5	Yes	\$751,407	\$225,000	\$225,000
2	Columbia County*	Ballweg Manure Management System	SCR	130	Yes	\$469,887	\$225,000	\$450,000
3	Polk County *	Creekside Dairy Manure Storage System	NOR	128.7	Yes	\$249,500	\$224,550	\$674,550
4	Outagamie County*	Doug Barclay	NER	123.4	Yes	\$172,441	\$120,000	\$794,550
5	Ozaukee County	Eskra 313 Waste Storage with roof provides phosphorous runoff savings	SER	128.7	No	\$320,500	\$78,486	\$873,036
6	Waupaca County	Moen Farm	NER	123.1	No	\$328,000	\$160,715	\$1,033,751
7	Ozaukee County	Sandy Loam Farm Waste Transfer & Storage (Hamm)	SER	121.6	No	\$290,282	\$81,764	\$1,115,515
8	Shawano County	Christianson Ag Waste	NER	120	No	\$337,933	\$224,803	\$1,340,318
9	North Lake Management District	Mason Creek Watershed Plan Implementation - Schmidt Property	SER	119	No	\$322,013	\$219,000	\$1,559,318
10	Burnett County	North West Passages Gully Erosion Control	NOR	112.5	No	\$14,405	\$10,084	\$1,569,402
11	Jackson, Village	Cedar Creek/Hickory Lane Streambank Stabilization & Stormwater Management Plan	SER	103.8	No	\$321,725	\$225,000	\$1,794,402
12	Adams County	Wisconsin River TRM Grant 2022	WCR	96	No	\$240,556	\$168,389	\$1,962,791
13	Rusk County	Justin Hamholm Feedlot & VTA	NOR	93.5	No	\$80,750	\$56,525	\$2,019,316
14	Outagamie County	Reese Farms	NER	123.2	No	\$641,540	\$225,000	\$2,244,316

*Region Boost with score equal to or greater than median of 122.35.

Black font = proposed to be fully funded

Red font = funding not available

TRM Scoring by Project Category & Rank for 2022

Table 3. Large-Scale Non-TMDL Project Applications

Rank	Applicant	Project Name	Region	Score	Total Eligible Project Costs	Total State Share Requested	Cumulative Requested
1	Chippewa County	Lake Wissota Stewardship Project - Yellow River Watershed	WCR	120.5	\$280,000	\$196,000	\$196,000
2	Rusk County	Devils Creek Watershed Project	NOR	116.6	\$760,665	\$512,750	\$708,750
3	Walworth County	Geneva Lake Watershed Implementation Project	SER	109	\$144,000	\$100,800	\$809,550

Black font = proposed to be fully funded

Red font = funding not available

Table 4. Large-Scale TMDL Project Applications

Rank	Applicant	Project Name	Region	Score	Total Eligible Project Costs	Total State Share Requested	Cumulative Requested
1	Waupaca County	Shaw Creek - Lower Little Wolf River Watershed	NER	208.2	\$1,222,000	\$600,000	\$600,000
2	Brown County	Upper/Lower East River TRM	NER	189.8	\$540,000	\$378,000	\$978,000
3	Outagamie County	Upper Duck Creek 3 TMDL Implementation	NER	167.2	\$856,000	\$599,200	\$1,577,200
4	Marathon County	Fenwood Creek Watershed Project (Phase II)	WCR	156.2	\$745,214	\$411,650	\$1,988,850
5	Dodge County	Lake Sinissippi-Rock River Watershed Plan	SCR	150.7	\$70,000	\$490,000	\$2,478,850
6	Dodge County	Wildcat Creek Watershed	SCR	150.7	\$860,000	\$600,000	\$3,078,850

Black font = proposed to be fully funded

Red font = funding not available



330 East Kilbourn Avenue, Suite 1149
Milwaukee, Wisconsin 53202
tel: 414 291-5100

November 24, 2021

Mr. Brian Kober, PE
Director of Public Works
Village of Jackson
N168 W19851 Main Street
Jackson, Wisconsin 53037

Subject: Proposal
 Stormwater Management Ponds
 Compliance Inspections

Dear Brian,

CDM Smith thanks you for the opportunity to continue our longstanding relationship with the Village of Jackson. Our staff has aided the Village in stormwater management and WPDES MS4 permitting for more than two decades. Below you will find our proposal to provide field inspections, reporting, and recommendations for compliance for the Village's 47 existing stormwater ponds.

Project Understanding

The Village holds a Wisconsin Pollutant Discharge Elimination System (WPDES) permit for stormwater discharge into the Cedar Creek as part of the Milwaukee River watershed. This permit is required under the State of Wisconsin's Municipal Separate Storm Sewer System (MS4) regulations. As part of its permit, the Village developed a compliance report in 2017. This report covers the requirements for the WPDES MS4 permit and the actions the Village of Jackson has taken to meet those requirements including:

- Certify existing stormwater ponds and develop computations (WinSLAMM Analysis) that that demonstrate the Village's compliance with State Statute NR151
- Establish baselines for the expected operations and maintenance for those stormwater ponds; and
- Develop procedures for inspecting and reporting for those stormwater ponds

The 2017 report includes a recommendation to certify stormwater ponds every five years to maintain their water quality benefit as covered in the Village's permit. This proposal and the scope of services below provides Jackson with field inspections and engineering expertise needed to maintain compliance with its WPDES permit with respect to water quality. Of the



existing 47 stormwater ponds seven are owned by the Village of Jackson and 40 are privately owned with easements to the Village for access, operations, maintenance.

Scope of Services

CDM Smith will provide the following scope of services for this project

1. Work with Village staff to develop a letter to the owners of private stormwater ponds. These owners can be single entities, homeowner's associations, condo associations, or businesses. This letter will describe the need for the inspections and inform owners of the impending field inspections. The letter will also describe the cost to the owners for this work.
2. Perform a field inspection of each pond to review the following:
 - a. Pond embankment and spillway, including stability and vegetation
 - b. Riser and principal spillway, including pipe condition and erosion
 - c. Permanent pool, including vegetation and visible pollution
 - d. Pond dry areas, including vegetation and sediment accumulation
 - e. Outfalls into ponds, including erosion and rip rap condition

For more details see the Stormwater Pond Operation and Maintenance Report template and Pond Recertification Form attached to this proposal.

3. Perform field survey to measure the depth of sediment in wet ponds and estimate the pond active storage volume (volume from the pond's water surface to the top of the embankment).
4. Compile results in a report for submittal to Wisconsin DNR. The report will also make specific recommendations for corrective actions for each pond, if necessary. These actions should be communicated to the pond's owner along with deadlines for completing the corrective actions.



Brian Kober
November 24, 2021
Page 3

Fee

The CDM Smith team will perform the scope of services for the following lump sum fee, broken down by task

Task 0, Project Management	\$1,950
Task 1, Sample Letter to Owner.....	\$850
Task 2, Field Inspections	\$51,700 (\$1,100 per pond)
Task 3, Field Survey	\$42,300 (\$900 per pond)
Task 4, Report	\$2,850
Total	\$99,650

Schedule

The CDM Smith team will begin working with the Village in Spring of 2022 to develop the letters to owners. Field work will take place during August and September of 2022. The Final report will be delivered in October of 2022.

We look forward to partnering with the Village of Jackson to provide continued WPDES stormwater compliance.

Sincerely,

Matthew J Bednarski, PE
Client Service Leader
CDM Smith Inc.



EXHIBIT A-2

Stormwater Pond Operation and Maintenance Report

Project: _____

Location: _____

Site Status: _____

Date: _____ Time: _____

Inspector: _____

Maintenance Item	Satisfactory / Unsatisfactory	Comments
1. Embankment and emergency spillway (Annual, After Major Storms)		
1. Vegetation and ground cover adequate		
2. Embankment erosion		
3. Animal burrows		
4. Unauthorized planting		
5. Cracking, bulging, or sliding of dam		
a. Upstream face		
b. Downstream face		
c. At or beyond toe		
downstream		
upstream		
d. Emergency spillway		
6. Pond, toe & chimney drains clear and functioning		
7. Seeps/leaks on downstream face		
8. Slope protection or riprap failure		
9. Vertical/horizontal alignment of top of dam "As-Built"		
10. Emergency spillway clear of obstructions and debris		
11. Other (specify)		
2. Riser and principal spillway (Annual)		
Type: Reinforced concrete _____		
Corrugated pipe _____		
Masonry _____		
1. Low flow orifice obstructed		
2. Low flow trash rack		
a. Debris removal necessary		
b. Corrosion control		
3. Weir trash rack maintenance		

EXHIBIT A
Porous Pavement, Stormwater Pond, and Catch Basin Operation and Maintenance Report

Maintenance Item	Satisfactory / Unsatisfactory	Comments
a. Debris removal necessary		
b. corrosion control		
4. Excessive sediment accumulation insider riser		
5. Concrete/masonry condition riser and barrels		
a. cracks or displacement		
b. Minor spalling (<1")		
c. Major spalling (rebars exposed)		
d. Joint failures		
e. Water tightness		
6. Metal pipe condition		
7. Control valve		
a. Operational/exercised		
b. Chained and locked		
8. Pond drain valve		
a. Operational/exercised		
b. Chained and locked		
9. Outfall channels functioning		
10. Other (specify)		
3. Permanent Pool (Wet Ponds) (monthly)		
1. Undesirable vegetative growth		
2. Floating or floatable debris removal required		
3. Visible pollution		
4. Shoreline problem		
5. Other (specify)		
4. Sediment Forebays		
1.Sedimentation noted		
2. Sediment cleanout when depth < 50% design depth		
5. Dry Pond Areas		
1. Vegetation adequate		
2. Undesirable vegetative growth		
3. Undesirable woody vegetation		
4. Low flow channels clear of obstructions		
5.Standing water or wet spots		
6. Sediment and / or trash accumulation		
7. Other (specify)		

EXHIBIT A
Porous Pavement, Stormwater Pond, and Catch Basin Operation and Maintenance Report

Maintenance Item	Satisfactory / Unsatisfactory	Comments
6. Condition of Outfall into Ponds (Annual , After Major Storms)		
1. Riprap failures		
2. Slope erosion		
3. Storm drain pipes		
4. Endwalls / Headwalls		
5. Other (specify)		
7. Other (Monthly)		
1. Encroachment on pond or easement area		
2. Complaints from residents		
3. Aesthetics		
a. Grass growing required		
b. Graffiti removal needed		
c. Other (specify)		
4. Any public hazards (specify)		
8. Constructed Wetland area (Annual)		
1. Vegetation healthy and growing		
2. Evidence of invasive species		
3. Excessive sedimentation in Wetland area		

Comments:

Actions to be Taken:

APPENDIX E

Wet Pond Recertification Form

Stormwater Pond Report									
Pond Number		Development Name							
1/4 Section		Section		Town		N		Range	E
Address or Nearest Intersection									
Latitude		Longitude							
Year Constructed		Year Approved		Year Last Certified					
Report By									
Engineer		Field Inspector							
Address		Date Inspected							
		Date Submitted							
Phone		Email							

	Approved	Previous Report	Current	Comments
Elevation of pond bottom				
Elevation of NWL				
Elevation of overflow weir				
Depth of water				
Elevation of top of berm				
Area at pond bottom (ac)				
Area at NWL (ac)				
Area at Top of Berm (ac)				
Primary Outlet				
Diameter (in)				
Invert Elevation				
Number of Openings				
Secondary Outlet				
Diameter (in)				
Invert Elevation				
Number of Openings				
Tertiary Outlet				
Diameter (in)				
Invert Elevation				
Number of Openings				
Outlet Control Structure				
Diameter (in)				
Invert Elevation				
Emergency Overflow				
Length (ft)				
Width (ft)				
Elevation				

Compliant (Y/N):			Next Certification Required By:	
Signature			Date	
Printed Name				

Stormwater Pond Report			
Pond Number		Development Name	
Survey Equipment Description			
Benchmark Location			
Benchmark Description			
Benchmark Elevation			

	Number	Comments / Field Notes
Points shot below NWL		
Points shot at NWL		
Points shot above NWL		

Weather During Survey	
Date of Last Rainfall	
Depth of Last Rainfall (in)	
Rain Gage Name	

Outlet Sketch

Photo of Pond - General	
Date of Photo	

Photo of Pond - Outlet	
Date of Photo	

From: Van Horn, Michele A - DNR (Mia) <Michele.VanHorn@wisconsin.gov>

Sent: Wednesday, November 17, 2021 3:32 PM

To: Jen Keller <jen.keller@villageofjackson.com>

Subject: RE: Village of Jackson Floodplain Zoning ordinance

Jen:

Thank you for letting me know how things were progressing with the ordinance. You asked me to send you a list of what was needed for the DNR to issue the approval.

1. The village completes the draft and the crosswalk I sent. This would include any village legal review needed as well as any comments from the Nov 30 Board of Public Works meeting
2. The village returns the completed crosswalk and draft for me to review approximately 2 weeks before the public meeting on Dec 14. If any changes were made from the draft that I sent, please indicate this in the crosswalk.
3. I review the draft and let you know if the ordinance is approvable before the public meeting on Dec 14, 2021
4. A class 2 notice is put into the local paper. Noticing requirements are:
 - a. 2 consecutive weeks
 - b. With the second week being at least 7 days before the public meeting (if it is down to the week before the meeting, the day of insertion into the paper is not included in the 7 day total but the day of the meeting can be). See attached affidavit Public Hearing for sample language for the notice.
5. The Village Board/Public Meeting is held on December 14, 2021 and the ordinance is adopted
6. A class 1 notice is put into the local paper within 7 days of adoption. See attached Affidavit Pub Enacted Ord for sample language.
 - a. If the community codifies the ordinance, the entire ordinance does not need to be published with the class 1 notice
7. obtain the affidavits from the paper for the notice of the public meeting and the notice of the enacted ordinance (samples attached)
8. To obtain the DNR approval, please send to me:
 - a. The affidavit from the paper for the notice of the public hearing
 - b. The affidavit from the paper for the notice of the enacted ordinance
 - c. A certified copy of the ordinance (This is a certified statement (see attached "Certified Ord Statement for an example), together with an electronic copy of the ordinance that was passed.)
9. I issue the DNR approval letter – on or before 2/25/2022 (provided that I receive the documents above a few days before the 25th of Feb 2022) and coordinate the FEMA approval for you.

And that would be it! Let me know if you have any questions.

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Mia Van Horn

Phone: (608)590-5296- cell

Michele.vanhorn@wisconsin.gov



COMMUNITY CHECKLIST FOR FLOODPLAIN ORDINANCE REVIEW – All Sections

Form 3500-141 (8/21)

Pages 1 of 5

Community Name VILLAGE OF JACKSON County WASHINGTON State WI Date 11/23/2021
Community Contact BRIAN W. KOBER Title VILLAGE ENGINEER Phone 262-677-0707 DNR Reviewer _____

Item Description / Ordinance Requirements	Model Section	Present?	Local Section	Comments
Statutory Authority, Fact	1.1-2	☒	16-19 16-20	
Purpose	1.3	☒	16-21	
Title	1.4	☒	16-22	
General Provisions	1.5	☐	16-23	PROPOSED HAS MAP REFERENCE
- areas to be regulated	1.5(1)	☐	16-23(a)	
- official maps and revisions	1.5(2)	☐	16-23(b)(1)	
- establishment of districts	1.5(3)	☐	16-23(c)	
- locating floodplain boundaries	1.5(4)	☐	16-23(d)	
- removal of lands from floodplain	1.5(5)	☐	16-23(e)	
- compliance	1.5(6)	☐	16-23(f)	
- agencies regulated	1.5(7)	☐	16-23(g)	ADDS DOT MUST APPLIES
- abrogation/greater restrictions	1.5(8)	☐	16-23(h)	REFERENCES DIFFERENT STATE STATUTE
- interpretation	1.5(9)	☒	16-23(i)	
- warning and disclaimer of liability	1.5(10)	☒	16-23(j)	
- severability	1.5(11)	☒	16-23(k)	
- annexed areas for cities and villages	1.5(12)	☒	16-23(l)	OK to eliminate if the municipality is a county
General Standards – All Districts	2.0	☐	16-50	
- flood-prone area	2.0(1)	☐		EXPANDED WORDING
- subdivision in a flood-prone area	2.0(2)	☐		EXPANDED WORDING
H & H Analysis	2.1	☒	16-51	
- obstruction/increase	2.1(1)	☒	16-51(a)	
- deny if obstruct flow or cause any increase	2.1(2)	☒	16-51(b)	
Watercourse Alterations	2.2	☒	16-52	

COMMUNITY CHECKLIST FOR FLOODPLAIN ORDINANCE REVIEW – All Sections

Form 3500-141 (8/21)

Page 2 of 5

Item Description / Ordinance Requirements	Model Section	Present?	Local Section	Comments
Chapter 30 and 31 Wis. Statutes.	2.3	☒	16-53	
Public or Private Campgrounds	2.4	☒	16-54	
Flooded Agricultural – Cranberry Farms (FA-C)	2.5	☐		OK to eliminate if the community is not in a cranberry county
Floodway District (FW)	3.0	☒	16-82	
Applicability	3.1	☒	16-82	
Permitted Uses	3.2(1-11)	☐	16-83	#8, 9, 10, 11 ARE NEW
Standards for Development (FW)	3.3	☐	16-84	ANALYSIS BY P.E. Village Zoning Administrator CAN DENY
General	3.3(1)(a-c)	☐	16-84	
Structures	3.3(2)(a-g)	☐	16-84(b)	P.E. REQUIRED
Public Utilities, Streets/Bridges and Fill	3.3(3-4)	☒	16-84(c) 16-84(d)	
Prohibited Uses (FW)	3.4(1-8)	☒	16-84(d) 16-85	
Floodfringe District (FF)	4.0	☒	16-114	
Applicability	4.1	☒	16-114	
Permitted Uses	4.2	☐	16-115	Proposed More Detailed
Standards for Development (FF)	4.3	☒	16-116	
- Standards for Development (FF) Residential uses	4.3(1)(a-d2)	☐	16-116(1)	
- Accessory Structures or Uses	4.3(2)	☒	16-116(2)	
- Standards for Development (FF) (commercial, manufacturing and industrial uses)	4.3(3)&(4)	☒	16-116(3) 16-116(4)	
- Storage of Materials	4.3(5)	☒	16-116(5)	
- Public Utilities, Streets and Bridges	4.3(6)(a-b)	☒	16-116(6)	
- Sewage Systems and Wells	4.3(7)&(8)	☒	16-116(7) 16-116(8) WELLS	
- Solid Waste Disposal Sites	4.3(9)	☒	16-116(9)	
- Deposition of Materials	4.3(10)	☒	16-116(10)	
- Manufactured Homes	4.3(11)(a-c)	☒	16-116(11)	
- Mobile Recreational Vehicles	4.3(12)(a-b)	☒	16-116(12)	
Other Floodplain Districts	5.0	☒	16-116	

COMMUNITY CHECKLIST FOR FLOODPLAIN ORDINANCE REVIEW – All Sections

Form 3500-141 (8/21)

Page 3 of 5

Item Description / Ordinance Requirements	Model Section	Present?	Local Section	Comments
General Floodplain District (GFD)	5.1	☒	16-146	ADDs ZONE AE
- applicability	5.1(1)	☒	16-146	
- floodway boundary	5.1(2)	☐		
- permitted uses	5.1(3)	☐	16-147	
- standard for development	5.1(4)(a-d)	☐	16-148	NEW CONSTRUCTION
- determining FW and FF limits	5.1(5)(a-b3)	☒	16-149	
Flood Storage Districts	5.2	☐		OK to remove if the community is not in a flood storage county
- applicability	5.2(1)	☐		
- permitted uses	5.2(2)	☐		
- standards for development (FSD)	5.3(3)(a-d)	☐		
Coastal Floodplain District (CFD)	5.3	☐		OK to eliminate for non-coastal communities
- applicability	5.3(1)	☐		
- development standards	5.3(2)(a-i)	☐		
Nonconforming Uses	6.0	☒	16-167	
General	6.1	☐		
- applicability	6.1(1)(a-b)	☐	16-167(a)	DIFFERENT CODE REFERENCE
- modifications and additions < 50%	6.1(2)(a)	☒	16-167(b)(1)	
- deck conditions	6.1(2)(a)	☒	16-167(b)(2)	
- discontinued use 12 for months	6.1(2)(b)	☒	16-167(b)(3)	
- recordkeeping	6.1(2)(c)	☒	16-167(b)(4)	
- modifications and additions definition	6.1(2)(d)	☒	16-167(b)(5)	
- maintenance > 50%	6.1(2)(e)	☒	16-167(b)(6)	
- modification/maintenance combined > 50% & dryland access	6.1(2)(f)	☒	16-167(b)(7)	
- destroyed or damaged > 50%	6.1(2)(g)	☒	16-167(b)(8)	
- non-flood disasters	6.1(2)(h)(1-2)	☒	16-167(b)(9)	
- historic structures	6.1(3)	☒	16-167(c)	

COMMUNITY CHECKLIST FOR FLOODPLAIN ORDINANCE REVIEW – All Sections

Form 3500-141 (8/21)

Page 4 of 5

Item Description / Ordinance Requirements	Model Section	Present?	Local Section	Comments
- Act 175 participants	6.1(4)	☐		This section is optional NO
Floodway District	6.2	☐	16-168	
- floodproofing modifications and additions	6.2(1)(a-e4)	☒	16-168(a)(1-5)	
- no sewage disposal	6.2(2)	☒	16-168(b)	
- no wells	6.2(3)	☒	16-168(c)	
Floodfringe District	6.3	☒	16-169	
- modifications and additions on fill	6.3(1)	☒	16-169(a)	
- variance to 6.3(1)	6.3(2)(a-f)	☒	16-169(b)(1-6)	
- sewage systems to SPS 383	6.3(3)	☒	16-169(c)	
- wells to NR 811 and NR 812	6.3(4)	☒	16-169(d)	
Flood Storage Areas	6.4	☐		
Coastal Floodplain District	6.5	☐		
- new construction and substantial damage	6.5(1)	☐		
- equalized assessed value	6.5(2)	☐		
Administration	7.0	☒	16-192	
Zoning Administrator	7.1	☒	16-193	
- ZA duties	7.1(1)(a-g)	☒	16-193(a)(1-7)	
- substantial damage assessment	7.1(1)(c)	☒	16-193(a)(3)	
- land use permits	7.1(2)	☒	16-193(b)	
- general information	7.1(2)(a)(1-2)	☒	16-193(b)(1)	
- site development plan	7.1(2)(b)(1-9)	☒	16-193(b)(2)	
- data for analysis to DNR	7.1(2)(c)(1-2)	☒	16-193(b)(3)	
- expiration	7.1(2)(d)	☒	16-193(b)(4)	
- certificate of compliance	7.1(3)(a-f)	☒	16-193(c)	
- other permits	7.1(4)	☒	16-193(d)	
Zoning Agency	7.2(1-2)	☒	16-194	

COMMUNITY CHECKLIST FOR FLOODPLAIN ORDINANCE REVIEW – All Sections

Form 3500-141 (8/21)

Page 5 of 5

Item Description / Ordinance Requirements	Model Section	Present?	Local Section	Comments
Board of Adjustment/Appeals	7.3	☒	16-195	
- powers and duties	7.3(1)(a-c)	☒	16-195(1)	
- appeals to the Board	7.3(2)(a-c)	☒	16-195(2)	
- boundary disputes to board	7.3(3)(a-c)	☒	16-195(3)	
- variance	7.3(4)(a-d)	☒	16-195(4)	
To Review Appeals of Permit Denials	7.4	☒	16-196	
- review appeals-data	7.4(1)(a-d)	☒	16-196(a)	(1-4)
- review appeals—process	7.4(2)(a-c)	☒	16-196(b)	(1-3)
- review appeals-increases	7.4(3)(a-b)	☒	16-196(c)	(1-2)
Floodproofing	7.5	☒	16-197	
- floodproofing-dry	7.5(1)	☒	16-197(a)	
- floodproofing-wet	7.5(2)(a-b3)	☒	16-197(b)	
- floodproofing-measures	7.5(3)(a-g4)	☒	16-197(c)	
Public Information	7.6(1-3)	☒	16-198	
Amendments	8.0(1-2)	☒	16-220	
General	8.1(1-7)	☒	16-221	
Procedures	8.2(1-3)	☒	16-222	
Enforcement/Penalty	9.0	☒	16-24	FEE AMOUNT PER FEE SCHEDULE
Definitions (1-89)	10.0	☐	16-25	BREAKAWAY WALL -ADDED

COASTAL FLOODPLAIN?

COASTAL HIGH HAZARD AREA?

VILLAGE CODE - FLOOD INSURANCE RATE MAP (FIRM)

60. MODERATE WAVE ACTION AREA?

64. NEW CONSTRUCTION DOES NOT HAVE A DATE OF 1924

69. OFFICIAL MAP 16-23(b)

73. PRIMITIVE FRONTAL DUNE?

78. SAND DUNES?

FLOODPLAIN ORDINANCE

FOR

The Village of Jackson

Effective_____ (enter date of adoption)

Blue highlights are instructional for the ordinance writer and can be deleted once the item is completed

Yellow highlights are places where the ordinance needs to be filled in with community specific information

Grey highlights are ordinance additions for communities that choose to implement Act 175

This whole page can be deleted. It is for informational purposes and does not need to remain in the ordinance

STATUTORY APPROVAL REQUIREMENTS

The public hearing notice must be published twice, THE SECOND TIME AT LEAST 7 DAYS BEFORE THE HEARING, to meet statutory notice requirements to legally adopt any zoning ordinance or amendment. The community must also furnish a certified copy of the ordinance and proof of publication or posting of the amended ordinance.

There are places in this document where blanks must be completed. After filling in those blanks (and putting in proper map references), publishing a Class 2 public hearing notice, and conducting the hearing, this document may be adopted as is by the municipality's governing body.

This model ordinance includes both the minimum regulatory standards required in ch. NR 116, Wis. Admin. Code, and those of the National Flood Insurance Program 44 CFR 59-72. Section 87.30(1)(b), Stats., permits a county, city, village or town to adopt a floodplain zoning ordinance that is more restrictive than the provisions required by the State, but not less restrictive. Other model ordinances are available from DNR, or we will help you develop alternative regulations to meet state and federal guidelines.

Submit the proposed ordinance to the DNR Regional Office zoning specialist for review at least 30 days before the public hearing to determine whether it meets all minimum standards. After public hearing and adoption, it is an added expense to change unacceptable ordinance language. No floodplain zoning ordinance amendment is effective until officially approved by DNR. All amendments must also be submitted to the Federal Emergency Management Agency.

Model ordinances and FEMA flood insurance maps are periodically revised. Contact the DNR before public hearing or adoption to assure you are using the most recent and accurate map and ordinance text available.

A handbook entitled ***The Floodplain-Shoreland Management Guidebook*** has been developed and distributed to all counties, cities and villages with floodplain or shoreland zoning ordinances. Look for publication in your municipal zoning office for answers to many questions about floodplain, wetland and shoreland zoning, dam safety, and the NFIP. The ***Guidebook*** is also available for download on the DNR website.

If possible, please submit your draft ordinance electronically. If you have made any changes to the model ordinance, please note the location of the changes in the draft.

The community must fill in these sections prior to adoption:

Section

1.4	Insert community name	2
1.5(2)	Insert source, name, date, and location of official floodplain zoning maps and other related maps	3
1.5(12)	Insert name of your county (Counties delete this section)	5
7.2(1)	Name of this committee	22

Please fill in these sections after adoption

Date of Public Hearing: _____ (Requires a Class 2 Hearing Notice of Publication or Posting)

Date of Adoption: _____

Dates of Publication or Posting: _____ (Second/last date must be at least 7 days before hearing, see definition, Ch 985 Stats)

Date of Publication or Posting of Notice of Enacted Ordinance _____

TABLE OF CONTENTS

1.0	STATUTORY AUTHORIZATION, FINDING OF FACT, STATEMENT OF PURPOSE, TITLE AND GENERAL PROVISIONS	2
1.1	Statutory Authorization	2
1.2	Finding of Fact	2
1.3	Statement of Purpose	2
1.4	Title	2
1.5	General Provisions	2
	(1) Areas to be Regulated	2
	(2) Official Maps and Revisions	3
	(3) Establishment of Districts	4
	(4) Locating Floodplain Boundaries	4
	(5) Removal of Lands from Floodplain	5
	(6) Compliance	6
	(7) Municipalities and State Agencies Regulated	6
	(8) Abrogation and Greater Restrictions	6
	(9) Interpretation	6
	(10) Warning and Disclaimer of Liability	7
	(11) Severability	7
	(12) Annexed Areas for Cities/Villages	7
2.0	GENERAL STANDARDS APPLICABLE TO ALL FLOODPLAIN	7
2.1	Hydraulic and Hydrologic Analyses	8
2.2	Watercourse Alterations	8
2.3	Chapter 30, 31, Wis. Stats., Development	8
2.4	Public or Private Campgrounds	9
3.0	FLOODWAY DISTRICT (FW)	16
3.1	Applicability	16
3.2	Permitted Uses	16
3.3	Standards for Development	17
3.4	Prohibited Uses	19
4.0	FLOODFRINGE DISTRICT (FF)	20
4.1	Applicability	20
4.2	Permitted Uses	20
4.3	Standards for Development	20
5.0	OTHER FLOODPLAIN DISTRICT	22
5.1	General Floodplain District (GFP)	22
5.2	Flood Storage District (when applicable)	24
6.0	NONCONFORMING USES	26
6.1	General	26
6.2	Floodway District	31
6.3	Floodfringe District	32
6.4	Flood Storage Districts (when applicable)	33
7.0	ADMINISTRATION	33
7.1	Zoning Administrator	33
7.2	Zoning Agency	39
7.3	Board of Adjustment/Appeals	39
7.4	To Review Appeals of Permit Denials	42
7.5	Floodproofing	42
7.6	Public Information	43
8.0	AMENDMENTS	44
8.1	General	44
8.2	Procedures	44
9.0	ENFORCEMENT AND PENALTIES	45
10.0	DEFINITIONS	45

1.0 STATUTORY AUTHORIZATION, FINDING OF FACT, STATEMENT OF PURPOSE, TITLE AND GENERAL PROVISIONS

1.1 STATUTORY AUTHORIZATION

This ordinance is adopted pursuant to the authorization in s. 61.35 and 62.23, for villages and cities; and the requirements in s. 87.30, Stats.

1.2 FINDING OF FACT

Uncontrolled development and use of the floodplains and rivers of this municipality would impair the public health, safety, convenience, general welfare and tax base.

1.3 STATEMENT OF PURPOSE

This ordinance is intended to regulate floodplain development to:

- (1) Protect life, health and property;
- (2) Minimize expenditures of public funds for flood control projects;
- (3) Minimize rescue and relief efforts undertaken at the expense of the taxpayers;
- (4) Minimize business interruptions and other economic disruptions;
- (5) Minimize damage to public facilities in the floodplain;
- (6) Minimize the occurrence of future flood blight areas in the floodplain;
- (7) Discourage the victimization of unwary land and homebuyers;
- (8) Prevent increases in flood heights that could increase flood damage and result in conflicts between property owners; and
- (9) Discourage development in a floodplain if there is any practicable alternative to locate the activity, use or structure outside of the floodplain.

1.4 TITLE

This ordinance shall be known as the Floodplain Zoning Ordinance for the Village of Jackson, Wisconsin.

1.5 GENERAL PROVISIONS

(1) AREAS TO BE REGULATED

This ordinance regulates all areas of special flood hazard identified as zones A, AO, AH, A1-30, AE, on the Flood Insurance Rate Map. Additional areas identified on maps approved by the Department of Natural Resources (DNR) and local community may also be regulated under the provisions of this ordinance, where applicable.

(2) OFFICIAL MAPS & REVISIONS

Special Flood Hazard Areas (SFHA) are designated as zones A, A1-30, AE, AH, AO, on the Flood Insurance Rate Maps (FIRMs) based on flood hazard analyses summarized in the Flood Insurance Study (FIS) listed in subd. (a) below. Additional flood hazard areas subject to regulation under this ordinance are identified on maps based on studies approved by the DNR and listed in subd. (b)

below. These maps and revisions are on file in the office of the **(municipal officer), (municipal name).**

(a) OFFICIAL MAPS : Based on the Flood Insurance Study (FIS):

1. Flood Insurance Rate Map (FIRM), panel numbers 55131C0254E, 55131C0258E, 55131C0259E, 55131C0266E, 55131C0267E; dated 02/25/2022;
2. Flood Insurance Study (FIS) volumes 55131CV001C, 55131CV002C, 55131CV003C, 55131CV004C, 55131CV005C, 55131CV006C for Washington County here, dated 02/25/2022.

Approved by: The DNR and FEMA

(b) OFFICIAL MAPS: Based on other studies. Any maps referenced in this section must be approved by the DNR and be more restrictive than those based on the FIS at the site of the proposed development.

1. Washington County and incorporated areas Flood Storage Districts, Panel 8 dated 02/25/2022.
2. Washington County and incorporated areas Flood Storage Districts, Panel 9 dated 02/25/2022.

Approved by: The DNR

(3) ESTABLISHMENT OF FLOODPLAIN ZONING DISTRICTS

The flood hazard areas regulated by this ordinance are divided into districts as follows:

- (a) The Floodway District (FW), is the channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional floodwaters, within AE Zones as shown on the FIRM, or within A Zones shown on the FIRM when determined according to s. 5.1(5).
- (b) The Floodfringe District (FF) is that portion of a riverine special flood hazard area outside the floodway within AE Zones on the FIRM, or, when floodway limits have been determined according to s. 5.1(5), within A Zones shown on the FIRM.
- (c) The General Floodplain District (GFP) is those riverine areas that may be covered by floodwater during the regional flood in which a floodway boundary has not been delineated on the FIRM and also includes shallow flooding areas identified as AH and AO zones on the FIRM.
- (d) The Flood Storage District (FSD) is that area of the floodplain where storage of floodwaters is calculated to reduce the regional flood discharge.

(4) LOCATING FLOODPLAIN BOUNDARIES

Discrepancies between the exterior boundaries of zones A1-30, AE, AH, or A on the official floodplain zoning map and actual field conditions may be resolved

using the criteria in subd (a) or (b) below. If a significant difference exists, the map shall be amended according to s. 8.0 *Amendments*. The zoning administrator can rely on a boundary derived from a profile elevation to grant or deny a land use permit, whether or not a map amendment is required. The zoning administrator shall be responsible for documenting actual pre-development field conditions and the basis upon which the district boundary was determined. Disputes between the zoning administrator and an applicant over the district boundary line shall be settled according to s. 7.3(3) and the criteria in (a) and (b) below. Where the flood profiles are based on established base flood elevations from a FIRM, FEMA must approve any map amendment or revision pursuant to s. 8.0 *Amendments*.

- (a) If flood profiles exist, the map scale and the profile elevations shall determine the district boundary. The regional or base flood elevations shall govern if there are any discrepancies.
- (b) Where flood profiles do not exist for projects, including any boundary of zone A, AO, the location of the boundary shall be determined by the map scale.

(5) REMOVAL OF LANDS FROM FLOODPLAIN

- (a) Compliance with the provisions of this ordinance shall not be grounds for removing land from the floodplain unless it is filled at least two feet above the regional or base flood elevation, the fill is contiguous to land outside the floodplain, and the map is amended pursuant to s. 8.0 *Amendments*.
- (b) The delineation of any of the Floodplain Districts may be revised by the community where natural or man-made changes have occurred and/or where more detailed studies have been conducted. However, prior to any such change, approval must be obtained from the Wisconsin Department of Natural Resources and Federal Emergency Management Agency. A completed Letter of Map Revision is a record of this approval. The floodplain administrator shall not sign a community acknowledgement form unless all criteria set forth in the following paragraphs are met:
 - 1. The land and/or land around the structure must be filled at least two feet above the regional or base flood elevation;
 - 2. The fill must be contiguous to land outside the floodplain; Applicant shall obtain floodplain development permit before applying for a LOMR or LOMR-F;
- (c) Removal of lands from the floodplain may also occur by operation of §87.30(1)(e), Wis. Stat. if a property owner has obtained a letter of map amendment from the federal emergency management agency under 44 C.F.R. 70.

