

VILLAGE OF MCFARLAND **Sustainability & Natural Resources** *NOTICE OF PUBLIC MEETING*
Committee

Monday, September 11, 2023

6:00 PM

McFarland Municipal Center
Community Room

AGENDA

You are invited to this meeting through a Zoom webinar. The public may attend in-person or remotely through the webinar or telephone options listed below.

PLEASE CLICK THE LINK BELOW TO JOIN THE ZOOM WEBINAR:

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Press *9 to raise/lower hand. Press *6 to mute/unmute.

1. CALL TO ORDER, ROLL CALL.

2. PUBLIC APPEARANCES.

- a. This is an opportunity for members of the public to address the Sustainability and Natural Resources Committee for items that are not on the agenda. Please remember this is a hybrid meeting conducted in person and through the Zoom online meeting platform. Meeting attendees wishing to address the Committee about items not on the agenda may do so at this time. Zoom attendees should type their name and address in the Question and Answer feature within the Zoom online meeting platform at this time. Members of the public who are present in person and wish to address the Committee should fill out a public comment form and turn into the meeting chairperson. When you are called upon to speak, state your name, address, and provide your comments to the Committee for their consideration. Please adhere to the 3-minute time limit. Additionally, you may send your public comments to sustainability@mcfarland.wi.us to be included as part of the meeting.

Members of the public may also speak during their selected agenda item as they designate on the public comment form or in the Question and Answer feature on Zoom.

3. APPROVAL OF MINUTES.

- a. Motion to approve the minutes of the June 12, 2023 Sustainability & Natural Resources Committee meeting.

4. BUSINESS.

- a. Discussion regarding updates to the mounds policy for Preservation and Maintenance.
- b. Discussion and action regarding revisions to Tree Planting Bid and Specification Request for Proposal
- c. Discussion and action to submit the Village of McFarland's 2022 Green Tier Annual Report to the Wisconsin Department of Natural Resources.
- d. Discussion and action to pursue SolSmart Designation
- e. Discussion and action to make a recommendation to the Village Board regarding Ordinance 2023-10, an ordinance amending various sections of the McFarland Building Code related to site erosion control and stormwater management.

- f. Discussion and action to make a recommendation to the Village Board regarding Ordinance 2023-09, an ordinance amending various changes to Chapter 62 - Zoning, related to solar energy collection systems.

5. SCHEDULE NEXT MEETING DATE.

- a. Thursday, October 19, 2023 at 6:00 p.m.

6. ADJOURNMENT.

Any person who has a qualifying disability as defined by the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible location or format should contact the McFarland Municipal Center at (608)838-3153, 5915 Milwaukee Street, McFarland, Wisconsin, or village.clerk@mcfarland.wi.us by 2:00 p.m. at least 5 business days prior to the meeting so that any necessary arrangements can be made to accommodate each request. If the meeting or request is less than 5 business days from the meeting, requests for accommodations may still be made and reasonable efforts will be made to accommodate each request.

Minutes
Sustainability & Natural Resources
Committee Meeting
June 12, 2023

Members Present: Carolyn Clow, Kitty Brussock, Angela Freedman, Nina Schultz

Members Absent: Mike Flaherty, Bruce Fischer, Judy Taber

Staff Present: Sayer Larson, Kong Thao, Phil McDade, Lee Igl

1. CALL TO ORDER

Clow called the meeting to order at 6:03 PM.

2. PUBLIC APPEARANCES.

No public appearances.

3. APPROVAL OF MINUTES.

- a. Clow motioned to approve the minutes of the May 8, 2023, Sustainability & Natural Resource Committee meeting. Seconded by Brussock. Motion carried 4-0.

4. BUSINESS.

- a. Presentation and action to make a recommendation to the Village Board regarding the acceptance of the final conservancy management plan.

Larson provided summary on the agenda item and background on the goals of the plan. Matthew Parsons, RES Great Lakes, presented his findings on the plan and its recommendations. Larson commented on the additional changes found within the plan highlighting changes made to terminology, timelines, and PIM feedbacks.

The Committee commented on the prioritization of tasks and a timeline for activities. Staff will work to compile a list of activities and determine the details for in-house or contracted work depending on the scope of the activity, expected to be later presented for review and approval. Igl commented on currently reviewing the priority plan.

Clow motioned to recommend to the Village Board acceptance of the Conservancy Management Plan as presented. Motion seconded by Brussock. Motion carried 4-0.

- b. Update regarding the 2023 McDaniel Park Beach Improvements Project.

Larson provided the summary of the agenda item highlighting the setbacks related to this project. The detail for the setback is the removal of the rocks in the beach area, not permitted by the DNR.

Discussion by the Committee included the existing rock formations and their impact on beach use associated with safety concerns.

c. Discussion on No Mow May 2023.

Thao provided summary on the agenda item highlighting metrics on registrations and outlook for future programming. The Committee engaged in conversation that included, Low Mow May activities, alternatives, resources on the programming, education and outreach, and participation experiences.

5. SCHEDULE NEXT MEETING DATE.

a. Monday, July 10, 2023, at 6:00 PM

6. ADJOURNMENT.

Freedman motioned to adjourn; Seconded by Brussock. Motion carried 4-0. Meeting adjourned at 6:40 PM.

McFarland
SUMMARY SHEET

MEETING DATE: Monday, September 11, 2023

SECTION: Business

DEPARTMENT: Public Works

CONTACT: Sayer Larson, Parks Superintendent, Kong Thao, Associate Planner

AGENDA ITEM: Discussion regarding updates to the mounds policy for Preservation and Maintenance.

PREVIOUS ACTION:

ISSUE SUMMARY:

Please find enclosed the updated Policy for Preservation and Maintenance of Native American Mounds. A copy of the original document has been included for reference. The original policy was adopted on August 9, 2010 and was created to provide direction to village staff. The updated policy incorporates recommendations from the Ho-Chunk Nation's Tribal Historic Preservation Officer, Bill Quackenbush. These recommendations were submitted by Mr. Quackenbush through a requested review by village staff.

FINANCIAL/BUDGET IMPACT:

There are no specific financial considerations to update this policy as work was completed by staff. There may be budgetary considerations to implement portions of the policy.

VILLAGE PLAN REFERENCE:

[Policy Preservation and Maintenance](#) of McFarland's Indian Mounds

ORDINANCE REFERENCE:

None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

No action is required on this item. Discussion only at this time.

ATTACHMENTS:

1. Policy for Preservation & Maintenance of Native American Mounds 2023
2. Policy for Preservation and Maintenance of McFarlands Indian Mounds 2010
3. Policy review



POLICY FOR
PRESERVATION
~~AND~~
MAINTENANCE OF
NATIVE AMERICAN MOUNDS
~~McFARLAND'S~~

[Reserved for photo]

INDIAN MOUNDS

ADOPTED August 9, 2010

UPDATED Month, X, 2023

Acknowledgments

Bill Quackenbush, Tribal Historic Preservation Officer,
Cultural Resources Division, Ho Chunk Nation
&
[The Indigenous People of the Ho Chunk Nation]

2010 Ad Hoc Advisory Committee on Indian Mounds (Original Document) Contributing Staff
from the Original Document

Don Peterson, Former Village Administrator
Steve Hoefft, Former Public Works Director Steve Jackson, Chair
Sally Hansen, [Former Chair of XXX]
Kevin Wernet, Former Trustee
Shelia Plotkin, Former Trustee
Coleen Baird, Former Trustee
Kate Barrett
Sally Hansen
John Hauser
John Hauser, Former Trustee
Patrick Kane, Former Trustee
Ron Larson, Former Trustee
Shelia Plotkin

Contributing Village Staff, 2022-23
Matt Schuenke, Village Administrator
Lee Igl, Public Works Director
Jim Hessling, Former Public Works Director
Sayer Larson, Parks Superintendent
Aimee Irwin, Assistant to the Public Works Director
Andrew Bremer, Community & Economic Development Director
Kong Thao, Associate Planner

Special Thanks
Jim Hessling, Public Works Director (Former)

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I. —INTRODUCTION

Southern Wisconsin is known for its prehistoric IndianNative American mounds. The mounds were built by people of the Effigy Mound Culture, Late Woodland Stage, from approximately 650 to 1200 CE (Common Era).^{*} Many are burial grounds. Others may have served as man-made landmarks. The mounds are symbols/expressions of the mound ~~builders~~builder's religious faith and are considered sacred sites by Native Americans to this day. Fourteen of these rare and archaeologically significant treasures still exist on Village-owned property in McFarland. They are located in Indian Mound ~~Conservation~~Conservancy Park (IMCP), Siggelkow Road Park, the Taylor Road Conservancy, and Woodland Commons ConservancyPark. Other mounds exist on private property within Village limits, and there may be others yet to be discovered on Village-owned lands. The McFarland Village Board recognizes that these few remaining mounds are of enormous historical and cultural value and has adopted and implemented this policy to ensure their protection and preservation for many generations to come.

~~*Common Era~~

II. —CULTURAL IMPORTANCE

Over the centuries, Wisconsin's IndianNative American mounds have disappeared in large numbers. They have been destroyed, damaged or neglected — victims of agricultural practices, impacted by the advancement of urban development,¹ indifference and/or ignorance. To ~~halt~~prevent further destruction and ~~to~~ raise public consciousness, the Ho Chunk Nation, cultural descendants of the mound builders, has reached out to communities where mounds exist and provided information and expertise on mound preservation and maintenance through their Department of Heritage Preservation.¹ ~~Similarly~~Similarly, the Wisconsin Department of Natural Resources,² the Lower Wisconsin State Riverway Board,³ and the Wisconsin Historical Society⁴ have issued maintenance protocols aimed at preserving what remains of this part of Wisconsin's cultural and archaeological heritage. All of these land stewardship bodies recognize that IndianNative American mound sites are irreplaceable and stress the responsibility of the ~~land~~owner~~landowner~~ to protect these areas.

The Village of McFarland accepts this responsibility and further desires to become a role model for others to emulate.⁵ ~~It As a start, the~~The Village has taken public ownership of the lands containing most of the mounds within the Village and has established conservancy uses on these lands to help protect the mounds. At one time, more than 80 IndianNative American mounds graced the McFarland area. Prior to the Village taking ownership of what is now IMCP, two of the nine mounds that once occupied that land were destroyed by the grading of the hillside above Burma Road in the 1950's. Over the years, community volunteers and school groups have done maintenance work such as removing invasive species and woody brush from some of the mounds and relocating and improving trails. The importance of this matter connects the history of the land with its future occupants, emphasizing the auspices of the four lakes region.

¹ Mound Preservation and Maintenance, Ho-Chunk Department of Heritage Preservation

² Burials, Earthworks, And Mounds Preservation Policy & Plan, WI Dept. of Natural Resources

³ Proposed Protocols for Cultural Resources Protection and Preservation on Public and Private Lands In the Lower Wisconsin State Riverway

⁴ Wisconsin Historical Society Assessment ~~of~~Lewis~~of Lewis~~ Mound Group - ~~October~~October 2007

III. —PRESERVATION AND MAINTENANCE OF THE MOUNDS

A. Legal Framework

Wisconsin statutes designate the Wisconsin Historical Society as the oversight authority for Indian Native American mound lands throughout the state. ~~Those Under Wis Stats. statutes [157.70(6m)-(b)(2 & 3)-2 and 3],~~ which regulates burial sites that are on public lands, imposes certain requirements on municipalities. These regulations include: prohibiting the transfer of any burial site to any person who is not a municipality unless the transfer provides for preservation of the burial site from any disturbance by any person and unless the transfer is approved by the Wisconsin Historical Society; and requiring that the municipality shall endeavor to take positive action to preserve any burial site on land it owns through appropriate land use management, including but not limited to appropriate multiuse purposes such as nature preserves.

~~All~~ All of the acreage in IMCP is listed on the National Register of Historic Places which means that no ground disturbing activities are allowed anywhere within that park. Any activities that might potentially cause ground disturbance on or near the mounds in other parks require prior approval from the Wisconsin Historical Society. This approval process typically involves preparation and submittal of a plan by the Village President, ~~or Village Administrator, or Village Parks Superintendent~~ for review by Wisconsin Historical Society staff. As appropriate, the Wisconsin Historical Society may circulate the proposed plan for review and comment by Native American nations in the state, with whom the agency is responsible for coordinating preservation efforts.