(6) COMPLIANCE

- (a) No structure or use within areas regulated by this ordinance shall hereafter be located, erected, constructed, reconstructed, repaired, extended, converted, enlarged, or altered without full compliance with the terms of these regulations and all other applicable regulations that apply to uses within the jurisdiction of these regulations.
- (b) Failure to obtain a floodplain development permit shall be a violation of these regulations and shall be punishable in accordance with s. 9.0.
- (c) Floodplain development permits issued on the basis of plans and applications approved by the Floodplain Administrator authorize only the use, and arrangement, set forth in such approved plans and applications, or amendments thereto if approved by the Floodplain Administrator. Use, arrangement, or construction contrary to that authorized shall be deemed a violation of these regulations and punishable in accordance with s. 9.0.

(7) MUNICIPALITIES AND STATE AGENCIES REGULATED

Unless specifically exempted by law, all cities, villages, towns, and counties are required to comply with this ordinance and obtain all necessary permits. State agencies are required to comply if s. 13.48(13), Stats., applies. The construction, reconstruction, maintenance and repair of state highways and bridges by the Wisconsin Department of Transportation is exempt when s. 30.2022, Stats., applies. Although exempt from a local zoning permit and permit fees, DOT must provide sufficient project documentation and analysis to ensure that the community is in compliance with Federal, State, and local floodplain standards.

(8) ABROGATION AND GREATER RESTRICTIONS

- (a) This ordinance supersedes all the provisions of any municipal zoning ordinance enacted under s. 61.35 for villages; or s. 87.30, Stats., which relate to floodplains. A more restrictive ordinance shall continue in full force and effect to the extent of the greater restrictions, but not otherwise.
- (b) This ordinance is not intended to repeal, abrogate or impair any existing deed restrictions, covenants or easements. If this ordinance imposes greater restrictions, the provisions of this ordinance shall prevail.

(9) INTERPRETATION

In their interpretation and application, the provisions of this ordinance are the minimum requirements liberally construed in favor of the governing body and are not a limitation on or repeal of any other powers granted by the Wisconsin Statutes. If a provision of this ordinance, required by ch. NR 116, Wis. Adm. Code, is unclear, the provision shall be interpreted in light of the standards in effect on the date of the adoption of this ordinance or in effect on the date of the most recent text amendment to this ordinance.

(10) WARNING AND DISCLAIMER OF LIABILITY

The flood protection standards in this ordinance are based on engineering experience and research. Larger floods may occur, or the flood height may be increased by man-made or natural causes. This ordinance does not imply or guarantee that non-floodplain areas or permitted floodplain uses will be free from flooding and flood damages. This ordinance does not create liability on the part of, or a cause of action against, the municipality or any officer or employee thereof for any flood damage that may result from reliance on this ordinance.

(11) SEVERABILITY

Should any portion of this ordinance be declared unconstitutional or invalid by a court of competent jurisdiction, the remainder of this ordinance shall not be affected.

(12) ANNEXED AREAS FOR CITIES AND VILLAGES

The Washington County floodplain zoning provisions in effect on the date of annexation shall remain in effect and shall be enforced by the municipality for all annexed areas until the municipality adopts and enforces an ordinance which meets the requirements of ch. NR 116, Wis. Adm. Code and 44 CFR 59-72, *National Flood Insurance Program* (NFIP). These annexed lands are described on the municipality's official zoning map. County floodplain zoning provisions are incorporated by reference for the purpose of administering this section and are on file in the office of the municipal zoning administrator. All plats or maps of annexation shall show the regional flood elevation and the floodway location.

2.0 GENERAL STANDARDS APPLICABLE TO ALL FLOODPLAIN DISTRICTS

The community shall review all permit applications to determine whether proposed building sites will be reasonably safe from flooding and assure that all necessary permits have been received from those governmental agencies whose approval is required by federal or state law.

(1) If a proposed building site is in a flood-prone area, all new construction and substantial improvements shall:

(a) be designed and anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;

(b) be constructed with flood-resistant materials;

(c) be constructed by methods and practices that minimize flood damages; and

(d) be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(2) If a subdivision or other proposed new development is in a flood-prone area, the community shall assure that:

(a) such proposed subdivision or other proposed new development is consistent with the need to minimize flood damage within the flood-prone area;

(b) public utilities and facilities such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and

(c) adequate drainage is provided to reduce exposure to flood hazards.

All subdivision proposals (including manufactured home parks) shall include regional flood elevation and floodway data for any development that meets the subdivision definition of this ordinance and all other requirements in s. 7.1(2).

2.1 HYDRAULIC AND HYDROLOGIC ANALYSES

(1) No floodplain development shall:

(a) Obstruct flow, defined as development which blocks the conveyance of floodwaters by itself or with other development, causing any increase in the regional flood height; or

(b) Cause any increase in the regional flood height due to floodplain storage area lost.

(2) The zoning administrator shall deny permits if it is determined the proposed development will obstruct flow or cause any increase in the regional flood height, based on the officially adopted FIRM or other adopted map, unless the provisions of s. 8.0 *Amendments* are met.

2.2 WATERCOURSE ALTERATIONS

No land use permit to alter or relocate a watercourse in a mapped floodplain shall be issued until the local official has notified in writing all adjacent municipalities, the Department and FEMA regional offices, and required the applicant to secure all necessary state and federal permits. The standards of s. 2.1 must be met and the flood carrying capacity of any altered or relocated watercourse shall be maintained.

As soon as is practicable, but not later than six months after the date of the watercourse alteration or relocation and pursuant to s. 8.0 *Amendments*, the community shall apply for a Letter of Map Revision (LOMR) from FEMA. Any such alterations must be reviewed and approved by FEMA and the DNR through the LOMC process.

2.3 CHAPTER 30, 31, WIS. STATS., DEVELOPMENT

Development which requires a permit from the Department, under chs. 30 and 31, Stats., such as docks, piers, wharves, bridges, culverts, dams and navigational aids, may be allowed if the necessary permits are obtained and amendments to the floodplain zoning ordinance are made according to s. 8.0 *Amendments*.

2.4 PUBLIC OR PRIVATE CAMPGROUNDS

Public or private campgrounds shall have a low flood damage potential and shall meet the following provisions:

(1) The campground is approved by the Department of Agriculture, Trade and Consumer Protection;

(2) A land use permit for the campground is issued by the zoning administrator;

- (3) The character of the river system and the campground elevation are such that a 72-hour warning of an impending flood can be given to all campground occupants;
- (4) There is an adequate flood warning procedure for the campground that offers the minimum notice required under this section to all persons in the campground. This procedure shall include a written agreement between the campground owner, the municipal emergency government coordinator and the chief law enforcement official which specifies the flood elevation at which evacuation shall occur, personnel responsible for monitoring flood elevations, types of warning systems to be used and the procedures for notifying at-risk parties, and the methods and personnel responsible for conducting the evacuation;
- (5) This agreement shall be for no more than one calendar year, at which time the agreement shall be reviewed and updated - by the officials identified in sub. (4) - to remain in compliance with all applicable regulations, including those of the state Department of Agriculture, Trade and Consumer Protection and all other applicable regulations;
- (6) All mobile recreational vehicles placed on the site must meet one of the following:
 - (a) Only camping units that are fully licensed, if required, and ready for highway use are allowed; or
 - (b) The camping units shall not occupy any site in the campground for more than 180 consecutive days, at which time the camping unit must be removed from the floodplain for a minimum of 24 hours;

A mobile recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect utilities and security devices and has no permanently attached additions.

- (7) All camping units that remain on site for more than 30 days shall be issued a limited authorization by the campground operator, a written copy of which is kept on file at the campground. Such authorization shall allow placement of a camping unit consistent with 2.4(6) and shall ensure compliance with all the provisions of this section;
- (8) The municipality shall monitor the limited authorizations issued by the campground operator to assure compliance with the terms of this section;
- (9) All camping units that remain in place for more than 180 consecutive days must meet the applicable requirements in either s. 3.0, 4.0, 5.1, or 5.3 for the floodplain district in which the structure is located;
- (10) The campground shall have signs clearly posted at all entrances warning of the flood hazard and the procedures for evacuation when a flood warning is issued; and
- (11) All service facilities, including but not limited to refuse collection, electrical service, gas lines, propane tanks, sewage systems and wells shall be properly anchored and placed at or floodproofed to the flood protection elevation.

3.0 FLOODWAY DISTRICT (FW)

3.1 APPLICABILITY

This section applies to all floodway areas on the floodplain zoning maps and those identified pursuant to s. 5.1(5).

3.2 PERMITTED USES

The following open space uses are allowed in the Floodway District and the floodway areas of the General Floodplain District, if:

- they are not prohibited by any other ordinance;
 - they meet the standards in s. 3.3 and 3.4; and
 - all permits or certificates have been issued according to s. 7.1.
- (1) Agricultural uses, such as: farming, outdoor plant nurseries, horticulture, viticulture and wild crop harvesting.
 - (2) Nonstructural industrial and commercial uses, such as loading areas, parking areas and airport landing strips.
 - (3) Nonstructural recreational uses, such as golf courses, tennis courts, archery ranges, picnic grounds, boat ramps, swimming areas, parks, wildlife and nature preserves, game farms, fish hatcheries, shooting, trap and skeet activities, hunting and fishing areas and hiking and horseback riding trails, subject to the fill limitations of s. 3.3(4).
 - (4) Uses or structures accessory to open space uses or classified as historic structures that comply with s. 3.3 and 3.4.
 - (5) Extraction of sand, gravel or other materials that comply with s. 3.3(4).
 - (6) Functionally water-dependent uses, such as docks, piers or wharves, dams, flowage areas, culverts, navigational aids and river crossings of transmission lines, and pipelines that comply with chs. 30 and 31, Stats.
 - (7) Public utilities, streets and bridges that comply with s. 3.3(3).
 - (8) Portable latrines that are removed prior to flooding and systems associated with recreational areas and Department-approved campgrounds that meet the applicable provisions of local ordinances and ch. SPS 383, Wis. Adm. Code.
 - (9) Public or private wells used to obtain potable water for recreational areas that meet the requirements of local ordinances and chs. NR 811 and NR 812, Wis. Adm. Code.
 - (10) Wastewater treatment ponds or facilities permitted under s. NR 110.15(3)(b), Wis. Adm. Code.
 - (11) Sanitary sewer or water supply lines to service existing or proposed development located outside the floodway that complies with the regulations for the floodplain area occupied.

3.3 STANDARDS FOR DEVELOPMENTS IN THE FLOODWAY

(1) GENERAL

- (a) Any development in the floodway shall comply with s. 2.0 and have a low flood damage potential.
- (b) Applicants shall provide an analysis calculating the effects of this proposal on the regional flood height to determine the effects of the proposal according to s. 2.1 and 7.1(2)(c). The analysis must be completed by a registered professional engineer in the state of Wisconsin.
- (c) Any encroachment in the regulatory floodway is prohibited unless the data submitted for subd. 3.3(1)(b) above demonstrates that the encroachment will cause no increase in flood elevations in flood events up to the base flood at any location or removes the encroached area from the regulatory floodway as provided in s. 1.5(5).

(2) STRUCTURES

Structures accessory to permanent open space uses, including utility and sanitary facilities, or functionally dependent on a waterfront location may be allowed by permit if the structures comply with the following criteria:

- (a) Not designed for human habitation, does not have a high flood damage potential and is constructed to minimize flood damage;
- (b) Shall either have the lowest floor elevated to or above the flood protection elevation or shall meet all the following standards:
 - 1. Have the lowest floor elevated to or above the regional flood elevation and be dry floodproofed so that the structure is watertight with walls substantially impermeable to the passage of water and completely dry to the flood protection elevation without human intervention during flooding;
 - 2. Have structural components capable of meeting all provisions of Section 3.3(2)(g) and;
 - 3. Be certified by a registered professional engineer or architect, through the use of a Federal Emergency Management Agency Floodproofing Certificate, that the design and methods of construction are in accordance with Section 3.3(2)(g).
- (c) Must be anchored to resist flotation, collapse, and lateral movement;
- (d) Mechanical and utility equipment must be elevated to or above the flood protection elevation; and
- (e) Must not obstruct flow of flood waters or cause any increase in flood levels during the occurrence of the regional flood.

(f) For a structure designed to allow the automatic entry of floodwaters below the Regional Flood Elevation, the applicant shall submit a plan that meets s. 3.3(2)(a) through 3.3(2)(e) and meets or exceeds the following standards:

1. The lowest floor must be elevated to or above the regional flood elevation;
2. a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
3. the bottom of all openings shall be no higher than one foot above the lowest adjacent grade; openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters, otherwise must remain open.
4. The use must be limited to parking, building access or limited storage.

(g) Certification: Whenever floodproofing measures are required, a registered professional engineer or architect shall certify that the following floodproofing measures will be utilized, where appropriate, and are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the regional flood:

1. Reinforcement of floors and walls to resist rupture, collapse, or lateral movement caused by water pressures or debris buildup;
2. Construction of wells, water supply systems and waste treatment systems so as to prevent the entrance of flood waters in such systems and must be in accordance with provisions in Sections 3.4(4) and 3.4(5);
3. Subsurface drainage systems to relieve external pressures on foundation walls and basement floors;
4. Cutoff valves on sewer lines or the elimination of gravity flow basement drains; and
5. Placement of utilities to or above the flood protection elevation.

(3) PUBLIC UTILITIES, STREETS AND BRIDGES

Public utilities, streets and bridges may be allowed by permit, if:

- (a) Adequate floodproofing measures are provided to the flood protection elevation; and
- (b) Construction meets the development standards of s. 2.1.

(4) **FILLS OR DEPOSITION OF MATERIALS**

Fills or deposition of materials may be allowed by permit, if:

- (a) The requirements of s. 2.1 are met;
 - (b) No material is deposited in navigable waters unless a permit is issued by the Department pursuant to ch. 30, Stats., and a permit pursuant to s. 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1344 has been issued, if applicable, and all other requirements have been met;
 - (c) The fill or other materials will be protected against erosion by riprap, vegetative cover, sheet piling or bulkheading; and
- (a)The fill is not classified as a solid or hazardous material.

3.4 PROHIBITED USES

All uses not listed as permitted uses in s. 3.2 are prohibited, including the following uses:

- (1) Habitable structures, structures with high flood damage potential, or those not associated with permanent open-space uses;
- (2) Storing materials that are buoyant, flammable, explosive, injurious to property, water quality, or human, animal, plant, fish or other aquatic life;
- (3) Uses not in harmony with or detrimental to uses permitted in the adjoining districts;
- (4) Any private or public sewage systems, except portable latrines that are removed prior to flooding and systems associated with recreational areas and Department-approved campgrounds that meet the applicable provisions of local ordinances and ch. SPS 383, Wis. Adm. Code;
- (5) Any public or private wells which are used to obtain potable water, except those for recreational areas that meet the requirements of local ordinances and chs. NR 811 and NR 812, Wis. Adm. Code;
- (6) Any solid or hazardous waste disposal sites;
- (7) Any wastewater treatment ponds or facilities, except those permitted under s. NR 110.15(3)(b), Wis. Adm. Code; and
- (8) Any sanitary sewer or water supply lines, except those to service existing or proposed development located outside the floodway which complies with the regulations for the floodplain area occupied.

4.0 FLOODFRINGE DISTRICT (FF)

4.1 APPLICABILITY

This section applies to all floodfringe areas shown on the floodplain zoning maps and those identified pursuant to s. 5.1(5).

4.2 PERMITTED USES

Any structure, land use, or development is allowed in the Floodfringe District if the

standards in s. 4.3 are met, the use is not prohibited by this or any other ordinance or regulation and all permits or certificates specified in s. 7.1 have been issued.

4.3 STANDARDS FOR DEVELOPMENT IN THE FLOODFRINGE

Section 2.0 shall apply in addition to the following requirements according to the use requested. Any existing structure in the floodfringe must meet the requirements of s. 6.0 *Nonconforming Uses*;

(1) RESIDENTIAL USES

Any structure, including a manufactured home, which is to be newly constructed or moved into the floodfringe, shall meet or exceed the following standards. Any existing structure in the floodfringe must meet the requirements of s. 6.0 *Nonconforming Uses*;

- (a) All new construction, including placement of manufactured homes, and substantial improvement of residential structures, shall have the lowest floor elevated to or above the flood protection elevation on fill. The fill around the structure shall be one foot or more above the regional flood elevation extending at least 15 feet beyond the limits of the structure. No area may be removed from the floodfringe district unless it can be shown to meet s. 1.5(5).
- (b) Notwithstanding s. 4.3 (1)(a), a basement or crawlspace floor may be placed at the regional flood elevation if the basement or crawlspace is designed to make all portions of the structure below the flood protection elevation watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. No floor of any kind is allowed below the regional flood elevation;
- (c) Contiguous dryland access shall be provided from a structure to land outside of the floodplain, except as provided in subd. (d).
- (d) In developments where existing street or sewer line elevations make compliance with subd. (c) impractical, the municipality may permit new development and substantial improvements where roads are below the regional flood elevation, if:
 - 1. The municipality has written assurance from police, fire and emergency services that rescue and relief will be provided to the structure(s) by wheeled vehicles during a regional flood event; or
 - 2. The municipality has a DNR-approved emergency evacuation plan that follows acceptable hazard mitigation planning guidelines.

(2) ACCESSORY STRUCTURES OR USES

In addition to s. 2.0, new construction and substantial improvements of Accessory structures shall be constructed on fill with the lowest floor at or above the regional flood elevation.

(3) COMMERCIAL USES

In addition to s. 2.0, any commercial structure which is erected, altered or moved into the floodfringe shall meet the requirements of s. 4.3(1). Subject to the requirements of s. 4.3(5), storage yards, surface parking lots and other such uses may be placed

at lower elevations if an adequate warning system exists to protect life and property.

(4) MANUFACTURING AND INDUSTRIAL USES

In addition to s. 2.0, any manufacturing or industrial structure which is erected, altered or moved into the floodfringe shall have the lowest floor elevated to or above the flood protection elevation or meet the floodproofing standards in s 7.5. Subject to the requirements of s. 4.3(5), storage yards, surface parking lots and other such uses may be placed at lower elevations if an adequate warning system exists to protect life and property.

(5) STORAGE OF MATERIALS

Materials that are buoyant, flammable, explosive, or injurious to property, water quality or human, animal, plant, fish or aquatic life shall be stored at or above the flood protection elevation or floodproofed in compliance with s. 7.5. Adequate measures shall be taken to ensure that such materials will not enter the water body during flooding.

(6) PUBLIC UTILITIES, STREETS AND BRIDGES

All utilities, streets and bridges shall be designed to be compatible with comprehensive floodplain development plans; and

(a) When failure of public utilities, streets and bridges would endanger public health or safety, or where such facilities are deemed essential, construction or repair of such facilities shall only be permitted if they are designed to comply with s. 7.5.

(b) Minor roads or non-essential utilities may be constructed at lower elevations if they are designed to withstand flood forces to the regional flood elevation.

(7) SEWAGE SYSTEMS

All sewage disposal systems shall be designed to minimize or eliminate infiltration of flood water into the system, pursuant to s. 7.5(3), to the flood protection elevation and meet the provisions of all local ordinances and ch. SPS 383, Wis. Adm. Code.

(8) WELLS

All wells shall be designed to minimize or eliminate infiltration of flood waters into the system, pursuant to s. 7.5(3), to the flood protection elevation and shall meet the provisions of chs. NR 811 and NR 812, Wis. Adm. Code.

(9) SOLID WASTE DISPOSAL SITES

Disposal of solid or hazardous waste is prohibited in floodfringe areas.

(10) DEPOSITION OF MATERIALS

Any deposited material must meet all the provisions of this ordinance.

(11) MANUFACTURED HOMES

(a) Owners or operators of all manufactured home parks and subdivisions shall provide adequate surface drainage to minimize flood damage, and prepare, secure approval and file an evacuation plan, indicating vehicular access and escape routes, with local emergency management authorities.

(b) In existing manufactured home parks, all new homes, replacement homes on

existing pads, and substantially improved homes shall:

1. have the lowest floor elevated to the flood protection elevation; and
2. be anchored so they do not float, collapse or move laterally during a flood

(c) Outside of existing manufactured home parks, including new manufactured home parks and all single units outside of existing parks, all new, replacement and substantially improved manufactured homes shall meet the residential development standards for the floodfringe in s. 4.3(1).

(12) MOBILE RECREATIONAL VEHICLES

All mobile recreational vehicles must be on site for less than 180 consecutive days and be either:

- (a) fully licensed and ready for highway use; or
- (b) shall meet the elevation and anchoring requirements in s. 4.3 (11)(b) and (c).

A mobile recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect utilities and security devices and has no permanently attached additions.

5.0 OTHER FLOODPLAIN DISTRICTS

5.1 GENERAL FLOODPLAIN DISTRICT (GFP)

(1) APPLICABILITY

The provisions for the General Floodplain District shall apply to development in all floodplains mapped as A, AO, AH, and in AE zones within which a floodway is not delineated on the Flood Insurance Rate Maps identified in s. 1.5(2)(a).

(2) FLOODWAY BOUNDARIES

For proposed development in zone A, or in zone AE within which a floodway is not delineated on the Flood Insurance Rate Map identified in s. 1.5(2)(a), the boundaries of the regulatory floodway shall be determined pursuant to s. 5.1(5). If the development is proposed to encroach upon the regulatory floodway, the development is subject to the standards of s 3.0. If the development is located entirely within the floodfringe, the development is subject to the standards of s. 4.0.

(3) PERMITTED USES

Pursuant to s. 5.1(5) it shall be determined whether the proposed use is located within the floodway or floodfringe. Those uses permitted in the Floodway (s. 3.2) and Floodfringe (s. 4.2) Districts are allowed within the General Floodplain District, according to the standards of s. 5.1(4) provided that all permits or certificates required under s. 7.1 have been issued.

(4) STANDARDS FOR DEVELOPMENT IN THE GENERAL FLOODPLAIN DISTRICT

Section 3.0 applies to floodway areas, determined to pursuant to 5.1(5); Section 4.0 applies to floodfringe areas, determined to pursuant to 5.1(5).

- (a) New construction and substantial improvement of structures in zone AO shall have

the lowest floor, including basement, elevated:

1. To or above the depth, in feet, as shown on the FIRM above the highest adjacent natural grade; or
 2. If the depth is not specified on the FIRM, to or above two (2) feet above the highest adjacent natural grade.
- (b) New Construction and substantial improvement of structures in zone AH shall have the lowest floor, including basement, elevated to or above the flood protection elevation.
- (c) In AO/AH zones, provide adequate drainage paths to guide floodwaters around structures.
- (d) All development in zones AO and zone AH shall meet the requirements of s. 4.0 applicable to flood fringe areas.
- (5) **DETERMINING FLOODWAY AND FLOODFRINGE LIMITS**
Upon receiving an application for development within zone A, or within zone AE where a floodway has not been delineated on the Flood Insurance Rate Maps, the zoning administrator shall:
- (a) Require the applicant to submit two copies of an aerial photograph or a plan which shows the proposed development with respect to the general floodplain district limits, stream channel, and existing floodplain developments, along with a legal description of the property, fill limits and elevations, building floor elevations and flood proofing measures; and the flood zone as shown on the FIRM.
 - (b) Require the applicant to furnish any of the following information deemed necessary by the Department to evaluate the effects of the proposal upon flood height and flood flows, regional flood elevation and to determine floodway boundaries.
 1. A Hydrologic and Hydraulic Study as specified in s. 7.1(2)(c).
 2. Plan (surface view) showing elevations or contours of the ground; pertinent structure, fill or storage elevations; size, location and layout of all proposed and existing structures on the site; location and elevations of streets, water supply, and sanitary facilities; soil types and other pertinent information;
 3. Specifications for building construction and materials, floodproofing, filling, dredging, channel improvement, storage, water supply and sanitary facilities.

5.2 FLOOD STORAGE DISTRICT

The flood storage district delineates that portion of the floodplain where storage of floodwaters has been taken into account and is relied upon to reduce the regional flood discharge. The district protects the flood storage areas and assures that any development in the storage areas will not decrease the effective flood storage capacity which would cause higher flood elevations.

(1) APPLICABILITY

The provisions of this section apply to all areas within the Flood Storage District (FSD), as shown on the official floodplain zoning maps.

(2) PERMITTED USES

Any use or development which occurs in a flood storage district must meet the applicable requirements in s. 4.3.

(3) STANDARDS FOR DEVELOPMENT IN FLOOD STORAGE DISTRICTS

- (a) Development in a flood storage district shall not cause an increase equal or greater than 0.00 of a foot in the height of the regional flood.
- (b) No development shall be allowed which removes flood storage volume unless an equal volume of storage as defined by the pre-development ground surface and the regional flood elevation shall be provided in the immediate area of the proposed development to compensate for the volume of storage which is lost, (compensatory storage). Excavation below the groundwater table is not considered to provide an equal volume of storage.
- (c) If compensatory storage cannot be provided, the area may not be developed unless the entire area zoned as flood storage district – on this waterway – is rezoned to the floodfringe district. This must include a revision to the floodplain study and map done for the waterway to revert to the higher regional flood discharge calculated without floodplain storage, as per s. 8.0 *Amendments* of this ordinance.
- (d) No area may be removed from the flood storage district unless it can be shown that the area has been filled to the flood protection elevation and is contiguous to other lands lying outside of the floodplain.

6.0 NONCONFORMING USES

6.1 GENERAL

(1) APPLICABILITY

- (a) The standards in this section shall apply to all uses and buildings that do not conform to the provisions contained within a floodplain zoning ordinance or with s. 87.30, Stats. and §§ NR 116.12-14, Wis. Adm. Code and 44 CFR 59-72., these standards shall apply to all modifications or additions to any nonconforming use or structure and to the use of any structure or premises which was lawful before the passage of this ordinance or any amendment thereto. A party asserting existence of a lawfully established nonconforming use or structure has the burden of proving that the use or structure was compliant with the floodplain zoning ordinance in effect at the time the use or structure was created.
 - (b) As permit applications are received for additions, modifications, or substantial improvements to nonconforming buildings in the floodplain, municipalities shall develop a list of those nonconforming buildings, their present equalized assessed value and a list of the costs of those activities associated with changes to those buildings.
- (2) The existing lawful use of a structure or its accessory use which is not in conformity with the provisions of this ordinance may continue subject to the following conditions:
- (a) No modifications or additions to a nonconforming use or structure shall be permitted unless they comply with this ordinance. The words "modification" and "addition" include, but are not limited to, any alteration, addition, modification, structural repair, rebuilding or replacement of any such existing use, structure or

accessory structure or use. Maintenance is not considered a modification; this includes painting, decorating, paneling and other nonstructural components and the maintenance, repair or replacement of existing private sewage or water supply systems or connections to public utilities. Any costs associated with the repair of a damaged structure are not considered maintenance.

The construction of a deck that does not exceed 200 square feet and that is adjacent to the exterior wall of a principal structure is not an extension, modification or addition. The roof of the structure may extend over a portion of the deck in order to provide safe ingress and egress to the principal structure.

- (b) If a nonconforming use or the use of a nonconforming structure is discontinued for 12 consecutive months, it is no longer permitted and any future use of the property, and any structure or building thereon, shall conform to the applicable requirements of this ordinance;
- (c) The municipality shall keep a record which lists all nonconforming uses and nonconforming structures, their present equalized assessed value, the cost of all modifications or additions which have been permitted, and the percentage of the structure's total current value those modifications represent;
- (d) No modification or addition to any nonconforming structure or any structure with a nonconforming use, which over the life of the structure would equal or exceed 50% of its present equalized assessed value, shall be allowed unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this ordinance. Contiguous dry land access must be provided for residential and commercial uses in compliance with s. 4.3(1). The costs of elevating the lowest floor of a nonconforming building or a building with a nonconforming use to the flood protection elevation are excluded from the 50% provisions of this paragraph;
- (e) No maintenance on a per event basis to any nonconforming structure or any structure with a nonconforming use, the cost of which would equal or exceed 50% of its present equalized assessed value, shall be allowed unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this ordinance. Contiguous dry land access must be provided for residential and commercial uses in compliance with s. 4.3(1). Maintenance to any nonconforming structure, which does not exceed 50% of its present equalized assessed value on a per event basis, does not count against the cumulative calculations over the life of the structure for substantial improvement calculations.
- (f) If on a per event basis the total value of the work being done under (d) and (e) equals or exceeds 50% of the present equalized assessed value the work shall not be permitted unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this ordinance. Contiguous dry land access must be provided for residential and commercial uses in compliance with s. 4.3(1).
- (g) Except as provided in subd. (h), if any nonconforming structure or any structure with a nonconforming use is destroyed or is substantially damaged, it cannot be replaced, reconstructed or rebuilt unless the use and the structure meet the current

ordinance requirements. A structure is considered substantially damaged if the total cost to restore the structure to its pre-damaged condition equals or exceeds 50% of the structure's present equalized assessed value.

- (h) For nonconforming buildings that are substantially damaged or destroyed by a nonflood disaster, the repair or reconstruction of any such nonconforming building shall be permitted in order to restore it to the size and use in effect prior to the damage event, provided that the following minimum requirements are met and all required permits have been granted prior to the start of construction:

1. Residential Structures

- a. Shall have the lowest floor, including basement, elevated to or above the flood protection elevation using fill, pilings, columns, posts or perimeter walls. Perimeter walls must meet the requirements of s. 7.5(2).
- b. Shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy and shall be constructed with methods and materials resistant to flood damage.
- c. Shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or elevated so as to prevent water from entering or accumulating within the components during conditions of flooding.
- d. In A Zones, obtain, review and utilize any flood data available from a federal, state or other source.
- e. In AO Zones with no elevations specified, shall have the lowest floor, including basement, meet the standards in s. 5.1(4).
- f. in AO Zones, shall have adequate drainage paths around structures on slopes to guide floodwaters around and away from the structure.

2. Nonresidential Structures

- a. Shall meet the requirements of s. 6.1(2)(h)1a-f.
- b. Shall either have the lowest floor, including basement, elevated to or above the regional flood elevation; or, together with attendant utility and sanitary facilities, shall meet the standards in s. 7.5 (1) or (2).
- c. In AO Zones with no elevations specified, shall have the lowest floor, including basement, meet the standards in s. 5.1(4).

- (3) A nonconforming historic structure may be altered if the alteration will not preclude the structure's continued designation as a historic structure, the alteration will comply with s. 3.3 (1), flood resistant materials are used, and construction practices and floodproofing methods that comply with s. 7.5 are used. Repair or rehabilitation of historic structures shall be exempt from the development standards of s. 6.1 (2)(h)1 if it is determined that the proposed repair or rehabilitation will not preclude the structure's

continued designation as a historic structure and is the minimum necessary to preserve the historic character and design of the structure.

(4) [Reserve for Communities who want to implement Act 175] Notwithstanding anything in this chapter to the contrary, modifications, additions, maintenance, and repairs to a nonconforming building shall not be prohibited based on cost and the building's nonconforming use shall be permitted to continue if:

(a) Any living quarters in the nonconforming building are elevated to be at or above the flood protection elevation;

(b) The lowest floor of the nonconforming building, including the basement, is elevated to or above the regional flood elevation;

(c) The nonconforming building is permanently changed to conform to the applicable requirements of 2.0; and

(d) If the nonconforming building is in the floodway, the building is permanently changed to conform to the applicable requirements of 3.3(1), 3.3(2)(b) through (e), 3.3(3), 3.3(4), and 6.2; or

(e) If the nonconforming building is in the floodfringe, the building is permanently changed to conform to the applicable requirements of 4.3 and 6.3.

(f) New construction and substantial improvements of residential buildings in zones A1-30, AE, and AH must have the lowest floor (including basement) elevated to or above the base flood elevation.

(g) New construction and substantial improvements of non-residential buildings in zones A1-30, AE, and AH must have the lowest floor (including basement) elevated to or above the base flood elevation, or (together with attendant utility and sanitary facilities) be designed so that below the base flood elevation the building is watertight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

i. Where a non-residential structure is intended to be made watertight below the base flood elevation, a registered professional engineer or architect must develop and/or review structural design, specifications, and plans for the construction, and must certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of s. 6.1(4)(g) above.

ii. The community must maintain a record of such certification including the specific elevation to which each such structure is floodproofed.

(h) Fully enclosed areas below the lowest floor of new construction and substantial improvements in zones A1-30, AE, and AH that are usable solely for parking of vehicles, building access, or storage, must be designed to adequately equalize hydrostatic forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet the following criteria:

- i. A minimum of two openings into each enclosed area must be located below the base flood elevation and provide a total net area of not less than one square inch for every square foot of enclosed area;
 - ii. The bottom of all openings must be no higher than one foot above the adjacent grade;
 - iii. Openings may be equipped with screens, louvers, valves, or other coverings if they permit the automatic entry and exit of floodwaters.
- (i) Manufactured homes that are placed or substantially improved within zones A1-30, AE, and AH outside of a manufactured home park or subdivision, in a new manufactured home park or subdivision, in an expansion to an existing manufactured home park or subdivision, or in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as a result of flood, must be elevated on a permanent foundation such that the lowest floor of the manufactured home is at or above the base flood elevation, and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
- (j) Manufactured homes that are placed or substantially improved within zones A1-30, AE, and AH on existing sites in an existing manufactured home park that is not undergoing expansion and on which a manufactured home has not incurred substantial damage as a result of flood must be elevated so that either the lowest floor of the manufactured home is at or above the base flood elevation, or the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade, and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
- (k) Recreational vehicles placed on sites within zones A1-30, AH, and AE must either
 - i. Be on site for fewer than 180 consecutive days; or
 - ii. Be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions); or
 - iii. Meet the elevation and anchoring requirements for manufactured homes in s. 6.1(4)(i) above.
- (l) In a regulatory floodway that has been delineated on the FIRM in zone A1-30 or AE, encroachments, including new construction, substantial improvement, or other development (including fill) must be prohibited unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment will not result in any increase in flood levels within the community during the occurrence of the base flood discharge.
- (m) In zone A, the community must obtain, review, and reasonably utilize any base

flood elevation and floodway data available from a federal, state, or other source as criteria for requiring new construction, substantial improvement, and other development to meet ss. 6.1(4)(f) through (l) (inclusive) above. If floodway data are available, the community must select and adopt a regulatory floodway based on the principle that the area chosen for the regulatory floodway must be designed to carry the waters of the base flood without increasing the water surface elevation of that flood more than one foot at any point.

- (n) In zones A1-30 or AE where a regulatory floodway has not been delineated on the FIRM, no new construction, substantial improvement, or other development (including fill) may be permitted unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.
- (o) Notwithstanding the requirements of ss. 6.1(4)(l) and (n) above, the community may permit certain development in zones A1-30 and AE where a floodway has not been delineated, which will increase the water surface elevation of the base flood by more than one foot, or in a regulatory floodway, which will result in an increase in base flood elevations, if the community first obtains a Conditional Letter of Map Revision (CLOMR) from FEMA and fulfills the requirements of Section 65.12 of Title 44, Code of Federal Regulations.
- (p) In zone AO, new construction and substantial improvements of residential structures must have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM (at least two feet if no depth number is specified).
- (q) In zone AO, new construction and substantial improvements of nonresidential structures must have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM (at least two feet if no depth number is specified), or (together with attendant utility and sanitary facilities) be structurally dry-floodproofed to that level according to the standard specified in s. 6.1(4)(g) above.

6.2 FLOODWAY DISTRICT

- (1) No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use in the Floodway District, unless such modification or addition:
 - (a) Has been granted a permit or variance which meets all ordinance requirements;
 - (b) Meets the requirements of s. 6.1;
 - (c) Shall not increase the obstruction to flood flows or regional flood height;
 - (d) Any addition to the existing structure shall be floodproofed, pursuant to s. 7.5, by means other than the use of fill, to the flood protection elevation; and
 - (e) If any part of the foundation below the flood protection elevation is enclosed, the following standards shall apply:

1. The enclosed area shall be designed by a registered architect or engineer to allow for the efficient entry and exit of flood waters without human intervention. A minimum of two openings must be provided with a minimum net area of at least one square inch for every one square foot of the enclosed area. The lowest part of the opening can be no more than 12 inches above the adjacent grade;
 2. The parts of the foundation located below the flood protection elevation must be constructed of flood-resistant materials;
 3. Mechanical and utility equipment must be elevated or floodproofed to or above the flood protection elevation; and
 4. The use must be limited to parking, building access or limited storage.
- (2) No new on-site sewage disposal system, or addition to an existing on-site sewage disposal system, except where an addition has been ordered by a government agency to correct a hazard to public health, shall be allowed in the Floodway District. Any replacement, repair or maintenance of an existing on-site sewage disposal system in a floodway area shall meet the applicable requirements of all municipal ordinances, s. 7.5(3) and ch. SPS 383, Wis. Adm. Code.
- (3) No new well or modification to an existing well used to obtain potable water shall be allowed in the Floodway District. Any replacement, repair or maintenance of an existing well in the Floodway District shall meet the applicable requirements of all municipal ordinances, s. 7.5(3) and chs. NR 811 and NR 812, Wis. Adm. Code.

6.3 FLOODFRINGE DISTRICT

- (1) No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use unless such modification or addition has been granted a permit or variance by the municipality and meets the requirements of s. 4.3 except where s. 6.3(2) is applicable.
- (2) Where compliance with the provisions of subd. (1) would result in unnecessary hardship and only where the structure will not be used for human habitation or be associated with a high flood damage potential, the Board of Adjustment/Appeals, using the procedures established in s. 7.3, may grant a variance from those provisions of subd. (1) for modifications or additions using the criteria listed below. Modifications or additions which are protected to elevations lower than the flood protection elevation may be permitted if:
 - (a) No floor is allowed below the regional flood elevation for residential or commercial structures;
 - (b) Human lives are not endangered;
 - (c) Public facilities, such as water or sewer, shall not be installed;
 - (d) Flood depths shall not exceed two feet;
 - (e) Flood velocities shall not exceed two feet per second; and

- (f) The structure shall not be used for storage of materials as described in s. 4.3(5).
- (3) All new private sewage disposal systems, or addition to, replacement, repair or maintenance of a private sewage disposal system shall meet all the applicable provisions of all local ordinances, s. 7.5 (3) and ch. SPS 383, Wis. Adm. Code.
- (4) All new wells, or addition to, replacement, repair or maintenance of a well shall meet the applicable provisions of this ordinance, s. 7.5 (3) and ch. NR 811 and NR 812, Wis. Adm. Code.

6.4 FLOOD STORAGE DISTRICT

No modifications or additions shall be allowed to any nonconforming structure in a flood storage area unless the standards outlined in 5.2(3) are met.

7.0 ADMINISTRATION

Where a zoning administrator, planning agency or a board of appeals has already been appointed to administer a zoning ordinance adopted under ss. 59.69, 59.692 or 62.23(7), Stats., these officials shall also administer this ordinance.

7.1 ZONING ADMINISTRATOR

(1) DUTIES AND POWERS

The zoning administrator is authorized to administer this ordinance and shall have the following duties and powers:

- (a) Advise applicants of the ordinance provisions, assist in preparing permit applications and appeals, and assure that the regional flood elevation for the proposed development is shown on all permit applications.
- (b) Issue permits and inspect properties for compliance with provisions of this ordinance and issue certificates of compliance where appropriate.
- (c) Inspect and assess all damaged floodplain structures to determine if substantial damage to the structures has occurred.
- (d) Keep records of all official actions such as:
 - 1. All permits issued, inspections made, and work approved;
 - 2. Documentation of certified lowest floor and regional flood elevations;
 - 3. Floodproofing certificates.
 - 4. Water surface profiles, floodplain zoning maps and ordinances, nonconforming uses and structures including changes, appeals, variances and amendments.
 - 5. All substantial damage assessment reports for floodplain structures.
 - 6. List of nonconforming structures and uses.
- (e) Submit copies of the following items to the Department Regional office:
 - 1. Within 10 days of the decision, a copy of any decisions on variances, appeals for map or text interpretations, and map or text amendments;
 - 2. Copies of case-by-case analyses and other required information.
 - 3. Copies of substantial damage assessments performed and all related

correspondence concerning the assessments.

(f) Investigate, prepare reports, and report violations of this ordinance to the municipal zoning agency and attorney for prosecution. Copies of the reports shall also be sent to the Department Regional office.

(g) Submit copies of amendments to the FEMA Regional office.

(2) LAND USE PERMIT

A land use permit shall be obtained before any development; repair, modification or addition to an existing structure; or change in the use of a building or structure, including sewer and water facilities, may be initiated. Application to the zoning administrator shall include:

(a) GENERAL INFORMATION

1. Name and address of the applicant, property owner and contractor;
2. Legal description, proposed use, and whether it is new construction or a modification;

(b) SITE DEVELOPMENT PLAN

A site plan drawn to scale shall be submitted with the permit application form and shall contain:

1. Location, dimensions, area and elevation of the lot;
2. Location of the ordinary highwater mark of any abutting navigable waterways;
3. Location of any structures with distances measured from the lot lines and street center lines;
4. Location of any existing or proposed on-site sewage systems or private water supply systems;
5. Location and elevation of existing or future access roads;
6. Location of floodplain and floodway limits as determined from the official floodplain zoning maps;
7. The elevation of the lowest floor of proposed buildings and any fill using the vertical datum from the adopted study – either National Geodetic Vertical Datum (NGVD) or North American Vertical Datum (NAVD);
8. Data sufficient to determine the regional flood elevation in NGVD or NAVD at the location of the development and to determine whether or not the requirements of s. 3.0 or 4.0 are met; and
9. Data to determine if the proposed development will cause an obstruction to flow or an increase in regional flood height or discharge according to s. 2.1. This may include any of the information noted in s. 3.3(1).

(c) HYDRAULIC AND HYDROLOGIC STUDIES TO ANALYZE DEVELOPMENT

All hydraulic and hydrologic studies shall be completed under the direct supervision of a professional engineer registered in the State. The study contractor shall be responsible for the technical adequacy of the study. All studies shall be reviewed and approved by the Department.

1. Zone A floodplains and in AE zones within which a floodway is not delineated:

a. Hydrology

- i. The appropriate method shall be based on the standards in ch. NR 116.07(3), Wis. Admin. Code, *Hydrologic Analysis: Determination of Regional Flood Discharge*.

b. Hydraulic modeling

The regional flood elevation shall be based on the standards in ch. NR 116.07(4), Wis. Admin. Code, *Hydraulic Analysis: Determination of Regional Flood Elevation* and the following:

- i. determination of the required limits of the hydraulic model shall be based on detailed study information for downstream structures (dam, bridge, culvert) to determine adequate starting WSEL for the study.
- ii. channel sections must be surveyed.
- iii. minimum four-foot contour data in the overbanks shall be used for the development of cross section overbank and floodplain mapping.
- iv. a maximum distance of 500 feet between cross sections is allowed in developed areas with additional intermediate cross sections required at transitions in channel bottom slope including a survey of the channel at each location.
- v. the most current version of HEC-RAS shall be used.
- vi. a survey of bridge and culvert openings and the top of road is required at each structure.
- vii. additional cross sections are required at the downstream and upstream limits of the proposed development and any necessary intermediate locations based on the length of the reach if greater than 500 feet.
- viii. standard accepted engineering practices shall be used when assigning parameters for the base model such as flow, Manning's N values, expansion and contraction coefficients or effective flow limits. The base model shall be calibrated to past flooding data such as high water marks to determine the reasonableness of the model results. If no historical data is available, adequate justification shall be provided for any parameters outside standard accepted engineering practices.
- ix. the model must extend past the upstream limit of the difference in the existing and proposed flood profiles in order to provide a tie-in to existing studies. The height difference between the proposed flood profile and the existing study profiles shall be no more than 0.00 feet.

c. Mapping

A work map of the reach studied shall be provided, showing all cross-section locations, floodway/floodplain limits based on best available topographic data, geographic limits of the proposed development and whether the proposed development is located in the floodway.

- i. If the proposed development is located outside of the floodway, then it is determined to have no impact on the regional flood elevation.
- ii. If any part of the proposed development is in the floodway, it must be added to the base model to show the difference between existing and proposed conditions. The study must ensure that all coefficients remain the same as in the existing model, unless adequate justification based on standard accepted engineering practices is provided.

2. Zone AE Floodplains

a. Hydrology

If the proposed hydrology will change the existing study, the appropriate method to be used shall be based on ch. NR 116.07(3), Wis. Admin. Code, *Hydrologic Analysis: Determination of Regional Flood Discharge*.

b. Hydraulic model

The regional flood elevation shall be based on the standards in ch. NR 116.07(4), Wis. Admin. Code, *Hydraulic Analysis: Determination of Regional Flood Elevation* and the following:

i. Duplicate Effective Model

The effective model shall be reproduced to ensure correct transference of the model data and to allow integration of the revised data to provide a continuous FIS model upstream and downstream of the revised reach. If data from the effective model is available, models shall be generated that duplicate the FIS profiles and the elevations shown in the Floodway Data Table in the FIS report to within 0.1 foot.

ii. Corrected Effective Model.

The Corrected Effective Model shall not include any man-made physical changes since the effective model date but shall import the model into the most current version of HEC-RAS for Department review.

iii. Existing (Pre-Project Conditions) Model.

The Existing Model shall be required to support conclusions about the actual impacts of the project associated with the Revised (Post-Project) Model or to establish more up-to-date models on which to base the Revised (Post-Project) Model.

iv. Revised (Post-Project Conditions) Model.

The Revised (Post-Project Conditions) Model shall incorporate the Existing Model and any proposed changes to the topography caused by the proposed development. This model shall reflect proposed conditions.

v. All changes to the Duplicate Effective Model and subsequent models

must be supported by certified topographic information, bridge plans, construction plans and survey notes.

- vi. Changes to the hydraulic models shall be limited to the stream reach for which the revision is being requested. Cross sections upstream and downstream of the revised reach shall be identical to those in the effective model and result in water surface elevations and topwidths computed by the revised models matching those in the effective models upstream and downstream of the revised reach as required. The Effective Model shall not be truncated.

c. Mapping

Maps and associated engineering data shall be submitted to the Department for review which meet the following conditions:

- i. Consistency between the revised hydraulic models, the revised floodplain and floodway delineations, the revised flood profiles, topographic work map, annotated FIRMs and/or Flood Boundary Floodway Maps (FBFMs), construction plans, bridge plans.
- ii. Certified topographic map of suitable scale, contour interval, and a planimetric map showing the applicable items. If a digital version of the map is available, it may be submitted in order that the FIRM may be more easily revised.
- iii. Annotated FIRM panel showing the revised 1% and 0.2% annual chance floodplains and floodway boundaries.
- iv. If an annotated FIRM and/or FBFM and digital mapping data (GIS or CADD) are used then all supporting documentation or metadata must be included with the data submission along with the Universal Transverse Mercator (UTM) projection and State Plane Coordinate System in accordance with FEMA mapping specifications.
- v. The revised floodplain boundaries shall tie into the effective floodplain boundaries.
- vi. All cross sections from the effective model shall be labeled in accordance with the effective map and a cross section lookup table shall be included to relate to the model input numbering scheme.
- vii. Both the current and proposed floodways shall be shown on the map.
- viii. The stream centerline, or profile baseline used to measure stream distances in the model shall be visible on the map.

(d) EXPIRATION

All permits issued under the authority of this ordinance shall expire no more than 180 days after issuance. The permit may be extended for a maximum of 180 days for good and sufficient cause. If the permitted work has not started within 180 days of the permit date, the development must comply with any regulation, including any revision to the FIRM or FIS, that took effect after the permit date.

(3) CERTIFICATE OF COMPLIANCE

No land shall be occupied or used, and no building which is hereafter constructed, altered, added to, modified, repaired, rebuilt or replaced shall be occupied until a certificate of compliance is issued by the zoning administrator, except where no permit is required, subject to the following provisions:

- (a) The certificate of compliance shall show that the building or premises or part thereof, and the proposed use, conform to the provisions of this ordinance;
- (b) Application for such certificate shall be concurrent with the application for a permit;
- (c) If all ordinance provisions are met, the certificate of compliance shall be issued within 10 days after written notification that the permitted work is completed;
- (d) The applicant shall submit a certification signed by a registered professional engineer, architect or land surveyor that the fill, lowest floor and floodproofing elevations are in compliance with the permit issued. Floodproofing measures also require certification by a registered professional engineer or architect that the requirements of s. 7.5 are met.
- (e) Where applicable pursuant to s. 5.1(4), the applicant must submit a certification by a registered professional engineer or surveyor of the elevation of the bottom of the lowest horizontal structural member supporting the lowest floor (excluding pilings or columns), and an indication of whether the structure contains a basement.
- (f) Where applicable pursuant to s. 5.1(4), the applicant must submit certifications by a registered professional engineer or architect that the structural design and methods of construction meet accepted standards of practice as required by s. 5.1(4).

(4) OTHER PERMITS

Prior to obtaining a floodplain development permit the applicant must secure all necessary permits from federal, state, and local agencies, including but not limited to those required by the U.S. Army Corps of Engineers under s. 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1344.

7.2 ZONING AGENCY

(1) The Village Plan Commission shall:

- (a) oversee the functions of the office of the zoning administrator; and
- (b) review and advise the governing body on all proposed amendments to this ordinance, maps and text.
- (c) publish adequate notice pursuant to Ch. 985, Stats., specifying the date, time, place and subject of the public hearing.

(2) The Village Plan Commission shall not:

- (a) grant variances to the terms of the ordinance in place of action by the Board of Adjustment/Appeals; or
- (b) amend the text or zoning maps in place of official action by the governing body.

7.3 BOARD OF APPEALS

The Board of Appeals, created under 62.23(7)(e), Stats., for cities or villages, is hereby authorized or shall be appointed to act for the purposes of this ordinance. The Board shall exercise the powers conferred by Wisconsin Statutes and adopt rules for the conduct of business. The zoning administrator shall not be the secretary of the Board.

(1) POWERS AND DUTIES

The Board of Appeals shall:

- (a) Appeals - Hear and decide appeals where it is alleged there is an error in any order, requirement, decision or determination made by an administrative official in the enforcement or administration of this ordinance;
- (b) Boundary Disputes - Hear and decide disputes concerning the district boundaries shown on the official floodplain zoning map; and
- (c) Variances - Hear and decide, upon appeal, variances from the ordinance standards.

(2) APPEALS TO THE BOARD

- (a) Appeals to the board may be taken by any person aggrieved, or by any officer or department of the municipality affected by any decision of the zoning administrator or other administrative officer. Such appeal shall be taken within 30 days unless otherwise provided by the rules of the board, by filing with the official whose decision is in question, and with the board, a notice of appeal specifying the reasons for the appeal. The official whose decision is in question shall transmit to the board all records regarding the matter appealed.

(b) NOTICE AND HEARING FOR APPEALS INCLUDING VARIANCES

1. Notice - The board shall:

- a. Fix a reasonable time for the hearing;
- b. Publish adequate notice pursuant to Wisconsin Statutes, specifying the date, time, place and subject of the hearing; and
- c. Assure that notice shall be mailed to the parties in interest and the Department Regional office at least 10 days in advance of the hearing.

2. Hearing - Any party may appear in person or by agent. The board shall:

- a. Resolve boundary disputes according to s. 7.3(3);
- b. Decide variance applications according to s. 7.3(4); and
- c. Decide appeals of permit denials according to s. 7.4.

(c) DECISION: The final decision regarding the appeal or variance application shall:

1. Be made within a reasonable time;
2. Be sent to the Department Regional office within 10 days of the decision;
3. Be a written determination signed by the chairman or secretary of the Board;
4. State the specific facts which are the basis for the Board's decision;
5. Either affirm, reverse, vary or modify the order, requirement, decision or determination appealed, in whole or in part, dismiss the appeal for lack of jurisdiction or grant or deny the variance application; and
6. Include the reasons for granting an appeal, describing the hardship demonstrated by the applicant in the case of a variance, clearly stated in the recorded minutes of the Board proceedings.

(3) BOUNDARY DISPUTES

The following procedure shall be used by the Board in hearing disputes concerning floodplain district boundaries:

- (a) If a floodplain district boundary is established by approximate or detailed floodplain studies, the flood elevations or profiles shall prevail in locating the boundary.
- (b) The person contesting the boundary location shall be given a reasonable opportunity to present arguments and technical evidence to the Board; and
- (c) If the boundary is incorrectly mapped, the Board should inform the zoning committee or the person contesting the boundary location to petition the governing body for a map amendment according to s. 8.0 *Amendments*.

(4) VARIANCE

- (a) The Board may, upon appeal, grant a variance from the standards of this ordinance if an applicant convincingly demonstrates that:
 1. Literal enforcement of the ordinance will cause unnecessary hardship;
 2. The hardship is due to adoption of the floodplain ordinance and unique property conditions, not common to adjacent lots or premises. In such case the ordinance or map must be amended;
 3. The variance is not contrary to the public interest; and
 4. The variance is consistent with the purpose of this ordinance in s. 1.3.
- (b) In addition to the criteria in subd. (a), to qualify for a variance under FEMA regulations, the Board must find that the following criteria have been met:
 1. The variance shall not cause any increase in the regional flood elevation;
 2. The applicant has shown good and sufficient cause for issuance of the

variance;

3. Failure to grant the variance would result in exceptional hardship;
4. Granting the variance will not result in additional threats to public safety, extraordinary expense, create a nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances;
5. The variance granted is the minimum necessary, considering the flood hazard, to afford relief.

(c) A variance shall not:

1. Grant, extend or increase any use prohibited in the zoning district;
2. Be granted for a hardship based solely on an economic gain or loss;
3. Be granted for a hardship which is self-created.
4. Damage the rights or property values of other persons in the area;
5. Allow actions without the amendments to this ordinance or map(s) required in s. 8.0 *Amendments*; and
6. Allow any alteration of an historic structure, including its use, which would preclude its continued designation as an historic structure.

(d) When a floodplain variance is granted the Board shall notify the applicant in writing that it may increase risks to life and property and flood insurance premiums could increase up to \$25.00 per \$100.00 of coverage. A copy shall be maintained with the variance record.

7.4 TO REVIEW APPEALS OF PERMIT DENIALS

(1) The Zoning Agency (s. 7.2) or Board shall review all data related to the appeal. This may include:

- (a) Permit application data listed in s. 7.1(2);
- (b) Floodway/floodfringe determination data in s. 5.1(5);
- (c) Data listed in s. 3.3(1)(b) where the applicant has not submitted this information to the zoning administrator; and
- (d) Other data submitted with the application or submitted to the Board with the appeal.

(2) For appeals of all denied permits the Board shall:

- (a) Follow the procedures of s. 7.3;
- (b) Consider zoning agency recommendations; and
- (c) Either uphold the denial or grant the appeal.

- (3) For appeals concerning increases in regional flood elevation the Board shall:
- (a) Uphold the denial where the Board agrees with the data showing an increase in flood elevation. Increases may only be allowed after amending the flood profile and map and all appropriate legal arrangements are made with all adversely affected property owners as per the requirements of s. 8.0 *Amendments*; and
 - (b) Grant the appeal where the Board agrees that the data properly demonstrates that the project does not cause an increase provided no other reasons for denial exist.

7.5 FLOODPROOFING STANDARDS

- (1) No permit or variance shall be issued for a non-residential structure designed to be watertight below the regional flood elevation until the applicant submits a plan certified by a registered professional engineer or architect that the floodproofing measures will protect the structure or development to or above the flood protection elevation and submits a FEMA Floodproofing Certificate. Floodproofing is not an alternative to the development standards in ss. 2.0, 3.0, 4.0, 5.1, or 5.3.
- (2) For a structure designed to allow the entry of floodwaters, no permit or variance shall be issued until the applicant submits a plan either:
 - (a) certified by a registered professional engineer or architect; or
 - (b) meeting or exceeding the following standards:
 - 1. a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
 - 2. the bottom of all openings shall be no higher than one-foot above grade; and
 - 3. openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
- (3) Floodproofing measures shall be designed, as appropriate, to:
 - (a) Withstand flood pressures, depths, velocities, uplift and impact forces and other regional flood factors;
 - (b) Protect structures to the flood protection elevation;
 - (c) Anchor structures to foundations to resist flotation and lateral movement;
 - (d) Minimize or eliminate infiltration of flood waters;
 - (e) Minimize or eliminate discharges into flood waters;
 - (f) Placement of essential utilities to or above the flood protection elevation; and
 - (g) If any part of the foundation below the flood protection elevation is enclosed, the following standards shall apply:
 - 1. The enclosed area shall be designed by a registered architect or engineer to

allow for the efficient entry and exit of flood waters without human intervention. A minimum of two openings must be provided with a minimum net area of at least one square inch for every one square foot of the enclosed area. The lowest part of the opening can be no more than 12 inches above the adjacent grade;

2. The parts of the foundation located below the flood protection elevation must be constructed of flood-resistant materials;

3. Mechanical and utility equipment must be elevated or floodproofed to or above the flood protection elevation; and

4. The use must be limited to parking, building access or limited storage.

7.6 PUBLIC INFORMATION

(1) Place marks on structures to show the depth of inundation during the regional flood.

(2) All maps, engineering data and regulations shall be available and widely distributed.

(3) Real estate transfers should show what floodplain district any real property is in.

8.0 AMENDMENTS

Obstructions or increases may only be permitted if amendments are made to this ordinance, the official floodplain zoning maps, floodway lines and water surface profiles, in accordance with s. 8.1.

(1) In AE Zones with a mapped floodway, no obstructions or increases shall be permitted unless the applicant receives a Conditional Letter of Map Revision from FEMA and amendments are made to this ordinance, the official floodplain zoning maps, floodway lines and water surface profiles, in accordance with s. 8.1. Any such alterations must be reviewed and approved by FEMA and the DNR.

(2) In A Zones increases equal to or greater than 1.0 foot may only be permitted if the applicant receives a Conditional Letter of Map Revision from FEMA and amendments are made to this ordinance, the official floodplain maps, floodway lines, and water surface profiles, in accordance with s. 8.1.

8.1 GENERAL

The governing body shall change or supplement the floodplain zoning district boundaries and this ordinance in the manner outlined in s. 8.2 below. Actions which require an amendment to the ordinance and/ or submittal of a Letter of Map Change (LOMC) include, but are not limited to, the following:

(1) Any fill or floodway encroachment that obstructs flow causing any increase in the regional flood height;

(2) Any change to the floodplain boundaries and/or watercourse alterations on the FIRM;

(3) Any changes to any other officially adopted floodplain maps listed in s. 1.5 (2)(b);

(4) Any floodplain fill which raises the elevation of the filled area to a height at or above the flood protection elevation and is contiguous to land lying outside the floodplain;

- (5) Correction of discrepancies between the water surface profiles and floodplain maps;
- (6) Any upgrade to a floodplain zoning ordinance text required by s. NR 116.05, Wis. Adm. Code, or otherwise required by law, or for changes by the municipality; and
- (7) All channel relocations and changes to the maps to alter floodway lines or to remove an area from the floodway or the floodfringe that is based on a base flood elevation from a FIRM requires prior approval by FEMA.

8.2 PROCEDURES

Ordinance amendments may be made upon petition of any party according to the provisions of s. 62.23, Stats., for cities and villages. The petitions shall include all data required by s. 5.1(5) and 7.1(2). The Land Use Permit shall not be issued until a Letter of Map Revision is issued by FEMA for the proposed changes.

- (1) The proposed amendment shall be referred to the zoning agency for a public hearing and recommendation to the governing body. The amendment and notice of public hearing shall be submitted to the Department Regional office for review prior to the hearing. The amendment procedure shall comply with the provisions of s. 62.23, Stats., for cities and villages.
- (2) No amendments shall become effective until reviewed and approved by the Department.
- (3) All persons petitioning for a map amendment that obstructs flow causing any increase in the regional flood height, shall obtain flooding easements or other appropriate legal arrangements from all adversely affected property owners and notify local units of government before the amendment can be approved by the governing body.

9.0 ENFORCEMENT AND PENALTIES

Any violation of the provisions of this ordinance by any person shall be unlawful and shall be referred to the municipal attorney who shall expeditiously prosecute all such violators. A violator shall, upon conviction, forfeit to the municipality a penalty of not more than \$50.00 (fifty dollars), together with a taxable cost of such action. Each day of continued violation shall constitute a separate offense. Every violation of this ordinance is a public nuisance and the creation may be enjoined and the maintenance may be abated by action at suit of the municipality, the state, or any citizen thereof pursuant to s. 87.30, Stats.

10.0 DEFINITIONS

Unless specifically defined, words and phrases in this ordinance shall have their common law meaning and shall be applied in accordance with their common usage. Words used in the present tense include the future, the singular number includes the plural and the plural number includes the singular. The word "may" is permissive, "shall" is mandatory and is not discretionary.

1. A ZONES – Those areas shown on the Official Floodplain Zoning Map which would be inundated by the regional flood. These areas may be numbered or unnumbered A Zones. The A Zones may or may not be reflective of flood profiles, depending on the availability of data for a given area.
2. AH ZONE – See “AREA OF SHALLOW FLOODING”.

3. AO ZONE – See “AREA OF SHALLOW FLOODING”.
4. ACCESSORY STRUCTURE OR USE – A facility, structure, building or use which is accessory or incidental to the principal use of a property, structure or building. An accessory structure shall not be used for human habitation.
5. ALTERATION – An enhancement, upgrade or substantial change or modification other than an addition or repair to a dwelling or to electrical, plumbing, heating, ventilating, air conditioning and other systems within a structure.
6. AREA OF SHALLOW FLOODING – A designated AO, AH, AR/AO, AR/AH, or VO zone on a community's Flood Insurance Rate Map (FIRM) with a 1 percent or greater annual chance of flooding to an average depth of 1 to 3 feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flood may be evident. Such flooding is characterized by ponding or sheet flow.
7. BASE FLOOD – Means the flood having a one percent chance of being equaled or exceeded in any given year, as published by FEMA as part of a FIS and depicted on a FIRM.
8. BASEMENT – Any enclosed area of a building having its floor sub-grade on all sides.
9. BREAKAWAY WALL – A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.
10. BUILDING – See STRUCTURE.
11. BULKHEAD LINE – A geographic line along a reach of navigable water that has been adopted by a municipal ordinance and approved by the Department pursuant to s. 30.11, Stats., and which allows limited filling between this bulkhead line and the original ordinary highwater mark, except where such filling is prohibited by the floodway provisions of this ordinance.
12. CAMPGROUND – Any parcel of land which is designed, maintained, intended or used for the purpose of providing sites for nonpermanent overnight use by 4 or more camping units, or which is advertised or represented as a camping area.
13. CAMPING UNIT – Any portable device, no more than 400 square feet in area, used as a temporary shelter, including but not limited to a camping trailer, motor home, bus, van, pick-up truck, or tent that is fully licensed, if required, and ready for highway use.
14. CERTIFICATE OF COMPLIANCE – A certification that the construction and the use of land or a building, the elevation of fill or the lowest floor of a structure is in compliance with all of the provisions of this ordinance.
15. CHANNEL – A natural or artificial watercourse with definite bed and banks to confine and conduct normal flow of water.
16. COASTAL FLOODPLAIN – An area along the coast of Lake Michigan or Lake Superior

which is inundated by the regional flood and which is also subject to additional hazard due to wave runup.

17. COASTAL HIGH HAZARD AREA – An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast, and any other area subject to high velocity wave action from storms.
18. CRAWLWAYS or CRAWL SPACE – An enclosed area below the first usable floor of a building, generally less than five feet in height, used for access to plumbing and electrical utilities.
19. DECK – An unenclosed exterior structure that has no roof or sides and has a permeable floor which allows the infiltration of precipitation.
20. DEPARTMENT – The Wisconsin Department of Natural Resources.
21. DEVELOPMENT – Any artificial change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or alterations to buildings, structures or accessory structures; the repair of any damaged structure or the improvement or renovation of any structure, regardless of percentage of damage or improvement; the placement of buildings or structures; subdivision layout and site preparation; mining, dredging, filling, grading, paving, excavation or drilling operations; the storage, deposition or extraction of materials or equipment; and the installation, repair or removal of public or private sewage disposal systems or water supply facilities.
22. DRYLAND ACCESS – A vehicular access route which is above the regional flood elevation and which connects land located in the floodplain to land outside the floodplain, such as a road with its surface above regional flood elevation and wide enough for wheeled rescue and relief vehicles.
23. ENCROACHMENT – Any fill, structure, equipment, use or development in the floodway.
24. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) – The federal agency that administers the National Flood Insurance Program.
25. FLOOD INSURANCE RATE MAP (FIRM) – A map of a community on which the Federal Insurance Administration has delineated both the floodplain and the risk premium zones applicable to the community. This map can only be amended by the Federal Emergency Management Agency.
26. FLOOD or FLOODING – A general and temporary condition of partial or complete inundation of normally dry land areas caused by one of the following conditions:
 - The overflow or rise of inland waters;
 - The rapid accumulation or runoff of surface waters from any source;
 - The inundation caused by waves or currents of water exceeding anticipated cyclical levels along the shore of Lake Michigan or Lake Superior; or
 - The sudden increase caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a seiche, or by some similarly unusual event.
27. FLOOD FREQUENCY – The probability of a flood occurrence which is determined from

statistical analyses. The frequency of a particular flood event is usually expressed as occurring, on the average once in a specified number of years or as a percent (%) chance of occurring in any given year.

28. FLOODFRINGE – That portion of the floodplain outside of the floodway which is covered by flood waters during the regional flood and associated with standing water rather than flowing water.
29. FLOOD HAZARD BOUNDARY MAP – A map designating approximate flood hazard areas. Flood hazard areas are designated as unnumbered A-Zones and do not contain floodway lines or regional flood elevations. This map forms the basis for both the regulatory and insurance aspects of the National Flood Insurance Program (NFIP) until superseded by a Flood Insurance Study and a Flood Insurance Rate Map.
30. FLOOD INSURANCE STUDY – A technical engineering examination, evaluation, and determination of the local flood hazard areas. It provides maps designating those areas affected by the regional flood and provides both flood insurance rate zones and base flood elevations and may provide floodway lines. The flood hazard areas are designated as numbered and unnumbered A-Zones. Flood Insurance Rate Maps, that accompany the Flood Insurance Study, form the basis for both the regulatory and the insurance aspects of the National Flood Insurance Program.
31. FLOODPLAIN – Land which has been or may be covered by flood water during the regional flood. It includes the floodway and the floodfringe and may include other designated floodplain areas for regulatory purposes.
32. FLOODPLAIN ISLAND – A natural geologic land formation within the floodplain that is surrounded, but not covered, by floodwater during the regional flood.
33. FLOODPLAIN MANAGEMENT – Policy and procedures to ensure wise use of floodplains, including mapping and engineering, mitigation, education, and administration and enforcement of floodplain regulations.
34. FLOOD PROFILE – A graph or a longitudinal profile line showing the relationship of the water surface elevation of a flood event to locations of land surface elevations along a stream or river.
35. FLOODPROOFING – Any combination of structural provisions, changes or adjustments to properties and structures, water and sanitary facilities and contents of buildings subject to flooding, for the purpose of reducing or eliminating flood damage.
36. FLOOD PROTECTION ELEVATION – An elevation of two feet of freeboard above the Regional Flood Elevation. (Also see: FREEBOARD.)
37. FLOOD STORAGE – Those floodplain areas where storage of floodwaters has been taken into account during analysis in reducing the regional flood discharge.
38. FLOODWAY – The channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional flood discharge.
39. FREEBOARD – A safety factor expressed in terms of a specified number of feet above a calculated flood level. Freeboard compensates for any factors that cause flood heights

greater than those calculated, including ice jams, debris accumulation, wave action, obstruction of bridge openings and floodways, the effects of watershed urbanization, loss of flood storage areas due to development and aggregation of the river or stream bed.

40. **HABITABLE STRUCTURE** – Any structure or portion thereof used or designed for human habitation.
41. **HEARING NOTICE** – Publication or posting meeting the requirements of Ch. 985, Stats. For appeals, a Class 1 notice, published once at least one week (7 days) before the hearing, is required. For all zoning ordinances and amendments, a Class 2 notice, published twice, once each week consecutively, the last at least a week (7 days) before the hearing. Local ordinances or bylaws may require additional notice, exceeding these minimums.
42. **HIGH FLOOD DAMAGE POTENTIAL** – Damage that could result from flooding that includes any danger to life or health or any significant economic loss to a structure or building and its contents.
43. **HIGHEST ADJACENT GRADE** – The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.
44. **HISTORIC STRUCTURE** – Any structure that is either:
- Listed individually in the National Register of Historic Places or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
 - Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
 - Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
 - Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program, as determined by the Secretary of the Interior; or by the Secretary of the Interior in states without approved programs.
45. **INCREASE IN REGIONAL FLOOD HEIGHT** – A calculated upward rise in the regional flood elevation greater than 0.00 foot, based on a comparison of existing conditions and proposed conditions which is directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, expansion and contraction coefficients and discharge.
46. **LAND USE** – Any nonstructural use made of unimproved or improved real estate. (Also see DEVELOPMENT.)
47. **LOWEST ADJACENT GRADE** – Elevation of the lowest ground surface that touches any of the exterior walls of a building.
48. **LOWEST FLOOR** – The lowest floor of the lowest enclosed area (including basement).
49. **MAINTENANCE** – The act or process of ordinary upkeep and repairs, including redecorating, refinishing, nonstructural repairs, or the replacement of existing fixtures, systems or equipment with equivalent fixtures, systems or structures.

50. MANUFACTURED HOME – A structure transportable in one or more sections, which is built on a permanent chassis and is designed to be used with or without a permanent foundation when connected to required utilities. The term "manufactured home" includes a mobile home but does not include a "mobile recreational vehicle."
51. MOBILE/MANUFACTURED HOME PARK OR SUBDIVISION – A parcel (or contiguous parcels) of land, divided into two or more manufactured home lots for rent or sale.
52. MOBILE/MANUFACTURED HOME PARK OR SUBDIVISION, EXISTING – A parcel of land, divided into two or more manufactured home lots for rent or sale, on which the construction of facilities for servicing the lots is completed before the effective date of this ordinance. At a minimum, this would include the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads.
53. MOBILE/MANUFACTURED HOME PARK, EXPANSION TO EXISTING – The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed. This includes installation of utilities, construction of streets and either final site grading, or the pouring of concrete pads.
54. MOBILE RECREATIONAL VEHICLE – A vehicle which is built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled, carried or permanently towable by a licensed, light-duty vehicle, is licensed for highway use if registration is required and is designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel or seasonal use. Manufactured homes that are towed or carried onto a parcel of land, but do not remain capable of being towed or carried, including park model homes, do not fall within the definition of "mobile recreational vehicles."
55. MODEL, CORRECTED EFFECTIVE – A hydraulic engineering model that corrects any errors that occur in the Duplicate Effective Model, adds any additional cross sections to the Duplicate Effective Model, or incorporates more detailed topographic information than that used in the current effective model.
56. MODEL, DUPLICATE EFFECTIVE – A copy of the hydraulic analysis used in the effective FIS and referred to as the effective model.
57. MODEL, EFFECTIVE – The hydraulic engineering model that was used to produce the current effective Flood Insurance Study.
58. MODEL, EXISTING (PRE-PROJECT) – A modification of the Duplicate Effective Model or Corrected Effective Model to reflect any man made modifications that have occurred within the floodplain since the date of the effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the Corrected Effective Model or Duplicate Effective Model.
59. MODEL, REVISED (POST-PROJECT) – A modification of the Existing or Pre-Project Conditions Model, Duplicate Effective Model or Corrected Effective Model to reflect revised or post-project conditions.