B. Approach

McFarland's mounds do not exist in isolation. All of them are in conservancies, and any maintenance activities undertaken on the mounds will inevitably have some impact on the surrounding natural and man-made environments. Managing the mounds properly and avoiding detrimental impacts to the broader environmental context within which they exist is a complex challenge. Diverse perspectives on meeting this challenge were expressed via community input at a public meeting,⁵ within the Committee's internal discussions, and in documents submitted to the Committee by concerned residents.⁶ ~~There was no one-size-fits-all approach with which Committee members felt comfortable. As a result, the Committee's objective has been to determine a balanced approach to preservation and maintenance that meets McFarland's unique challenges.~~

~~In November 2022, two Village Staff members were invited to visit the Kingsley Bend Mound site located outside of Wisconsin Dells, to tour and discuss methods of preservation. On site to provide the tour was the local Tribal Historic Preservation Officer (THPO) of the Ho-Chunk Nation, Bill Quackenbush. With over 30 years of experience, the conversation covered many methods on how to best approach mound maintenance strategies and the importance of the mounds to the Native American community. Prior to the visit, the Official THPO also provided comments to the original 2010 Policy for Preservation and Maintenance of McFarland's Indian Mounds. As a result, the Committee's objective has been to determine a balanced approach to preservation and maintenance that meets McFarland's unique challenges.~~

⁵ Indian Mounds: Cultural Resources Fact Sheet 2, National Resource Conservation Service

⁶ Fact Sheet: How Trees Benefit Mounds and The Oaks in Indian Mound Conservancy, Alan R. Lulloff, P.E. CFM

The specific preservation and maintenance practices to be used will vary by mound site and from one individual mound to the next. This document henceforth establishes minimum requirements, as describe below, for the ~~There is, nonetheless, a~~ systematic series of protocols that should be followed at all sites to ensure that the desired goals are achieved.

~~That~~ common approach recommended herein would typically involve the following steps:

1. Have a comprehensive site assessment of each mound site conducted by the State Archeologist that would include an archeological overview and appropriate mapping.
- ~~1.~~—A vegetation assessment and an overall risk assessment should also be conducted by a certified arborist and an ecological restoration expert. Such site assessments for the mounds in IMCP were conducted in 2006-2007 by the Wisconsin Historical Society. A forester and an ecologist from the WDNR have also reviewed
2. surrounding conservancy areas in IMCP and provided suggestions on approaches to managing vegetation and improving forest health.
- ~~2.3.~~ Determine the optimal conditions for protection and preservation of the mound site and prepare a ~~long-term~~ long-term maintenance plan to establish and maintain those optimal conditions.
- ~~3.4.~~ Obtain necessary approvals of this maintenance plan from the Burial Preservation Office of the Wisconsin Historical Society.
- ~~4.5.~~ Stabilize the current condition of the mounds to prevent any deterioration.
- ~~5.6.~~ Prepare a ~~five-year~~ five-year plan, to be updated annually, which identifies phased maintenance projects and practices to be undertaken at each of the four mound sites. Allocate the necessary resources in the annual budget process or pursue available grant funding to implement those plans.
- ~~6.7.~~ At the completion of each phase of maintenance, photograph, monitor, and evaluate the results over the course of at least one full growing season prior to determining what maintenance activities should be undertaken in the next phase, how the activities should be prioritized, and when the next phase should commence.
- ~~7.8.~~ Conduct public education/outreach activities and provide appropriate site amenities to promote greater understanding and enjoyment of the mound sites by the public in a manner that does not pose additional risk to the mounds.
- ~~8.9.~~ Pursue local “landmark” status for Taylor Road Conservancy and Woodland Commons Conservancy. Evaluate the potential benefits—merits of having the Taylor Road Conservancy and Woodland Commons Park these mound sites listed on the National Register of Historic Places. ~~Pursue local “landmark” status for all four mound sites.~~
- ~~9.10.~~ Conduct regular assessments of progress and continue these preservation and maintenance policies, plans and practices or revise them accordingly.

~~C.~~ C. Goals and Objectives

The purpose of taking the common approach to preservation and maintenance described above is to meet goals and achieve results that should apply uniformly to all four IndianNative American mound sites identified in this plan. The desired outcome and end vision for all sites are defined in the following goals and would be achieved by accomplishing the following objectives:

GOAL #1 — Ensure that the IndianNative American mounds are protected from potential damage, stabilize the current condition of the mounds so they do not deteriorate, and improve the condition of the mounds as available resources permit.

OBJECTIVES:

1. Eliminate or minimize risks or threats that pose an unreasonable risk to the mounds and its surrounding areas.
2. If trail access to an area is deemed desirable, design or relocate trails so they do not encroach any closer than fifteen-twenty-five feet (2+5') from the mounds.
3. Direct bikers away from the mounds with appropriate signage and, if necessary, physical barriers.

GOAL #2 — Raise public awareness about the IndianNative American mound sites and their human and natural history by conducting an effective education and public outreach program.

OBJECTIVES:

1. 1. Provide suitable overlook points along the trails which permit observers to appreciate visually the shape of the mound(s) from a safe distance,
2. 2. Install non-obtrusive warning signs to protect the mounds and interpretive signs to help observers better understand the mounds and their history.
3. 3. Offer accompanying public education activities to foster a greater understanding of the historical, archeological, and cultural significance of the mounds.

GOAL #3 — In order to protect the mounds from potential damage and to respect the preferences of the Ho Chunk Nation regarding the presence of vegetation on their ancestral sites, and Wisc. Stat. 157.70(2)(a), the Village must achieve an eventual condition where no trees or shrubs are growing on the mounds or within a tfiven feet (105') buffer zone and where each distinct mound shape is clearly defined and visible to an observer.

OBJECTIVES:

1. 1. Remove all shrubsbrush, non-native, and invasive species.
2. Remove in-phases all trees except selected large, healthy, deep-rooted trees that are retained for forestry or environmental purposes, to preserve heritage trees, when significant unavoidable mound damage might occur during tree removal, or for other management purposes.
3. Remove these-any remaining trees as they deteriorate or die from natural causes.
4. Establish native ground cover on the mounds to protect against erosion and other potential damage and to minimize future maintenance efforts.
5. Emphasize the definition of each mound by using contrasting types of vegetation or in some other natural-looking manner.

IV. SITE ASSESSMENTS

Since the amount and quality of site assessment data that is currently available varies a-great-deal across the four mound sites, a comprehensive assessment by the Wisconsin Historical Society or other qualified professionals is required as an initial step for each IndianNative American mound site to evaluate the existing plant community and the opportunity for restoration of the native plant community. The process will help, to determine the current conditions of the mounds, to-determine if there is a need for additional mapping, and to assess potential risks to the mounds. This assessment will identify those features which render each site unique and will influence the maintenance regimen selected.

A. Archaeological Overview

If one has not been conducted previously, an archeological overview of the site should be conducted both before and after phased maintenance work is implemented. If possible, the "before" overview should be conducted by the State Archeologist. At a minimum, the number and type of mounds should be ~~described~~described, and surface observations should be ~~made~~recorded and which includes a narrative recording ~~ing in narrative and attached with in~~ photographic ~~forms~~images. The ~~current~~ condition of the mounds should be noted, such as whether the edges are well-defined or diffuse and whether the mounds are well-preserved or have been damaged. An additional walk through of ~~each the~~ site should be conducted ~~and with both the Archaeologist & Ho-Chunk Nation THPO. This meeting should include any recordings of additional activity made on or concerning the burial mounds. This data should be updated regularly notations made following the creation of a 5-year history of activities such as~~ extensive tree removal or introduction of fire to the site. To date, ~~a the IMCP is the only burial mound that has received a proper archeological overview has been completed only for the mounds in IMCP.~~

B. Mapping

Mapping is important to assure that an accurate record of each ~~IndianNative American~~ mound site is maintained. While adequate maps of the mound groups are generally available, ~~it might be very useful if the~~ maps contain ~~ing~~ greater detail ~~would be more useful~~. Village staff shall work with the Burial Sites Preservation staff in the Wisconsin Historical Society to acquire files from WHS that define the established mound protection boundaries for all ~~IndianNative American~~ mounds documented to exist on Village-owned lands. Where they have not been previously documented, new technologies are available ~~that would to~~ enhance existing maps. ~~Furthermore, the application of~~ Global Positioning System (GPS) coordinates ~~along with LiDAR and Geographical Information Systems Mapping (GIS) with will~~ ~~an increase the~~ accuracy level ~~of one foot should be taken~~ for all mounds. ~~Although the accuracy of this data will be limited by the tree canopy and the often ill-defined often ill-defined~~ nature of the mound edges. Maps of each individual mound site should be as accurate as possible and should document (as appropriate) the mound's shape, dimensions, mound-mound angles, and the presence of depressions or other potential burial features. Notations regarding proximity to water features, roads, trails, property lines, and nearby development, topographical information, and other notable features of the site should be added to the maps as site assessments are completed. The most complete maps currently exist for IMCP, but these maps lack much of the recommended detail. The existing maps for the other three mound sites ~~are even less require more~~ detail ~~sed~~ and need to be expanded.

C. Vegetation Assessment

An initial survey of trees, shrubs, and ground cover should be conducted and used in determining future vegetation management practices for each site. It may be appropriate to consult with a professional qualified in ecological restoration in developing this vegetation assessment. The assessment should describe the existing plant community and species, identify endangered or threatened species as well as invasive species. ~~The assessment should also include, evaluateion of~~ relics of ~~similar~~ native plant communities and the potential for future restoration and sustainability of native species. ~~Other, and notes regarding~~ existing tree canopy and ground cover ~~are important details to include.~~

~~Next, aA general~~ tree inventory detailing the species, size, ~~and a general current rating of the~~ condition of ~~all those~~ trees growing on ~~or near~~ the mounds ~~and within a fifteen foot twenty-five-foot (2+5')~~ buffer area from the base of the mounds should be completed by a certified arborist. This inventory should identify trees for removal based on objective criteria developed by the

arborist and approved by the Village. The inventory will also differentiate between native and non-native trees and between deep-rooted and shallow-rooted species. The assessment should also note whether the use of controlled burns might be an appropriate and desirable vegetation management tool for the mounds and/or adjacent areas. Finally, the Village should establish a policy on mowing management for grass on and around the mound's base. No surveys ~~that-which~~ fully satisfy ~~all~~ of all these assessment criteria have been completed for any of the four mound sites.

D. Risk Assessment

Using the information developed during the archeological survey, mapping, and vegetation assessment phases, each mound site should be assessed for inherent risks.⁷ Notations should be recorded regarding potential threats to the mound(s) from: erosion;⁵ proximity to neighboring development, roads, pedestrian or bicycle trails, playgrounds, and parks;² non-native or invasive species;² ~~and~~ tree species of concern due to disease or insects;² and damage caused by humans or wildlife activity. Mounds associated with a "high-risk" for damage should receive immediate attention to assure protection and preservation.

Shallow-~~—~~rooted trees can be a risk for *windthrow*, trees that can be uprooted due to extreme weather such as heavy wind or tornado. According to the National Resource Conservation Service, however, having tree cover on mounds can have both advantages and disadvantages. "The possibility of wind thrown trees is a potential area of concern. Overturned trees can pull up large chunks of soil with the root system causing damage to cultural deposits. Root penetration of trees and scrub can also have a significant impact on archeological deposits. However, removal of ~~long established~~long-established trees can be more detrimental to the mound than maintaining the existing cover."⁷

⁷ Indian Mounds: Cultural Resources Fact Sheet 2, National Resource Conservation Service

V. —PHASED MAINTENANCE OF THE MOUNDS

A good deal of deferred maintenance work on the mounds will be required. The phasing of maintenance is a practical reality given current limitations in available financial and labor resources. Another advantage ~~of for~~ a phased approach is that it allows an evaluation to be conducted at the conclusion of each management phase. If any unintended or unexpected effects have occurred, future maintenance plans can be adjusted accordingly.

As each of the ~~IndianNative American~~ mound sites is ~~different, with its own~~ unique with its own surroundings and potential risks, the specific protection and maintenance practices to be used will vary between sites. The pace of the maintenance efforts and the timing of various phases will also differ between sites based on priorities established through the site assessment process and funding availability.