60. MODERATE WAVE ACTION AREA (MoWA) – A special flood hazard area subject to the potential for breaking wave heights of greater than or equal to 1.5 feet, but less than 3 feet, where the primary source of flooding is astronomical tides, storm surges, seiches, and/or tsunamis. A MoWA is an area within zone AE on a FIRM that is between the inland limit of zone VE and a Limit of Moderate Wave Action, where identified. (Also known as “coastal A zone”)
61. MUNICIPALITY or MUNICIPAL – The county, city or village governmental units enacting, administering and enforcing this zoning ordinance.
62. NAVD or NORTH AMERICAN VERTICAL DATUM – Elevations referenced to mean sea level datum, 1988 adjustment.
63. NGVD or NATIONAL GEODETIC VERTICAL DATUM – Elevations referenced to mean sea level datum, 1929 adjustment.
64. NEW CONSTRUCTION – Structures for which the start of construction commenced on or after the effective date of a floodplain zoning regulation adopted by this community and includes any subsequent improvements to such structures.
65. NON-FLOOD DISASTER – A fire or an ice storm, tornado, windstorm, mudslide or other destructive act of nature, but excludes a flood.
66. NONCONFORMING STRUCTURE – An existing lawful structure or building which is not in conformity with the dimensional or structural requirements of this ordinance for the area of the floodplain which it occupies. (For example, an existing residential structure in the floodfringe district is a conforming use. However, if the lowest floor is lower than the flood protection elevation, the structure is nonconforming.)
67. NONCONFORMING USE – An existing lawful use or accessory use of a structure or building which is not in conformity with the provisions of this ordinance for the area of the floodplain which it occupies. (Such as a residence in the floodway.)
68. OBSTRUCTION TO FLOW – Any development which blocks the conveyance of floodwaters such that this development alone or together with any future development will cause an increase in regional flood height.
69. OFFICIAL FLOODPLAIN ZONING MAP – That map, adopted and made part of this ordinance, as described in s. 1.5(2), which has been approved by the Department and FEMA.
70. OPEN SPACE USE – Those uses having a relatively low flood damage potential and not involving structures.
71. ORDINARY HIGHWATER MARK – The point on the bank or shore up to which the presence and action of surface water is so continuous as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristic.
72. PERSON – An individual, or group of individuals, corporation, partnership, association, municipality or state agency.

73. PRIMARY FRONTAL DUNE – A continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.
74. PRIVATE SEWAGE SYSTEM – A sewage treatment and disposal system serving one structure with a septic tank and soil absorption field located on the same parcel as the structure. It also means an alternative sewage system approved by the Department of Safety and Professional Services, including a substitute for the septic tank or soil absorption field, a holding tank, a system serving more than one structure or a system located on a different parcel than the structure.
75. PUBLIC UTILITIES – Those utilities using underground or overhead transmission lines such as electric, telephone and telegraph, and distribution and collection systems such as water, sanitary sewer and storm sewer.
76. REASONABLY SAFE FROM FLOODING – Means base flood waters will not inundate the land or damage structures to be removed from the floodplain and that any subsurface waters related to the base flood will not damage existing or proposed buildings.
77. REGIONAL FLOOD – A flood determined to be representative of large floods known to have occurred in Wisconsin. A regional flood is a flood with a one percent chance of being equaled or exceeded in any given year, and if depicted on the FIRM, the RFE is equivalent to the BFE.
78. SAND DUNES – Naturally occurring accumulations of sand in ridges or mounds landward of the beach.
79. START OF CONSTRUCTION – The date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond initial excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets and/or walkways, nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms, nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For an alteration, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.
80. STRUCTURE – Any manmade object with form, shape and utility, either permanently or temporarily attached to, placed upon or set into the ground, stream bed or lake bed, including, but not limited to, roofed and walled buildings, gas or liquid storage tanks, bridges, dams and culverts.
81. SUBDIVISION – Has the meaning given in s. 236.02(12), Wis. Stats.
82. SUBSTANTIAL DAMAGE – Damage of any origin sustained by a structure, whereby the

cost of restoring the structure to its pre-damaged condition would equal or exceed 50 percent of the equalized assessed value of the structure before the damage occurred.

83. **SUBSTANTIAL IMPROVEMENT** – Any repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the equalized assessed value of the structure before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the work performed. The term does not include either any project for the improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions; or any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.
84. **UNNECESSARY HARDSHIP** – Where special conditions affecting a particular property, which were not self-created, have made strict conformity with restrictions governing areas, setbacks, frontage, height or density unnecessarily burdensome or unreasonable in light of the purposes of the ordinance.
85. **VARIANCE** – An authorization by the board of adjustment or appeals for the construction or maintenance of a building or structure in a manner which is inconsistent with dimensional standards (not uses) contained in the floodplain zoning ordinance.
86. **VIOLATION** – The failure of a structure or other development to be fully compliant with the floodplain zoning ordinance. A structure or other development without required permits, lowest floor elevation documentation, floodproofing certificates or required floodway encroachment calculations is presumed to be in violation until such time as that documentation is provided.
87. **WATERSHED** – The entire region contributing runoff or surface water to a watercourse or body of water.
88. **WATER SURFACE PROFILE** – A graphical representation showing the elevation of the water surface of a watercourse for each position along a reach of river or stream at a certain flood flow. A water surface profile of the regional flood is used in regulating floodplain areas.
89. **WELL** – means an excavation opening in the ground made by digging, boring, drilling, driving or other methods, to obtain groundwater regardless of its intended use.

Chapter 16

ENVIRONMENT*

Article I. In General

Secs. 16-1—16-18. Reserved.

Article II. Flood Prevention and Damage Control

Division 1. Generally

- Sec. 16-19. Statutory authorization.
- Sec. 16-20. Finding of fact.
- Sec. 16-21. Statement of purpose.
- Sec. 16-22. Title.
- Sec. 16-23. General provisions.
- Sec. 16-24. Enforcement and penalties.
- Sec. 16-25. Definitions.
- Secs. 16-26—16-49. Reserved.

Division 2. General Standards Applicable to All Floodplain Districts

- Sec. 16-50. Basic requirements.
- Sec. 16-51. Hydraulic and hydrologic analyses.
- Sec. 16-52. Watercourse alterations.
- Sec. 16-53. Wis. Stats. chs. 30 and 31, development.
- Sec. 16-54. Public or private campgrounds.
- Secs. 16-55—16-81. Reserved.

Division 3. Floodway District (FW)

- Sec. 16-82. Applicability.
- Sec. 16-83. Permitted uses.
- Sec. 16-84. Standards for developments in the floodway.
- Sec. 16-85. Prohibited uses.
- Secs. 16-86—16-113. Reserved.

***State law references**—Municipal zoning of wetlands in shorelands, Wis. Stats. § 62.231; construction site erosion control and storm water management zoning, Wis. Stats. § 62.234; groundwater protection standards, Wis. Stats. § 160.001 et seq.; environmental regulation generally, Wis. Stats. § 280.01 et seq.; air pollution generally, Wis. Stats. § 285.01 et seq.; requirements for floodplain regulation, Wis. Stats. § 87.30; flood control, Wis. Stats. § 87.01 et seq.; water conservation and animal waste management, Wis. Stats. § 92.01 et seq.; ground water protection standards, Wis. Stats. § 160.001 et seq.; smoke as health hazard, Wis. Stats. § 254.57; environmental health, Wis. Stats. § 251.04 et seq.

VILLAGE OF JACKSON MUNICIPAL CODE

Division 4. Flood Fringe District (FF)

- Sec. 16-114. Applicability.
- Sec. 16-115. Permitted uses.
- Sec. 16-116. Standards for development in the flood fringe.
- Secs. 16-117—16-145. Reserved.

Division 5. General Floodplain District (GFP)

- Sec. 16-146. Applicability.
- Sec. 16-147. Permitted uses.
- Sec. 16-148. Standards for development in the general floodplain district.
- Sec. 16-149. Determining floodway and flood fringe limits.
- Secs. 16-150—16-166. Reserved.

Division 6. Nonconforming Uses

- Sec. 16-167. General standards.
- Sec. 16-168. Floodway district.
- Sec. 16-169. Flood fringe district.
- Secs. 16-170—16-191. Reserved.

Division 7. Administration

- Sec. 16-192. Officials previously appointed to administer zoning regulations.
- Sec. 16-193. Zoning administrator.
- Sec. 16-194. Plan commission.
- Sec. 16-195. Board of adjustment/appeals.
- Sec. 16-196. To review appeals of permit denials.
- Sec. 16-197. Floodproofing standards for nonconforming structures or uses.
- Sec. 16-198. Public information.
- Secs. 16-199—16-219. Reserved.

Division 8. Amendments

- Sec. 16-220. Required for obstructions or increases.
- Sec. 16-221. Events requiring amendment of article and letter of map change.
- Sec. 16-222. Procedures.

ARTICLE I. IN GENERAL

Secs. 16-1—16-18. Reserved.

ARTICLE II. FLOOD PREVENTION AND DAMAGE CONTROL**DIVISION 1. GENERALLY****Sec. 16-19. Statutory authorization.**

This article is adopted pursuant to the authorization in Wis. Stats. §§ 61.35 and 62.23 for villages and cities; Wis. Stats. §§ 59.69, 59.692, and 59.694 for counties; and the requirements in Wis. Stats. § 87.30.

(Ord. No. 13-06, § 23.1.1)

Sec. 16-20. Finding of fact.

Uncontrolled development and use of the floodplains and rivers of this municipality would impair the public health, safety, convenience, general welfare and tax base.

(Ord. No. 13-06, § 23.1.2)

Sec. 16-21. Statement of purpose.

This article is intended to regulate floodplain development to:

- (1) Protect life, health and property;
- (2) Minimize expenditures of public funds for flood control projects;
- (3) Minimize rescue and relief efforts undertaken at the expense of the taxpayers;
- (4) Minimize business interruptions and other economic disruptions;
- (5) Minimize damage to public facilities in the floodplain;
- (6) Minimize the occurrence of future flood blight areas in the floodplain;
- (7) Discourage the victimization of unwary land and homebuyers;
- (8) Prevent increases in flood heights that could increase flood damage and result in conflicts between property owners; and
- (9) Discourage development in a floodplain if there is any practicable alternative to locate the activity, use or structure outside of the floodplain.

(Ord. No. 13-06, § 23.1.3)

Sec. 16-22. Title.

This article shall be known as the "Floodplain Zoning Ordinance for the Village of Jackson, Wisconsin."

(Ord. No. 13-06, § 23.1.4)

Sec. 16-23. General provisions.

(a) *Areas to be regulated.* This article regulates all areas that would be covered by the regional flood or base flood as shown on the flood insurance rate map (FIRM) or other maps approved by DNR. Base flood elevations are derived from the flood profiles in the flood insurance study (FIS) and are shown as AE, A1-30, and AH zones on the FIRM. Other regulatory zones are displayed as A and AO zones. Regional flood elevations (RFE) may be derived from other studies. If more than one map or revision is referenced, the most restrictive information shall apply.

(b) *Official maps and revisions.*

- (1) The boundaries of all floodplain districts are designated as A, AE, AH, AO or A1-30 on the maps based on the flood insurance study (FIS) listed below. Any change to the base flood elevations (BFE) or any changes to the boundaries of the floodplain or floodway in the FIS or on the flood insurance rate map (FIRM) must be reviewed and approved by the DNR and FEMA through the letter of map change process (see division 8 of this article) before it is effective. No changes to RFEs on non-FEMA maps shall be effective until approved by the DNR. These maps and revisions are on file in the office of the village clerk-treasurer. If more than one map or revision is referenced, the most restrictive information shall apply.

- (2) Official maps. Based on the FIS:

Flood Insurance Rate Map (FIRM), panel numbers: 55131C0254D, 55131C0258D, 55131C0259D, 55131C0266D, and 551310267D, dated November 20, 2013; with corresponding profiles that are based on the flood insurance study (FIS) dated November 20, 2013, volumes 55131CV001A and 55131CV002A.

Approved by: The DNR and FEMA.

(c) *Establishment of floodplain zoning districts.* The regional floodplain areas are divided into three districts as follows:

- (1) *Floodway district.* The floodway district (FW) is the channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional floodwaters and are contained within AE zones as shown on the FIRM.
- (2) *Flood fringe dostrict.* The flood fringe district (FF) is that portion between the regional flood limits and the floodway and displayed as AE zones on the FIRM.

- (3) *General floodplain district.* The general floodplain district (GFP) is those areas that may be covered by floodwater during the regional flood and does not have a BFE or floodway boundary determined, including A, AH and AO zones on the FIRM.

(d) *Locating floodplain boundaries.* Discrepancies between boundaries on the official floodplain zoning map and actual field conditions shall be resolved using the criteria in subsection (d)(1) or (2) of this section. If a significant difference exists, the map shall be amended according to division 8 of this article. The zoning administrator can rely on a boundary derived from a profile elevation to grant or deny a land use permit, whether or not a map amendment is required. The zoning administrator shall be responsible for documenting actual pre-development field conditions and the basis upon which the district boundary was determined and for initiating any map amendments required under this section. Disputes between the zoning administrator and an applicant over the district boundary line shall be settled according to section 16-195(3) and the criteria in subsections (d)(1) and (2) of this section. Where the flood profiles are based on established base flood elevations from a FIRM, FEMA must approve any map amendment or revision pursuant to division 8 of this article.

- (1) If flood profiles exist, the map scale and the profile elevations shall determine the district boundary. The regional or base flood elevations shall govern if there are any discrepancies.
- (2) Where flood profiles do not exist for projects, the location of the boundary shall be determined by the map scale.

(e) *Removal of lands from floodplain.* Compliance with the provisions of this article shall not be grounds for removing land from the floodplain unless it is filled at least two feet above the regional or base flood elevation, the fill is contiguous to land outside the floodplain, and the map is amended pursuant to division 8 of this article.

(f) *Compliance.* Any development or use within the areas regulated by this article shall be in compliance with the terms of this article and other applicable local, state, and federal regulations.

(g) *Municipalities and state agencies regulated.* Unless specifically exempted by law, all cities, villages, towns, and counties are required to comply with this article and obtain all necessary permits. State agencies are required to comply if Wis. Stats. § 13.48(13) applies. The construction, reconstruction, maintenance and repair of state highways and bridges by the state department of transportation is exempt when Wis. Stats. § 30.2022 applies.

(h) *Abrogation and greater restrictions.*

- (1) This article supersedes all the provisions of any municipal zoning ordinance enacted under Wis. Stats. § 59.69, 59.692 or 59.694 for counties; Wis. Stats. § 62.23 for cities; Wis.

Stats. § 61.35 for villages; or Wis. Stats. § 87.30, which relate to floodplains. A more restrictive ordinance shall continue in full force and effect to the extent of the greater restrictions, but not otherwise.

- (2) This article is not intended to repeal, abrogate or impair any existing deed restrictions, covenants or easements. If this article imposes greater restrictions, the provisions of this article shall prevail.

(i) *Interpretation.* In their interpretation and application, the provisions of this article are the minimum requirements liberally construed in favor of the governing body and are not a limitation on or repeal of any other powers granted by state statutes. If a provision of this article, required by Wis. Admin. Code ch. NR 116, is unclear, the provision shall be interpreted in light of the standards in effect on the date of the adoption of the ordinance from which this article is derived or in effect on the date of the most recent text amendment to this article.

(j) *Warning and disclaimer of liability.* The flood protection standards in this article are based on engineering experience and research. Larger floods may occur or the flood height may be increased by manmade or natural causes. This article does not imply or guarantee that non-floodplain areas or permitted floodplain uses will be free from flooding and flood damages. This article does not create liability on the part of, or a cause of action against, the municipality or any officer or employee thereof for any flood damage that may result from reliance on this article.

(k) *Severability.* Should any portion of this article be declared unconstitutional or invalid by a court of competent jurisdiction, the remainder of this article shall not be affected.

(l) *Annexed areas for cities and villages.* The county floodplain zoning provisions in effect on the date of annexation shall remain in effect and shall be enforced by the municipality for all annexed areas until the municipality adopts and enforces an ordinance which meets the requirements of Wis. Admin. Code ch. NR 116 and 44 CFR 59—72, National Flood Insurance Program (NFIP). These annexed lands are described on the municipality's official zoning map. County floodplain zoning provisions are incorporated by reference for the purpose of administering this section and are on file in the office of the municipal zoning administrator. All plats or maps of annexation shall show the regional flood elevation and the floodway location.

(Ord. No. 13-06, § 23.1.5)

Sec. 16-24. Enforcement and penalties.

Any violation of the provisions of this article by any person shall be unlawful and shall be referred to the municipal attorney who shall expeditiously prosecute all such violators. A violator shall, upon conviction, forfeit to the municipality a penalty of not less than \$25.00 and not more than \$50.00, together with a taxable cost of such action. Each day of continued

violation shall constitute a separate offense. Every violation of this article is a public nuisance and the creation may be enjoined and the maintenance may be abated by action at suit of the municipality, the state, or any citizen thereof pursuant to Wis. Stats. § 87.30.

(Ord. No. 13-06, § 23.9.0)

Sec. 16-25. Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

A zones means those areas shown on the official floodplain zoning map which would be inundated by the regional flood. These areas may be numbered or unnumbered A zones. The A zones may or may not be reflective of flood profiles, depending on the availability of data for a given area.

AH zone. See *Area of shallow flooding*.

AO zone. See *Area of shallow flooding*.

Accessory structure or use means a facility, structure, building or use which is accessory or incidental to the principal use of a property, structure or building.

Alteration means an enhancement, upgrading or substantial change or modifications other than an addition or repair to a dwelling or to electrical, plumbing, heating, ventilating, air conditioning and other systems within a structure.

Area of shallow flooding means a designated AO, AH, AR/AO, AR/AH, or VO zone on a community's flood insurance rate map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flood may be evident. Such flooding is characterized by ponding or sheet flow.

Base flood means the flood having a one percent chance of being equaled or exceeded in any given year, as published by FEMA as part of a FIS and depicted on a FIRM.

Basement means any enclosed area of a building having its floor sub-grade, i.e., below ground level, on all sides.

Building. See *Structure*.

Bulkhead line means a geographic line along a reach of navigable water that has been adopted by a municipal ordinance and approved by the department pursuant to Wis. Stats. § 30.11 and which allows limited filling between this bulkhead line and the original ordinary high-water mark, except where such filling is prohibited by the floodway provisions of this article.

Campground means any parcel of land which is designed, maintained, intended or used for the purpose of providing sites for nonpermanent overnight use by four or more camping units, or which is advertised or represented as a camping area.

Camping unit means any portable device, no more than 400 square feet in area, used as a temporary shelter, including, but not limited to, a camping trailer, motor home, bus, van, pick-up truck, or tent that is fully licensed, if required, and ready for highway use.

Certificate of compliance means a certification that the construction and the use of land or a building, the elevation of fill or the lowest floor of a structure is in compliance with all of the provisions of this article.

Channel means a natural or artificial watercourse with definite bed and banks to confine and conduct normal flow of water.

Crawlways or crawl space means an enclosed area below the first usable floor of a building, generally less than five feet in height, used for access to plumbing and electrical utilities.

Deck means an unenclosed exterior structure that has no roof or sides, but has a permeable floor which allows the infiltration of precipitation.

Department means the state department of natural resources.

Development means any artificial change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or alterations to buildings, structures or accessory structures; the repair of any damaged structure or the improvement or renovation of any structure, regardless of percentage of damage or improvement; the placement of buildings or structures; subdivision layout and site preparation; mining, dredging, filling, grading, paving, excavation or drilling operations; the storage, deposition or extraction of materials or equipment; and the installation, repair or removal of public or private sewage disposal systems or water supply facilities.

Dryland access means a vehicular access route which is above the regional flood elevation and which connects land located in the floodplain to land outside the floodplain, such as a road with its surface above regional flood elevation and wide enough for wheeled rescue and relief vehicles.

Encroachment means any fill, structure, equipment, use or development in the floodway.

Federal Emergency Management Agency (FEMA) means the federal agency that administers the National Flood Insurance Program.

Flood or flooding means a general and temporary condition of partial or complete inundation of normally dry land areas caused by one of the following conditions:

- (1) The overflow or rise of inland waters;

- (2) The rapid accumulation or runoff of surface waters from any source;
- (3) The inundation caused by waves or currents of water exceeding anticipated cyclical levels along the shore of Lake Michigan or Lake Superior; or
- (4) The sudden increase caused by an unusually high-water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a seiche, or by some similarly unusual event.

Flood frequency means the probability of a flood occurrence which is determined from statistical analyses. The frequency of a particular flood event is usually expressed as occurring, on the average, once in a specified number of years or as a percent chance of occurring in any given year.

Flood fringe means that portion of the floodplain outside of the floodway which is covered by floodwaters during the regional flood and associated with standing water rather than flowing water.

Flood hazard boundary map means a map designating approximate flood hazard areas. Flood hazard areas are designated as unnumbered A-zones and do not contain floodway lines or regional flood elevations. This map forms the basis for both the regulatory and insurance aspects of the National Flood Insurance Program (NFIP) until superseded by a flood insurance study and a flood insurance rate map.

Flood insurance rate map (FIRM) means a map of a community on which the Federal Insurance Administration has delineated both the floodplain and the risk premium zones applicable to the community. This map can only be amended by the Federal Emergency Management Agency.

Flood insurance study means a technical engineering examination, evaluation, and determination of the local flood hazard areas. It provides maps designating those areas affected by the regional flood and provides both flood insurance rate zones and base flood elevations and may provide floodway lines. The flood hazard areas are designated as numbered and unnumbered A-zones. Flood insurance rate maps, that accompany the flood insurance study, form the basis for both the regulatory and the insurance aspects of the National Flood Insurance Program.

Flood profile means a graph or a longitudinal profile line showing the relationship of the water surface elevation of a flood event to locations of land surface elevations along a stream or river.

Flood protection elevation means an elevation of two feet of freeboard above the water surface profile elevation designated for the regional flood. (Also see *Freeboard*.)

Flood storage means those floodplain areas where storage of floodwaters has been taken into account during analysis in reducing the regional flood discharge.

Floodplain means land which has been or may be covered by floodwater during the regional flood. It includes the floodway and the flood fringe, and may include other designated floodplain areas for regulatory purposes.

Floodplain island means a natural geologic land formation within the floodplain that is surrounded, but not covered, by floodwater during the regional flood.

Floodplain management means policy and procedures to ensure wise use of floodplains, including mapping and engineering, mitigation, education, and administration and enforcement of floodplain regulations.

Floodproofing means any combination of structural provisions, changes or adjustments to properties and structures, water and sanitary facilities and contents of buildings subject to flooding, for the purpose of reducing or eliminating flood damage.

Floodway means the channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional flood discharge.

Freeboard means a safety factor expressed in terms of a specified number of feet above a calculated flood level. Freeboard compensates for any factors that cause flood heights greater than those calculated, including ice jams, debris accumulation, wave action, obstruction of bridge openings and floodways, the effects of watershed urbanization, loss of flood storage areas due to development and aggregation of the river or stream bed.

Habitable structure means any structure or portion thereof used or designed for human habitation.

Hearing notice means publication or posting meeting the requirements of Wis. Stats. ch. 985. For appeals, a Class 1 notice, published once at least one week (seven days) before the hearing, is required. For all zoning ordinances and amendments, a Class 2 notice, published twice, once each week consecutively, the last at least a week (seven days) before the hearing, is required. Local ordinances or bylaws may require additional notice, exceeding these minimums.

High flood damage potential means damage that could result from flooding that includes any danger to life or health or any significant economic loss to a structure or building and its contents.

Highest adjacent grade means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic structure means any structure that is either:

- (1) Listed individually in the National Register of Historic Places or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

- (2) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- (4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program, as determined by the Secretary of the Interior; or by the Secretary of the Interior in states without approved programs.

Increase in regional flood height means a calculated upward rise in the regional flood elevation greater than 0.00 feet, based on a comparison of existing conditions and proposed conditions which is directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, expansion and contraction coefficients and discharge.

Land use means any nonstructural use made of unimproved or improved real estate. (Also see *Development*.)

Lowest adjacent grade means elevation of the lowest ground surface that touches any of the exterior walls of a building.

Lowest floor means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of 44 CFR 60.3.

Maintenance means the act or process of restoring to original soundness, including redecorating, refinishing, nonstructural repairs, or the replacement of existing fixtures, systems or equipment, with equivalent fixtures, systems or structures.

Manufactured home means a structure transportable in one or more sections, which is built on a permanent chassis and is designed to be used with or without a permanent foundation when connected to required utilities. The term "manufactured home" includes a mobile home but does not include a "mobile recreational vehicle."

Mobile/manufactured home park or subdivision means a parcel (or contiguous parcels) of land, divided into two or more manufactured home lots for rent or sale.

Mobile/manufactured home park or subdivision, existing, means a parcel of land, divided into two or more manufactured home lots for rent or sale, on which the construction of facilities for

servicing the lots is completed before the effective date of the ordinance from which this article is derived. At a minimum, this would include the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads.

Mobile/manufactured home park, expansion to existing, means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed. This includes installation of utilities, construction of streets and either final site grading or the pouring of concrete pads.

Mobile recreational vehicle means a vehicle which is built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled, carried or permanently towable by a licensed, light-duty vehicle, is licensed for highway use if registration is required and is designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel or seasonal use. Manufactured homes that are towed or carried onto a parcel of land, but do not remain capable of being towed or carried, including park model homes, do not fall within the definition of "mobile recreational vehicles."

Model, corrected effective, means a hydraulic engineering model that corrects any errors that occur in the duplicate effective model, adds any additional cross sections to the duplicate effective model, or incorporates more detailed topographic information than that used in the current effective model.

Model, duplicate effective, means a copy of the hydraulic analysis used in the effective FIS and referred to as the effective model.

Model, effective, means the hydraulic engineering model that was used to produce the current effective flood insurance study.

Model, existing (pre-project), means a modification of the duplicate effective model or corrected effective model to reflect any manmade modifications that have occurred within the floodplain since the date of the effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the corrected effective model or duplicate effective model.

Model, revised (post-project), means a modification of the existing or pre-project conditions model, duplicate effective model or corrected effective model to reflect revised or post-project conditions.

Municipality or municipal means the county, village or village governmental units enacting, administering and enforcing this article.

NAVD or North American Vertical Datum means elevations referenced to mean sea level datum, 1988 adjustment.

New construction, for floodplain management purposes, means structures for which the start of construction commenced on or after the effective date of floodplain zoning regulations adopted by this community and includes any subsequent improvements to such structures. For the purpose of determining flood insurance rates, it includes any structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures.

NGVD or National Geodetic Vertical Datum means elevations referenced to mean sea level datum, 1929 adjustment.

Nonconforming structure means an existing lawful structure or building which is not in conformity with the dimensional or structural requirements of this article for the area of the floodplain which it occupies. (For example, an existing residential structure in the flood fringe district is a conforming use. However, if the lowest floor is lower than the flood protection elevation, the structure is nonconforming.)

Nonconforming use means an existing lawful use or accessory use of a structure or building which is not in conformity with the provisions of this article for the area of the floodplain which it occupies. (Such as a residence in the floodway.)

Obstruction to flow means any development which blocks the conveyance of floodwaters such that this development alone or together with any future development will cause an increase in regional flood height.

Official floodplain zoning map means that map, adopted and made part of this article, as described in section 16-23(b), which has been approved by the department and FEMA.

Open space use means those uses having a relatively low flood damage potential and not involving structures.

Ordinary high-water mark means the point on the bank or shore up to which the presence and action of surface water is so continuous as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristic.

Person means an individual, or group of individuals, corporation, partnership, association, municipality or state agency.

Private sewage system means a sewage treatment and disposal system serving one structure with a septic tank and soil absorption field located on the same parcel as the structure. The term "private sewage system" also means an alternative sewage system approved by the department of safety and professional services, including a substitute for the septic tank or soil absorption field, a holding tank, a system serving more than one structure or a system located on a different parcel than the structure.

Public utilities means those utilities using underground or overhead transmission lines, such as electric, telephone and telegraph, and distribution and collection systems, such as water, sanitary sewer and storm sewer.

Reasonably safe from flooding means base floodwaters will not inundate the land or damage structures to be removed from the floodplain and that any subsurface waters related to the base flood will not damage existing or proposed buildings.

Regional flood means a flood determined to be representative of large floods known to have occurred in the state. A regional flood is a flood with a one percent chance of being equaled or exceeded in any given year, and if depicted on the FIRM, the RFE is equivalent to the BFE.

Start of construction means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond initial excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets and/or walkways, nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms, nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For an alteration, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure means any manmade object with form, shape and utility, either permanently or temporarily attached to, placed upon or set into the ground, stream bed or lake bed, including, but not limited to, roofed and walled buildings, gas or liquid storage tanks, bridges, dams and culverts.

Subdivision has the meaning given in Wis. Stats. § 236.02(12).

Substantial damage means damage of any origin sustained by a structure, whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed 50 percent of the equalized assessed value of the structure before the damage occurred.

Substantial improvement means any repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the equalized assessed value of the structure before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the work performed. The term "substantial improvement" does not, however, include either any project for the improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are

the minimum necessary to assure safe living conditions; or any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

Unnecessary hardship means where special conditions affecting a particular property, which were not self-created, have made strict conformity with restrictions governing areas, setbacks, frontage, height or density unnecessarily burdensome or unreasonable in light of the purposes of the ordinance.

Variance means an authorization by the board of adjustment or appeals for the construction or maintenance of a building or structure in a manner which is inconsistent with dimensional standards (not uses) contained in the floodplain zoning ordinance.

Violation means the failure of a structure or other development to be fully compliant with the floodplain zoning ordinance. A structure or other development without required permits, lowest floor elevation documentation, floodproofing certificates or required floodway encroachment calculations is presumed to be in violation until such time as that documentation is provided.

Water surface profile means a graphical representation showing the elevation of the water surface of a watercourse for each position along a reach of river or stream at a certain flood flow. A water surface profile of the regional flood is used in regulating floodplain areas.

Watershed means the entire region contributing runoff or surface water to a watercourse or body of water.

Well means an excavation opening in the ground made by digging, boring, drilling, driving or other methods, to obtain groundwater regardless of its intended use.
(Ord. No. 13-06, § 23.10.0)

Secs. 16-26—16-49. Reserved.

DIVISION 2. GENERAL STANDARDS APPLICABLE TO ALL FLOODPLAIN DISTRICTS

Sec. 16-50. Basic requirements.

(a) The community shall review all permit applications to determine whether proposed building sites will be reasonably safe from flooding. If a proposed building site is in a floodprone area, all new construction and substantial improvements shall be designed and anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads; be constructed with flood-resistant materials; be con-

structed to minimize flood damages and to ensure that utility and mechanical equipment is designed and/or located so as to prevent water from entering or accumulating within the equipment during conditions of flooding.

(b) Subdivisions shall be reviewed for compliance with the above standards. All subdivision proposals (including manufactured home parks) shall include regional flood elevation and floodway data for any development that meets the subdivision definition of this article and all other requirements in section 16-193(b). Adequate drainage shall be provided to reduce exposure to flood hazards and all public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damages.
(Ord. No. 13-06, § 23.2.0)

Sec. 16-51. Hydraulic and hydrologic analyses.

(a) No floodplain development shall:

- (1) Obstruct flow, defined as development which blocks the conveyance of floodwaters by itself or with other development, causing any increase in the regional flood height; or
- (2) Cause any increase in the regional flood height due to floodplain storage area lost.

(b) The zoning administrator shall deny permits if it is determined the proposed development will obstruct flow or cause any increase in the regional flood height, based on the officially adopted FIRM or other adopted map, unless the provisions of division 8 of this article are met.
(Ord. No. 13-06, § 23.2.1)

Sec. 16-52. Watercourse alterations.

(a) No land use permit to alter or relocate a watercourse in a mapped floodplain shall be issued until the local official has notified in writing all adjacent municipalities, the department and FEMA regional offices, and required the applicant to secure all necessary state and federal permits. The standards of section 16-51 must be met and the flood carrying capacity of any altered or relocated watercourse shall be maintained.

(b) As soon as is practicable, but not later than six months after the date of the watercourse alteration or relocation and pursuant to division 8 of this article, the community shall apply for a Letter of Map Revision (LOMR) from FEMA. Any such alterations must be reviewed and approved by FEMA and the DNR through the LOMC process.
(Ord. No. 13-06, § 23.2.2)

Sec. 16-53. Wis. Stats. chs. 30 and 31, development.

Development which requires a permit from the department, under Wis. Stats. chs. 30 and 31, such as docks, piers, wharves, bridges, culverts, dams and navigational aids, may be allowed if the necessary permits are obtained and amendments to the floodplain zoning ordinance are made according to division 8 of this division.
(Ord. No. 13-06, § 23.2.3)

Sec. 16-54. Public or private campgrounds.

Public or private campgrounds shall have a low flood damage potential and shall meet the following provisions:

- (1) The campground is approved by the department of health services;
- (2) A land use permit for the campground is issued by the zoning administrator;
- (3) The character of the river system and the campground elevation are such that a 72-hour warning of an impending flood can be given to all campground occupants;
- (4) There is an adequate flood warning procedure for the campground that offers the minimum notice required under this section to all persons in the campground. This procedure shall include a written agreement between the campground owner, the municipal emergency government coordinator and the chief law enforcement official which specifies the flood elevation at which evacuation shall occur, personnel responsible for monitoring flood elevations, types of warning systems to be used and the procedures for notifying at-risk parties, and the methods and personnel responsible for conducting the evacuation;
- (5) This agreement shall be for no more than one calendar year, at which time the agreement shall be reviewed and updated, by the officials identified in subsection (4) of this section, to remain in compliance with all applicable regulations, including those of the state department of health services and all other applicable regulations;
- (6) Only camping units that are fully licensed, if required, and ready for highway use are allowed;
- (7) The camping units shall not occupy any site in the campground for more than 180 consecutive days, at which time the camping unit must be removed from the floodplain for a minimum of 24 hours;
- (8) All camping units that remain on site for more than 30 days shall be issued a limited authorization by the campground operator, a written copy of which is kept on file at the campground. Such authorization shall allow placement of a camping unit for a period not to exceed 180 days and shall ensure compliance with all the provisions of this section;
- (9) The municipality shall monitor the limited authorizations issued by the campground operator to ensure compliance with the terms of this section;
- (10) All camping units that remain in place for more than 180 consecutive days must meet the applicable requirements in either division 3, 4 or 5 of this article for the floodplain district in which the structure is located;
- (11) The campground shall have signs clearly posted at all entrances warning of the flood hazard and the procedures for evacuation when a flood warning is issued; and

- (12) All service facilities, including, but not limited to, refuse collection, electrical service, gas lines, propane tanks, sewage systems and wells, shall be properly anchored and placed at or floodproofed to the flood protection elevation.

(Ord. No. 13-06, § 23.2.4)

Secs. 16-55—16-81. Reserved.

DIVISION 3. FLOODWAY DISTRICT (FW)

Sec. 16-82. Applicability.

This section applies to all floodway areas on the floodplain zoning maps and those identified pursuant to section 16-149.

(Ord. No. 13-06, § 23.3.1)

Sec. 16-83. Permitted uses.

The following open space uses are allowed in the floodway district and the floodway areas of the general floodplain district, if they are not prohibited by any other ordinance, they meet the standards in section 16-84 and 16-85, and all permits or certificates have been issued according to section 16-193.

- (1) Agricultural uses, such as farming, outdoor plant nurseries, horticulture, viticulture and wild crop harvesting.
- (2) Nonstructural industrial and commercial uses, such as loading areas, parking areas and airport landing strips.
- (3) Nonstructural recreational uses, such as golf courses, tennis courts, archery ranges, picnic grounds, boat ramps, swimming areas, parks, wildlife and nature preserves, game farms, fish hatcheries, shooting, trap and skeet activities, hunting and fishing areas and hiking and horseback riding trails, subject to the fill limitations of section 16-84(d).
- (4) Uses or structures accessory to open space uses, or classified as historic structures that comply with sections 16-84 and 16-85.
- (5) Extraction of sand, gravel or other materials that comply with section 16-84(d).
- (6) Functionally water-dependent uses, such as docks, piers or wharves, dams, flowage areas, culverts, navigational aids and river crossings of transmission lines, and pipelines that comply with Wis. Stats. chs. 30 and 31.

- (7) Public utilities, streets and bridges that comply with section 16-83(c).

(Ord. No. 13-06, § 23.3.2)

Sec. 16-84. Standards for developments in the floodway.**(a) Generally.**

- (1) Any development in the floodway shall comply with division 2 of this article and have a low flood damage potential.
- (2) Applicants shall provide the following data to determine the effects of the proposal according to sections 16-51 and 16-193(b)(3):
 - a. A cross section elevation view of the proposal, perpendicular to the watercourse, showing if the proposed development will obstruct flow; or
 - b. An analysis calculating the effects of this proposal on regional flood height.
- (3) The zoning administrator shall deny the permit application if the project will cause any increase in the flood elevations upstream or downstream, based on the data submitted for subsection (a)(2) of this section.