Vegetation management on mound sites would follow the sequential phases described below. The phased maintenance project also includes a diagrammed ~~in-flow chart form in Table 1,~~ and ~~summarized in Table 2~~ provides a summary of the phased process. No specific time frame ~~has been~~ established for the completion of a particular phase ~~at this time nor is there a planned the start date set of the for the phased maintenance following phase.~~ It is understood that steps to establish healthy ground cover of native species, including ongoing removal of non-native and invasive species, would be continuous throughout the process as sunlight conditions change with progressive removal of tree canopy. At least one full growing season should be allowed to pass before beginning a subsequent maintenance phase. This will allow a proper period for monitoring and evaluating the results of the previous phase.

Maintaining a photographic history of the appearance of each mound before, during, and after each maintenance phase is strongly recommended. The data base of photographs should be properly indexed and catalogued by specific mound, phase, and dated. Photographs ~~cs~~ should also be stored in a commonly available on-line format that is searchable and from which potential users can download and print selected material. Additionally, the Village should be sharing the photographic history of each mound's information with both the State Historical Society and Ho-Chunk Nation to gather feedback after each phase is completed.

~~A.~~ A. Phase 1, Initial Vegetation Management

1. ~~P~~(Before photos) Catalog photos ~~of graph~~ each mound from ~~several-varying~~ angles, noting the ~~date-location and time~~ taken for consistency.
2. On the mounds themselves:
 - ~~a. Remove all brush and all non-native or invasive species of groundcover and trees~~
 - ~~b. Remove all shrubsbrush~~ and all non-native or invasive species of groundcover and a. trees.
 - ~~e.b.~~ Remove all dead, down, and unhealthy trees; all shallow-rooted trees, regardless of size; and any trees recommended for removal by a certified arborist if they pose an undue risk to the mounds for other reasons.
 - ~~d.c.~~ Remove all trees less than 5" diameter at breast height (DBH) in size.
 - ~~e.d.~~ Seed native vegetation in a mixture recommended by a qualified professional.
- ~~1.~~ Within ~~a twenty-five a fifteen feet (215'')~~ buffer areas from the base of the mounds:
- ~~3.~~

- a. ~~Remove all dead, down, and unhealthy trees; all shallow-rooted trees, regardless of size; and any trees recommended for removal by a certified arborist if they pose an undue risk to the mounds for other reasons.~~

a.

3.4. (After Photos) Catalog photos of each mound from varying angles, noting the location and time taken for consistency ~~Photograph each mound from several angles, noting the date taken.~~

Evaluation Phase.

~~B.~~ Regularly scheduled evaluations ~~(should begin occur before and after work is completed on each mound after. Following this, staff should allow one complete growing season prior to transitioning to the next phase. The steps below provide additional context for the evaluation phase.)~~

1. (Before Photos) Catalog photos of each mound from varying angles, noting the location and time taken for consistency.
- ~~1. Photograph each mound from several angles, noting the date taken~~
2. Document the specific maintenance activities performed to ~~dated~~date.
 - a. Describe any detrimental results from the work done in the previous phase (e.g., an increase in invasive species, signs of erosion).
 - b. Describe any positive results from the previous phase (e.g., increased sunlight, improved growth of native vegetation).
- ~~3. 3.~~ Based on the analysis of results made during this Evaluation Phase, modify as appropriate the maintenance priorities and activities planned for the next phase.
4. (After Photos) Catalog photos of each mound from varying angles, noting the location and time taken for consistency ~~Photograph each mound from several angles, noting the date taken.~~

B. C. Phase 2, Vegetation Management

1. (Before Photos) Catalog photos of each mound from varying angles, noting the location and time taken for consistency.
- ~~1. Photograph each mound from several angles, noting the date taken~~
2. On the mounds themselves:
 - a. Ongoing removal of all ~~shrubs~~brush, ~~small~~ trees, and all non-native or invasive species of groundcover
 - b. Remove all trees between 5" - 12" DBH in size. Also remove those trees so recommended by a certified arborist if they pose an undue risk to the ~~mounds~~mounds.
 - c. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified ~~professional~~professional.
3. Within ~~a twenty-five feet (25')~~the 0-10ft buffer area from the base of the mounds:
 - ~~a.~~ Remove all brush and all non-native or invasive species of groundcover and ~~a.~~ trees
 - b. Remove all trees less than 5" DBH in size, and aAlso remove those trees so recommended by a certified arborist if they pose an undue risk to the ~~mounds~~mounds.
 - c. Seed native vegetation in a mixture recommended by a qualified ~~professional~~professional.
4. Within the 10-25ft buffer area:
 - a. Remove non-native and invasive species
5. (After Photos) Catalog photos of each mound from varying angles, noting the location and time taken for consistency.
- ~~4. Photograph each mound from several angles, noting the date taken~~

Repeat~~D.~~ Evaluation Phase included in Phase 1 (see above)

C. E. Phase 3, Vegetation Management

1. (Before Photos) Catalog photos of each mound from varying angles, noting the location and time taken for consistency.
- ~~1. Photograph each mound from several angles, noting the date taken~~
2. On the mounds themselves:
 - a. Ongoing removal of all ~~shrubs~~brush, ~~small~~ trees, and all non-native or invasive species of groundcover
 - b. Remove all remaining trees unless it is determined that selected large, healthy, deep-rooted trees should be retained for forestry or environmental purposes, to preserve heritage trees, when significant unavoidable mound damage would occur during tree removal, or for other management ~~purposes~~purposes.
 - c. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified ~~professional~~professional.
3. Within ~~a five~~ twenty five feet (25') ~~the 0-10ft~~ buffer area from the base of the mounds:
 - a. Ongoing removal of all ~~shrubs~~brush, small trees and all non-native or invasive species of groundcover
 - b. Remove all trees less than 12" DBH in size. Also remove those trees so recommended by a certified arborist if they pose an undue risk to the ~~mounds~~mounds.
 - c. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified ~~professional~~professional.
4. Within ~~a fifteen~~ twenty five feet (25') ~~the 10-25ft~~ buffer area from the base of the mounds:
 - a. Remove ~~all brush and~~ all non-native or invasive species ~~of groundcover and~~ ~~tree~~trees.
 - b. Remove all trees with shallow root systems less than 5" DBH in size. Also remove those trees so recommended by a certified arborist if they pose an undue risk to the ~~mounds~~mounds.
 - c. Seed native vegetation in a mixture recommended by a qualified professional
5. (After Photos) Catalog photos of each mound from varying angles, noting the location and time taken for consistency.
- ~~5. Photograph each mound from several angles, noting the date taken~~

Repeat Evaluation Phase included in Phase 1 above.

~~F. — Evaluation Phase (see above)~~

G. D. Phase 4, Vegetation Management

1. (Before Photos) Catalog photos of each mound from varying angles, noting the location and time taken for consistency.
- ~~1. Photograph each mound from several angles, noting the date taken~~
2. On the mounds themselves:
 - a. Ongoing removal of all ~~shrubs~~brush ~~and small~~ trees, and all non-native or invasive species of groundcover
 - b. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified ~~professional~~professional.

3. Within ~~twenty-a five feet~~five feet (25') the 0-10ft buffer area from the base of the mounds:
 - a. Ongoing removal of ~~all brush and small trees and~~ all non-native or invasive species ~~of groundcover~~
 - b. Remove all remaining trees unless it is determined that selected large, healthy, deep-rooted trees should be retained for forestry or environmental purposes, to preserve heritage trees, when significant unavoidable mound damage would occur during tree removal, or for other management ~~purposes~~purposes.
 - c. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified ~~professional~~professional.
4. Within the 10-25ft buffer area from the base of the mounds:
 - a. On going removal of all non-native and invasive species.
 - b. Monitor the health of remaining trees.
 - c. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified professional.
5. (After Photos) Catalog photos of each mound from varying angles, noting the location and time taken for consistency.
4. ~~Photograph each mound from several angles, noting the date taken~~

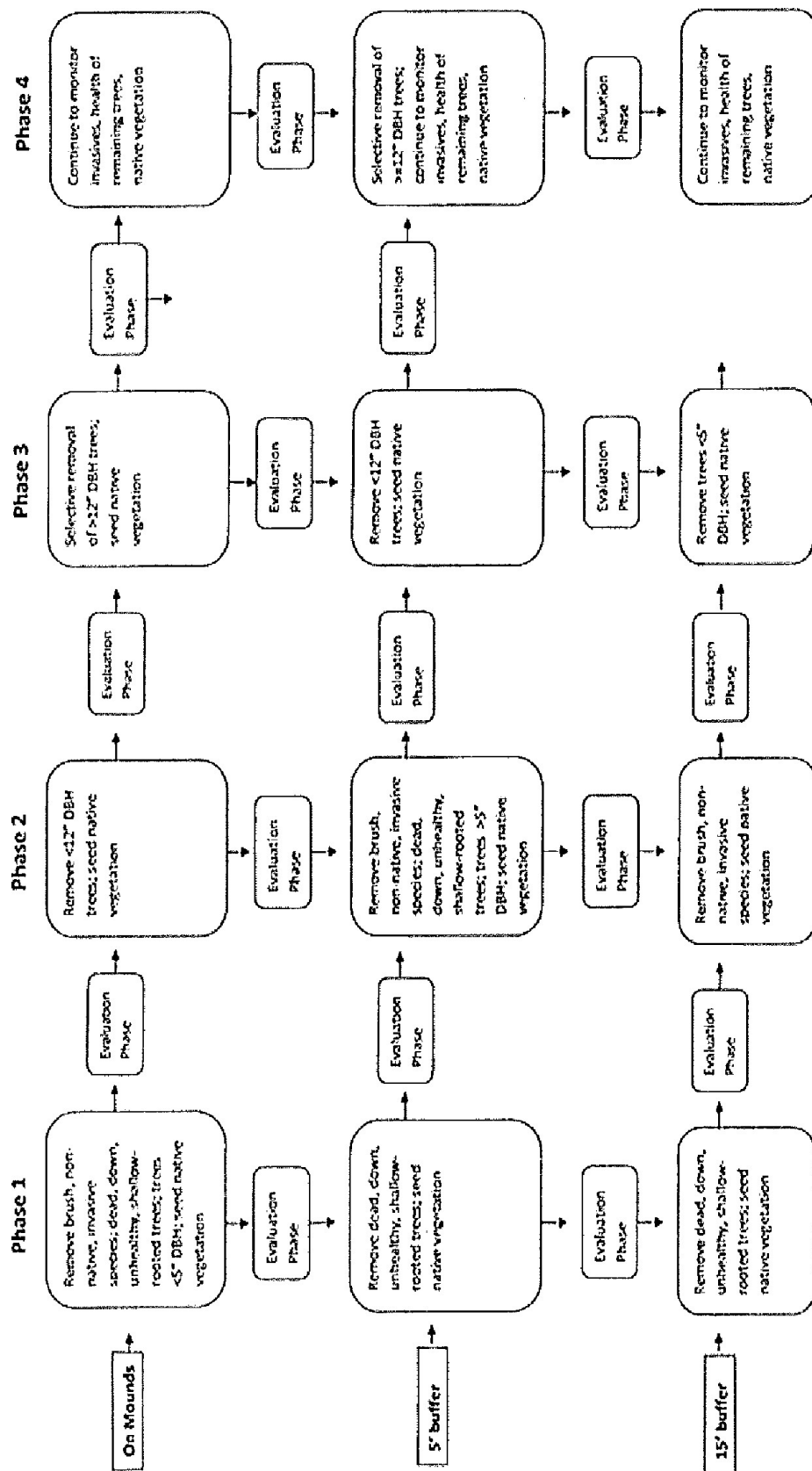


TABLE 2
PHASES OF VEGETATION MANAGEMENT

	ON MOUNDS	5' BUFFER	BUFFER
Remove brush) non-native and invasive species	Phase 1	Phase 2	Phase 3
Remove dead, down, unhealthy, and shallow-rooted trees	Phase 1	Phase 1	Phase 1
Remove DBH trees. Also remove trees so recommended by a certified arborist	Phase 1	Phase 2	Phase 3
Seed native vegetation in a mixture recommended by a qualified professional	All phases as needed	All phases as needed	All phases as needed
Remove <12" DBH trees. Also remove trees so recommended by a certified arborist	Phase 2	Phase 3	Not applicable
Selective removal of 12" DBH and larger trees. Also remove trees so recommended by a certified arborist	Phase 3	Phase 4	Not applicable

NOTE: An evaluation phase should occur after each management phase. Evaluation should include photographing each mound noting the date, documenting specific maintenance activities that occurred in the previous management phase, and describing any positive or negative effects of those activities. This information should be used to guide appropriate modifications of the maintenance priorities and activities planned for the next management phase.

Table 2: Phases of Vegetation Management

	PHASE 1	PHASE 2	PHASE 3	PHASE 4
Recommended Mound Activity	Remove brush – nonnative, invasive species, dead, down, unhealthy, shallow-rooted trees, <5" DBM	Remove <12" DBM trees	Selective removal of >12: DBH trees	Continue to monitor invasives, health of remaining trees, native vegetations
	Evaluation phase	Evaluation phase	Evaluation phase	Evaluation phase
Within 5' Buffer	Remove dead, down unhealthy, shallow-rooted trees	Remove brush, non-native, invasive species, dead, down, unhealthy, shallow rooted trees; trees > 5" DBH	Remove < 12" DBH trees	Select removal of >12" DBH trees; continue to monitor invasives, health of remaining trees, native vegetation
	Evaluation phase	Evaluation phase	Evaluation phase	Evaluation phase
Within 25' Buffer	Remove dead, down unhealthy, shallow-rooted trees	Remove brush, non-native, invasive species	Remove trees <5", DBH	Continue to monitor invasives, health of remaining trees, native vegetation
Phase Evaluation	Proceed to Phase 2 after all activities of Phase 1 are met	Proceed to Phase 3 after all activities of Phase 2 are met	Proceed to Phase 4 after all activities of Phase 3 are met	

<u>WORK ZONE</u>	<u>PHASE 1</u>	<u>PHASE 2</u>	<u>PHASE 3</u>	<u>PHASE 4</u>
<u>Mound</u>	<u>Remove shrubs – non-native species, invasive species, dead, down, unhealthy, shallow-rooted trees, <5" DBH</u>	<u>Remove <12" DBM trees</u>	<u>Selective removal of >12: DBH trees</u>	<u>Continue to monitor invasives, health of remaining trees, native vegetations</u>
	<u>Evaluation phase</u>	<u>Evaluation phase</u>	<u>Evaluation phase</u>	<u>Evaluation phase</u>
<u>0 - 10' Buffer</u>	<u>Remove dead, down unhealthy, shallow-rooted trees</u>	<u>Remove shrubs, non-native species, invasive species, dead, down, unhealthy, shallow rooted trees; trees > 5" DBH</u>	<u>Remove < 12" DBH trees</u>	<u>Select removal of >12" DBH trees; continue to monitor invasives, health of remaining trees, native vegetation</u>
	<u>Evaluation phase</u>	<u>Evaluation phase</u>	<u>Evaluation phase</u>	<u>Evaluation phase</u>
<u>10 - 25' Buffer</u>	<u>Remove dead, down unhealthy, shallow-rooted trees</u>	<u>Remove non-native and invasive species</u>	<u>Remove shallow rooted trees <5", DBH</u>	<u>Continue to monitor invasives, health of remaining trees, native vegetation</u>
<u>Phase Evaluation</u>	<u>Proceed to Phase 2 after all activities of Phase 1 are met</u>	<u>Proceed to Phase 3 after all activities of Phase 2 are met</u>	<u>Proceed to Phase 4 after all activities of Phase 3 are met</u>	

NOTE: An evaluation phase should occur after each management phase. Evaluations should include photographing each mound noting the date, documenting specific maintenance activities that occurred in the previous management phase, and describing any positive or negative effects of those activities. This information should be used to guide appropriate modifications to the maintenance priorities and activities planned for the next management phase.

VI. GENERAL MOUNDS MAINTENANCE CONSIDERATIONS

~~A.~~ A. Tree and Shrub Removal

Removal of trees and shrubs from mounds and within ~~a twenty-five feet~~ five feet (2510'-~~5'~~) buffer area from the base of the mounds is generally desirable to protect them from windthrow and other damage, and to encourage growth of native groundcover that will help prevent erosion. To help mitigate the potential of windthrow, all shallow-rooted trees will be removed during Phase I of the maintenance. However, some selected large, healthy, deep-rooted trees may be retained for forestry or environmental purposes, to preserve heritage trees, when significant unavoidable mound damage might occur during tree removal, or for other management purposes. Heritage trees are defined in Sec. 59-20(g) as a tree on Village property that is deemed significant by virtue of its species, size or its historical, ecological or horticultural attributes and, as such, is protected from removal without written permission from the Village Forester. ~~the Village's Tree and Shrub Ordinance.~~ The condition of any large trees that are retained should be re-evaluated periodically to ensure that their health is stable and that they continue to pose no undue risk to the mounds. When removing a tree of any diameter, cut it off as close to the ground as possible. Score the stump(s) every year to speed up the decay process. Eventually, down to the point where Village staff can mow over these areas.

No ground disturbance is allowed. All tree removal should be done when the ground is frozen hard. Trees growing on the mounds should be hand ~~cut, or~~ cut with a machine that can stay at least ~~fifteen-twenty-five~~ feet (215') from the mounds. No machinery is permitted to be used, however, on slopes steeper than 12% or on lands listed on the National Register of Historic Places, unless approved by the Wisconsin Historical Society. The trees should be cut close to the ground and stumps should be left intact. The stumps can be treated to prevent regrowth. During tree removal, trees should not be dropped or dragged across the mounds, and machinery and other vehicles should not be driven across the mounds. The logs and other material should be hauled away or scattered or piled at least ~~fifteen-twenty-five~~ twenty-five feet (15'-2550') from the defined burial area or mound.

Woody shrubs and ~~other~~ invasive species can be removed at any time with proper care since their removal should not require use of heavy equipment or involve ground disturbance. All vegetative waste material should be removed from the area. Replacement vegetation should be appropriate for the current use or planned restoration objectives.

~~B.~~ B. Burning

- The use of fire to control woody vegetation and to enhance the native plant community in a prairie or savanna ecosystem is an important management tool, but the decision to use controlled burns should be made on an individual site basis and balanced against other factors that should be considered consistent with Village ordinances and protocols. Surveys should be conducted following any controlled burning to ~~look~~ for possible artifacts and to determine the response of the native plant community to fire. Installation of firebreaks and use of firefighting equipment at a site should be carefully monitored for both safety and potential ground disturbance reasons. Use fire preservation as a means of

maintenance and burn alternate times. Example: Burn the area in the spring of 2020 and return for a second burn in the fall of 2021. This helps to establish plants, growth, and the seedbank.

C. ~~C.~~ Chemical Treatment

Removal of the roots of mature woody vegetation via hand-pulling is not recommended due to the ground disturbance that results. When treating materials and invasives such as Buckthorn and briars it is ok to use Garlon or Tordon to treat when necessary. Chemical treatments to control woody vegetation or nonnative invasive species can be very effective when applied propertyproperly. To minimize the use of chemicals, however, hand pulling should be used for control of small seedlings and most herbaceous plants.

~~D.~~ D. Trails

Pedestrian and wheeled traffic should never be allowed on the mounds. Trails should be established at those sites where public visitation either is likely or is encouraged. Trails should be located a minimum of fifteentwenty-five feet (2+5') or more from the outer perimeter of the mound. Small trees and large brush stems that have been removed from the mounds in Phase I or II may be used for trail demarcation. The use of wood chips, shredded bark, or mowing may be considered for trail maintenance. In locating and designing trails, consideration should be given to the proximity of the mounds, aesthetics, view sheds and erosion control. All trails should be made as accessible to the disabled as possible.

~~E.~~ E. Signage

The Village should retain control of the wording and placement of all signage and coordinate the placement with the Wisconsin Historical Society. Signage at mound sites should be minimized but efforts should be made to educate and inform the public about the significance of the site and the people who constructed the earthworks. Maps of the mounds at specific sites or in a general context of other mound groups in the vicinity may be useful. A generic sign for selected sites that describes the effigy mound building cultureculture, and the types of mounds (effigy, linear or conical) may be appropriate. Affirmation of the sacred nature of the site to Native American peoples should be included in the signage. A strong statement about staying off the mounds and information on the burial sites preservation law should be included. Site specific signage should include a map of the site and information regarding the unique features of the site. In some circumstances, brochures or small maps could be provided to visitors.

F. —Repair of Damaged Mounds

Where appropriate, repair of mounds damaged by post Euro-Yankee settlement activities and/or natural causes may be considered. Burrowing animals are to be removed from mounds. Displaced soil from burrowing will be used to fill hole by hand. Coordination with the Wisconsin Historical Society ias required.

G. —Use of Volunteers

Volunteers may be enlisted to assist with mounds maintenance activities, monitoring, and education. The proximity of the mound site in IMCP to a number of local schools affords an ideal opportunity for student and parent involvement in the maintenance of the mounds. As described in Section VIII, involving community volunteers is also an effective way to expand education about the mound building culture and the sanctity of the surviving mounds to Native Americans.

Volunteers have been very active in the removal of invasive species and promoting the growth of native vegetation within IMCP. A Village program could be developed to assist in the management of Neighborhood groups who are ~~should be~~ recruited and encouraged to adopt a particular site. A reference manual should be ~~developed by Village Staff and~~ provided ~~to participating groups~~ containing information useful to volunteers ~~and~~. ~~This -a-standard~~ system should be developed for tracking the time contributed and the work tasks performed by volunteers. The use of power equipment by volunteers should be monitored closely by a qualified team leader. Persons using chainsaws or mechanical brush cutters must be approved by Village staff and have appropriate safety training and equipment. The number of persons using mechanical equipment should be strictly limited to promote safety.

H. Reporting Disturbances

VII. RECOMMENDED MAINTENANCE PLANS FOR SPECIFIC MOUND SITES

A. Indian Mound ~~Conservation Park~~ Conservancy (IMCP)

IMCP contains the Lewis Mound Group which consists of nine (9) mounds, including one ~~sh014~~ ~~short~~-tailed quadruped in the shape of a bear, four linear, one long hook-shaped linear, one oval, and two conical mounds (see map ~~below on~~ page 28). Portions of the linear and a portion on one of the ~~conicals~~ conical mounds were destroyed by ~~development~~ development, but partial restoration has occurred. The site is listed on the National Register of Historic Places and the nomination covers the entire ~~10-acre~~ 10-acre area of IMCP. The mounds have been catalogued in small groups and as single mounds. No ground disturbing activities are permitted anywhere within IMCP.

Considerable maintenance work on the mounds in IMCP has already been completed by the Village, community volunteers, and through the McFarland School District's School Forest Program. A site assessment was completed in 2006-2007 by the Wisconsin Historical Society. On the subject of tree removal, the assessment found then that "At this point in time, all of the trees growing on the mounds seem to be healthy and they are not in immediate danger of tipping over."

⁸ Individually and in concert, these groups have completed a site assessment, relocated some segments of walking trails away from the mounds, removed invasive species (ongoing process), re-established native species (ongoing process), and erected some informational signage. The Village acknowledges these previous contributions to preserving and maintaining the mounds and thanks those who have participated.

IMCP was designated in 2010 as a Community Forest. It is located adjacent to the McFarland School Forest which was established in 2006. The McFarland School Forest Stewardship Plan, which included the ~~Indian~~ Native American mound area through a 2007 Land Use Agreement with the Village, was prepared in 2007 and updated in 2009 by WDNR Forester Steve Holaday. It outlines forest management objectives and recommendations throughout the School Forest. Appendix A of the Stewardship Plan, prepared by State Archeologist John Broihahn, contains an assessment of the ~~current~~ conditions of the mounds and a detailed set of recommendations for future maintenance of the mounds.