(b) Structures. Structures accessory to permanent open space uses or functionally dependent on a waterfront location may be allowed by permit if the structures comply with the following criteria:

- (1) Not designed for human habitation, does not have a high flood damage potential and is constructed to minimize flood damage;
- (2) Shall have a minimum of two openings on different walls having a total net area not less than one square inch for every square foot of enclosed area, and the bottom of all such openings being no higher than one foot above grade. The openings shall be equipped with screens, louvers, or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters;
- (3) Must be anchored to resist flotation, collapse, and lateral movement;
- (4) Mechanical and utility equipment must be elevated or floodproofed to or above the flood protection elevation; and
- (5) Must not obstruct flow of floodwaters or cause any increase in flood levels during the occurrence of the regional flood.

(c) Public utilities, streets and bridges. Public utilities, streets and bridges may be allowed by permit, if:

- (1) Adequate floodproofing measures are provided to the flood protection elevation; and
- (2) Construction meets the development standards of section 16-51.

(d) Fills or deposition of materials. Fills or deposition of materials may be allowed by permit, if:

- (1) The requirements of section 16-51 are met;

- (2) No material is deposited in navigable waters unless a permit is issued by the department pursuant to Wis. Stats. ch. 30, and a permit pursuant to section 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 USC 1344 has been issued, if applicable, and all other requirements have been met;
 - (3) The fill or other materials will be protected against erosion by riprap, vegetative cover, sheet piling or bulkheading; and
 - (4) The fill is not classified as a solid or hazardous material.
- (Ord. No. 13-06, § 23.3.3)

Sec. 16-85. Prohibited uses.

All uses not listed as permitted uses in section 16-83 are prohibited, including the following uses:

- (1) Habitable structures, structures with high flood damage potential, or those not associated with permanent open-space uses;
 - (2) Storing materials that are buoyant, flammable, explosive, injurious to property, water quality, or human, animal, plant, fish or other aquatic life;
 - (3) Uses not in harmony with or detrimental to uses permitted in the adjoining districts;
 - (4) Any private or public sewage systems, except portable latrines that are removed prior to flooding and systems associated with recreational areas and department-approved campgrounds that meet the applicable provisions of local ordinances and Wis. Admin. Code ch. SPS 383;
 - (5) Any public or private wells which are used to obtain potable water, except those for recreational areas that meet the requirements of local ordinances and Wis. Admin. Code chs. NR 811 and 812;
 - (6) Any solid or hazardous waste disposal sites;
 - (7) Any wastewater treatment ponds or facilities, except those permitted under Wis. Admin. Code § NR 110.15(3)(b); and
 - (8) Any sanitary sewer or water supply lines, except those to service existing or proposed development located outside the floodway which complies with the regulations for the floodplain area occupied.
- (Ord. No. 13-06, § 23.3.4)

Secs. 16-86—16-113. Reserved.

DIVISION 4. FLOOD FRINGE DISTRICT (FF)

Sec. 16-114. Applicability.

This section applies to all flood fringe areas shown on the floodplain zoning maps and those identified pursuant to section 16-149.

(Ord. No. 13-06, § 23.4.1)

Sec. 16-115. Permitted uses.

Any structure, land use, or development is allowed in the flood fringe district if the standards in section 16-116 are met, the use is not prohibited by this article or any other ordinance or regulation and all permits or certificates specified in section 16-193 have been issued.

(Ord. No. 13-06, § 23.4.2)

Sec. 16-116. Standards for development in the flood fringe.

Section 16-51 shall apply in addition to the following requirements according to the use requested. Any existing structure in the flood fringe must meet the requirements of division 6 of this article;

- (1) *Residential uses.* Any structure, including a manufactured home, which is to be newly constructed or moved into the flood fringe, shall meet or exceed the following standards. Any existing structure in the flood fringe must meet the requirements of division 6 of this article:
 - a. The elevation of the lowest floor shall be at or above the flood protection elevation on fill unless the requirements of subsection (1)b of this section can be met. The fill shall be one foot or more above the regional flood elevation extending at least 15 feet beyond the limits of the structure.
 - b. The basement or crawlway floor may be placed at the regional flood elevation if it is dry floodproofed to the flood protection elevation. No basement or crawlway floor is allowed below the regional flood elevation.
 - c. Contiguous dry land access shall be provided from a structure to land outside of the floodplain, except as provided in subsection (1)d of this section.
 - d. In developments where existing street or sewer line elevations make compliance with subsection (1)c of this section impractical, the municipality may permit new development and substantial improvements where roads are below the regional flood elevation, if:
 1. The municipality has written assurance from police, fire and emergency services that rescue and relief will be provided to the structure(s) by wheeled vehicles during a regional flood event; or
 2. The municipality has a DNR-approved emergency evacuation plan.

- (2) *Accessory structures or uses.* Accessory structures shall be constructed on fill with the lowest floor at or above the regional flood elevation.
- (3) *Commercial uses.* Any commercial structure which is erected, altered or moved into the flood fringe shall meet the requirements of subsection (1) of this section. Subject to the requirements of subsection (5) of this section, storage yards, surface parking lots and other such uses may be placed at lower elevations if an adequate warning system exists to protect life and property.
- (4) *Manufacturing and industrial uses.* Any manufacturing or industrial structure which is erected, altered or moved into the flood fringe shall have the lowest floor elevated to or above the flood protection elevation or meet the floodproofing standards in section 16-197. Subject to the requirements of subsection (5) of this section, storage yards, surface parking lots and other such uses may be placed at lower elevations if an adequate warning system exists to protect life and property.
- (5) *Storage of materials.* Materials that are buoyant, flammable, explosive, or injurious to property, water quality or human, animal, plant, fish or aquatic life shall be stored at or above the flood protection elevation or floodproofed in compliance with section 16-197. Adequate measures shall be taken to ensure that such materials will not enter the water body during flooding.
- (6) *Public utilities, streets and bridges.* All utilities, streets and bridges shall be designed to be compatible with comprehensive floodplain development plans; and:
 - a. When failure of public utilities, streets and bridges would endanger public health or safety, or where such facilities are deemed essential, construction or repair of such facilities shall only be permitted if they are designed to comply with section 16-197.
 - b. Minor roads or non-essential utilities may be constructed at lower elevations if they are designed to withstand flood forces to the regional flood elevation.
- (7) *Sewage systems.* All sewage disposal systems shall be designed to minimize or eliminate infiltration of floodwater into the system, pursuant to section 16-197(c), to the flood protection elevation and meet the provisions of all local ordinances and Wis. Admin. Code ch. SPS 383.
- (8) *Wells.* All wells shall be designed to minimize or eliminate infiltration of floodwaters into the system, pursuant to section 16-197(c), to the flood protection elevation and shall meet the provisions of Wis. Admin. Code chs. NR 811 and 812.
- (9) *Solid waste disposal sites.* Disposal of solid or hazardous waste is prohibited in flood fringe areas.
- (10) *Deposition of materials.* Any deposited material must meet all the provisions of this article.

(11) *Manufactured homes.*

- a. Owners or operators of all manufactured home parks and subdivisions shall provide adequate surface drainage to minimize flood damage, and prepare, secure approval and file an evacuation plan, indicating vehicular access and escape routes, with local emergency management authorities.
- b. In existing manufactured home parks, all new homes, replacement homes on existing pads, and substantially improved homes shall:
 1. Have the lowest floor elevated to the flood protection elevation; and
 2. Be anchored so they do not float, collapse or move laterally during a flood.
- c. Outside of existing manufactured home parks, including new manufactured home parks and all single units outside of existing parks, all new, replacement and substantially improved manufactured homes shall meet the residential development standards for the flood fringe in subsection (1) of this section.

(12) *Mobile recreational vehicles.* All mobile recreational vehicles that are on site for 180 consecutive days or more or are not fully licensed and ready for highway use shall meet the elevation and anchoring requirements in subsection (11)b and c of this section. A mobile recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect utilities and security devices and has no permanently attached additions.

(Ord. No. 13-06, § 23.4.3)

Secs. 16-117—16-145. Reserved.

DIVISION 5. GENERAL FLOODPLAIN DISTRICT (GFP)

Sec. 16-146. Applicability.

The provisions for this district shall apply to all floodplains mapped as A, AO or AH zone.
(Ord. No. 13-06, § 23.5.1)

Sec. 16-147. Permitted uses.

(a) Pursuant to section 16-149, it shall be determined whether the proposed use is located within the floodway or flood fringe.

(b) Those uses permitted in the floodway (section 16-83) and flood fringe (section 16-115) districts are allowed within the general floodplain district, according to the standards of section 16-148, provided that all permits or certificates required under section 16-193 have been issued.
(Ord. No. 13-06, § 23.5.2)

Sec. 16-148. Standards for development in the general floodplain district.

Division 3 of this article applies to floodway areas, and division 4 of this article applies to flood fringe areas. The rest of this article applies to either district.

- (1) In AO/AH zones, the structure's lowest floor must meet one of the conditions listed below, whichever is higher:
 - a. At or above the flood protection elevation;
 - b. Two feet above the highest adjacent grade around the structure; or
 - c. The depth as shown on the FIRM.
- (2) In AO/AH zones, plans must be provided showing adequate drainage paths to guide floodwaters around structures.

(Ord. No. 13-06, § 23.5.3)

Sec. 16-149. Determining floodway and flood fringe limits.

Upon receiving an application for development within the general floodplain district, the zoning administrator shall:

- (1) Require the applicant to submit two copies of an aerial photograph or a plan which shows the proposed development with respect to the general floodplain district limits, stream channel, and existing floodplain developments, along with a legal description of the property, fill limits and elevations, building floor elevations and floodproofing measures; and the flood zone as shown on the FIRM.
- (2) Require the applicant to furnish any of the following information deemed necessary by the department to evaluate the effects of the proposal upon flood height and flood flows, regional flood elevation and to determine floodway boundaries:
 - a. A hydrologic and hydraulic study as specified in section 16-193(b)(3).
 - b. Plan (surface view) showing elevations or contours of the ground; pertinent structure, fill or storage elevations; size, location and layout of all proposed and existing structures on the site; location and elevations of streets, water supply, and sanitary facilities; soil types and other pertinent information.
 - c. Specifications for building construction and materials, floodproofing, filling, dredging, channel improvement, storage, water supply and sanitary facilities.

(Ord. No. 13-06, § 23.5.4)

Secs. 16-150—16-166. Reserved.

DIVISION 6. NONCONFORMING USES

Sec. 16-167. General standards.

(a) *Applicability.* If these standards conform with Wis. Stats. § 59.69(10) for counties or Wis. Stats. § 62.23(7)(h) for cities and villages, they shall apply to all modifications or additions to any nonconforming use or structure and to the use of any structure or premises which was lawful before the passage of the ordinance from which this article is derived or any amendment thereto.

(b) *Conditions.* The existing lawful use of a structure or its accessory use which is not in conformity with the provisions of this article may continue subject to the following conditions:

- (1) No modifications or additions to a nonconforming use or structure shall be permitted unless they comply with this article. The words "modification" and "addition" include, but are not limited to, any alteration, addition, modification, structural repair, rebuilding or replacement of any such existing use, structure or accessory structure or use. Maintenance is not considered a modification; this includes painting, decorating, paneling and other nonstructural components and the maintenance, repair or replacement of existing private sewage or water supply systems or connections to public utilities. Any costs associated with the repair of a damaged structure are not considered maintenance.
- (2) The construction of a deck that does not exceed 200 square feet and that is adjacent to the exterior wall of a principal structure is not an extension, modification or addition. The roof of the structure may extend over a portion of the deck in order to provide safe ingress and egress to the principal structure.
- (3) If a nonconforming use or the use of a nonconforming structure is discontinued for 12 consecutive months, it is no longer permitted and any future use of the property, and any structure or building thereon shall conform to the applicable requirements of this article.
- (4) The municipality shall keep a record which lists all nonconforming uses and nonconforming structures, their present equalized assessed value, the cost of all modifications or additions which have been permitted, and the percentage of the structure's total current value those modifications represent.
- (5) No modification or addition to any nonconforming structure or any structure with a nonconforming use, which over the life of the structure would equal or exceed 50 percent of its present equalized assessed value, shall be allowed unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this article. Contiguous dry land access must be provided for residential and commercial uses in compliance with section

16-116(1). The costs of elevating the lowest floor of a nonconforming building or a building with a nonconforming use to the flood protection elevation are excluded from the 50 percent provisions of this subsection;

- (6) No maintenance to any nonconforming structure or any structure with a nonconforming use, the cost of which would equal or exceed 50 percent of its present equalized assessed value, shall be allowed unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this article. Contiguous dry land access must be provided for residential and commercial uses in compliance with section 16-116(1).
- (7) If on a per event basis the total value of the work being done under subsections (b)(5) and (6) of this section equals or exceeds 50 percent of the present equalized assessed value, the work shall not be permitted unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this article. Contiguous dry land access must be provided for residential and commercial uses in compliance with section 16-116(1).
- (8) Except as provided in subsection (b)(9) of this section, if any nonconforming structure or any structure with a nonconforming use is destroyed or is substantially damaged, it cannot be replaced, reconstructed or rebuilt unless the use and the structure meet the current article requirements. A structure is considered substantially damaged if the total cost to restore the structure to its pre-damaged condition equals or exceeds 50 percent of the structure's present equalized assessed value.
- (9) For nonconforming buildings that are substantially damaged or destroyed by a nonflood disaster, the repair or reconstruction of any such nonconforming building shall be permitted in order to restore it to the size and use in effect prior to the damage event, provided that the minimum Federal Code requirements below are met and all required permits have been granted prior to the start of construction.
 - a. Residential structures shall:
 1. Have the lowest floor, including basement, elevated to or above the base flood elevation using fill, pilings, columns, posts or perimeter walls. Perimeter walls must meet the requirements of section 16-197(b).
 2. Be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, and shall be constructed with methods and materials resistant to flood damage.
 3. Be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or elevated so as to prevent water from entering or accumulating within the components during conditions of flooding.

4. In A zones, obtain, review and utilize any flood data available from a federal, state or other source.
 5. In AO zones with no elevations specified, have the lowest floor, including basement, meet the standards in section 16-148(1).
 6. In AO zones, have adequate drainage paths around structures on slopes to guide floodwaters around and away from the structure.
- b. Nonresidential structures shall:
1. Meet the requirements of subsection (b)(9)a of this section.
 2. Either:
 - (i) Have the lowest floor, including basement, elevated to or above the regional flood elevation; or
 - (ii) Together with attendant utility and sanitary facilities, meet the standards in section 16-197(a) or (b).
 3. In AO zones with no elevations specified, have the lowest floor, including basement, meet the standards in section 16-148(1).

(c) *Alteration, repair and rehabilitation of historic structure.* A nonconforming historic structure may be altered if the alteration will not preclude the structure's continued designation as a historic structure, the alteration will comply with section 16-84(a), flood-resistant materials are used, and construction practices and floodproofing methods that comply with section 16-197 are used. Repair or rehabilitation of historic structures shall be exempt from the development standards of subsection (b)(9)a of this section if it is determined that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and is the minimum necessary to preserve the historic character and design of the structure.

(Ord. No. 13-06, § 23.6.1)

Sec. 16-168. Floodway district.

(a) No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use in the Floodway District, unless such modification or addition:

- (1) Has been granted a permit or variance which meets all article requirements;
- (2) Meets the requirements of section 16-167;
- (3) Shall not increase the obstruction to flood flows or regional flood height;
- (4) Any addition to the existing structure shall be floodproofed, pursuant to section 16-197, by means other than the use of fill, to the flood protection elevation; and

- (5) If any part of the foundation below the flood protection elevation is enclosed, the following standards shall apply:
- a. The enclosed area shall be designed by a registered architect or engineer to allow for the efficient entry and exit of floodwaters without human intervention. A minimum of two openings must be provided with a minimum net area of at least one square inch for every one square foot of the enclosed area. The lowest part of the opening can be no more than 12 inches above the adjacent grade;
 - b. The parts of the foundation located below the flood protection elevation must be constructed of flood-resistant materials;
 - c. Mechanical and utility equipment must be elevated or floodproofed to or above the flood protection elevation; and
 - d. The use must be limited to parking, building access or limited storage.

(b) No new on-site sewage disposal system, or addition to an existing on-site sewage disposal system, except where an addition has been ordered by a government agency to correct a hazard to public health, shall be allowed in the floodway district. Any replacement, repair or maintenance of an existing on-site sewage disposal system in a floodway area shall meet the applicable requirements of all municipal ordinances, section 16-197(c) and Wis. Admin. Code ch. SPS 383.

(c) No new well or modification to an existing well used to obtain potable water shall be allowed in the floodway district. Any replacement, repair or maintenance of an existing well in the floodway district shall meet the applicable requirements of all municipal ordinances, section 16-197(c) and Wis. Admin. Code chs. NR 811 and 812.
(Ord. No. 13-06, § 23.6.2)

Sec. 16-169. Flood fringe district.

(a) No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use unless such modification or addition has been granted a permit or variance by the municipality, and meets the requirements of section 16-116, except where subsection (b) of this section is applicable.

(b) Where compliance with the provisions of subsection (a) of this section would result in unnecessary hardship and only where the structure will not be used for human habitation or be associated with a high flood damage potential, the board of adjustment/appeals, using the procedures established in section 16-195, may grant a variance from those provisions of subsection (a) of this section for modifications or additions using the criteria listed below. Modifications or additions which are protected to elevations lower than the flood protection elevation may be permitted if:

- (1) No floor is allowed below the regional flood elevation for residential or commercial structures;

- (2) Human lives are not endangered;
- (3) Public facilities, such as water or sewer, shall not be installed;
- (4) Flood depths shall not exceed two feet;
- (5) Flood velocities shall not exceed two feet per second; and
- (6) The structure shall not be used for storage of materials as described in section 16-116(5).

(c) All new private sewage disposal systems, or addition to, replacement, repair or maintenance of a private sewage disposal system shall meet all the applicable provisions of all local ordinances, section 16-197(c) and Wis. Admin. Code ch. SPS 383.

(d) All new wells, or addition to, replacement, repair or maintenance of a well shall meet the applicable provisions of this article, section 16-197(c) and Wis. Admin. Code chs. NR 811 and 812.

(Ord. No. 13-06, § 23.6.3)

Secs. 16-170—16-191. Reserved.

DIVISION 7. ADMINISTRATION

Sec. 16-192. Officials previously appointed to administer zoning regulations.

Where a zoning administrator, planning agency or a board of adjustment/appeals has already been appointed to administer a zoning ordinance adopted under Wis. Stats. § 59.69, 59.692 or 62.23(7), these officials shall also administer this article.

(Ord. No. 13-06, § 23.7.0)

Sec. 16-193. Zoning administrator.

(a) *Duties and powers.* The zoning administrator is authorized to administer this article and shall have the following duties and powers:

- (1) Advise applicants of the article provisions, assist in preparing permit applications and appeals, and assure that the regional flood elevation for the proposed development is shown on all permit applications.
- (2) Issue permits and inspect properties for compliance with provisions of this article and issue certificates of compliance where appropriate.
- (3) Inspect and assess all damaged floodplain structures to determine if substantial damage to the structures has occurred.
- (4) Keep records of all official actions, such as:
 - a. All permits issued, inspections made, and work approved.

- b. Documentation of certified lowest floor and regional flood elevations.
 - c. Floodproofing certificates.
 - d. Water surface profiles, floodplain zoning maps and ordinances, nonconforming uses and structures, including changes, appeals, variances and amendments.
 - e. All substantial damage assessment reports for floodplain structures.
 - f. List of nonconforming structures and uses.
- (5) Submit copies of the following items to the department regional office:
- a. Within ten days of the decision, a copy of any decisions on variances, appeals for map or text interpretations, and map or text amendments.
 - b. Copies of case-by-case analyses and other required information, including an annual summary of floodplain zoning actions taken.
 - c. Copies of substantial damage assessments performed and all related correspondence concerning the assessments.
- (6) Investigate, prepare reports, and report violations of this article to the municipal zoning agency and attorney for prosecution. Copies of the reports shall also be sent to the department regional office.
- (7) Submit copies of amendments to the FEMA regional office.

(b) *Land use permit.* A land use permit shall be obtained before any new development; repair, modification or addition to an existing structure; or change in the use of a building or structure, including sewer and water facilities, may be initiated. Application to the zoning administrator shall include:

- (1) *General information.*
 - a. Name and address of the applicant, property owner and contractor;
 - b. Legal description, proposed use, and whether it is new construction or a modification.
- (2) *Site development plan.* A site plan drawn to scale shall be submitted with the permit application form and shall contain:
 - a. Location, dimensions, area and elevation of the lot;
 - b. Location of the ordinary high-water mark of any abutting navigable waterways;
 - c. Location of any structures with distances measured from the lot lines and street center lines;
 - d. Location of any existing or proposed on-site sewage systems or private water supply systems;
 - e. Location and elevation of existing or future access roads;

- f. Location of floodplain and floodway limits as determined from the official floodplain zoning maps;
 - g. The elevation of the lowest floor of proposed buildings and any fill using the vertical datum from the adopted study—either National Geodetic Vertical Datum (NGVD) or North American Vertical Datum (NAVD);
 - h. Data sufficient to determine the regional flood elevation in NGVD or NAVD at the location of the development and to determine whether or not the requirements of division 3 or 4 of this article are met; and
 - i. Data to determine if the proposed development will cause an obstruction to flow or an increase in regional flood height or discharge according to section 16-51. This may include any of the information noted in section 16-84(a).
- (3) *Hydraulic and hydrologic studies to analyze development.* All hydraulic and hydrologic studies shall be completed under the direct supervision of a professional engineer registered in the state. The study contractor shall be responsible for the technical adequacy of the study. All studies shall be reviewed and approved by the department.
- a. *Zone A floodplains.*
 - 1. *Hydrology.* The appropriate method shall be based on the standards in Wis. Admin. Code § NR 116.07(3), Hydrologic analysis: Determination of regional flood discharge.
 - 2. *Hydraulic modeling.* The regional flood elevation shall be based on the standards in Wis. Admin. Code § NR 116.07(4), Hydraulic analysis: Determination of regional flood elevation, and the following:
 - (i) Determination of the required limits of the hydraulic model shall be based on detailed study information for downstream structures (dam, bridge, culvert) to determine adequate starting WSEL for the study.
 - (ii) Channel sections must be surveyed.
 - (iii) Minimum four foot contour data in the overbanks shall be used for the development of cross section overbank and floodplain mapping.
 - (iv) A maximum distance of 500 feet between cross sections is allowed in developed areas with additional intermediate cross sections required at transitions in channel bottom slope, including a survey of the channel at each location.
 - (v) The most current version of HEC-RAS shall be used.
 - (vi) A survey of bridge and culvert openings and the top of road is required at each structure.

- (vii) Additional cross sections are required at the downstream and upstream limits of the proposed development and any necessary intermediate locations based on the length of the reach if greater than 500 feet.
 - (viii) Standard accepted engineering practices shall be used when assigning parameters for the base model, such as flow, Manning's N values, expansion and contraction coefficients or effective flow limits. The base model shall be calibrated to past flooding data such as high-water marks to determine the reasonableness of the model results. If no historical data is available, adequate justification shall be provided for any parameters outside standard accepted engineering practices.
 - (ix) The model must extend past the upstream limit of the difference in the existing and proposed flood profiles in order to provide a tie-in to existing studies. The height difference between the proposed flood profile and the existing study profiles shall be no more than 0.00 feet.
3. *Mapping.* A work map of the reach studied shall be provided, showing all cross section locations, floodway/floodplain limits based on best available topographic data, geographic limits of the proposed development and whether the proposed development is located in the floodway.
- (i) If the proposed development is located outside of the floodway, then it is determined to have no impact on the regional flood elevation.
 - (ii) If any part of the proposed development is in the floodway, it must be added to the base model to show the difference between existing and proposed conditions. The study must ensure that all coefficients remain the same as in the existing model, unless adequate justification based on standard accepted engineering practices is provided.
- b. *Zone AE floodplains.*
- 1. *Hydrology.* If the proposed hydrology will change the existing study, the appropriate method to be used shall be based on Wis. Admin. Code § NR 116.07(3), Hydrologic analysis: Determination of regional flood discharge.
 - 2. *Hydraulic model.* The regional flood elevation shall be based on the standards in Wis. Admin. Code § NR 116.07(4), Hydraulic analysis: Determination of regional flood elevation, and the following:
 - (i) Duplicate effective model. The effective model shall be reproduced to ensure correct transference of the model data and to allow integration of the revised data to provide a continuous FIS model upstream and downstream of the revised reach. If data from the effective model is available, models shall be generated that duplicate the FIS profiles and the elevations shown in the floodway data table in the FIS report to within 0.1 foot.

- (ii) Corrected effective model. The corrected effective model shall not include any manmade physical changes since the effective model date, but shall import the model into the most current version of HEC-RAS for department review.
 - (iii) Existing (pre-project conditions) model. The existing model shall be required to support conclusions about the actual impacts of the project associated with the revised (post-project) model or to establish more up-to-date models on which to base the revised (post-project) model.
 - (iv) Revised (post-project conditions) model. The revised (post-project conditions) model shall incorporate the existing model and any proposed changes to the topography caused by the proposed development. This model shall reflect proposed conditions.
 - (v) All changes to the duplicate effective model and subsequent models must be supported by certified topographic information, bridge plans, construction plans and survey notes.
 - (vi) Changes to the hydraulic models shall be limited to the stream reach for which the revision is being requested. Cross sections upstream and downstream of the revised reach shall be identical to those in the effective model and result in water surface elevations and top widths computed by the revised models matching those in the effective models upstream and downstream of the revised reach as required. The effective model shall not be truncated.
3. *Mapping.* Maps and associated engineering data shall be submitted to the department for review which meet the following conditions:
- (i) Consistency between the revised hydraulic models, the revised floodplain and floodway delineations, the revised flood profiles, topographic work map, annotated FIRMs and/or flood boundary floodway maps (FBFMs), construction plans, bridge plans.
 - (ii) Certified topographic map of suitable scale, contour interval, and a planimetric map showing the applicable items. If a digital version of the map is available, it may be submitted in order that the FIRM may be more easily revised.
 - (iii) Annotated FIRM panel showing the revised one percent and 0.2 percent annual chance floodplains and floodway boundaries.
 - (iv) If an annotated FIRM and/or FBFM and digital mapping data (GIS or CADD) are used, then all supporting documentation or metadata must be included with the data submission along with the Universal Transverse Mercator (UTM) Projection and state plane coordinate system in accordance with FEMA mapping specifications.

- (v) The revised floodplain boundaries shall tie into the effective floodplain boundaries.
 - (vi) All cross sections from the effective model shall be labeled in accordance with the effective map and a cross section lookup table shall be included to relate to the model input numbering scheme.
 - (vii) Both the current and proposed floodways shall be shown on the map.
 - (viii) The stream centerline, or profile baseline used to measure stream distances in the model, shall be visible on the map.
- (4) *Expiration.* All permits issued under the authority of this article shall expire no more than 180 days after issuance. The permit may be extended for a maximum of 180 days for good and sufficient cause.

(c) *Certificate of compliance.* No land shall be occupied or used, and no building which is hereafter constructed, altered, added to, modified, repaired, rebuilt or replaced shall be occupied until a certificate of compliance is issued by the zoning administrator, except where no permit is required, subject to the following provisions:

- (1) The certificate of compliance shall show that the building or premises or part thereof, and the proposed use, conform to the provisions of this article;
- (2) Application for such certificate shall be concurrent with the application for a permit;
- (3) If all article provisions are met, the certificate of compliance shall be issued within ten days after written notification that the permitted work is completed;
- (4) The applicant shall submit a certification signed by a registered professional engineer, architect or land surveyor that the fill, lowest floor and floodproofing elevations are in compliance with the permit issued. Floodproofing measures also require certification by a registered professional engineer or architect that the requirements of section 16-197 are met.

(d) *Other permits.* Prior to obtaining a floodplain development permit the applicant must secure all necessary permits from federal, state, and local agencies, including, but not limited to, those required by the U.S. Army Corps of Engineers under section 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 USC 1344.
(Ord. No. 13-06, § 23.7.1)

Sec. 16-194. Plan commission.

- (a) The plan commission shall:
 - (1) Oversee the functions of the office of the zoning administrator; and
 - (2) Review and advise the governing body on all proposed amendments to this article, maps and text.

- (b) The plan commission shall not:
 - (1) Grant variances to the terms of the article in place of action by the board of adjustment/appeals; or
 - (2) Amend the text or zoning maps in place of official action by the governing body.
- (Ord. No. 13-06, § 23.7.2)

Sec. 16-195. Board of adjustment/appeals.

The board of adjustment/appeals, created under Wis. Stats. § 59.694 for counties or Wis. Stats. § 62.23(7)(e) for cities or villages, is hereby authorized or shall be appointed to act for the purposes of this article. The board shall exercise the powers conferred by state statutes and adopt rules for the conduct of business. The zoning administrator shall not be the secretary of the board.

- (1) *Powers and duties.* The board of adjustment/appeals shall:
 - a. *Appeals.* Hear and decide appeals where it is alleged there is an error in any order, requirement, decision or determination made by an administrative official in the enforcement or administration of this article;
 - b. *Boundary disputes.* Hear and decide disputes concerning the district boundaries shown on the official floodplain zoning map; and
 - c. *Variances.* Hear and decide, upon appeal, variances from the ordinance standards.
- (2) *Appeals to the board.*
 - a. *Procedure.* Appeals to the board may be taken by any person aggrieved, or by any officer or department of the municipality affected by any decision of the zoning administrator or other administrative officer. Such appeal shall be taken within 30 days unless otherwise provided by the rules of the board, by filing with the official whose decision is in question, and with the board, a notice of appeal specifying the reasons for the appeal. The official whose decision is in question shall transmit to the board all records regarding the matter appealed.
 - b. *Notice and hearing for appeals including variances.*
 - 1. *Notice.* The board shall:
 - (i) Fix a reasonable time for the hearing;
 - (ii) Publish adequate notice pursuant to state statutes, specifying the date, time, place and subject of the hearing; and
 - (iii) Ensure that notice shall be mailed to the parties in interest and the department regional office at least ten days in advance of the hearing.
 - 2. *Hearing.* Any party may appear in person or by agent. The board shall:
 - (i) Resolve boundary disputes according to subsection (3) of this section;

- (ii) Decide variance applications according to subsection (4) of this section; and
 - (iii) Decide appeals of permit denials according to section 16-196.
- c. *Decision.* The final decision regarding the appeal or variance application shall:
 - 1. Be made within a reasonable time;
 - 2. Be sent to the department regional office within ten days of the decision;
 - 3. Be a written determination signed by the chairman or secretary of the board;
 - 4. State the specific facts which are the basis for the board's decision;
 - 5. Either affirm, reverse, vary or modify the order, requirement, decision or determination appealed, in whole or in part, dismiss the appeal for lack of jurisdiction or grant or deny the variance application; and
 - 6. Include the reasons for granting an appeal, describing the hardship demonstrated by the applicant in the case of a variance, clearly stated in the recorded minutes of the board proceedings.
- (3) *Boundary disputes.* The following procedure shall be used by the board in hearing disputes concerning floodplain district boundaries:
 - a. If a floodplain district boundary is established by approximate or detailed floodplain studies, the flood elevations or profiles shall prevail in locating the boundary. If none exist, other evidence may be examined;
 - b. The person contesting the boundary location shall be given a reasonable opportunity to present arguments and technical evidence to the board; and
 - c. If the boundary is incorrectly mapped, the board should inform the zoning committee or the person contesting the boundary location to petition the governing body for a map amendment according to division 8 of this article.
- (4) *Variances.*
 - a. The board may, upon appeal, grant a variance from the standards of this article if an applicant convincingly demonstrates that:
 - 1. Literal enforcement of the article will cause unnecessary hardship;
 - 2. The hardship is due to adoption of the floodplain ordinance and unique property conditions, not common to adjacent lots or premises. In such case the article or map must be amended;
 - 3. The variance is not contrary to the public interest; and
 - 4. The variance is consistent with the purpose of this article in section 16-21.

- b. In addition to the criteria in subsection (4)a of this section, to qualify for a variance under FEMA regulations, the following criteria must be met:
 - 1. The variance shall not cause any increase in the regional flood elevation;
 - 2. Variances can only be granted for lots that are less than one-half acre and are contiguous to existing structures constructed below the RFE; and
 - 3. Variances shall only be granted upon a showing of good and sufficient cause, shall be the minimum relief necessary, shall not cause increased risks to public safety or nuisances, shall not increase costs for rescue and relief efforts and shall not be contrary to the purpose of the ordinance.
- c. A variance shall not:
 - 1. Grant, extend or increase any use prohibited in the zoning district;
 - 2. Be granted for a hardship based solely on an economic gain or loss;
 - 3. Be granted for a hardship which is self-created;
 - 4. Damage the rights or property values of other persons in the area;
 - 5. Allow actions without the amendments to this article or map(s) required in division 8 of this article; and
 - 6. Allow any alteration of an historic structure, including its use, which would preclude its continued designation as an historic structure.
- d. When a floodplain variance is granted the board shall notify the applicant in writing that it may increase risks to life, and property and flood insurance premiums could increase up to \$25.00 per \$100.00 of coverage. A copy shall be maintained with the variance record.

(Ord. No. 13-06, § 23.7.3)

Sec. 16-196. To review appeals of permit denials.

(a) The zoning agency (section 16-194) or board shall review all data related to the appeal. This may include:

- (1) Permit application data listed in section 16-193(b);
- (2) Floodway/flood fringe determination data in section 16-149;
- (3) Data listed in section 16-84(a)(2) where the applicant has not submitted this information to the zoning administrator; and
- (4) Other data submitted with the application, or submitted to the board with the appeal.

(b) For appeals of all denied permits, the board shall:

- (1) Follow the procedures of section 16-195;
- (2) Consider zoning agency recommendations; and

(3) Either uphold the denial or grant the appeal.

(c) For appeals concerning increases in regional flood elevation, the board shall:

(1) Uphold the denial where the board agrees with the data showing an increase in flood elevation. Increases may only be allowed after amending the flood profile and map and all appropriate legal arrangements are made with all adversely affected property owners as per the requirements of division 8 of this article; and

(2) Grant the appeal where the board agrees that the data properly demonstrates that the project does not cause an increase, provided no other reasons for denial exist.

(Ord. No. 13-06, § 23.7.4)

Sec. 16-197. Floodproofing standards for nonconforming structures or uses.

(a) No permit or variance shall be issued for a nonresidential structure designed to be watertight below the regional flood elevation until the applicant submits a plan certified by a registered professional engineer or architect that the floodproofing measures will protect the structure or development to the flood protection elevation and submits a FEMA floodproofing certificate.

(b) For a structure designed to allow the entry of floodwaters, no permit or variance shall be issued until the applicant submits a plan either:

(1) Certified by a registered professional engineer or architect; or

(2) That meets or exceeds the following standards:

- a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
- b. The bottom of all openings shall be no higher than one foot above grade; and
- c. Openings may be equipped with screens, louvers, valves, or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.

(c) Floodproofing measures shall be designed, as appropriate, to:

(1) Withstand flood pressures, depths, velocities, uplift and impact forces and other regional flood factors;

(2) Protect structures to the flood protection elevation;

(3) Anchor structures to foundations to resist flotation and lateral movement;

(4) Minimize or eliminate infiltration of floodwaters; and

(5) Minimize or eliminate discharges into floodwaters.

(Ord. No. 13-06, § 23.7.5)

Sec. 16-198. Public information.

To provide information regarding the status of real property, marks shall be placed on structures to show the depth of inundation during a regional flood. In addition, all maps, engineering data and regulations shall be available and widely distributed and real estate transfer should show what floodplain district the transferred property is located in.

(Ord. No. 13-06, § 23.7.6)

Secs. 16-199—16-219. Reserved.**DIVISION 8. AMENDMENTS****Sec. 16-220. Required for obstructions or increases.**

Obstructions or increases may only be permitted if amendments are made to this article, the official floodplain zoning maps, floodway lines and water surface profiles, in accordance with section 16-221.

- (1) In AE zones with a mapped floodway, no obstructions or increases shall be permitted unless the applicant receives a conditional letter of map revision from FEMA and amendments are made to this article, the official floodplain zoning maps, floodway lines and water surface profiles, in accordance with section 16-221. Any such alterations must be reviewed and approved by FEMA and the DNR.
- (2) In A zones, increases equal to or greater than 1.0 foot may only be permitted if the applicant receives a conditional letter of map revision from FEMA and amendments are made to this article, the official floodplain maps, floodway lines, and water surface profiles, in accordance with section 16-221.