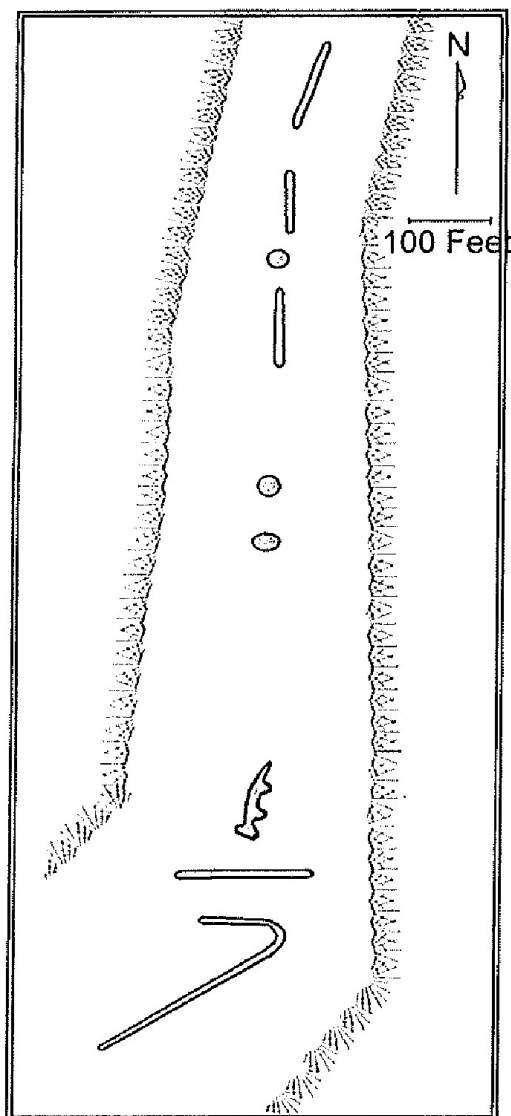
Village of McFarland's Plan Commission approved Ordinance 2022-18 on January 17, 2023, an ordinance rezoning certain lands at 6330 Exchange Street and 4901 Burma Road in respects to a land exchange agreement between the Village and the School District. The Commission also approved a Certified Survey Map, CSM, for lot line adjustments between the two lots. The approvals confirmed the transfer of the School Forest from the School District to the Village while remaining open for public use.

In view of the extensive studies that have been conducted on IMCP and the work already completed, the following maintenance priorities are established for the mounds in IMCP:

⁸ Wisconsin Historical Society Assessment of Lewis Mound Group – ~~October~~, October 2007

1. The June 2009 amendment to the McFarland School Forest Stewardship Plan, which splits the former "Stand 1 " into two separate forest stands, should be incorporated by the WDNR forester into a new Community Forest management plan for IMCP. This would lead to re-establishment of an oak woodland or oak opening community around the mound groupings, consistent with the native vegetation believed to be present at the time the mounds were built.
2. The October 2007 Wisconsin Historical Society Assessment for the Lewis Mound Group should be followed as a guideline to prioritize maintenance practices on each individual mound.
3. Trails should be relocated further away from the mounds where necessary, erosion of the trail surfaces minimized, and views of the mounds from the trails improved. Relocation of the trail that cuts into mound #2 should be an immediate priority.
4. Tree and shrub removal on and around the mounds should be completed in accordance with Section VI of this policy. Removal of non-native and invasive species and ~~reestablishment~~re-establishment of native ground cover species should be ongoing.
5. Informational signage should be installed to protect the mounds and other environmentally sensitive areas, to lead visitors through the park, and to interpret the cultural significance of the mounds.
6. The misleading signage at the west entrance regarding the bike trail should be changed to clarify that the trails in IMCP are not intended for bike riding and that, if bikes are taken into the park, they should be walked and not ridden.
7. The bear mound, the linear mound at the top of the park, and the partial mound should be prioritized as the first mounds to receive Phase I maintenance and used as demonstration projects to assess the appropriateness and effectiveness of the recommended maintenance protocols. Once Phase I maintenance activities are completed on these higher priority mounds, Phase I work on all remaining mounds should commence as soon as time and resources permit.
8. Seek approval from Wisconsin Historical Society to remove man-made fill deposited years ago at the base area of the old water tower and along the southern edge of the access road. As an alternative, seek approval to augment and regrade these areas to create more natural looking contours.

IMCP Mound Site



B. Siggelkow Road Park

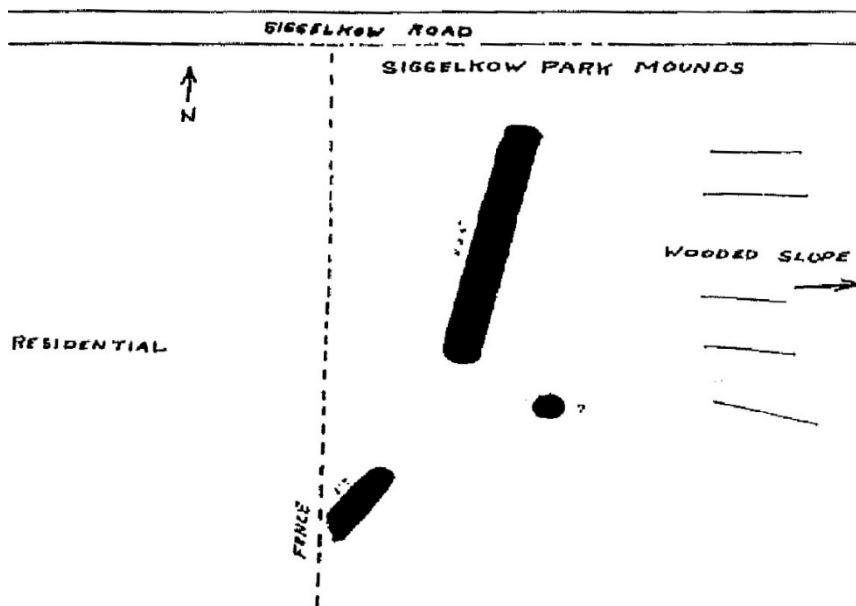
Siggelkow Road Park contains the Siggelkow Park Mounds Group which consists of at least two linear mounds and an unknown number of other potential mounds. The northernmost of these linears is approximately ~~22~~25 feet long, ten feet (10') wide, and two feet (2') high and has been potted or looted. The second mound, which is located southwest of the first, is about 57 feet long but has been truncated by residential development. There are also faint signs of a possible conical or effigy mound remnant. These mounds have been catalogued as a group with a fifteen feet (15') no disturbance buffer. The Siggelkow Park Mound Group is eligible for listing on the National Register of Historic Places "because it is likely to contain important information on the prehistoric Late Woodland cultural stage in Wisconsin and because it is a good representative of a distinctive type and period of construction."

The Siggelkow Park mound site has been mapped and broadly evaluated by the Wisconsin

Historical Society but they have not provided any specific recommendations on maintenance. The following short term maintenance priorities are established for the mounds site in Siggelkow Park:

1. ~~1.~~ Complete a comprehensive site assessment including a tree inventory, risk assessment, and a more thorough archeological evaluation of the possible remnant of a conical or effigy mound.
2. ~~2.~~ Complete Phase I of vegetation management consistent with Section VI of this policy.
3. ~~3.~~ 2. Prepare a Follow long term long-term plan of phased maintenance steps in Section V of this policy.

Siggelkow Park Mound Site



C. Taylor Road Conservancy

The Taylor Road Conservancy is located on the eastern drumlin of conjoined drumlins that now straddle Lexington Street. It contains the Evans-Nelson mound site which currently consists of one linear mound. Historical records indicate the earlier presence of more linear mounds at this [site site](#), but they apparently have been destroyed by a combination of cultivation and the huge cut made into the hill southwest of Taylor Road.⁵ The remaining linear mound has been truncated by a logging-style road at its southern end but is otherwise in good condition. Approximately one half of the mound is located on Village-owned park land and the other half was carved out of Lot 20 of Woodland Commons subdivision and dedicated to the Village, so the entire mound is under public ownership and protection. This mound has been catalogued with a fifteen feet (15') no disturbance buffer. As part of the [previous](#) subdivision platting process, the Village created a twenty feet (20') buffer and environmental corridor around the mound. [With the new mound update, the Village is looking to increase the buffer around the mound to twenty-five feet \(25'\).](#) (See map under "D" [below](#).)

The Taylor Road Conservancy mound site has been privately surveyed and also located and broadly evaluated by the Wisconsin Historical Society which did not provide any specific recommendations on maintenance. The following short term maintenance priorities are established for the mound site at the Taylor Road Conservancy:

1. Relocate as soon as possible the footpath that currently crosses a portion of the mound and block off the old footpath,
2. Complete a comprehensive site assessment including mapping and a risk assessment.
- ~~3. Complete Phase I of vegetation management consistent with Section VI of this policy.~~
- ~~4.3. Install warning signage and notify adjacent residents about the presence of the mound and educate them on its cultural significance and the importance of protecting the integrity of the mound.~~
- ~~4. 5. Prepare a long term long-term plan of Follow phased maintenance steps in Section V of this policy.~~

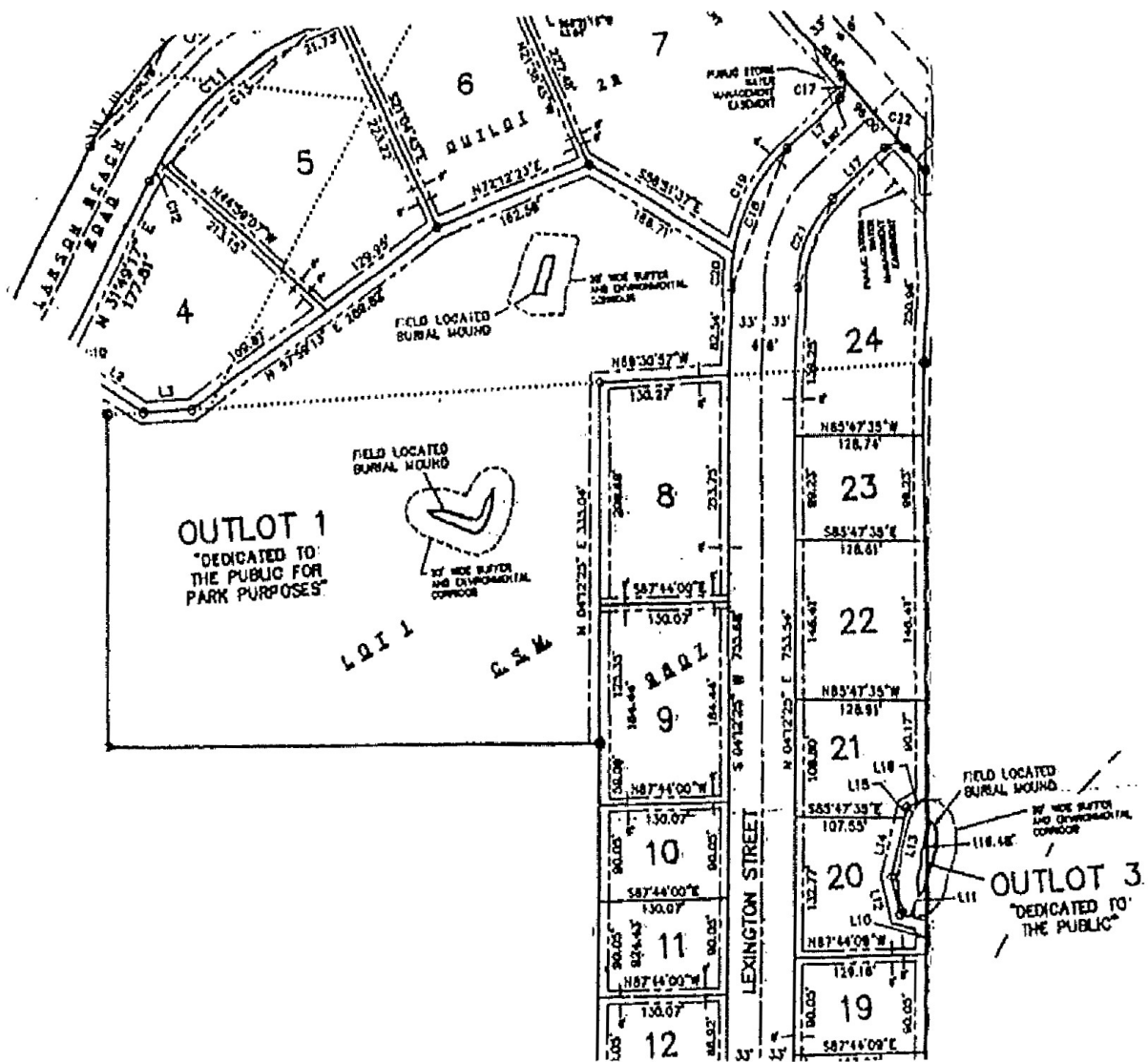
~~D.~~ D. Woodlands Commons Park Conservancy

Woodland Commons Park Conservancy is located on the western drumlin of conjoined drumlins that now straddle Lexington Street. It contains the Dale Mound Site which currently consists of one linear and one angular linear which is bent at right angles to itself. Historical records indicate the earlier presence of four mounds at this ~~site~~site, but some were apparently destroyed in 1984 when the hillside was excavated for fill for reconstructing US Highway 51. The northernmost surviving linear was also truncated by this excavation process. This mound site has been catalogued as a group with a fifteen feet (15) no disturbance buffer. As part of the subdivision platting process, the Village created a twenty feet (20') buffer and environmental corridor around each mound.

The Woodland Commons Park Conservancy mound site has been privately surveyed and also located and broadly evaluated by the Wisconsin Historical Society which did not provide any specific recommendations on maintenance. The following short term maintenance priorities are established for the mound site at Woodland Commons Conservancy Park:

- ~~1. 1. Remove immediately any evidence of human encroachment and inappropriate use of the area near the northernmost mound. Construct as soon as possible a low split rail fence to prevent future encroachment.~~
- ~~2. 2. Complete a comprehensive site assessment including mapping, a tree inventory, and a risk assessment.~~
- ~~3. 3. Complete Phase I of vegetation management consistent with Section VI of this policy.~~
- ~~4. 4. Prepare a long term long-term plan of Follow phased maintenance steps in Section V of this policy.~~

Taylor Road Conservancy Mound Site and Woodland Commons Mound Site



VIII. ~~_____~~ MONITORING AND EVALUATION OF MOUND SITES

It is important that the Village make steady, annual progress in implementing these mound preservation and maintenance policies and goals. An example of an ongoing assessment grid has been created for potential use in keeping simultaneous track of the progress being made at all four mound sites (see Appendix A). Another example assessment grid, which is site-specific and more detailed, has also been created to monitor progress at each individual mound site (see Appendix B). Something similar to these example assessment grids should be updated annually and used by the Village Board (or a body to which it assigns the responsibility) Sustainability & Natural Resources Committee to re-evaluate the status and current condition of all mound sites.

The Village should establish and update annually a five-year plan which sets forth clear goals for preservation, maintenance, and possible restoration of the mounds in each of the four sites. The annual update should be completed in time to set priorities and establish funding needs as part of the Village's budget process.

This policy should be reviewed at least every five years with an eye to evaluating its continued applicability to the various mound sites. As appropriate, the policy should be updated to reflect changes in community thinking or approach, new discoveries, methods, or technological applications, unexpected field results, or changes in available funding or labor resources.

~~IX.~~ IX. EDUCATION AND PUBLIC OUTREACH

Indian Mound Conservation Park Conservancy (IMCP) is managed by the Village and is registered as a Community Forest. The McFarland School Forest occupies 69 acres adjacent to the mound site and is currently used for field trips and classes including Native American History and the mound building culture. ~~There exists~~ potential ~~programming exists~~ for ~~developing~~ cooperative educational activities between the Village and the School District, due to the proximity of the mound site to the schools. These entities share not only contiguous boundaries, but a strong commitment to fostering an informed and engaged citizenry. Their cooperative efforts provide a foundation for achieving the very desirable goal of education and public outreach. Effective education and public outreach at IMCP may encourage other Village civic or interest groups to become involved with the preservation and maintenance of the mounds.

Recommended objectives of an effective education and public outreach program would include:

1. To inform visitors about the human and natural history of the sites
2. To enhance existing cultural and historical resources with complementary educational activities (~~e-g-e.g.~~, joint activities with the McFarland Historical Museum or the McFarland School District)
3. To foster teaching and learning related to Native American culture and history
- ~~4.~~ 4. ~~_____~~ To develop awareness, appreciation, knowledge, and skills related to sustainable care of the environment and the Indian Native American mounds ~~mounds~~.
- ~~5.~~ 5. ~~_____~~ To engage residents and students in experiential learning through field experiences
- ~~6.~~ 6. ~~_____~~ To create a “Friends of McFarland Burial Mounds” ~~buy-into~~ assist with site maintenance activities.

7. Work with Village School ~~P~~programs to assist in various field activities.

Desirable components of an education and public outreach program ~~that~~ would help achieve the above objectives. The following could begin property trail signage along might include trails and informational signage designated pathways and entrances, classes/workshops organized by the Village and School District with, ~~and~~ speakers, ~~and perhaps~~ an interpretive center. Because of the natural settings in which most of the mounds are located, it would be possible to easily integrate educational objectives related to the environment on such topics as ecology, forest management, native and invasive species, wildlife, birding,

nature writing, storm water management, and water quality. The environmental education objectives for the McFarland School District, which incorporate all of these suggested ~~topics; topics,~~ have been developed and are outlined in the School Forest Education Plan.

~~X.~~ X. CONCLUSION

The Village Board believes that the recommendations contained in this policy document ~~will~~ advance McFarland and its community ~~a long way~~ toward meeting desirable goals for preserving, maintaining, and restoring McFarland's IndianNative American mounds. The Board is confident that, as interim goals are reached, ongoing evaluations completed, and new goals established, the Village will make continuous progress in establishing the optimum environment for protecting and preserving the mounds at all four of the sites.

In adopting these policies, the Village Board has been guided by several over-arching principles. These are the enormous sense of responsibility engendered by the presence of the IndianNative American mounds, the profound desire to protect and preserve the mounds for future generations, and the recognition that McFarland, ~~though restricted by small size and fiscal limitations,~~ can and must increase its efforts to do what must be done in the interests of the IndianNative Americans and their culture. ~~mounds.~~ The Village of McFarland and its residents should refocus on the fact that these burial mound sites are in essence large mortuaries and sacred sites that carry much history and connection to a group of people. The specific sites are no different than any other cemetery that we are familiar with.

On May 3, 2023, the Village Board and School Board approved Resolution #2023-07: a resolution acknowledging and celebrating the inherent sovereignty of the Ho-Chunk nation and the 11 additional Indigenous Nations within what is now referred to as the State of Wisconsin. Appendix X provides the details of the

APPENDICES

Appendix A — General Assessment Grid (example) for all Four Mound Sites

Appendix B — Specific Assessment Grids (example) for Each Mound Site

Appendix C — *Assessment of Current Conditions and Recommendations for the Lewis Mound Group in ~~IndianNative American~~Indian Mound Conservation Park* — John Broihahn, State Archeologist

Appendix D — *Restatement of the Lewis Mound Group Assessment* Alan Lulloff

Appendix ~~E~~ — *Mound Preservation and Maintenance*, Ho-Chunk Department of Heritage Preservation

Appendix ~~F~~ — ~~F~~ — *Burials, Earthworks, and Mounds Preservation Policy & Plan*, WI Dept. of Natural Resources

Appendix G — *Proposed Protocols for Cultural Resources Protection and Preservation on Public and Private Lands In the Lower Wisconsin State Riverway*

Appendix H — ~~IndianNative American~~Indian Mounds.' *Cultural Resources Fact Sheet 2*, National Resource Conservation Service

Appendix I — *Fact Sheet: How Trees Benefit Mounds and The Oaks in ~~IndianNative American~~Indian Mound Conservancy*, Alan R. Lulloff, P.E. CFM

**POLICY FOR
PRESERVATION
AND
MAINTENANCE OF
MCFARLAND'S
INDIAN MOUNDS**

ADOPTED August 9, 2010

I. INTRODUCTION

Southern Wisconsin is known for its prehistoric Indian mounds. The mounds were built by people of the Effigy Mound Culture, Late Woodland Stage, from approximately 650 to 1200 CE.* Many are burial grounds. Others may have served as man-made landmarks. The mounds are symbols/expressions of the mound builders religious faith and are considered sacred sites by Native Americans to this day. Fourteen of these rare and archaeologically significant treasures still exist on Village-owned property in McFarland. They are located in Indian Mound Conservation Park (IMCP), Siggelkow Park, the Taylor Road Conservancy, and Woodland Commons Park. Other mounds exist on private property within Village limits, and there may be others yet to be discovered on Village-owned lands. The McFarland Village Board recognizes that these few remaining mounds are of enormous historical and cultural value and has adopted and implemented this policy to ensure their protection and preservation for many generations to come.

*Common Era

II. CULTURAL IMPORTANCE

Over the centuries, Wisconsin's Indian mounds have disappeared in large numbers. They have been destroyed, damaged or neglected – victims of agricultural practices, the advance of urban development, indifference and/or ignorance. To halt further destruction and to raise public consciousness, the Ho Chunk Nation, cultural descendants of the mound builders, has reached out to communities where mounds exist and provided information and expertise on mound preservation and maintenance through their Department of Heritage Preservation.¹ Similarly, the Wisconsin Department of Natural Resources,² the Lower Wisconsin State Riverway Board,³ and the Wisconsin Historical Society⁴ have issued maintenance protocols aimed at preserving what remains of this part of Wisconsin's cultural and archaeological heritage. All of these land stewardship bodies recognize that Indian mound sites are irreplaceable and stress the responsibility of the land owner to protect these areas.

The Village of McFarland accepts this responsibility and further desires to become a role model for others to emulate. It has taken public ownership of the lands containing most of the mounds and has established conservancy uses on these lands to help protect the mounds. At one time, more than 80 Indian mounds graced the McFarland area. Prior to the Village taking ownership of what is now IMCP, two of the nine mounds that once occupied that land were destroyed by the grading of the hillside above Burma Road in the 1950's. Over the years community volunteers and school groups have done maintenance work such as removing invasive species and woody brush from some of the mounds and relocating and improving trails.

¹ *Mound Preservation and Maintenance*, Ho-Chunk Department of Heritage Preservation

² *Burials, Earthworks, And Mounds Preservation Policy & Plan*, WI Dept. of Natural Resources

³ *Proposed Protocols for Cultural Resources Protection and Preservation on Public and Private Lands In the Lower Wisconsin State Riverway*

⁴ *Wisconsin Historical Society Assessment of Lewis Mound Group - October, 2007*

III. PRESERVATION AND MAINTENANCE OF THE MOUNDS

A. Legal Framework

Wisconsin statutes designate the Wisconsin Historical Society as the oversight authority for Indian mound lands throughout the state. Those statutes [157.70(6m) (b) 2 and 3] which regulate burial sites that are on public lands impose certain requirements on municipalities. These regulations include: prohibiting the transfer of any burial site to any person who is not a municipality unless the transfer provides for preservation of the burial site from any disturbance by any person and unless the transfer is approved by the Wisconsin Historical Society; and requiring that the municipality shall endeavor to take positive action to preserve any burial site on land it owns through appropriate land use management, including but not limited to appropriate multiuse purposes such as nature preserves.

All of the acreage in IMCP is listed on the National Register of Historic Places which means that no ground disturbing activities are allowed anywhere within that park. Any activities that might potentially cause ground disturbance on or near the mounds in other parks require prior approval from the Wisconsin Historical Society. This approval process typically involves preparation and submittal of a plan by the Village President or Administrator for review by Wisconsin Historical Society staff. As appropriate, the Wisconsin Historical Society may circulate the proposed plan for review and comment by Native American nations in the state, with whom the agency is responsible for coordinating preservation efforts.

B. Approach

McFarland's mounds do not exist in isolation. All of them are in conservancies, and any maintenance activities undertaken on the mounds will inevitably have some impact on the surrounding natural and man-made environments. Managing the mounds properly and avoiding detrimental impacts to the broader environmental context within which they exist is a complex challenge. Diverse perspectives on meeting this challenge were expressed via community input at a public meeting,⁵ within the Committee's internal discussions, and in documents submitted to the Committee by concerned residents.⁶ There was no one-size-fits-all approach with which Committee members felt comfortable. As a result, the Committee's objective has been to determine a balanced approach to preservation and maintenance that meets McFarland's unique challenges.