(Ord. No. 13-06, § 23.8.0)

Sec. 16-221. Events requiring amendment of article and letter of map change.

The governing body shall change or supplement the floodplain zoning district boundaries and this article in the manner outlined in section 16-222. Actions which require an amendment to this article or submittal of a letter of map change (LOMC) include, but are not limited to, the following:

- (1) Any fill or floodway encroachment that obstructs flow causing any increase in the regional flood height;
- (2) Any change to the floodplain boundaries and/or watercourse alterations on the FIRM;
- (3) Any changes to any other officially adopted floodplain maps listed in section 16-23(b)(2);

- (4) Any floodplain fill which raises the elevation of the filled area to a height at or above the flood protection elevation and is contiguous to land lying outside the floodplain;
- (5) Correction of discrepancies between the water surface profiles and floodplain maps;
- (6) Any upgrade to a floodplain zoning ordinance text required by Wis. Admin. Code § NR 116.05, or otherwise required by law, or for changes by the municipality; and
- (7) All channel relocations and changes to the maps to alter floodway lines or to remove an area from the floodway or the flood fringe that is based on a base flood elevation from a FIRM requires prior approval by FEMA.

(Ord. No. 13-06, § 23.8.1)

Sec. 16-222. Procedures.

Article amendments may be made upon petition of any party according to the provisions of Wis. Stats. § 62.23 for cities and villages, or Wis. Stats. § 59.69 for counties. The petitions shall include all data required by sections 16-149 and 16-193(b). The land use permit shall not be issued until a letter of map revision is issued by FEMA for the proposed changes.

- (1) The proposed amendment shall be referred to the zoning agency for a public hearing and recommendation to the governing body. The amendment and notice of public hearing shall be submitted to the department regional office for review prior to the hearing. The amendment procedure shall comply with the provisions of Wis. Stats. § 62.23 for cities and villages or Wis. Stats. § 59.69 for counties.
- (2) No amendments shall become effective until reviewed and approved by the department.
- (3) All persons petitioning for a map amendment that obstructs flow causing any increase in the regional flood height shall obtain flooding easements or other appropriate legal arrangements from all adversely affected property owners and notify local units of government before the amendment can be approved by the governing body.

(Ord. No. 13-06, § 23.8.2)

Chapter 17

RESERVED

Brian Kober

From: Parker Sovey <PSovey@walbecgroup.com>
Sent: Monday, November 22, 2021 5:11 PM
To: Brian Kober
Cc: Matthew Krofta; Darren Story
Subject: RE: Village of Jackson 2019 Improvements - Pay Estimate #4

Really appreciate the response, Brian. I apologize for the delays on these matters. I honestly do not know if I totally missed the conversations regarding the drainage issue or maybe it had just been so long that I completely forgot about it. I do recall the drainage being very tight in that area when my surveyors shot it. At this point, in a effort to get this closed out, I am onboard with what you are proposing below. If you need our assistance with the repair in the Spring, please do not hesitate to reach out.



Parker Sovey
Project Manager
262.524.1879 office
262.366.5587 mobile
walbecgroup.com
An Equal Opportunity Employer

From: Brian Kober <brian.kober@villageofjackson.com>
Sent: Monday, November 22, 2021 4:26 PM
To: Parker Sovey <PSovey@walbecgroup.com>
Cc: Matthew Krofta <M.Krofta@gremmerassociates.com>; Darren Story <dstory@baumhardts.com>
Subject: RE: Village of Jackson 2019 Improvements - Pay Estimate #4

Warning: External Email

Parker,

Thanks for the email, and the help of your subcontractor the attached payment will be recommended to the Board of Public Works Committee on Tuesday, November 30, 2021.

The Village Board will approved the pay request on Tuesday December 14th.

The details of the proposed pay Request #4:

- 1) Sherman Road Drainage will be paid in full. Baumhardt mowed, regraded, and re-seeded the ditch line along Sherman Road. The ditch line has been repaired in order to allow the homeowner to be responsible for future maintenance;
- 2) Jackson Park West Parking Lot does not drain (see attached picture) so the retainage amount (\$3,852.79) will be held until repaired or retain to have another contractor complete the project;
- 3) Jackson Park Cul-de-Sac will retain \$2,000.00 for the cracked curbing in the driveway. Baumhardt reseeded the drainage ditch on the west side of the project. Payment amount is \$6,023.49.

The total recommended amount for Pay Request #4 is \$9,581.79. Also, recommending this is the final payment for the project, and the Village will hire another paving contractor to fix the drainage problem.

Please respond to this email so the Village can proceed with final payment.

If you have any questions please do not hesitate to ask.

Brian W. Kober. P.E.
Director of Public Works/Village Engineer
Village of Jackson
W194 N16660 Eagle Drive
PO Box 637
Jackson, WI 53037
Phone: 262-677-0707
Fax: 262-677-8770

From: Parker Sovey <PSovey@walbecgroup.com>
Sent: Monday, November 22, 2021 10:55 AM
To: Matthew Krofta <M.Krofta@gremmerassociates.com>; Brian Kober <brian.kober@villageofjackson.com>
Subject: RE: Village of Jackson 2019 Improvements - Pay Estimate #4

Hey guys, Darren from Baumhardt informed me that they completed their items...I believe you met with him, right Brian? I just wanted to see if we will be paid anything additional for their items and that you will be withholding money for the drainage issue in the cul de sac?



Parker Sovey
Project Manager
262.524.1879 office
262.366.5587 mobile
walbecgroup.com
An Equal Opportunity Employer

From: Matthew Krofta <M.Krofta@gremmerassociates.com>
Sent: Tuesday, July 27, 2021 12:01 PM
To: Brian Kober <brian.kober@villageofjackson.com>
Cc: Parker Sovey <PSovey@walbecgroup.com>
Subject: Village of Jackson 2019 Improvements - Pay Estimate #4

Warning: External Email

Brian,

Please see attached for Pay Estimate #4 for the Jackson Park Cul-de-Sac, Jackson Park Parking Lot, and Sherman Road Drainage projects. As discussed, the estimate releases \$3,558.30 for the Sherman Road Drainage project while retaining 5% of the Jackson Park Cul-de-Sac and Jackson Park Parking Lot due to poor drainage and failure to complete punch list work.

Please let me know if you need anything else.

Thanks,
Matt

Matt Krofta
Gremmer & Associates, Inc.
93 South Pioneer Road, Suite 300
Fond du Lac, WI 54935
(920) 924-5720
(920) 924-5725 (Fax)

July 27, 2021

Village of Jackson
 N168 W20733 Main Street
 Jackson, WI 53037

Attention: Brian Kober, P.E.
 Director of Public Works

Subject: Project I.D. 190605
 Village of Jackson 2019 Improvements
 Sherman Road Drainage & Jackson Park West Parking Lot and Cul-de-Sac
 Pay Request #4

Dear Mr. Kober:

Enclosed you will find pay request #4 for the Village of Jackson 2019 Improvements project in the Village of Jackson. The total amount, due to the contractor, reflects the release of retainage for the Sherman Road Drainage portion and the withholding of the retainage for the Jackson Park West Parking Lot and Jackson Park Cul-de-Sac portions, as directed.

Sherman Road Drainage

Total Work Completed to date	= \$71,166.09	
Retainage, (5%)	= \$ 3,558.30	
Amount due to Contractor, Pay Request #4	= \$ 3,558.30	← PAY FULL

Jackson Park West Parking Lot

Total Work Completed to date	= \$77,055.79	
Retainage, (5%)	= \$ 3,852.79	← HOLD UNTIL CORRECTIONS OF PONDING
Amount due to Contractor, Pay Request #4	= \$ 0.00	

Jackson Park Cul-de-Sac

Total Work Completed to date	= \$160,469.73	
Retainage, (5%)	= \$ 8,023.49	← RETAIN \$2,000 ⁰⁰ FOR CRACKED CURBING
Amount due to Contractor, Pay Request #4	= \$ 0.00	

If you have any questions or comments, please contact me at (920) 924-5720 or cell (920) 539-6259.

Sincerely,

Matt Krofta

Matt Krofta
 Engineering Technician
 Gremmer & Associates, Inc.

Recommended Payment of:

\$ 3,558³⁰
\$ 6,023⁴⁹

TOTAL \$ 9,581⁷⁹

Gremmer and Associates, Inc.

93 S. Pioneer Road, Suite 300
Fond du Lac, WI 54935
(920) 924-5720
fax (920)924-5725

Payne & Dolan, Inc.- Prime Contractor

Village of Jackson - Sherman Road Drainage

Village of Jackson - Sherman Road Drainage						Previous Estimates		Estimate #4		Cumulative Totals		% Complete	
Item No.	Description	Units	Estimated Quantity	Unit Price	Bid Total	Actual Quantity	Total	Actual Quantity	Total	Actual Quantity	Total		
100-02	Removing Curb & Gutter	LF	60	\$ 6.06	\$363.60	73.00	\$442.38		\$0.00	73.00	\$442.38	121.7%	
100-03	Removing Concrete Sidewalk	SY	15	\$ 10.10	\$151.50	23.00	\$232.30		\$0.00	23.00	\$232.30	153.3%	
100-04	Excavation Common	CY	80	\$ 60.00	\$4,800.00	80.00	\$4,800.00		\$0.00	80.00	\$4,800.00	100.0%	
100-05	Base Aggregate Dense 3/4-Inch	TON	5	\$ 19.83	\$99.15	0.00	\$0.00		\$0.00	0.00	\$0.00	0.0%	
100-06	Base Aggregate Dense 1 1/4-Inch	TON	70	\$ 19.83	\$1,388.10	70.00	\$1,388.10		\$0.00	70.00	\$1,388.10	100.0%	
100-10	Asphaltic Surface	TON	130	\$ 112.61	\$14,639.30	141.90	\$15,979.36		\$0.00	141.90	\$15,979.36	109.2%	
100-12	Concrete Curb & Gutter 24-Inch Type D	LF	60	\$ 65.00	\$3,900.00	74.00	\$4,810.00		\$0.00	74.00	\$4,810.00	123.3%	
100-13	Concrete Sidewalk 4-Inch	SF	100	\$ 21.25	\$2,125.00	270.00	\$5,737.50		\$0.00	270.00	\$5,737.50	270.0%	
100-14	Concrete Sidewalk 6-Inch	SF	45	\$ 21.25	\$956.25	46.00	\$977.50		\$0.00	46.00	\$977.50	102.2%	
100-15	Lawn Restoration	SY	485	\$ 8.32	\$4,035.20	672.00	\$5,591.04		\$0.00	672.00	\$5,591.04	138.6%	
100-15a	Straw EMAT	SY	400	\$ 0.65	\$260.00	263.00	\$170.95		\$0.00	263.00	\$170.95	65.8%	
100-17	Inlet Protection Type A	EACH	1	\$ 176.77	\$176.77	0.00	\$0.00		\$0.00	0.00	\$0.00	0.0%	
100-18	Inlet Protection Type C	EACH	2	\$ 75.76	\$151.52	1.00	\$75.76		\$0.00	1.00	\$75.76	50.0%	
100-19	Temporary Ditch Checks	LF	12	\$ 25.25	\$303.00	20.00	\$505.00		\$0.00	20.00	\$505.00	166.7%	
100-20	Traffic Control	LS	1	\$ 4,000.00	\$4,000.00	1.00	\$4,000.00		\$0.00	1.00	\$4,000.00	100.0%	
100-23	Sawing Asphalt & Concrete	LF	300	\$ 2.00	\$600.00	309.00	\$618.00		\$0.00	309.00	\$618.00	103.0%	
200-01	Connect to Existing Storm Sewer Structure	EACH	1	\$ 1,010.10	\$1,010.10	1.00	\$1,010.10		\$0.00	1.00	\$1,010.10	100.0%	
200-02	Adjust Inlet Casting	EACH	1	\$ 303.03	\$303.03	1.00	\$303.03		\$0.00	1.00	\$303.03	100.0%	
200-03	Storm Manhole 4-FT Diameter w/ Casting	EACH	2	\$ 3,139.40	\$6,278.80	2.00	\$6,278.80		\$0.00	2.00	\$6,278.80	100.0%	
200-04	Storm Inlet Median 1 Grate w/ Casting	EACH	1	\$ 2,792.63	\$2,792.63	1.00	\$2,792.63		\$0.00	1.00	\$2,792.63	100.0%	
200-05	Storm Sewer Pipe Class III-B 12-Inch	LF	223	\$ 70.18	\$15,650.14	220.20	\$15,453.64		\$0.00	220.20	\$15,453.64	98.7%	
					SUBTOTAL	\$63,984.09		\$71,166.09		\$0.00		\$71,166.09	111%



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Work completed, previous estimates	\$71,166.09
Work completed, this estimate	\$0.00
Total work completed	\$71,166.09
Retainage, this estimate	\$0.00
Total Retainage, previous estimates	\$3,558.30
Total Retainage, final	\$0.00
Amount due to contractor, this estimate	\$3,558.30

OK

Gremmer and Associates, Inc.

93 S. Pioneer Road, Suite 300
Fond du Lac, WI 54935
(920) 924-5720
fax (920)924-5725

Payne & Dolan, Inc.- Prime Contractor

Village of Jackson - Jackson Park West Parking Lot

Item No.	Description	Units	Estimated Quantity	Unit Price	Bid Total	Previous Estimates		Estimate #4		Cumulative Totals		% Complete
						Actual Quantity	Total	Actual Quantity	Total	Actual Quantity	Total	
100-04	Excavation Common	CY	150	\$ 30.00	\$4,500.00	150.00	\$4,500.00		\$0.00	150.00	\$4,500.00	100.0%
100-07	Pulverize and Relay	SY	2020	\$ 9.53	\$19,250.60	2265.00	\$21,585.45		\$0.00	2,265.00	\$21,585.45	112.1%
100-07a	Install Pulverized Base	TON	290	\$ 10.00	\$2,900.00	290.00	\$2,900.00		\$0.00	290.00	\$2,900.00	100.0%
100-10	Asphaltic Surface	TON	445	\$ 87.06	\$38,741.70	466.50	\$40,613.49		\$0.00	466.50	\$40,613.49	104.8%
100-21	Pavement Marking 4-Inch	LF	1295	\$ 5.05	\$6,539.75	1297.00	\$6,549.85		\$0.00	1,297.00	\$6,549.85	100.2%
100-22	Pavement Marking Handicap Symbol	EACH	1	\$ 295.00	\$295.00	1.00	\$295.00		\$0.00	1.00	\$295.00	100.0%
100-23	Sawing Asphalt & Concrete	LF	265	\$ 2.00	\$530.00	306.00	\$612.00		\$0.00	306.00	\$612.00	115.5%
					SUBTOTAL		\$72,757.05		\$0.00		\$77,055.79	106%



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Work completed, previous estimates	\$77,055.79
Work completed, this estimate	\$0.00
Total work completed	\$77,055.79
Retainage, this estimate	\$0.00
Total Retainage, previous estimates	\$3,852.79
Total Retainage, final	\$3,852.79
Amount due to contractor, this estimate	\$0.00

OK

Gremmer and Associates, Inc.

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(920) 924-5720
fax (920)924-5725

Payne & Dolan, Inc.- Prime Contractor
Village of Jackson - Jackson Park Cul-De-Sac

Village of Jackson - Jackson Park Cul-De-Sac						Previous Estimates		Estimate #4		Cumulative Totals		% Complete	
Item No.	Description	Units	Estimated Quantity	Unit Price	Bid Total	Actual Quantity	Total	Actual Quantity	Total	Actual Quantity	Total		
100-01	Clearing and Grubbing	LS	1	\$ 3,030.30	\$3,030.30	1.00	\$3,030.30		\$0.00	1.00	\$3,030.30	100.0%	
100-02	Removing Curb & Gutter	LF	85	\$ 6.06	\$515.10	88.00	\$533.28		\$0.00	88.00	\$533.28	103.5%	
100-04	Excavation Common	CY	1095	\$ 24.94	\$27,309.30	1389.00	\$34,641.66		\$0.00	1,389.00	\$34,641.66	126.8%	
100-05	Base Aggregate Dense 3/4-Inch	TON	45	\$ 18.31	\$823.95	0.00	\$0.00		\$0.00	0.00	\$0.00	0.0%	
100-06	Base Aggregate Dense 1 1/4-Inch	TON	985	\$ 15.28	\$15,050.80	1451.00	\$22,171.28		\$0.00	1,451.00	\$22,171.28	147.3%	
100-07	Breaker Run 3-Inch	TON	706	\$ 22.00	\$15,532.00	706.00	\$15,532.00		\$0.00	706.00	\$15,532.00	100.0%	
100-08	Concrete Driveway 6-Inch	SY	115	\$ 58.50	\$6,727.50	79.00	\$4,621.50		\$0.00	79.00	\$4,621.50	68.7%	
100-09	Concrete Surface Drain	CY	1	\$ 300.00	\$300.00	1.00	\$300.00		\$0.00	1.00	\$300.00	100.0%	
100-10	Asphaltic Surface	TON	435	\$ 89.00	\$38,715.00	458.50	\$40,806.50		\$0.00	458.50	\$40,806.50	105.4%	
100-11	Concrete Curb & Gutter 18-Inch Type D	LF	700	\$ 26.20	\$18,340.00	731.00	\$19,152.20		\$0.00	731.00	\$19,152.20	104.4%	
100-15	Lawn Restoration	SY	1160	\$ 8.32	\$9,651.20	1592.00	\$13,245.44		\$0.00	1,592.00	\$13,245.44	137.2%	
100-15a	Straw EMAT	SY	600	\$ 0.65	\$390.00	532.00	\$345.80		\$0.00	532.00	\$345.80	88.7%	
100-16	Silt Fence	LF	385	\$ 3.03	\$1,166.55	387.00	\$1,172.61		\$0.00	387.00	\$1,172.61	100.5%	
100-19	Temporary Ditch Checks	LF	25	\$ 25.25	\$631.25	21.00	\$530.25		\$0.00	21.00	\$530.25	84.0%	
100-20	Traffic Control	LS	1	\$ 3,999.91	\$3,999.91	1.00	\$3,999.91		\$0.00	1.00	\$3,999.91	100.0%	
100-23	Sawing Asphalt & Concrete	LF	45	\$ 9.00	\$405.00	43.00	\$387.00		\$0.00	43.00	\$387.00	95.6%	
					SUBTOTAL	\$142,587.86		\$160,469.73		\$0.00		\$160,469.73	113%



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Work completed, previous estimates	\$160,469.73
Work completed, this estimate	\$0.00
Total work completed	\$160,469.73
Retainage, this estimate	\$0.00
Total Retainage, previous estimates	\$8,023.49
Total Retainage, final	\$8,023.49
Amount due to contractor, this estimate	\$0.00

\$2,000.00
\$6,023.49





engineering | architecture | environmental | surveying
landscape architecture | planning | economic development

W61 N497 Washington Avenue
Cedarburg, WI 53012
262-204-2360
800-472-7372
FAX 262-375-2688
www.cedarcorp.com

November 2, 2021

Village of Jackson
N168 W20733 Main Street
PO Box 637
Jackson, WI 53037

Attn: Mr. Brian Kober, P.E., Director of Public Works

Re: Contractor's Application for Payment No. 3
Willow Ridge Drive Reconstruction
Project No. 05789-0013

Dear Mr. Kober:

Enclosed for your use in payment to Soper Sewer & Water LLC in the amount of \$238,128.22 is Contractor's Application for Payment No. 3.

Following your review and approval, please complete the application for payment forms within the areas reserved for the Owner. Thereafter, retain one copy for your records, provide the second copy to the Contractor with payment, and provide the third copy to our office.

Should you have any questions, please feel free to contact me at our Cedarburg office.

Sincerely,

CEDAR CORPORATION

A handwritten signature in blue ink, appearing to read 'Doug Kroes', written over a horizontal line.

Douglas T. Kroes
Senior Construction Manager

Enclosed: Contractor's Application for Payment No. 3
Lien Waivers: Application for Payment Nos. 1 & 2

Cc: Doug Hansen, Soper Sewer & Water LLC

☒ Owner ☐ Engineer
☐ Contractor ☐ Funding Agency

Contractor's Application for Payment No. 3

Application Date: 10/20/2021		Application Period: Through 10/20/2021	
To (Owner): Village of Jackson		Via (Engineer): Cedar Corporation	
From (Contractor): Soper Sewer & Water LLC		Contact: Doug Kroes	
Contact: Brian Kober		Address: Cedar Corporation W61 N497 Washington Avenue Cedarburg, WI 53012	
Project: Willow Ridge Drive Reconstruction		Address: Cedar Corporation W61 N497 Washington Avenue Cedarburg, WI 53012	
Owner's Contract No.: A-21		Engineer's Project No.: 05789-0013	
Contractor's Project No.: SSW21-049			

Change Order Summary

Approved Change Orders			
Number	Additions	Deductions (Enter as Positive Number)	
			1. ORIGINAL CONTRACT PRICE \$ 788,832.75
			2. Net change by Change Orders \$ -
			3. CURRENT CONTRACT PRICE (Line 1 + Line 2) \$ 788,832.75
			4. TOTAL COMPLETED TO DATE (Column L Total on Progress Estimates) \$ 571,804.85
			5. RETAINAGE:
			a. 5% X \$394,416.38 Work Completed \$ 19,720.82
			6. RETAINAGE REDUCTION TO DATE (Enter as Positive Number) ... \$
			7. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5a. + Line 6) \$ 552,084.03
			8. LESS PREVIOUS PAYMENTS (Line 7 from Prior Application) \$ 313,955.81
			9. AMOUNT DUE THIS APPLICATION \$ 238,128.22
TOTALS			
NET CHANGE BY CHANGE ORDERS			

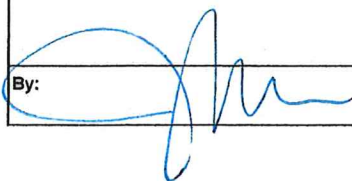
Contractor's Certification

The undersigned Contractor certifies that to the best of its knowledge:

(1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment;

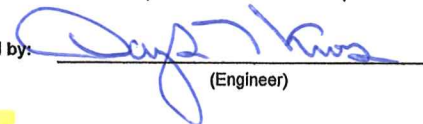
(2) title to all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner per Article 15 of the General Conditions; and

(3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By: 

Date: 9/21/2021

Payment of: \$ 238,128.22
 (Line 9 or other - attach explanation of the other amount)

Recommended by:  11-2-21
 (Engineer) (Date)

Payment of: \$
 (Line 9 or other - attach explanation of the other amount)

Approved by: _____
 (Owner) (Date)

Progress Estimate - Unit Price Work

Contractor's Application for Payment No.

3

For (Project): Willow Ridge Drive Reconstruction								Application Date: 10/20/2021			
Application Period: Through 10/20/2021								Owner's Contract No.: A-21 Engineer's Project No.: 05789-0013			
A	B	C	D	E	F	G	H	I	J	K	L
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Item Value (\$)	Work Completed Previously		Work Completed This Period		Total Work Completed to Date	
						Estimated Quantity Installed	Value of Work Installed (\$)	Estimated Quantity Installed	Value of Work Installed (\$)	Estimated Quantity Installed	Value of Work Installed (\$)
1.	COMMON EXCAVATION	L.S.	4,200.00	\$ 16.20	\$ 68,040.00	3,150.00	\$ 51,030.00		\$ -	3,150.00	\$ 51,030.00
2.	SAW CUTTING ASPHALT ROADWAY	L.S.	200.00	\$ 3.10	\$ 620.00		\$ -		\$ -		\$ -
3.	SAN MH CHIMNEY & CASTING REPLACEMENT	I.D.	7.00	\$ 1,440.00	\$ 10,080.00	3.00	\$ 4,320.00	4.00	\$ 5,760.00	7.00	\$ 10,080.00
4.	VALVE BOX REPLACEMENT	S.F.	3.00	\$ 420.00	\$ 1,260.00	2.00	\$ 840.00		\$ -	2.00	\$ 840.00
5.	48" STORM SEWER MANHOLE	L.F.	4.00	\$ 2,870.00	\$ 11,480.00	4.00	\$ 11,480.00		\$ -	4.00	\$ 11,480.00
6.	12" DIA. STORM SEWER	L.F.	595.00	\$ 90.00	\$ 53,550.00	639.00	\$ 57,510.00		\$ -	639.00	\$ 57,510.00
7.	6" DIA. PVC STORM SEWER	EA.	98.00	\$ 90.00	\$ 8,820.00	72.50	\$ 6,525.00		\$ -	72.50	\$ 6,525.00
8.	4" DIA. STORM LATERAL	EA.	2,084.00	\$ 68.00	\$ 141,712.00	2,031.10	\$ 138,114.80		\$ -	2,031.10	\$ 138,114.80
9.	STORM MANHOLE CHIMNEY & CASTING REPLACEMENT	1,000GAL	4.00	\$ 1,600.00	\$ 6,400.00	1.00	\$ 1,600.00	3.00	\$ 4,800.00	4.00	\$ 6,400.00
10.	CATCH BASIN REPLACEMENT	100 LBS	6.00	\$ 3,000.00	\$ 18,000.00	6.00	\$ 18,000.00		\$ -	6.00	\$ 18,000.00
11.	CURB BOX REPLACEMENT	L.F.	5.00	\$ 650.00	\$ 3,250.00	6.00	\$ 3,900.00		\$ -	6.00	\$ 3,900.00
12.	CURB STOP REPLACEMENT	S.Y.	3.00	\$ 1,200.00	\$ 3,600.00	2.00	\$ 2,400.00		\$ -	2.00	\$ 2,400.00
13.	SANITARY LATERAL REPLACEMENT (1 UNIT)	S.Y.	12.00	\$ 200.00	\$ 2,400.00	12.50	\$ 2,500.00		\$ -	12.50	\$ 2,500.00
14.	6" SAN LATERAL RECONNECTION (7 UNITS)	L.S.	71.00	\$ 200.00	\$ 14,200.00	56.10	\$ 11,220.00		\$ -	56.10	\$ 11,220.00
15.	REMOVE CONCRETE SIDEWALK	C.Y.	13,435.00	\$ 0.50	\$ 6,717.50		\$ -	13,435.00	\$ 6,717.50	13,435.00	\$ 6,717.50
16.	4" CONCRETE SIDEWALK	TON	12,968.00	\$ 4.35	\$ 56,410.80		\$ -	10,374.00	\$ 45,126.90	10,374.00	\$ 45,126.90
17.	REMOVE CURB & GUTTER	S.Y.	3,461.00	\$ 0.70	\$ 2,422.70		\$ -	3,461.00	\$ 2,422.70	3,461.00	\$ 2,422.70
18.	30" CURB & GUTTER TYPE "D"	TON	3,234.00	\$ 13.50	\$ 43,659.00		\$ -	3,234.00	\$ 43,659.00	3,234.00	\$ 43,659.00
19.	REMOVE CONCRETE DRIVEWAY APRON	TON	6,754.00	\$ 0.50	\$ 3,377.00		\$ -	6,754.00	\$ 3,377.00	6,754.00	\$ 3,377.00
20.	7" CONCRETE DRIVEWAY APRON & SIDEWALK	GAL	10,319.00	\$ 5.50	\$ 56,754.50		\$ -	8,255.00	\$ 45,402.50	8,255.00	\$ 45,402.50
21.	EXCAVATION BELOW SUBGRADE (EBS)	TON	420.00	\$ 17.00	\$ 7,140.00		\$ -	376.85	\$ 6,406.45	376.85	\$ 6,406.45
22.	EBS BACKFILL 1-1/4" DENSE	TON	840.00	\$ 15.00	\$ 12,600.00		\$ -	741.76	\$ 11,126.40	741.76	\$ 11,126.40
23.	1-1/4" DENSE CRUSHED AGGREGATE BASE COURSE	L.F.	3,900.00	\$ 15.00	\$ 58,500.00		\$ -	3,958.44	\$ 59,376.60	3,958.44	\$ 59,376.60
24.	LOWER LAYER HMA PAVEMENT 3-1/4"	L.F.	1,275.00	\$ 71.00	\$ 90,525.00		\$ -		\$ -		\$ -
25.	UPPER LAYER HMA PAVEMENT 1-3/4"	L.S.	685.00	\$ 75.65	\$ 51,820.25		\$ -		\$ -		\$ -
26.	TRAFFIC CONTROL (Includes Mobilization)	EA.	1.00	\$ 25,000.00	\$ 25,000.00	0.50	\$ 12,500.00	0.25	\$ 6,250.00	0.75	\$ 18,750.00
27.	LAWN RESTORATION	S.F.	3,509.00	\$ 6.00	\$ 21,054.00		\$ -		\$ -		\$ -
28.	INLET PROTECTION	S.F.	10.00	\$ 90.00	\$ 900.00		\$ -	10.00	\$ 900.00	10.00	\$ 900.00
29.	ABANDON 8" SAN SEWER & WTM	S.F.	1.00	\$ 4,880.00	\$ 4,880.00	1.00	\$ 4,880.00		\$ -	1.00	\$ 4,880.00
30.	REMOVE SAN. MANHOLE	S.Y.	1.00	\$ 2,660.00	\$ 2,660.00	1.00	\$ 2,660.00		\$ -	1.00	\$ 2,660.00
31.	SALVAGE HYDRANT AND VALVE	L.F.	1.00	\$ 1,000.00	\$ 1,000.00	1.00	\$ 1,000.00		\$ -	1.00	\$ 1,000.00
TOTAL BID ITEMS 1-31						\$ 788,832.75	\$ 330,479.80	\$ 241,325.05	\$ 571,804.85		
ADDITIONAL ITEMS											
					\$ -		\$ -		\$ -		\$ -
					\$ -		\$ -		\$ -		\$ -
TOTAL ADDITIONAL ITEMS						\$ -	\$ -	\$ -	\$ -		
TOTAL ALL ITEMS						\$ 788,832.75	\$ 330,479.80	\$ 241,325.05	\$ 571,804.85		



LIEN WAIVER AND RELEASE OF CLAIMS

The undersigned has been employed by **Soper Sewer & Water LLC** to furnish labor, equipment, materials and services for **Sanitary Sewer** pursuant to an agreement with **MJ Construction Inc.** for the improvements to:

Project: Willow Ridge Drive Reconstruction Contract A-21
Site Address: Village of Jackson, WI

For and in consideration of the sum of **\$133,099.08**, Subcontractor/Supplier does hereby waive and release all lien rights to or claim of lien on real property with respect to its work on the Project, and on the monies or other considerations due or to become due Subcontractor/Supplier by virtue of said work, including all rights under applicable laws and regulations relating to the Project, including, but not limited to, rights or claims to any lien on Project proceeds or rights or claims on any Payment and/or Performance Bonds.

Subcontractor/Supplier further represents and warrants that it has paid for all the labor, equipment, materials and services used, supplied or incorporated into its work, including such labor, equipment, materials and services of all its subcontractors and/or suppliers who have furnished the same as part of Subcontractor/Supplier work through and as of this 29th day of October, 2021.

MJ Construction Inc.

Michelle Magin
Signature

Michelle Magin - President
Title

Email copy to:
jackiew@sopercompanies.com

Soper Sewer & Water LLC
139 E. Packer Avenue
Oshkosh, WI 54901

RECEIVED

OCT 28 2021

Per CL 10972
Doherty open.**PARTIAL LIEN WAIVER AND RELEASE OF CLAIMS**

The undersigned has been employed by **Soper Sewer & Water LLC** to furnish labor, equipment, materials and services for **Traffic Control** pursuant to an agreement with **Barricade Flasher Service, Inc.** for the improvements to:

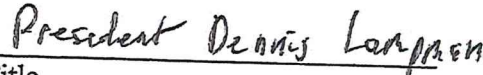
Project: **Willow Ridge Drive Reconstruction Contract A-21**
Site Address: **Village of Jackson, WI**

For and in consideration of the sum of **\$2,015.16**, Subcontractor/Supplier does hereby waive and release all lien rights to or claim of lien on real property with respect to its work on the Project, and on the monies or other considerations due ~~or to become due~~ Subcontractor/Supplier by virtue of said work, including all rights under applicable laws and regulations relating to the Project, including, but not limited to, rights or claims to any lien on Project proceeds or rights or claims on any Payment and/or Performance Bonds.

Subcontractor/Supplier further represents and warrants that it has paid for all the labor, equipment, materials and services used, supplied or incorporated into its work, including such labor, equipment, materials and services of all its subcontractors and/or suppliers who have furnished the same as part of Subcontractor/Supplier work through and as of this 28th day of October, 2021.

Barricade Flasher Service, Inc.

Signature



Title

Email copy to:
jackiew@sopercompanies.com

Soper Sewer & Water LLC
139 E. Packer Avenue
Oshkosh, WI 54901



LIEN WAIVER AND RELEASE OF CLAIMS

The undersigned has been employed by **Soper Sewer & Water LLC** to furnish labor, equipment, materials and services for **Aggregate Materials** pursuant to an agreement with **Wissota Sand and Gravel** for the improvements to:

Project: Willow Ridge Drive Reconstruction Contract A-21
Site Address: Village of Jackson, WI

For and in consideration of the sum of \$18,390.73, Subcontractor/Supplier does hereby waive and release all lien rights to or claim of lien on real property with respect to its work on the Project, and on the monies or other considerations due or to become due Subcontractor/Supplier by virtue of said work, including all rights under applicable laws and regulations relating to the Project, including, but not limited to, rights or claims to any lien on Project proceeds or rights or claims on any Payment and/or Performance Bonds.

Subcontractor/Supplier further represents and warrants that it has paid for all the labor, equipment, materials and services used, supplied or incorporated into its work, including such labor, equipment, materials and services of all its subcontractors and/or suppliers who have furnished the same as part of Subcontractor/Supplier work through and as of this 31st day of Aug, 2021

Check #600 August Statement

Wissota Sand and Gravel

Angela Walter
Signature

Office Manager
Title

Email copy to:
jackiew@sopercompanies.com

Soper Sewer & Water LLC
139 E. Packer Avenue
Oshkosh, WI 54901



LIEN WAIVER AND RELEASE OF CLAIMS

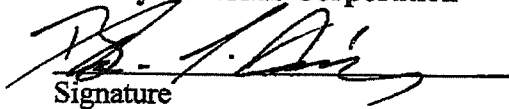
The undersigned has been employed by **Soper Sewer & Water LLC** to furnish labor, equipment, materials and services for **Materials** pursuant to an agreement with **County Materials Corporation** for the improvements to:

Project: Willow Ridge Drive Reconstruction Contract A-21
Site Address: Village of Jackson, WI

For and in consideration of the sum of **\$9,449.60**, Subcontractor/Supplier does hereby waive and release all lien rights to or claim of lien on real property with respect to its work on the Project, and on the monies or other considerations due or to become due Subcontractor/Supplier by virtue of said work, including all rights under applicable laws and regulations relating to the Project, including, but not limited to, rights or claims to any lien on Project proceeds or rights or claims on any Payment and/or Performance Bonds.

Subcontractor/Supplier further represents and warrants that it has paid for all the labor, equipment, materials and services used, supplied or incorporated into its work, including such labor, equipment, materials and services of all its subcontractors and/or suppliers who have furnished the same as part of Subcontractor/Supplier work through and as of this 27 day of October, 2021.

County Materials Corporation


Signature

Brian L. Abitz, Corporate Credit Manager

Title

Email copy to:
jackiew@sopercompanies.com

Soper Sewer & Water LLC
139 E. Packer Avenue
Oshkosh, WI 54901



LIEN WAIVER AND RELEASE OF CLAIMS

The undersigned has been employed by **Soper Sewer & Water LLC** to furnish labor, equipment, materials and services for **Materials** pursuant to an agreement with **Cretex Specialty Products** for the improvements to:

Project: Willow Ridge Drive Reconstruction Contract A-21
Site Address: Village of Jackson, WI

For and in consideration of the sum of **\$1,861.00**, Subcontractor/Supplier does hereby waive and release all lien rights to or claim of lien on real property with respect to its work on the Project, and on the monies or other considerations due or to become due Subcontractor/Supplier by virtue of said work, including all rights under applicable laws and regulations relating to the Project, including, but not limited to, rights or claims to any lien on Project proceeds or rights or claims on any Payment and/or Performance Bonds.

Subcontractor/Supplier further represents and warrants that it has paid for all the labor, equipment, materials and services used, supplied or incorporated into its work, including such labor, equipment, materials and services of all its subcontractors and/or suppliers who have furnished the same as part of Subcontractor/Supplier work through and as of this 28th day of October, 2021.