The specific preservation and maintenance practices to be used will vary by mound site and from one individual mound to the next. There is, nonetheless, a systematic series of protocols that should be followed at all sites to ensure that the desired goals are achieved. That common approach recommended herein would typically involve the following steps:

1. Have a comprehensive site assessment of each mound site conducted by the State Archeologist that would include an archeological overview and appropriate mapping. A vegetation assessment and an overall risk assessment should also be conducted by a certified arborist and an ecological restoration expert. Such site assessments for the mounds in IMCP were conducted in 2006-2007 by the Wisconsin Historical Society. A forester and an ecologist from the WDNR have also reviewed

⁵ *Indian Mounds: Cultural Resources Fact Sheet 2*, National Resource Conservation Service

⁶ *Fact Sheet: How Trees Benefit Mounds and The Oaks in Indian Mound Conservancy*, Alan R. Lulloff, P.E. CFM

- surrounding conservancy areas in IMCP and provided suggestions on approaches to managing vegetation and improving forest health.
2. Determine the optimal conditions for protection and preservation of the mound site and prepare a long term maintenance plan to establish and maintain those optimal conditions.
 3. Obtain necessary approvals of this maintenance plan from the Burial Preservation Office of the Wisconsin Historical Society.
 4. Stabilize the current condition of the mounds to prevent any deterioration.
 5. Prepare a five year plan, to be updated annually, which identifies phased maintenance projects and practices to be undertaken at each of the four mound sites. Allocate the necessary resources in the annual budget process or pursue available grant funding to implement those plans.
 6. At the completion of each phase of maintenance, photograph, monitor, and evaluate the results over the course of at least one full growing season prior to determining what maintenance activities should be undertaken in the next phase, how the activities should be prioritized, and when the next phase should commence.
 7. Conduct public education/outreach activities and provide appropriate site amenities to promote greater understanding and enjoyment of the mound sites by the public in a manner that does not pose additional risk to the mounds.
 8. Evaluate the potential benefits of having the Taylor Road Conservancy and Woodland Commons Park mound sites listed on the National Register of Historic Places. Pursue local “landmark” status for all four mound sites.
 9. Conduct regular assessments of progress and continue these preservation and maintenance policies, plans and practices or revise them accordingly.

C. Goals and Objectives

The purpose of taking the common approach to preservation and maintenance described above is to meet goals and achieve results that should apply uniformly to all four Indian mound sites. The desired outcome and end vision for all sites are defined in the following goals and would be achieved by accomplishing the following objectives.

GOAL #1 – Ensure that the Indian mounds are protected from potential damage, stabilize the current condition of the mounds so they do not deteriorate, and improve the condition of the mounds as available resources permit.

OBJECTIVES:

1. Eliminate or minimize risks or threats that pose an unreasonable risk to the mounds.
2. If trail access to an area is deemed desirable, design or relocate trails so they do not encroach any closer than fifteen feet (15') from the mounds.
3. Direct bikers away from the mounds with appropriate signage and, if necessary, physical barriers.

GOAL #2 – Raise public awareness about the Indian mound sites and their human and natural history by conducting an effective education and public outreach program.

OBJECTIVES:

1. Provide suitable overlook points along the trails which permit observers to appreciate visually the shape of the mound(s) from a safe distance.
2. Install non-obtrusive warning signs to protect the mounds and interpretive signs to help observers better understand the mounds and their history.

3. Offer accompanying public education activities to foster a greater understanding of the historical, archeological, and cultural significance of the mounds.

GOAL #3 – In order to protect the mounds from potential damage and to respect the preferences of the Ho Chunk Nation regarding the presence of vegetation on their ancestral sites, achieve an eventual condition where no trees or shrubs are growing on the mounds or within a five feet (5') buffer zone and where each distinct mound shape is clearly defined and visible to an observer.

OBJECTIVES:

1. Remove all brush, non-native, and invasive species.
2. Remove in phases all trees except selected large, healthy, deep-rooted trees that are retained for forestry or environmental purposes, to preserve heritage trees, when significant unavoidable mound damage might occur during tree removal, or for other management purposes.
3. Remove these remaining trees as they deteriorate or die from natural causes.
4. Establish native ground cover on the mounds to protect against erosion and other potential damage and to minimize future maintenance efforts.
5. Emphasize the definition of each mound by using contrasting types of vegetation or in some other natural-looking manner.

IV. SITE ASSESSMENTS

Since the amount and quality of site assessment data that is currently available varies a great deal across the four mound sites, a comprehensive assessment by the Wisconsin Historical Society or other qualified professionals is required as an initial step for each Indian mound site to evaluate the existing plant community and the opportunity for restoration of the native plant community, to determine the current conditions of the mounds, to determine if there is a need for additional mapping, and to assess potential risks to the mounds. This assessment will identify those features which render each site unique and will influence the maintenance regimen selected.

A. Archaeological Overview

If one has not been conducted previously, an archeological overview of the site should be conducted both before and after phased maintenance work is implemented. If possible, the “before” overview should be conducted by the State Archeologist. At a minimum, the number and type of mounds should be described and surface observations should be made and recorded in narrative and in photographic forms. The condition of the mounds should be noted, such as whether the edges are well-defined or diffuse and whether the mounds are well-preserved or have been damaged. An additional walk through of the site should be conducted and updated notations made following extensive tree removal or introduction of fire to the site. To date, a proper archeological overview has been completed only for the mounds in IMCP.

B. Mapping

Mapping is important to assure that an accurate record of each Indian mound site is maintained. While adequate maps of the mound groups are generally available, it might be very useful if the maps contained greater detail. Village staff shall work with the Burial Sites Preservation staff in the Wisconsin Historical Society to acquire files from WHS that define the established mound protection boundaries for all Indian mounds documented to exist on Village-owned lands. Where they have not been previously documented new technologies are available that would enhance existing maps. Global Positioning System (GPS) coordinates with an accuracy level of

one foot should be taken for all mounds, although the accuracy of this data will be limited by the tree canopy and the often ill-defined nature of the mound edges. Maps of each individual mound site should be as accurate as possible and should document (as appropriate) the mound shape, dimensions, mound-mound angles, and the presence of depressions or other potential burial features. Notations regarding proximity to water features, roads, trails, property lines, and nearby development, topographical information, and other notable features of the site should be added to the maps as site assessments are completed. The most complete maps currently exist for IMCP, but these maps lack much of the recommended detail. The existing maps for the other three mound sites are even less detailed and need to be expanded.

C. Vegetation Assessment

An initial survey of trees, shrubs, and ground cover should be conducted and used in determining future vegetation management practices for each site. It may be appropriate to consult with a professional qualified in ecological restoration in developing this vegetation assessment. The assessment should describe the existing plant community and species, identify endangered or threatened species as well as invasive species, evaluate relics of native plant communities and the potential for future restoration and sustainability of native species, and note existing tree canopy and ground cover. A tree inventory detailing the species, size, and a general rating of the condition of all trees growing on the mounds and within a fifteen foot (15') buffer area from the base of the mounds should be completed by a certified arborist. This inventory should identify trees for removal based on objective criteria developed by the arborist and approved by the Village. The inventory will also differentiate between native and non-native trees and between deep-rooted and shallow-rooted species. The assessment should also note whether the use of controlled burns might be an appropriate and desirable vegetation management tool for the mounds and/or adjacent areas. No surveys that fully satisfy all of these assessment criteria have been completed for any of the four mound sites.

D. Risk Assessment

Using the information developed during the archeological survey, mapping, and vegetation assessment phases, each mound site should be assessed for inherent risks. Notations should be recorded regarding potential threats to the mound(s) from: erosion; proximity to neighboring development, roads, pedestrian or bicycle trails, playgrounds, and parks; non-native invasive species and tree species of concern due to disease or insects; and damage caused by humans or wildlife. Mounds associated with a “high-risk” for damage should receive immediate attention to assure protection and preservation.

Shallow – rooted trees can be a risk for windthrow. According to the National Resource Conservation Service, however, having tree cover on mounds can have both advantages and disadvantages. “The possibility of wind thrown trees is a potential area of concern. Overturned trees can pull up large chunks of soil with the root system causing damage to cultural deposits. Root penetration of trees and scrub can also have a significant impact on archeological deposits. However, removal of long established trees can be more detrimental to the mound than maintaining the existing cover.”⁷

⁷ *Indian Mounds: Cultural Resources Fact Sheet 2, National Resource Conservation Service*

V. PHASED MAINTENANCE OF THE MOUNDS

A good deal of deferred maintenance work on the mounds will be required. The phasing of maintenance is a practical reality given current limitations in available financial and labor resources. Another advantage of a phased approach is that it allows an evaluation to be conducted at the conclusion of each management phase. If any unintended or unexpected effects have occurred, future maintenance plans can be adjusted accordingly.

As each of the Indian mound sites is different, with its own unique surroundings and potential risks, the specific protection and maintenance practices to be used will vary between sites. The pace of the maintenance efforts and the timing of various phases will also differ between sites based on priorities established through the site assessment process and funding availability.

Vegetation management on mound sites would follow the sequential phases described below, diagrammed in flow chart form in Table 1, and summarized in Table 2. No specific time frame is established for the completion of a particular phase or the start of the following phase. It is understood that steps to establish healthy ground cover of native species, including ongoing removal of non-native and invasive species, would be continuous throughout the process as sunlight conditions change with progressive removal of tree canopy. At least one full growing season should be allowed to pass before beginning a subsequent maintenance phase. This will allow a proper period for monitoring and evaluating the results of the previous phase.

Maintaining a photographic history of the appearance of each mound before, during, and after each maintenance phase is strongly recommended. The data base of photographs should be properly indexed and catalogued by specific mound, phase, and date. Photographs should be stored in a commonly available on-line format that is searchable and from which potential users can download and print selected material.

A. Phase 1

1. Photograph each mound from several angles, noting the date taken
2. On the mounds themselves:
 - a. Remove all brush and all non-native or invasive species of groundcover and trees
 - b. Remove all dead, down, and unhealthy trees; all shallow-rooted trees, regardless of size; and any trees recommended for removal by a certified arborist if they pose an undue risk to the mounds for other reasons.
 - c. Remove all trees less than 5" diameter at breast height (DBH) in size
 - d. Seed native vegetation in a mixture recommended by a qualified professional
3. Within a fifteen feet (15') buffer area from the base of the mounds:
 - a. Remove all dead, down, and unhealthy trees; all shallow-rooted trees, regardless of size; and any trees recommended for removal by a certified arborist if they pose an undue risk to the mounds for other reasons.
4. Photograph each mound from several angles, noting the date taken

B. Evaluation Phase (should begin after one complete growing season)

1. Photograph each mound from several angles, noting the date taken
2. Document the specific maintenance activities performed to date
 - a. Describe any detrimental results from the work done in the previous phase (e.g., an increase in invasive species, signs of erosion)
 - b. Describe any positive results from the previous phase (e.g., increased sunlight, improved growth of native vegetation)

3. Based on the analysis of results made during this Evaluation Phase, modify as appropriate the maintenance priorities and activities planned for the next phase

C. Phase 2

1. Photograph each mound from several angles, noting the date taken
2. On the mounds themselves:
 - a. Ongoing removal of all brush, small trees, and all non-native or invasive species of groundcover
 - b. Remove all trees between 5" - 12" DBH in size. Also remove those trees so recommended by a certified arborist if they pose an undue risk to the mounds
 - c. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified professional
3. Within a five feet (5') buffer area from the base of the mounds:
 - a. Remove all brush and all non-native or invasive species of groundcover and trees
 - b. Remove all trees less than 5" DBH in size. Also remove those trees so recommended by a certified arborist if they pose an undue risk to the mounds
 - c. Seed native vegetation in a mixture recommended by a qualified professional
4. Photograph each mound from several angles, noting the date taken