Cretex Specialty Products

Kim Anderson
Signature

Office Manager
Title

Email copy to:
jackiew@sopercompanies.com

Soper Sewer & Water LLC
139 E. Packer Avenue
Oshkosh, WI 54901

Memo

To: Brian W. Kober, P. E., Director of Public Works
From: Russell Krueger, Streets and Parks Supervisor
Subject: Purchase of Snow Ex Liqui-Maxx High Volume Liquid Spray System
Date: November 1, 2021
CC: Jen Keller, Village Administrator; Board of Public Works; Village Board

Public Works Department would like to purchase the SnowEx Liqui-Max High Volume Liquid Spraying System. This 300-gallon tank system is easy to use. The unit is truck mounted on a 1-ton truck for safe mobility around parking lots and buildings. Fitted with a 100-foot hose reel kit, we can spray sidewalks, steps, and entrances around buildings and grounds of all village owned properties. This truck mounted system also includes a boom sprayer with a spraying width of 8 feet for parking lots, main arteries of streets that we currently maintain and plow. What this brine solution does is it gives us a way of pre salting in liquid form prior to snow events to help make walks, parking lots and mains less slippery and little to no hard pack on surfaces for easier cleanup reducing the amount of salt.

The Village can purchase brine solution directly from Washing County Hwy Dept. in Village of Slinger. The price per gallon is currently 14 cents a gallon. This means no further purchase of a brine mixing machine and no extra testing with trial and error as they mix the brine daily with relative humidity, air temp, ground temp and moisture to have the safest and most effective brine solution on hand. We can go anytime a snow event occurs and up to 11:00 pm for brine. We can pre salt on Friday for a Sunday predicted storm thus saving on overtime and calling in additional crews.

This truck system will be solely operated by a couple employees to dial in our specific needs and precise application as to not waste or spray anything that does not need to be. Once we reach this, we will train all employees on use and safe practices. This will be a great tool to control hard pack on heavily traveled lots, walks, and roads within the village and we can also spray bridge decks at Hickory Ln and Cedar Parkway creating safer travel and giving us a little more time to get to these areas and keeping them clear of snow and ice.

We like to purchase options A and C for a total of \$12,375.00 from Casper's Truck Equipment. The salt is full so the remaining 2021 salt budget amount would be used for the purchase.

Russell Krueger DPW



Appleton	Milwaukee
700 Randolph Drive Appleton, WI 54913 Phone: (920) 687-1111 Fax: (920) 687-1122	12655 W. Silver Spring Rd Butler, WI 53007 Phone: (262) 544-5404 Fax: (800) 261-0383

Account: Village of Jackson
Name: _____
Address: 6034 South Howell Avenue
Jackson WI 53037

Date: 10/1/2021
Email: _____
Phone: (262)677-0707
Note: _____

**** Sales Quotation ****

A. SnowEx Liqui-Maxx High Volume Liquid Sprav System

1. 300 gallon capacity, 320 lb. empty weight, with an overall length of 101"
2. Interchangeable tank, pump, and boom assemblies allow for customizing equipment. Choose between 4 tank sizes and 3 pump/control packages.
3. Unique elliptical tank designs offer low centers of gravity and include sumps for complete draining.
4. Durable, dry-seal pumps have a low-water shutoff that prevents them from running dry, ensuring long-lasting seal performance.
5. Deluxe control works with optional GPS speed sensor to calculate ideal application rate per vehicle speed and automatically adjust flow as needed. Features 3-zone spray capability.
6. The boom includes 3 nozzle sizes on a rotating assembly to adjust spray volume to accommodate speed ranges. Wing nozzles can be manually adjusted for direction and flow control.
7. The Liqui Maxx™ spray system features a filtered Bottom-Fill Port.
8. Pump powered by an electric start Honda gas engine
9. Includes universal mounting kit
10. Installed Complete

Total: \$10,872.00

Options

B. GPS Speed Sensor

1. The GPS sensor is used to communicate vehicle speed back to the control.
2. The system automatically adjusts the flow rate as needed making anti-icing
3. Installed complete

~~Add: \$1,087.00~~

C. Hose Reel Kit

1. Bolts directly to the sprayer frame
2. Includes 100' of hose
3. Installed complete

Add: \$1,503.00

Total with options: ~~\$13,364.00~~ \$12,375.00

Submitted by: Andy Jorgensen

All Sales Tax and FET Tax will be added

Quote firm 30 days

Terms: Net 30

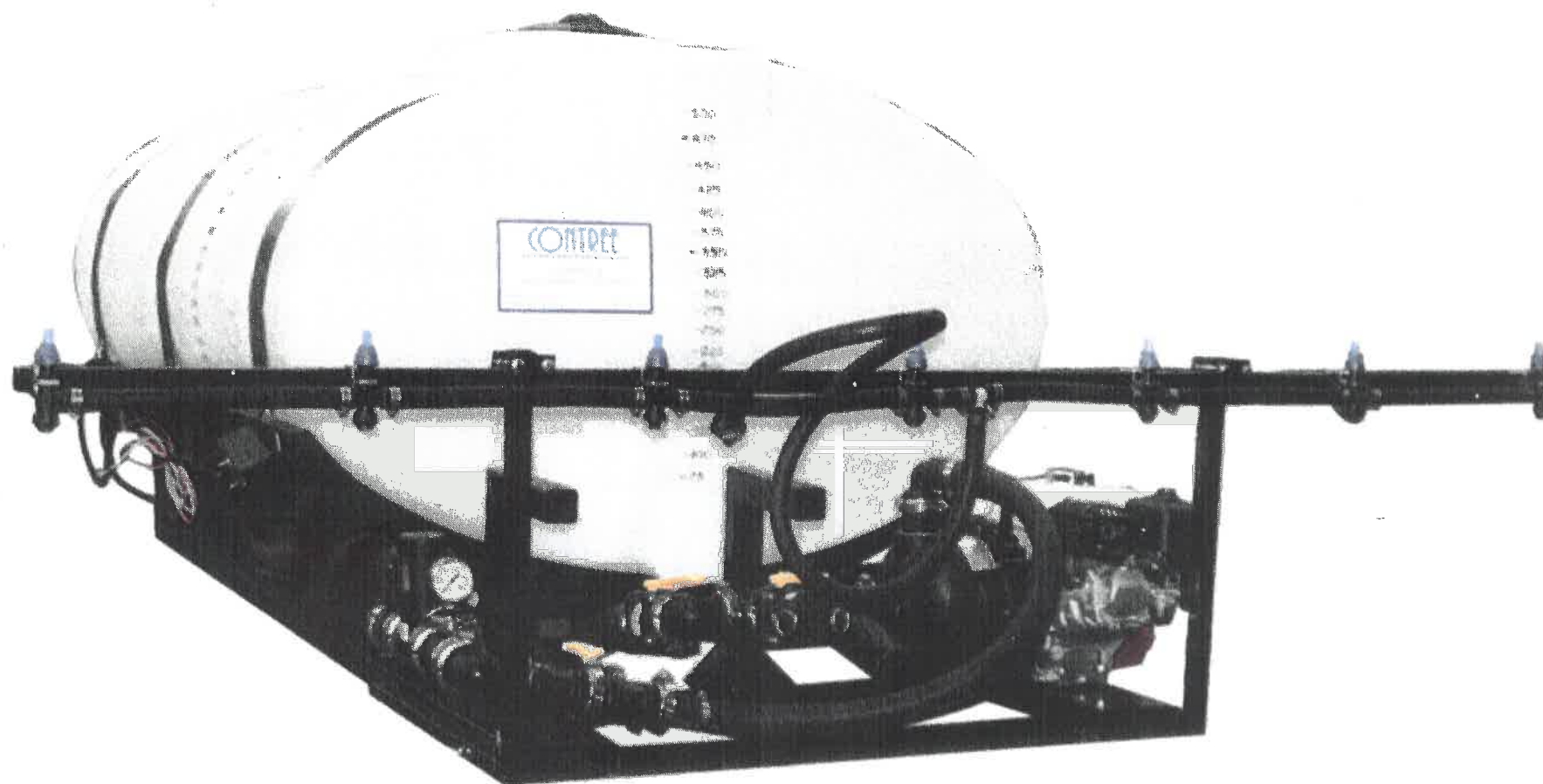
By signing below, I agree that I have read, understood, and will comply with the terms of this quote.

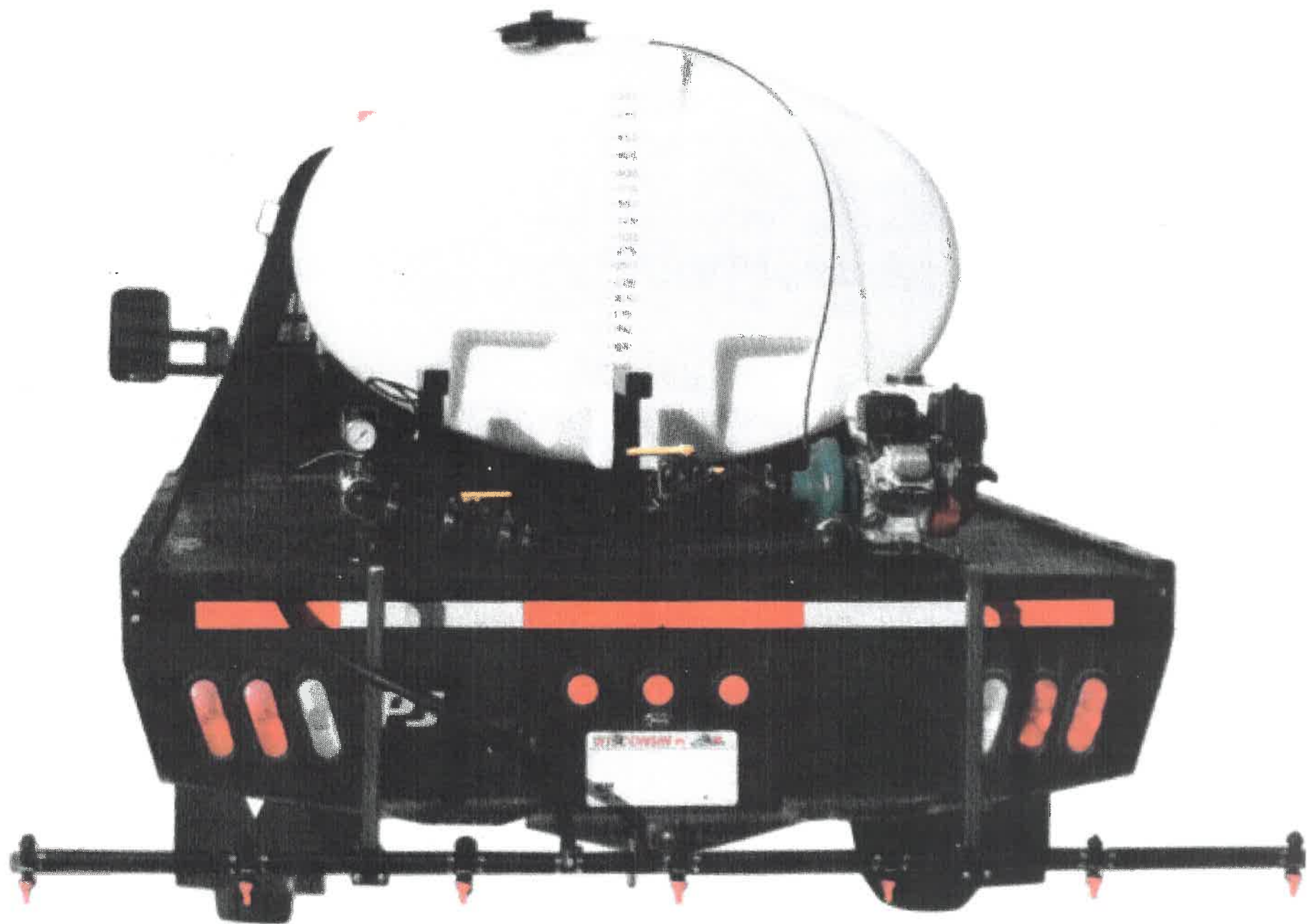
Quote accepted by: _____

Title: _____

Date Accepted: _____

PO# _____





M e m o

e

To: Brian Kober

From: Jeff L. Deitsch

JD

Date: 10/25/2021

m

Re: Final price Jet/Vac Sewer Truck

o

The Jet/Vac truck is scheduled to replace in 2022. This Jet/Vac purchase will come from the DNR replacement fund.

The WWTF staff has demo Six different Jet/Vac Manufactures. The staff found it hard to get an apple-to-apple comparison, so we came up with 22 different specifications to get as close to that comparison on how we use our truck. One big step was to take the chassis out of the comparison to concentrate on the real workings of the jet/vac. The Jet/Vac Manufactures were told that their equipment will be built on a 2022 HV513, 450 Hp International Chassis. The results of the specifications comparison are attached to this memo.

Next, staff investigated the ease of operation and how the jet/Vac manufactures would build their machines to how we used it in the village for the past 20 years. It soon came apparent that two manufacturers stood out and of the two GapVac was the choice of the staff.

Throughout the demos the staff often remark that it would be nice if we could take good ideas from each different manufactures and put it on one machine. GapVax is that manufacturer willing to build the Jet/Vac Truck to how we use the truck.

The Jet/Vac Comparison Truck memo has the apple-to-apple comparison to get a price from all the equipment manufactures. We recommend purchasing a GapVax and Lakeside truck for a price not to exceed \$475,000.

The GapVac Modular body/International Chassis final build price is \$458,376.00 Building and delivery of the truck will take over a year, so we would like to confirm the order this year!

If you have any questions, please do not hesitate to ask.

Jeff

Jeff Deitsch

From: Doug Petsch <dpetsch@lakesidetrucks.com>
Sent: Friday, October 22, 2021 2:40 PM
To: Jeff Deitsch
Subject: NEW TRUCK PPROPOSAL
Attachments: VILLAGE OF JACKSON GAP VAX 1.pdf

Hello Jeff

I just heard back from Bern @ Gap Vax and he did approve the spec with a couple minor changes. I have completed the changes and I am forwarding you the final spec. Please note this chassis is customized to the Village of Jackson's spec and included is a Cummins 6 year, 150,000 miles Engine, Engine Electronics and Aftertreatment warranty.

Please find attached the updated approved spec with pricing. Please review and let me know if you have any questions or comments.

Thanks again for this opportunity!

Doug

Doug Petsch

Fleet Account Executive

Lakeside International Trucks

dpetsch@lakesidetrucks.com

O (262) 629-4600 x2103 | C (262) 305-6440

6510 Aurora Rd. | West Bend | WI | 53090



LAKESIDE
INTERNATIONAL TRUCKS

**INTRODUCING
THE LAKESIDE APP**



ORDER PARTS | SERVICE | SPECIALS



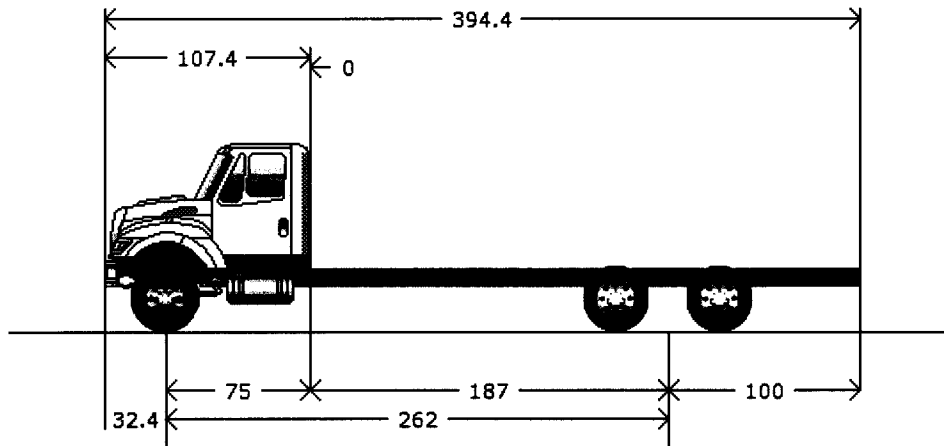
Prepared For:

Village of Jackson
 Jeff L. Deitsch
 N168 W20733 Main Street
 Jackson, WI 53037-
 (262)677 - 9001

Presented By:

LAKESIDE INTL, LLC
 Doug Petsch
 11000 W SILVER SPRING RD
 MILWAUKEE WI 53225 -
 (414)353-4800

Thank you for the opportunity to provide you with the following quotation on a new International truck. I am sure the following detailed specification will meet your operational requirements, and I look forward to serving your business needs.



Model Profile
2023 HV507 SFA (HV507)

AXLE CONFIG:	6X4
MISSION:	Requested GVWR: 64000. Calc. GVWR: 68000. Calc. GCWR: 80000
DIMENSION:	Wheelbase: 262.00, CA: 187.00, Axle to Frame: 100.00
ENGINE, DIESEL:	{Cummins L9 370} EPA 2021, 370HP @ 2100 RPM, 1250 lb-ft Torque @ 1200 RPM, 2100 RPM Governed Speed, 370 Peak HP (Max)
TRANSMISSION, AUTOMATIC:	{Allison 3000 RDS} 5th Generation Controls, Close Ratio, 6-Speed with Double Overdrive, with PTO Provision, Less Retarder, Includes Oil Level Sensor, with 80,000-lb GVW and GCW Max, On/Off Highway
CLUTCH:	Omit Item (Clutch & Control)
AXLE, FRONT NON-DRIVING:	{Meritor MFS-22-133A} Wide Track, I-Beam Type, 22,000-lb Capacity
AXLE, REAR, TANDEM:	{Meritor RT-46-164EH} Single Reduction, Standard Width, 46,000-lb Capacity, Driver Controlled Locking Differential in Forward-Rear and Rear-Rear Axle, 200 Wheel Ends Gear Ratio: 5.63
CAB:	Conventional, Day Cab
TIRE, FRONT:	(2) 425/65R22.5 Load Range L HAC 3 (CONTINENTAL), 465 rev/mile, 68 MPH, All-Position
TIRE, REAR:	(8) 11R22.5 Load Range H HDR2+ (CONTINENTAL), 491 rev/mile, 75 MPH, Drive
SUSPENSION, REAR, AIR, TANDEM:	{Hendrickson PRIMAX EX} 46,000-lb Capacity, 55" Axle Spacing, 9.0" Ride Height, with Shock Absorbers
FRAME REINFORCEMENT:	Full Outer C-Channel, Heat Treated Alloy Steel (120,000 PSI Yield), 10.813" x 3.892" x 0.312" (274.6mm x 98.8mm x 7.9mm), 480.0" (12192mm) OAL
PAINT:	Cab schematic 100WK Location 1: 9219, Winter White (Std) Chassis schematic N/A

<u>Code</u>	<u>Description</u>
HV50700	Base Chassis, Model HV507 SFA with 262.00 Wheelbase, 187.00 CA, and 100.00 Axle to Frame.
1570	TOW HOOK, FRONT (2) Frame Mounted
1572	TOW HOOK, REAR (2)
1AND	AXLE CONFIGURATION {Navistar} 6x4
	<u>Notes</u> : Pricing may change if axle configuration is changed.
1CBU	FRAME RAILS Heat Treated Alloy Steel (120,000 PSI Yield); 10.125" x 3.580" x 0.312" (257.2mm x 90.9mm x 8.0mm); 480.0" (12192) Maximum OAL
1GBP	FRAME REINFORCEMENT Full Outer C-Channel, Heat Treated Alloy Steel (120,000 PSI Yield), 10.813" x 3.892" x 0.312" (274.6mm x 98.8mm x 7.9mm), 480.0" (12192mm) OAL
1LLK	BUMPER, FRONT Omit Item
1MEJ	FRAME, SPECIAL EFFECTS Dimple on Left and Right Top Flange of Frame Rail to Reference Rear Axle Centerline
1WDT	FRAME EXTENSION, FRONT Integral; 20" In Front of Grille, with Outer C-Channel Reinforcement
1WGC	WHEELBASE RANGE 228" (580cm) Through and Including 270" (685cm)
2ATB	AXLE, FRONT NON-DRIVING {Meritor MFS-22-133A} Wide Track, I-Beam Type, 22,000-lb Capacity
3AHL	SUSPENSION, FRONT, SPRING Parabolic Taper Leaf, Shackle Type, 22,000-lb Capacity, Steel Springs 20K Capacity and (2) Rubber Auxiliary Springs 2K Capacity, with Shock Absorbers
4091	BRAKE SYSTEM, AIR Dual System for Straight Truck Applications
	<u>Includes</u> : BRAKE LINES Color and Size Coded Nylon : DRAIN VALVE Twist-Type : GAUGE, AIR PRESSURE (2) Air 1 and Air 2 Gauges; Located in Instrument Cluster : PARKING BRAKE CONTROL Yellow Knob, Located on Instrument Panel : PARKING BRAKE VALVE For Truck : QUICK RELEASE VALVE On Rear Axle for Spring Brake Release: 1 for 4x2, 2 for 6x4 : SPRING BRAKE MODULATOR VALVE R-7 for 4x2, SR-7 with relay valve for 6x4/8x6
4619	TRAILER CONNECTIONS Four-Wheel, with Hand Control Valve and Tractor Protection Valve, for Straight Truck
	<u>Notes</u> : When electronic stability control is ordered with trailer connections on a 4x2 truck, please check the operator manual for trailer weight restrictions.
4AZJ	AIR BRAKE ABS {Bendix AntiLock Brake System} 4-Channel (4 Sensor/4 Modulator) Full Vehicle Wheel Control System, with Automatic Traction Control
4EBT	AIR DRYER {Bendix AD-IP} with Heater
4EXU	BRAKE CHAMBERS, REAR AXLE {Bendix EverSure} 30/30 SqiIn Spring Brake
4EXV	BRAKE CHAMBERS, FRONT AXLE {Bendix} 24 SqiIn
4JDC	AIR DRYER LOCATION Mounted Outside Left Rail, Back of Cab
4LAG	SLACK ADJUSTERS, FRONT {Gunitite} Automatic
4LGG	SLACK ADJUSTERS, REAR {Gunitite} Automatic
4RUJ	AIR SUPPLY, AUXILIARY on Air Reservoir with Glad Hand Connector
4SPA	AIR COMPRESSOR {Cummins} 18.7 CFM

Code	Description
4VKK	AIR TANK LOCATION (2) Mounted Under Battery Box, Outside Right Rail, Back of Cab, Perpendicular to Rail
4WBX	DUST SHIELDS, FRONT BRAKE for Air Cam Brakes
4WDM	DUST SHIELDS, REAR BRAKE for Air Cam Brakes
4WXX	DRAIN VALVE {Bendix DV-2} (1) Automatic, with Heater, with (2) Berg Pull Chains, for Air Tank
4XDL	BRAKES, FRONT {Bendix Spicer ES-165-6X} Air S-Cam Type, Heavy Duty Fabricated Spider, Fabricated Shoe, Single Anchor Pin, Size 16.5" X 6", 23,000-lb Capacity
4XDM	BRAKES, REAR {Bendix Spicer ES-165-7X} Air S-Cam Type, Heavy Duty Fabricated Spider, Fabricated Shoe, Single Anchor Pin, Size 16.5" X 7", 23,000-lb Capacity per Axle
4XEE	PARK BRAKE CHAMBERS, ADDITIONAL (2) Spring Brake Type
5710	STEERING COLUMN Tilting and Telescoping
5CAW	STEERING WHEEL 4-Spoke; 18" Dia., Black
5PUE	STEERING GEAR (2) {Sheppard M100/M90} Dual Power
6DGT	DRIVELINE SYSTEM {Dana Spicer} SPL170 Main Driveline with SPL170 Interaxle Shaft, for 6x4
7BES	AFTERTREATMENT COVER Polished Aluminum
7BLW	EXHAUST SYSTEM Horizontal Aftertreatment System, Frame Mounted Right Side Under Cab, for Single Vertical Tail Pipe, Frame Mounted Right Side Back of Cab
7SDP	ENGINE COMPRESSION BRAKE {Jacobs} for Cummins ISL/L9 Engines; with Selector Switch and On/Off Switch
7WAZ	TAIL PIPE (1) Turnback Type
7WBS	MUFFLER/TAIL PIPE GUARD (1) Bright Stainless Steel
7WCM	EXHAUST HEIGHT 8' 10"
7WZY	SWITCH, FOR EXHAUST 2 Position, Lighted & Latching, On/Off Type, Mounted in IP, Inhibits Diesel Particulate Filter Regeneration as Long as Switch is in On Position
8000	ELECTRICAL SYSTEM 12-Volt, Standard Equipment
	<u>Includes</u>
	: DATA LINK CONNECTOR For Vehicle Programming and Diagnostics In Cab
	: HAZARD SWITCH Push On/Push Off, Located on Instrument Panel to Right of Steering Wheel
	: HEADLIGHT DIMMER SWITCH Integral with Turn Signal Lever
	: PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light
	: STARTER SWITCH Electric, Key Operated
	: STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector
	: TURN SIGNAL SWITCH Self-Cancelling for Trucks, Manual Cancelling for Tractors, with Lane Change Feature
	: WINDSHIELD WIPER SWITCH 2-Speed with Wash and Intermittent Feature (5 Pre-Set Delays), Integral with Turn Signal Lever
	: WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted
	: WIRING, CHASSIS Color Coded and Continuously Numbered
8GHU	ALTERNATOR {Delco Remy 28SI} Brush Type, 12 Volt, 200 Amp Capacity, Pad Mount, with Remote Sense
8HAA	BODY BUILDER WIRING To Rear of Frame, with Stop, Tail, Turn, and Marker Lights Circuits, Ignition Controlled Auxiliary Feed and Ground, Less Trailer Socket
8MSH	BATTERY SYSTEM {Fleetrite} Maintenance-Free, (4) 12-Volt 2640CCA Total, Top Threaded Stud
8RMZ	SPEAKERS (2) 6.5" Dual Cone Mounted in Both Doors, (2) 5.25" Dual Cone Mounted in Both B-Pillars

<u>Code</u>	<u>Description</u>
8RPR	ANTENNA for Increased Roof Clearance Applications
8RPS	RADIO AM/FM/WB/Clock/Bluetooth/USB Input/Auxiliary Input
8THB	BACK-UP ALARM Electric, 102 dBA
8VAY	HORN, ELECTRIC Disc Style
8VUJ	BATTERY BOX Steel, with Plastic Cover, 18" Wide, 2-4 Battery Capacity, Mounted Right Side Back of Cab
8WBW	JUMP START STUD Remote Mounted
8WGD	SOLENOID, AIR for Customer Use; Provides (4) Normally Closed Pilot Air Source, Approx. 4 CFM, Includes Latched Switch in Cab; Air Available Only with Key in "Ignition" or "Accessory" Position; Air Will Exhaust with Key in "Off" Position
8WGL	WINDSHIELD WIPER SPD CONTROL Force Wipers to Slowest Intermittent Speed When Park Brake Set and Wipers Left on for a Predetermined Time
8WPH	CLEARANCE/MARKER LIGHTS (5) {Truck Lite} Amber LED Lights, Flush Mounted on Cab or Sunshade
8WPZ	TEST EXTERIOR LIGHTS Pre-Trip Inspection will Cycle all Exterior Lamps Except Back-up Lights
8WRB	HEADLIGHTS ON W/WIPERS Headlights Will Automatically Turn on if Windshield Wipers are turned on
8WTL	STARTING MOTOR {Delco Remy 39MT} 12 Volt, Gear Reduced, with Thermal Over-Crank Protection
8WWJ	INDICATOR, LOW COOLANT LEVEL with Audible Alarm
8WXD	ALARM, PARKING BRAKE Electric Horn Sounds in Repetitive Manner When Vehicle Park Brake is "NOT" Set, with Ignition "OFF" and any Door Opened
8XAH	CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III with Trip Indicators, Replaces All Fuses
8XGT	TURN SIGNALS, FRONT Includes LED Side Turn Lights Mounted on Fender
8XHN	HORN, AIR Single Trumpet, Black, with Lanyard Pull Cord
8XNY	HEADLIGHTS Halogen
9585	FENDER EXTENSIONS Rubber
9AAB	LOGOS EXTERIOR Model Badges
9AAE	LOGOS EXTERIOR, ENGINE Badges
9ANG	HOOD, HATCH (01) for Servicing
9HAN	INSULATION, UNDER HOOD for Sound Abatement
9HBM	GRILLE Stationary, Chrome
9HBN	INSULATION, SPLASH PANELS for Sound Abatement
9WAC	BUG SCREEN Mounted Behind Grille
9WBC	FRONT END Tilting, Fiberglass, with Three Piece Construction, for WorkStar/HV
10022	CHASSIS COATING Corrosion Resistant E-Coat Primer Coating for Reinforced Frame Rails
10060	PAINT SCHEMATIC, PT-1 Single Color, Design 100
	<u>Includes</u>
	: PAINT SCHEMATIC ID LETTERS "WK"
10761	PAINT TYPE Base Coat/Clear Coat, 1-2 Tone
10BAE	LABEL, DEF "DEF ONLY"

<u>Code</u>	<u>Description</u>
10SLV	PROMOTIONAL PACKAGE Government Silver Package
10WCY	SAFETY TRIANGLES
10XAN	FIRE EXTINGUISHER 5 lb Class A B C
10XAP	FIRE EXTINGUISHER BRACKET Mounted Left Side Driver Seat
11001	CLUTCH Omit Item (Clutch & Control)
12703	ANTI-FREEZE Red, Extended Life Coolant; To -40 Degrees F/ -40 Degrees C, Freeze Protection
12ESR	ENGINE, DIESEL {Cummins L9 370} EPA 2021, 370HP @ 2100 RPM, 1250 lb-ft Torque @ 1200 RPM, 2100 RPM Governed Speed, 370 Peak HP (Max)
12THT	FAN DRIVE {Horton Drivemaster} Two-Speed Type, Direct Drive, with Residual Torque Device for Disengaged Fan Speed
	<u>Includes</u> : FAN Nylon
12UWY	RADIATOR Aluminum, Cross Flow, Front to Back System, 1228 SqIn, with 1167 SqIn Charge Air Cooler
	<u>Includes</u> : DEAERATION SYSTEM with Surge Tank : HOSE CLAMPS, RADIATOR HOSES Gates Shrink Band Type; Thermoplastic Coolant Hose Clamps : RADIATOR HOSES Premium, Rubber
12VBG	AIR CLEANER Dual Element, with Integral Pre-Cleaner
12VJC	EMISSION, CALENDAR YEAR {Cummins L9} EPA, OBD and GHG Certified for Calendar Year 2022
12VXT	THROTTLE, HAND CONTROL Engine Speed Control; Electronic, Stationary, Variable Speed; Mounted on Steering Wheel
12WBR	FAN OVERRIDE Manual; with Electric Switch on Instrument Panel, (Fan On with Switch On)
12WZJ	CARB IDLE COMPLIANCE Low NOx Idle Engine, Complies with California Clean Air Regulations; Includes "Certified Clean Idle" Decal located on Driver Door
12WZY	CARB EMISSION WARR COMPLIANCE for Cummins L9 Engines
12XBM	ENGINE CONTROL, REMOTE MOUNTED Provision for; Includes Wiring for Body Builder Installation of PTO Controls and Starter Lockout, with Ignition Switch Control, for Cummins B6.7 and L9 Engines
13AVR	TRANSMISSION, AUTOMATIC {Allison 3000 RDS} 5th Generation Controls, Close Ratio, 6-Speed with Double Overdrive, with PTO Provision, Less Retarder, Includes Oil Level Sensor, with 80,000-lb GVW and GCW Max, On/Off Highway
13WAW	OIL COOLER, AUTO TRANSMISSION {Modine} Water to Oil Type
13WET	TRANSMISSION SHIFT CONTROL Column Mounted Stalk Shifter, Not for Use with Allison 1000 & 2000 Series Transmission
13WLP	TRANSMISSION OIL Synthetic; 29 thru 42 Pints
13WUH	ALLISON SPARE INPUT/OUTPUT for Rugged Duty Series (RDS), Airport Refueler, Sewer Evac, Package Number 150
13WVV	NEUTRAL AT STOP Allison Transmission Shifts to Neutral When Service Brake is Depressed and Vehicle is at Stop; Remains in Neutral Until Service Brake is Released
13WYU	SHIFT CONTROL PARAMETERS {Allison} 3000 or 4000 Series Transmissions, Performance Programming
13XAM	PTO LOCATION Dual, Customer Intends to Install PTO at Left and/or Right Side of Transmission

<u>Code</u>	<u>Description</u>
14HRC	AXLE, REAR, TANDEM {Meritor RT-46-164EH} Single Reduction, Standard Width, 46,000-lb Capacity, Driver Controlled Locking Differential in Forward-Rear and Rear-Rear Axle, 200 Wheel Ends . Gear Ratio: 5.63
	<u>Notes</u> : Axle Lead Time is 45 Days
14UNX	SUSPENSION, REAR, AIR, TANDEM {Hendrickson PRIMAAAX EX} 46,000-lb Capacity, 55" Axle Spacing, 9.0" Ride Height, with Shock Absorbers
14WBN	DIFF. SWITCH CONTROLS Two Independent Switches for Control Traction Differentials on Tandem Rear Axles, Mounted on Dash
14WMK	AXLE, REAR, LUBE {EmGard FE-75W-90} Synthetic Oil; 65 thru 89.99 Pints
15924	FUEL TANK STRAPS Bright Finish Stainless Steel
15BAA	DEF TANK COVER Stainless Steel
15DYP	DEF TANK 9.5 US Gal (36L) Capacity, Frame Mounted Outside Left Rail, Under Cab
15LMA	LOCATION FUEL/WATER SEPARATOR Mounted Outside Left Rail, 15" Back of Cab
15LNG	FUEL/WATER SEPARATOR {Davco 245} 12 VDC Electric Heater, Includes Pre-Heater, Includes Water-in-Fuel Sensor
15SWD	FUEL TANK Top Draw, Polished Aluminum, 26" Dia, 80 US Gal (303L), Mounted Left Side, Under Cab
15WCS	FUEL COOLER Less Thermostat; Mounted in Front of Cooling Module
16030	CAB Conventional, Day Cab
16ATC	AUTOMATIC CLIMATE CONTROL Automatically Maintains Cabin Comfort Based on Selected Temperature
16BAM	AIR CONDITIONER with Integral Heater and Defroster
16GEG	GAUGE CLUSTER Premium Level; English with English Electronic Speedometer
	<u>Includes</u> : GAUGE CLUSTER DISPLAY: Base Level (3" Monochromatic Display), Premium Level (5" LCD Color Display); Odometer, Voltmeter, Diagnostic Messages, Gear Indicator, Trip Odometer, Total Engine Hours, Trip Hours, MPG, Distance to Empty/Refill for : GAUGE CLUSTER Speedometer, Tachometer, Engine Coolant Temp, Fuel Gauge, DEF Gauge, Oil Pressure Gauge, Primary and Secondary Air Pressure : WARNING SYSTEM Low Fuel, Low DEF, Low Oil Pressure, High Engine Coolant Temp, Low Battery Voltage (Visual and Audible), Low Air Pressure (Primary and Secondary)
16HGH	GAUGE, OIL TEMP, AUTO TRANS for Allison Transmission
16HHE	GAUGE, AIR CLEANER RESTRICTION {Filter-Minder} with Black Bezel, Mounted in Instrument Panel
16HKT	IP CLUSTER DISPLAY On Board Diagnostics Display of Fault Codes in Gauge Cluster
16JNT	SEAT, DRIVER {National 2000} Air Suspension, High Back with Integral Headrest, Vinyl, Isolator, 1 Chamber Lumbar, with 2 Position Front Cushion Adjust, -3 to +14 Degree Angle Back Adjust
16RPV	SEAT, PASSENGER {National 2000} Air Suspension, High Back with Integral Headrest, Vinyl, Isolated, 1 Chamber Lumbar, 2 Position Front Cushion Adjustment, -3 to +14 Degree Back Adjust
16SEE	GRAB HANDLE, EXTERIOR Chrome, Towel Bar Type, with Anti-Slip Rubber Inserts, for Cab Entry Mounted Left Side at B-Pillar
16SJX	MIRROR, CONVEX, HOOD MOUNTED {Lang Mekra} (2) Right and Left Sides, Bright, Heated, 7.5" Sq.
16SNV	MIRRORS (2) Aero Pedestal, Power Adjust, Heated, Turn Signals, Bright Heads, Black Arms, 6.5" x 14" Flat Glass, Includes 6.5" x 6" Convex Mirrors, for 102" Load Width

Notes

<u>Code</u>	<u>Description</u>
	: Mirror Dimensions are Rounded to the Nearest 0.5"
16SNX	MIRROR, CONVEX, LOOK DOWN Right Side, Bright, 6" x 10.5"
16VCC	SEAT BELT All Orange; 1 to 3
16VKK	CAB INTERIOR TRIM Diamond, for Day Cab
	<u>Includes</u>
	: CONSOLE, OVERHEAD Molded Plastic with Dual Storage Pockets, Retainer Nets and CB Radio Pocket; Located Above Driver and Passenger
	: DOME LIGHT, CAB Door Activated and Push On-Off at Light Lens, Timed Theater Dimming, Reading Lights; Integral to Overhead Console, Center Mounted
	: SUN VISOR (3) Padded Vinyl; 2 Moveable (Front-to-Side) Primary Visors, Driver Side with Vanity Mirror and Toll Ticket Strap, plus 1 Auxiliary Visor (Front Only), Driver Side
16VZB	SEAT BELT COMFORT CLIP
16WBY	ARM REST, RIGHT, DRIVER SEAT
16WBZ	ARM REST, LEFT, PASSENGER SEAT
16WJU	WINDOW, POWER (2) and Power Door Locks, Left and Right Doors, Includes Express Down Feature
16WLS	FRESH AIR FILTER Attached to Air Intake Cover on Cowl Tray in Front of Windshield Under Hood
16WSK	CAB REAR SUSPENSION Air Bag Type
16XJP	INSTRUMENT PANEL Wing Panel
16XWD	SUNSHADE, EXTERIOR Aerodynamic, Painted Roof Color, with Integral Clearance/Marker Lights
16ZJA	ACCESS, CAB Aluminum, Self-Cleaning, Open and Serrated Design, Driver & Passenger Sides, Two Steps per Door, for use with Day Cab, Extended Cab or Sleeper Cab
16ZPH	FLOOR, COATING LINE-X, Applied to Interior Cab Floor
27DBA	WHEELS, FRONT {Accuride 29374} DISC; 22.5x12.25 Rims, Extra Polish Aluminum, 10-Stud, 285.75mm BC, Hub-Piloted, Flanged Nut, with Steel Hubs
28DVP	WHEELS, REAR {Accuride 42644} DUAL DISC; 22.5x8.25 Rims, Extra Polish Aluminum, 10-Stud, 285.75mm BC, Hub-Piloted, Flanged Nut, with Steel Hubs
29AEM	BRAKE DRUMS, FRONT {Webb} Cast HD, Size 16.5" x 6"
29PBS	COATING IDENTITY, REAR WHEELS {Accuride Accu-Shield} Disc Rear Wheels, Aluminum, with Vendor Applied Clear Coat, Not for Super Single/Wide Base
29PBX	COATING IDENTITY, FRONT WHEELS {Accuride Accu-Shield} Disc Front Wheels, Aluminum, with Vendor Applied Clear Coat, for Wide Base
29WLK	WHEEL BEARING, FRONT, LUBE {EmGard FE-75W-90} Synthetic Oil
60AAB	BDY INTG, REMOTE POWER MODULE (2) Mounted Under Cab or On Battery Box, Up to 6 Outputs & 6 Inputs Each, Max 20 amp per Channel, Max 80 amp Total; Includes 2 Switch Packs with Latched Switches
60ABN	BDY INTG, RPM I/O HARNESS Includes Two Harnesses with Six Input Blunt Cut Wires and Six Output Blunt Cut Wires, for use with Two RPM
60ACW	BDY INTG, I/O EXP HARNESS (for Diamond Logic Builder) In-Cab wire harness (DLB) program only, Includes a harness with five blunt cut wires routed on lower left of instrument panel. Two ground active inputs and two (.5Amp) relay drivers outputs are provided
7382135444	(8) TIRE, REAR 11R22.5 Load Range H HDR2+ (CONTINENTAL), 491 rev/mile, 75 MPH, Drive
7752665441	(2) TIRE, FRONT 425/65R22.5 Load Range L HAC 3 (CONTINENTAL), 465 rev/mile, 68 MPH, All-Position

<u>Code</u>	<u>Description</u>
	Cab schematic 100WK
	Location 1: 9219, Winter White (Std)
	Chassis schematic N/A
	Services Section:
40128	WARRANTY Standard for HV507, HV50B, HV607 Models, Effective with Vehicles Built July 1, 2017 or Later, CTS-2025A
40UWN	SRV CONTRACT, EXT CMS ENG/AFTR {Cummins} To 72-Month/150,000 Miles (240,000 km), Extended Cummins L9 Engine Coverage, Protection Plan 1 and Aftertreatment, (Truck Application Only) << For Use with CARB Emission Warranty >>

<u>Description</u>	(US DOLLAR)	<u>Price</u>
Net Sales Price:		\$122,876.00

Please feel free to contact me regarding these specifications should your interests or needs change. I am confident you will be pleased with the quality and service of an International vehicle.

Approved by Seller:

Official Title and Date

Authorized Signature

This proposal is not binding upon the seller without
Seller's Authorized Signature

Accepted by Purchaser:

JACKSON SEWER UTILITY

Firm or Business Name
10/25/2021

Authorized Signature and Date

Brian W. Kober

Director of Public Works 10/25/2021

Official Title and Date

The TOPS FET calculation is an estimate for reference purposes only. The seller or retailer is responsible for calculating and reporting/paying appropriate FET to the IRS.

The limited warranties applicable to the vehicles described herein are Navistar, Inc.'s standard printed warranties which are incorporated herein by reference and to which you have been provided a copy and hereby agree to their terms and conditions.

Quotation



P.O. Box 356 - Johnson Creek, WI 53038
Phone: 888-699-2848 - Fax: 920-699-2847

A Waste & Recycling Equipment Management Company

Quotation For:

Village of Jackson - Water Utility

Village of Jackson - Water Utility
W194 N16660 Eagle Drive
Jackson, WI 53037

Attention To: Jeff Deitsch

Make: GapVax

Model: MC 1511

Payment Terms : Due on Receipt

Date : 10/22/2021

Quotation # : 23026

Customer ID: 5,559

Store No. :

Quotation valid until: 11/1/2021

Prepared by : Todd Berg

Salesperson : Todd Berg

Serial No. : To Be Determined

Comments or Special Instructions

Quote for a 2022 GapVax Model# MC 1511 Modular body only no chassis is figured in this quote
Village of Jackson is responsible for supplying the chassis for the GapVax MC 1511. GapVax will supply chassis spec's upon
being awarded

the bid. Village of Jackson is responsible for delivering chassis to GapVax factory in Johnstown PA.

JWR will be responsible for delivering the MC 1511 to the Village of Jackson upon completion at the factory in Johnstown PA
and will provide a one day training on the MC 1511 at the time of delivery.

MC 1511 Spec's attached

Village of Jackson will be responsible for all state and local taxes, license, title, and registration fees

No FET Tax is figured in this quote.

A second fill station is figured in quote (With an addition site tube

Qty	PartNumber	Description	UnitPrice	Tax	LineTotal
1.00		2022 MC 1511 Modular body only (CHASSIS NOT INCLUDED ON QUOTE)	\$335,500.00	Yes	\$335,500.00
1.00		Option 400,000 BTU STAINLESS HORIZONTAL BURNER SYSTEM RATE TO 4250 PSI (Add \$17,259.00 to total if chosen)	\$0.00	Yes	\$0.00
1.00		Option Heated Stainless tool box (Add \$6,187.50 to total if chosen)	\$0.00	Yes	\$0.00
1.00		Optional Stainless Steel debris body with Stainless Baffles (Add \$22,900.00 to total if chosen)	\$0.00	Yes	\$0.00

NOTES :

Stock color is figured in quote
Custom color will be an additional charge
Any questions contact Todd Berg at JWR 715-299-1056 or email tberg@jwrinc.com

SUBTOTAL	\$335,500.00
SHIPPING	\$0.00
OTHER	\$0.00
TAX RATE	0.000
SALES TAX	\$0.00
TOTAL	\$335,500.00

Qty	PartNumber	Description	UnitPrice	Tax	LineTotal
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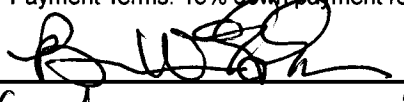
THANK YOU FOR YOUR BUSINESS!

*Freight is offered as a convenience and is subject to change at the time of order as is steel surcharge .

*Lead time: _16_ to _18_ weeks upon chassis arriving at GapVax factory Johnstown PA

Payment Terms: 15% down payment required remaining balance due at time of delivery

Quotation approved by :

 , Brian W. Kozek

Date :

10/25/2021

PREPARED BY

GapVax, Inc.

Todd Berg

PREPARED FOR

Jeff Dietsch

Village of Jackson
N168 W20733 Main street
Jackson WI 53037

QUOTE

GapVax



458,376

QUOTE ID
21392 REV 2

UPDATED:
07/2021

October 22, 2021



NOTE: THE GAPVAX MC UNIT MAY EXCEED FEDERAL BRIDGE ALLOWABLE WEIGHTS WHEN LOADED WITH WATER, OR DEBRIS, AND/OR BOTH WATER AND DEBRIS COMBINED. PLEASE CONSULT FACTORY.

OPTION DESCRIPTION		NOTES	QTY
CHASSIS OPTIONS			
CHA001	CUSTOMER SUPPLIED CHASSIS	MODEL YEAR 2023	1
	WHITE CAB COLOR		1
DEBRIS BODY OPTIONS			
STD	11 USABLE YARD DEBRIS TANK MADE OF 3/16" ASTM A-572 GRADE 50 EXTEN STEEL		STANDARD
STD	FULL-OPENING REAR TAILGATE		STANDARD
STD	STAINLESS STEEL TAILGATE SEALING ROD		STANDARD
STD	FOUR HYDRAULIC REAR DOOR LOCKS		STANDARD
STD	DUAL TAILGATE LIFT CYLINDERS		STANDARD
STD	FRONT MOUNTED HOIST CYLINDER, POWER UP AND DOWN, 55,000 LB CAPACITY		STANDARD
STD	THREE TIE-OFF ANCHORS ON TOP OF BODY		STANDARD
STD	FIVE YEAR WARRANTY ON DEBRIS TANK AGAINST RUST THROUGH, DISTORTION AND CRACKS		STANDARD
STD	THREE TIE-OFF ANCHORS ON TOP OF THE BODY 6' APART		STANDARD
A1	DEBRIS BODY FLUSH OUT SYSTEM		1
A2A	DRAIN AT BOTTOM OF TAILGATE - 6" BRASS LEVER VALVE WITH 15' OF LAYFLAT HOSE	VALVE IS NOT 100% LEAK PROOF	1
A3-CS	FLOAT TYPE LIQUID LEVEL INDICATOR ON SIDE OF DEBRIS TANK		1
A6A	TRASH PUMP - STANLEY 4" 800 GPM WITH LAY-FLAT HOSE AND CAM-LOC FITTINGS	NOT RECOMMENDED FOR CONTINUOUS USE	1
A12A	FILTER SCREEN FOR DRAIN VALVE (LONG BOX)	REQUIRES A2	1
A12B	FILTER SCREEN FOR PUMP OFF SYSTEM (LONG BOX)	REQUIRES A5 OR A6	1
A17	UPGRADE TO STAINLESS STEEL DEBRIS TANK		1
A21	CURBSIDE LADDER TO PORT INSPECTION AREA		1
A21B	ADD FOLDING LADDER EXTENSION	REQUIRES A21	1
A22A	GALVANIZED BOLT ON TAILGATE SPLASH SHIELDS		1
A34B	UPGRADE DEBRIS BODY BAFFLE TO STAINLESS STEEL		1
A37A	UPGRADE BODY INLET CANNON TO 12" HX STYLE WITH 3" CLEANOUT		1
WATER TANK OPTIONS			
STD	1500 GALLON WATER TANK MADE OF 3/16" 304 STAINLESS STEEL		STANDARD
STD	4" HIGH ANTI-SIPHON RING WITH (4) 2-1/2" HOLES		STANDARD
STD	WATER TANK LEVEL SIGHT TUBE ON CURBSIDE		STANDARD
STD	DRAIN VALVE AT BOTTOM OF WATER TANK		STANDARD
STD	3" FILL LINE WITH 2-1/2" FIRE HOSE CONNECTION CURBSIDE		STANDARD

STD	3" WATER STRAINER WITH STAINLESS STEEL SCREEN ON WATER TANK FILL LINE	STANDARD
STD	3" SUPPLY LINE TO WATER PUMP MOUNTED AT REAR HINGE PIN	STANDARD
STD	FIVE YEAR WARRANTY ON WATER TANK AGAINST RUST THROUGH, DISTORTION AND CRACKS	STANDARD
	ADDITIONAL 3" WATER LINE FILL ON DRIVER'S SIDE CONSULT ENGINEERING	1
	STAINLESS BAFFLES IN THE WATER TANK	1
B30	UPGRADE TO BUTTERFLY VALVE IN 3" SUPPLY LINE	STANDARD
VACUUM SYSTEM OPTIONS		
STD	TRUE 8" DIAMETER VACUUM SYSTEM	STANDARD
STD	VACUUM PUMP DRIVEN VIA MID-SHIP MOUNTED SPLIT SHAFT TRANSFER CASE GEARBOX (PTO)	STANDARD
STD	NOISE & VIBRATION DAMPENING MOUNTS ON VACUUM PUMP AND TRANSFER CASE	STANDARD
STD	NOISE ATTENUATED VACUUM PUMP DISCHARGE SILENCER WITH RAIN CAP AND DRAIN	STANDARD
STD	24" CENTRIFUGAL CYCLONE SEPARATOR WITH 20" CHAMBER	STANDARD
STD	DUAL STAINLESS STEEL SHUTOFF FLOAT BALLS MOUNTED AT THE REAR OF DEBRIS TANK	STANDARD
STD	STAINLESS STEEL VEE-WIRE SAFETY SCREEN	STANDARD
STD	6" SAFETY VACUUM RELIEF	STANDARD
STD	PANIC SWITCH FUNCTION FOR VACUUM	STANDARD
C8	UPGRADE TO ROOTS TYPE VACUUM PUMP 4,500 CFM AND 18" HG (4) 18" Hg VACUUM RELIEF VALVES	1
WATER SYSTEM OPTIONS		
STD	TRI-PLEX WATER PUMP SYSTEM	STANDARD
STD	800 PSI WASHDOWN CIRCUIT WITH 50' X 1/2" HOSE	STANDARD
STD	AIR PURGE SYSTEM FOR PRIMARY CIRCUIT	STANDARD
STD	LOW POINT DRAIN VALVES ON WATER LINES	STANDARD
D3A	GIANT GP8000 SERIES WATER PUMP RATED 80 GPM @ 2,500 PSI	1
D27A	10 GPM / 2,500 PSI HYDRAULICALLY DRIVEN PUMP (COMMON WITH BODY HYDRAULIC SYSTEM) REQUIRES OPTION J303 HYDRAULIC OIL COOLER	1
D7A	50' X 1/2" HAND GUN REEL FOR WASHDOWN CIRCUIT	1
D7B	50' X 1/2" HAND GUN REEL FOR HX CIRCUIT	1
D18	AIR OUT SYSTEM FOR HX CIRCUIT	1
D21	WATER RECIRCULATION VIA AUTOMATIC TRANSMISSION	1
BOOM OPTIONS		
STD	8" FRONT MOUNTED TELESCOPING BOOM WITH 26' REACH AND 180 DEG. ROTATION	STANDARD
STD	180 DEGREE POWER ROTATION VIA WORM DRIVE	STANDARD
STD	DUAL 4" LIFT CYLINDERS	STANDARD
STD	CAB PROTECTION RACK	STANDARD
E6	REMOTE LUBE FOR BOOM LIFT AND ROTATION	1
E7	3/16" HEAVY DUTY BOOM ELBOW WITH 6" FORMED CHANNEL RADIUS	1
HOSE REEL OPTIONS		
STD	FRONT FRAME MOUNTED HOSE REEL WITH 180 DEGREE ARTICULATION	STANDARD
STD	HOSE REEL RATED FOR 800' OF HOSE AND 3,000 PSI	STANDARD
STD	EXTERIOR HOSE EXPANSION RIBS	STANDARD
F1C	DIGITAL FOOTAGE COUNTER - SHAFT-MOUNTED	1
F6	UPGRADE FRONT HOSE REEL TO POWER ARTICULATE VIA HYDRAULICS	1

F11	AUTOMATIC HOSE LEVEL WINDER (INCLUDES "J-HOOK" STYLE HOSE GUIDE)		1
F16A	DOUBLE ROLLER UPGRADE ON AUTO LEVEL WIND		1
F17	HOSE TENSIONER	CONSULT ENGINEERING	1
CONTROLS, GAUGES, ACCESSORIES OPTIONS			
STD	CAB-MOUNTED AIR SHIFT CONTROLS FOR BLOWER, HYDRAULICS, AND WATER PUMP		STANDARD
STD	CONTROL PANEL MOUNTED AT FRONT HOSE REEL		STANDARD
STD	OPERATOR CONTROL PANEL INCLUDES GAUGES FOR ENGINE, HYDRAULICS, VACUUM, AND WATER PUMP		STANDARD
STD	PANIC SWITCH TO RELIEVE WATER PRESSURE AND VACUUM		STANDARD
STD	30' PENDANT REMOTE WITH BOOM FUNCTIONS		STANDARD
G6C	INTERNATIONAL DIAMOND LOGIC CONTROLS SYSTEM		1
G2B	G2B CONTROL SYSTEM WITH DM430 DISPLAY INCLUDES:		1
	LOW WATER SHUTDOWN PROTECTION		1
	HIGH WATER TEMPERATURE SHUTDOWN PROTECTION		1
	ENGINE OVERSPEED PROTECTION		1
	ON-SCREEN DIAGNOSTICS FOR WATER, PTO AND ENGINE LEVELS		1
G4	HIGH DEBRIS LEVEL LIGHT & ALARM	REQUIRES A3	1
G21E	WIRELESS REMOTE WITH BOOM, VACUUM WATER ON/OFF, HOSE REEL IN/OUT, HOSE REEL ROTATE (IF F6 IS SELECTED), AND BODY DUMP CONTROLS	REQUIRES G21-TD	1
G21-TD	UPGRADE TO AARCOMM TRIDENT REMOTE	REQUIRES G21	1
G28	ADD BODY DUMP CONTROLS TO WIRELESS REMOTE	REQUIRES OPTION G19	1
LIGHTING			
STD	TRUCK-LITE LED RUNNING (MARKER) LIGHTS		STANDARD
STD	LED STOP/TAIL/TURN LIGHT WITH POLISHED STAINLESS STEEL BOXES		STANDARD
H1	ONE LED STROBE BEACON LIGHT - FRONT (SAE CLASS-1 (SAE J595) COMPLIANT)	(WHELEN L10 OR EQUAL)	1
H2	ONE LED STROBE BEACON LIGHT - REAR (SAE CLASS-1 (SAE J595) COMPLIANT)	(WHELEN L10 OR EQUAL)	1
H6C	(2) BOOM WORK LIGHTS - HIGH INTENSITY HELLA PB1500 LED WORK LIGHTS (PN: LHT022406)	POWER BEAM / SPOT LIGHT (RATED 1300 LUMEN EACH)	1
H6B	(2) REAR WORK LIGHTS - HELLA LED WORK LIGHTS (PN: LHT022429)		1
H7B	(3) SIDE WORK LIGHTS - HELLA LED WORK LIGHTS (PN: LHT022429) (2 CURBSIDE, 1 DRIVER'S SIDE)		1
H18C	REAR WHELEN ION SUPER LED FLASHERS - 6 LIGHT HEADS		1
	3 ON EACH SIDE REAR (1 @ 45 DEGREES)		1
H36	REAR ARROW LIGHT - LED 30" X 60" TRAFCON MB315		1
STORAGE OPTIONS			
STD	25' FIRE HOSE BASKET		STANDARD
STD	TWO (2) GALVANIZED STEEL TUBE TRAYS		STANDARD
H9B	48" TOOL BOX - ALUMINUM, 48" WIDE X 24" TALL X 24" DEEP, MOUNTED ON THE CURBSIDE		1
I14	TRAFFIC CONE HOLDER ON DRIVER'S SIDE		1
I26B	TWO BUMPER TOOL BOXES - ALUMINUM, 16" HIGH X 12" WIDE X 18" DEEP WITH FOLD DOWN DOOR		1
CHASSIS OPTIONS			
STD	DOT LIGHTING / FENDERS / MUD FLAPS / TAILGATE SAFETY PROP, ICC LIGHTS		STANDARD
STD	REMOTE ACTUATED BODY SAFETY PROP		STANDARD
STD	70 GALLONS AW-46 HYDRAULIC OIL, LEVEL/TEMPERATURE GAUGE, SHUTOFF ON SUCTION		STANDARD
STD	REAR BUMPER, TRIANGLE KIT, FIRE EXTINGUISHER, BACKUP ALARM		STANDARD

STD	ALLISON 10-BOLT PTO UPGRADE	STANDARD
J0	FRONT BUMPER - MAY NOT BE REQUIRED IN ALL STATES	1
J12	METAL MUD FLAPS IN FRONT OF REAR TIRES	1
J303	ADD HYDRAULIC OIL COOLER TO CIRCUIT	1
PAINT OPTIONS		
STD	PAINTED WITH PPG URETHANE PAINT	STANDARD
STD	PAINT BODY WHITE	STANDARD
STD	PAINT FRAME AND PARTS BLACK	STANDARD
STD	PAINT HOSE REEL AND BOOM BLACK	STANDARD
STD	FLEET FINISH	STANDARD
MISCELLANEOUS OPTIONS		
STD	25 FEET OF VACUUM TUBING (5) AND CLAMPS	STANDARD
STD	TIGER TAIL HOSE GUIDE	STANDARD
STD	TWO BLUE STAR SEWER CLEANING NOZZLES	STANDARD
M0	UPGRADE VACUUM TUBING TO FLAT FLANGE	1
M3	FILL HOSE 25' X 2 1/2"	1
M8G	1" PIRHANA SEWER HOSE - 2,500 PSI X 600 FT PLASTIC (ORANGE) (PN: HOS022393)	1
M28C	THREE CAMERA - BACK-UP CAMERA SYSTEM WITH 7" COLOR MONITOR (RV-505A), INCLUDES DVR-916 REAR AND TWO (2) DVR-920 SIDE CAMERAS. SIDE CAMERAS TO	1
CUSTOM OPTIONS		
**	ADD HX WATER ON/OFF TO WIRELESS REMOTE (MANUAL VALVE TO ISOLATE INACTIVE SYSTEM)	1

Public Works Report

November 30, 2021

Treatment Plant - Designed Capacity – 1.67 million gallons per day
Peak Flow Capacity – 6.0 million gallons per day

Year 2019

January	Avg. Flow 1.270 MGD	Min. Flow 900,000 g.p.d.	Max. 2.660 MGD
February	Avg. Flow 1.229 MGD	Min. Flow 850,000 g.p.d.	Max. 1.980 MGD
March	Avg. Flow 1.379 MGD	Min. Flow 910,000 g.p.d.	Max. 2.790 MGD
April	Avg. Flow 1.483 MGD	Min. Flow 1.020 MGD	Max. 2.660 MGD
May	Avg. Flow 1.542 MGD	Min. Flow 1.320 MGD	Max. 1.960 MGD
June	Avg. Flow 2.144 MGD	Min. Flow 1.300 MGD	Max. 2.700 MGD
July	Avg. Flow 1.251 MGD	Min. Flow 970,000 g.p.d.	Max. 1.850 MGD
August	Avg. Flow 1.098 MGD	Min. Flow 830,000 g.p.d.	Max. 1.470 MGD
September	Avg. Flow 1.253 MGD	Min. Flow 800,000 g.p.d.	Max. 2.050 MGD
October	Avg. Flow 1.699 MGD	Min. Flow 1.060 MGD	Max. 4.010 MGD
November	Avg. Flow 1.499 MGD	Min. Flow 1.14 MGD	Max. 2.26 MGD
December	Avg. Flow 1.372 MGD	Min. Flow 910,000 g.p.d.	Max. 2.14 MGD

Year 2020

January	Avg. Flow 1.280 MGD	Min. Flow 1.055 MGD	Max. 1.720 MGD
February	Avg. Flow 1.221 MGD	Min. Flow 1.000 MGD	Max. 1.630 MGD
March	Avg. Flow 1.581 MGD	Min. Flow 1.010 MGD	Max. 2.290 MGD
April	Avg. Flow 1.283 MGD	Min. Flow 940,000 g.p.d.	Max. 2.210 MGD
May	Avg. Flow 1.607 MGD	Min. Flow 1.010 MGD	Max. 4.090 MGD
June	Avg. Flow 1.178 MGD	Min. Flow 980,000 g.p.d.	Max. 1.510 MGD
July	Avg. Flow 1.269 MGD	Min. Flow 800,000 g.p.d.	Max. 2.370 MGD
August	Avg. Flow 1.042 MGD	Min. Flow 760,000 g.p.d.	Max. 1.510 MGD
September	Avg. Flow 1.148 MGD	Min. Flow 810,000 g.p.d.	Max. 1.850 MGD
October	Avg. Flow 1.172 MGD	Min. Flow 870,000 g.p.d.	Max. 2.210 MGD
November	Avg. Flow 1.122 MGD	Min. Flow 860,000 g.p.d.	Max. 1.770 MGD
December	Avg. Flow 1.164 MGD	Min. Flow 940,000 g.p.d.	Max. 1.480 MGD

Year 2021

January	Avg. Flow 1.075 MGD	Min. Flow 880,000 g.p.d.	Max. 1.460 MGD
February	Avg. Flow 1.015 MGD	Min. Flow 830,000 g.p.d.	Max. 1.590 MGD
March	Avg. Flow 1.525 MGD	Min. Flow 1.160 MGD	Max. 1.970 MGD
April	Avg. Flow 1.264 MGD	Min. Flow 1.020 MGD	Max. 1.950 MGD
May	Avg. Flow 1.108 MGD	Min. Flow 880,000 g.p.d.	Max. 1.450 MGD
June	Avg. Flow 1.091 MGD	Min. Flow 810,000 g.p.d.	Max. 1.670 MGD
July	Avg. Flow 983,226 g.p.d.	Min. Flow 780,000 g.p.d.	Max. 1.410 MGD
August	Avg. Flow 1.281 MGD	Min. Flow 800,000 g.p.d.	Max. 2.530 MGD
September	Avg. Flow 932,333 g.p.d.	Min. Flow 710,000 g.p.d.	Max. 1.170 MGD
October	Avg. Flow 930,000 g.p.d.	Min. Flow 770,000 g.p.d.	Max. 1.140 MGD

Years Summary of Water Consumption

2006 Total Pumpage 207,719,000 gallons	2007 Total Pumpage 217,224,000 gallons
2008 Total Pumpage 229,613,000 gallons	2009 Total Pumpage 231,160,000 gallons
2010 Total Pumpage 239,326,000 gallons	2011 Total Pumpage 240,268,000 gallons
2012 Total Pumpage 253,492,000 gallons	2013 Total Pumpage 228,371,000 gallons
2014 Total Pumpage 230,973,000 gallons	2015 Total Pumpage 222,621,000 gallons
2016 Total Pumpage 254,531,000 gallons	2017 Total Pumpage 251,387,000 gallons
2018 Total Pumpage 241,322,000 gallons	2019 Total Pumpage 253,427,000 gallons
2020 Total Pumpage 259,413,000 gallons	

Year 2019

Jan.	Avg.	638,230 g.p.d.	Highest Day 791,000 gals.	Total	19,785,000 gallons
Feb.	Avg.	605,820 g.p.d.	Highest Day 758,000 gals.	Total	16,963,000 gallons
March	Avg.	616,230 g.p.d.	Highest Day 946,000 gals.	Total	19,103,000 gallons
April	Avg.	697,800 g.p.d.	Highest Day 1.112 MGD	Total	20,934,000 gallons
May	Avg.	707,810 g.p.d.	Highest Day 889,000 gals.	Total	21,942,000 gallons
June	Avg.	766,200 g.p.d.	Highest Day 969,000 gals.	Total	22,986,000 gallons
July	Avg.	843,710 g.p.d.	Highest Day 1.174 MGD	Total	26,155,000 gallons
August	Avg.	747,230 g.p.d.	Highest Day 1.061 MGD	Total	23,164,000 gallons
Sept	Avg.	689,300 g.p.d.	Highest Day 830,000 gals.	Total	20,679,790 gallons
Oct.	Avg.	696,520 g.p.d.	Highest Day 1.116 MGD	Total	21,592,000 gallons
Nov.	Avg.	643,970 g.p.d.	Highest Day 830,000 gals.	Total	19,319,000 gallons
Dec.	Avg.	671,100 g.p.d.	Highest Day 875,000 gals.	Total	20,805,000 gallons

Year 2020

Jan.	Avg.	662,650 g.p.d.	Highest Day 769,000 gals.	Total	20,542,000 gallons
Feb	Avg.	682,280 g.p.d.	Highest Day 886,000 gals.	Total	19,786,000 gallons
March	Avg.	702,030 g.p.d.	Highest Day 837,000 gals.	Total	21,763,000 gallons
April	Avg.	731,070 g.p.d.	Highest Day 1.153 MGD	Total	21,932,000 gallons
May	Avg.	691,030 g.p.d.	Highest Day 915,000 gals.	Total	21,422,000 gallons
June	Avg.	806,030 g.p.d.	Highest Day 1.057 MGD	Total	24,181,000 gallons
July	Avg.	841,970 g.p.d.	Highest Day 1.431 MGD	Total	26,101,000 gallons
August	Avg.	878,710 g.p.d.	Highest Day 1.437 MGD	Total	27,240,000 gallons
Sept	Avg.	696,370 g.p.d.	Highest Day 1.058 MGD	Total	20,891,000 gallons
October	Avg.	677,160 g.p.d.	Highest Day 963,000 gals.	Total	20,992,000 gallons
Nov	Avg.	567,100 g.p.d.	Highest Day 850,000 gals.	Total	17,013,000 gallons
Dec	Avg.	566,130 g.p.d.	Highest Day 815,000 gals.	Total	17,550,000 gallons

Year 2021

Jan.	Avg.	565,650 g.p.d.	Highest Day 789,000 gals.	Total	17,535,000 gallons
Feb	Avg.	517,650 g.p.d.	Highest Day 913,000 gals.	Total	16,047,000 gallons
March	Avg.	583,770 g.p.d.	Highest Day 1.303 MGD	Total	18,097,000 gallons
April	Avg.	642,770 g.p.d.	Highest Day 1.190 MGD	Total	19,283,000 gallons
May	Avg.	659,610 g.p.d.	Highest Day 1.103 MGD	Total	20,448,000 gallons
June	Avg.	825,730 g.p.d.	Highest Day 1.311 MGD	Total	24,772,000 gallons
July	Avg.	750,190 g.p.d.	Highest Day 1.529 MGD	Total	23,256,000 gallons
August	Avg.	768,940 g.p.d.	Highest Day 1.920 MGD	Total	23,837,000 gallons
Sept	Avg.	633,060 g.p.d.	Highest Day 1.775 MGD	Total	19,625,000 gallons
Oct	Avg.	753,030 g.p.d.	Highest Day 1.992 MGD	Total	23,344,000 gallons

Pump Capacity - Well #1- 400 g.p.m. Well #3 -900 g.p.m. Well #4 - 1200 g.p.m. Well #5 – 1,100 g.p.m. Well #6 – 800 g.p.m.

WWTP – Holding & Septage Receiving

2005	\$ 87,562.01	2006	\$101,115.11	2007	\$152,201.07	2008	\$210,441.47
2009	\$183,815.34	2010	\$197,653.66	2011	\$220,576.28	2012	\$236,224.70
2013	\$235,336.46	2014	\$203,938.32	2015	\$210,644.47	2016	\$220,473.17
2017	\$232,358.23	2018	\$245,767.74	2019	\$219,822.80	2020	\$204,656.11

2019	Holdings (gals)	Grease (gals)	G Decant (gals)	Septage (gals)	S Decant (gals)	Total Billings
January	1,230,000			2,000	77,700	\$11,872.50
Feb	1,432,250			1,000	70,100	\$13,255.50
March	1,614,450			11,750	161,800	\$17,489.35
April	1,485,950			48,700	335,350	\$22,462.85
May	1,589,200			27,600	349,400	\$22,690.60
June	1,338,900			36,950	243,400	\$18,458.95
July	1,504,450			17,000	302,900	\$20,373.10
August	1,599,950			27,800	293,200	\$21,380.60
September	1,405,900			14,000	217,450	\$17,313.45
October	1,517,950			19,500	335,900	\$21,418.60
November	1,265,950			11,500	256,950	\$17,071.10
December	1,647,650			6,500	102,500	\$16,036.20

2020	Holdings (gals)	Grease (gals)	G Decant (gals)	Septage (gals)	S Decant (gals)	Total Billings
January	1,426,900				71,000	\$11,872.50
February	1,310,500			2,250	88,500	\$12,786.50
March	1,471,600	900		5,000	173,650	\$16,429.05
April	1,263,950			29,000	326,170	\$19,570.85
May	1,168,670			4,450	308,250	\$17,255.86
June	1,253,900			9,900	196,550	\$15,390.45
July	1,459,700			16,450	212,650	\$17,734.10
August	1,148,750			4,250	168,530	\$13,594.50
September	1,276,950			22,700	299,450	\$18,723.35
October	1,372,200	2,200		39,750	456,000	\$24,386.35
November	1,231,850			33,650	301,700	\$18,911.55
December	1,489,450			16,950	160,200	\$16,683.35

2021	Holdings (gals)	Grease (gals)	G Decant (gals)	Septage (gals)	S Decant (gals)	Total Billings
January	1,284,600			6,650	77,250	\$12,507.30
February	1,386,475			3,000	44,450	\$12,338.05
March	1,633,050			27,600	206,050	\$19,457.65
April	1,425,850			38,000	268,500	\$19,829.30
May	1,297,900			34,550	232,100	\$17,740.45
June	1,392,350			52,800	258,500	\$19,977.30
July	1,338,500			31,600	245,050	\$18,256.25
August	1,499,450			31,200	196,250	\$18,305.85
September	1,389,200			23,900	213,400	\$17,524.10
October	1,275,550			16,250	297,260	\$18,367.15

CTH P and STH 60 Intersection Project and old Park-n-Lot Property

WisDOT was using the area for a job trailer location during the STH 45 resurfacing project this year. Due to limited power on the site, the contractor has moved the job trailers to the new park-n-ride lot on Apple Lane. Once the resurfacing project is completed, the Village will restart the process of purchasing the property again. No change. This is a place holder for the item.

Morning Meadows Subdivision

Streetlights are being planned by the Village for installation. Working on address numbers.

Trilogy Consulting - Study / Impact Fees

The existing impact fee study is over ten years old and needs to be update per State Statue requirements. Trilogy Consulting has been asked to provide an updated cost to complete the project by the end of 2021.

Jackson Municipal Complex

December 1st is the next meeting with the contractor and designer to address the punch list items.

Willow Ridge Drive Reconstruction Project

The project has now been completed with the remaining item being new streetlights.

Spruce Street/Ridgeway Drive Extension Project

We are working a streetlight layout for the two streets.

Hunters Road Reconstruction Project and Highland Road Storm Sewer Project

Landscaping and punch list items are being addressed. The repair of two catch basins has been completed. We can consider closing out the project.

Coffee Connection Trail Project

The landscaping/backfill is being done with the concrete portions holding up the completion of the project.

Eagle Drive & STH 60 Intersection Improvement

SRF Consulting Group, Inc is working on the ICE (Intersection Control Evaluation) Study for the intersection of Eagle Drive and STH 60. The plan is to have the study done before the next Board of Public Works meeting. Due to the schedule set by WisDOT the item will go directly to the Village Board for review. The Board of Public Works will review the results of the study at the January 2022 meeting.

Purchase of Vac Truck

Attached to this report is a memo explaining the final price for the purchase of the Jackson Sewer Utility Vac Truck.

Respectfully submitted, Brian W. Kober, P.E.