D. Evaluation Phase (see above)

E. Phase 3

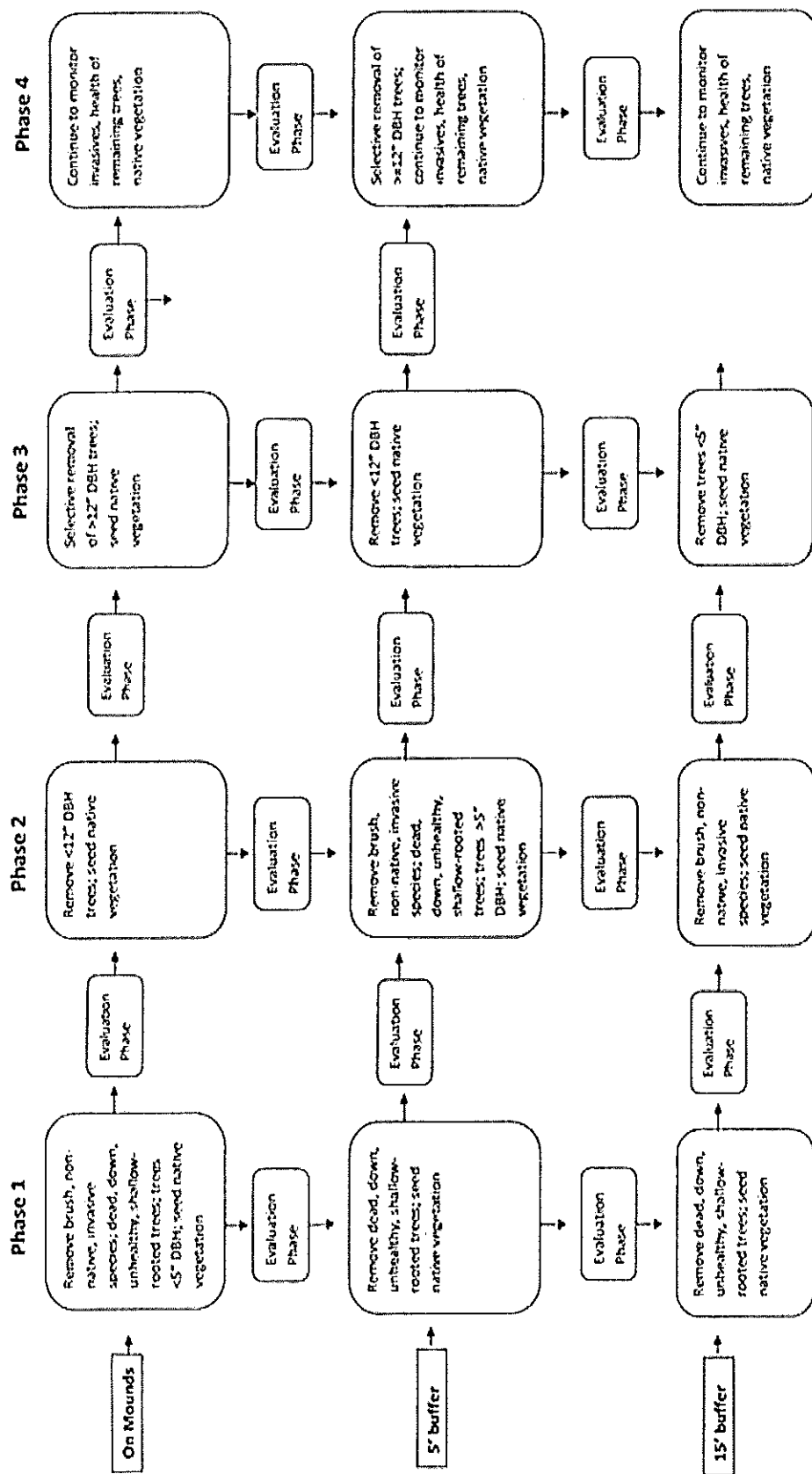
1. Photograph each mound from several angles, noting the date taken
2. On the mounds themselves:
 - a. Ongoing removal of all brush, small trees, and all non-native or invasive species of groundcover
 - b. Remove all remaining trees unless it is determined that selected large, healthy, deep-rooted trees should be retained for forestry or environmental purposes, to preserve heritage trees, when significant unavoidable mound damage would occur during tree removal, or for other management purposes
 - c. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified professional
3. Within a five feet (5') buffer area from the base of the mounds:
 - a. Ongoing removal of all brush, small trees and all non-native or invasive species of groundcover
 - b. Remove all trees less than 12" DBH in size. Also remove those trees so recommended by a certified arborist if they pose an undue risk to the mounds
 - c. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified professional
4. Within a fifteen feet (15') buffer area from the base of the mounds:
 - a. Remove all brush and all non-native or invasive species of groundcover and trees
 - b. Remove all trees less than 5" DBH in size. Also remove those trees so recommended by a certified arborist if they pose an undue risk to the mounds
 - c. Seed native vegetation in a mixture recommended by a qualified professional
5. Photograph each mound from several angles, noting the date taken

F. Evaluation Phase (see above)

G. Phase 4

1. Photograph each mound from several angles, noting the date taken
2. On the mounds themselves:
 - a. Ongoing removal of all brush and small trees and all non-native or invasive species of groundcover
 - b. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified professional
3. Within a five feet (5 ') buffer area from the base of the mounds:
 - a. Ongoing removal of all brush and small trees and all non-native or invasive species of groundcover
 - b. Remove all remaining trees unless it is determined that selected large, healthy, deep-rooted trees should be retained for forestry or environmental purposes, to preserve heritage trees, when significant unavoidable mound damage would occur during tree removal, or for other management purposes
 - c. As necessary, continue seeding of native vegetation in a mixture recommended by a qualified professional
4. Photograph each mound from several angles, noting the date taken

TABLE 1



**TABLE 2
PHASES OF VEGETATION MANAGEMENT**

	ON MOUNDS	5' BUFFER	15' BUFFER
Remove brush, non-native and invasive species	Phase 1	Phase 2	Phase 3
Remove dead, down, unhealthy, and shallow-rooted trees	Phase 1	Phase 1	Phase 1
Remove <5" DBH trees. Also remove trees so recommended by a certified arborist	Phase 1	Phase 2	Phase 3
Seed native vegetation in a mixture recommended by a qualified professional	All phases as needed	All phases as needed	All phases as needed
Remove <12" DBH trees. Also remove trees so recommended by a certified arborist	Phase 2	Phase 3	Not applicable
Selective removal of 12" DBH and larger trees. Also remove trees so recommended by a certified arborist	Phase 3	Phase 4	Not applicable

NOTE: An evaluation phase should occur after each management phase. Evaluation should include photographing each mound noting the date, documenting specific maintenance activities that occurred in the previous management phase, and describing any positive or negative effects of those activities. This information should be used to guide appropriate modifications of the maintenance priorities and activities planned for the next management phase.

VI. GENERAL MOUNDS MAINTENANCE CONSIDERATIONS

A. Tree and Shrub Removal

Removal of trees and shrubs from mounds and within a five feet (5') buffer area from the base of the mounds is generally desirable to protect them from windthrow and other damage, and to encourage growth of native groundcover that will help prevent erosion. To help mitigate the potential of windthrow, all shallow-rooted trees will be removed during Phase 1 of the maintenance. However, some selected large, healthy, deep-rooted trees may be retained for forestry or environmental purposes, to preserve heritage trees, when significant unavoidable mound damage might occur during tree removal, or for other management purposes. Heritage trees are defined in the Village's Tree and Shrub Ordinance. The condition of any large trees that are retained should be re-evaluated periodically to ensure that their health is stable and that they continue to pose no undue risk to the mounds.

No ground disturbance is allowed. All tree removal should be done when the ground is frozen hard. Trees growing on the mounds should be hand cut, or cut with a machine that can stay at least fifteen feet (15') from the mounds. No machinery is permitted to be used, however, on

slopes steeper than 12% or on lands listed on the National Register of Historic Places, unless approved by the Wisconsin Historical Society. The trees should be cut close to the ground and stumps should be left intact. The stumps can be treated to prevent regrowth. During tree removal, trees should not be dropped or dragged across the mounds, and machinery and other vehicles should not be driven across the mounds. The logs and other material should be hauled away or scattered or piled at least fifteen feet (15 ') from the defined burial area or mound.

Woody shrubs and invasives can be removed at any time with proper care since their removal should not require use of heavy equipment or involve ground disturbance. All vegetative waste material should be removed from the area. Replacement vegetation should be appropriate for the current use or planned restoration objectives.

B. Burning

The use of fire to control woody vegetation and to enhance the native plant community in a prairie or savanna ecosystem is an important management tool, but the decision to use controlled burns should be made on an individual site basis and balanced against other factors that should be considered consistent with Village ordinances and protocols. Surveys should be conducted following any controlled burning to look for possible artifacts and to determine the response of the native plant community to fire. Installation of firebreaks and use of firefighting equipment at a site should be carefully monitored for both safety and potential ground disturbance reasons.

C. Chemical Treatment

Removal of the roots of mature woody vegetation via hand-pulling is not recommended due to the ground disturbance that results. Chemical treatments to control woody vegetation or non-native invasive species can be very effective when applied properly. To minimize the use of chemicals, however, hand pulling should be used for control of small seedlings and most herbaceous plants.

D. Trails

Pedestrian and wheeled traffic should never be allowed on the mounds. Trails should be established at those sites where public visitation either is likely or is encouraged. Trails should be located a minimum of fifteen feet (15') or more from the outer perimeter of the mound. Small trees and large brush stems that have been removed from the mounds in Phase I or II may be used for trail demarcation. The use of wood chips, shredded bark, or mowing may be considered for trail maintenance. In locating and designing trails, consideration should be given to the proximity of the mounds, aesthetics, view sheds and erosion control. All trails should be made as accessible to the disabled as possible.

E. Signage

The Village should retain control of the wording and placement of all signage and coordinate the placement with the Wisconsin Historical Society. Signage at mound sites should be minimized but efforts should be made to educate and inform the public about the significance of the site and the people who constructed the earthworks. Maps of the mounds at specific sites or in a general context of other mound groups in the vicinity may be useful. A generic sign for selected sites that describes the effigy mound building culture and the types of mounds (effigy, linear or conical) may be appropriate. Affirmation of the sacred nature of the site to Native American peoples should be included in the signage. A strong statement about staying off the mounds and information on the burial sites preservation law should be included. Site specific signage should

include a map of the site and information regarding the unique features of the site. In some circumstances, brochures or small maps could be provided to visitors.

F. Repair of Damaged Mounds

Where appropriate, repair of mounds damaged by post Euro-Yankee settlement activities and/or natural causes may be considered. Coordination with the Wisconsin Historical Society is required.

G. Use of Volunteers

Volunteers may be enlisted to assist with mounds maintenance activities, monitoring, and education. The proximity of the mound site in IMCP to a number of local schools affords an ideal opportunity for student and parent involvement in the maintenance of the mounds. As described in Section VIII, involving community volunteers is also an effective way to expand education about the mound building culture and the sanctity of the surviving mounds to Native Americans.

Volunteers have been very active in the removal of invasive species and promoting the growth of native vegetation within IMCP. Neighborhood groups should be recruited and encouraged to adopt a particular site. A reference manual should be provided containing information useful to volunteers and a system should be developed for tracking the time contributed and the work tasks performed by volunteers. The use of power equipment by volunteers should be monitored closely by a qualified team leader. Persons using chainsaws or mechanical brush cutters must be approved by Village staff and have appropriate safety training and equipment. The number of persons using mechanical equipment should be strictly limited to promote safety.

VII. RECOMMENDED MAINTENANCE PLANS FOR SPECIFIC MOUND SITES

A. Indian Mound Conservation Park (IMCP)

IMCP contains the Lewis Mound Group which consists of nine (9) mounds, including one short tailed quadruped in the shape of a bear, four linear, one long hook-shaped linear, one oval, and two conical mounds (see map below). Portions of the linear and a portion on one of the conicals were destroyed by development but partial restoration has occurred. The site is listed on the National Register of Historic Places and the nomination covers the entire 10 acre area of IMCP. The mounds have been catalogued in small groups and as single mounds. No ground disturbing activities are permitted anywhere within IMCP.

Considerable maintenance work on the mounds in IMCP has already been completed by the Village, community volunteers, and through the McFarland School District's School Forest Program. A site assessment was completed in 2006-2007 by the Wisconsin Historical Society. On the subject of tree removal, the assessment found then that "At this point in time, all of the trees growing on the mounds seem to be healthy and they are not in immediate danger of tipping over."⁸ Individually and in concert, these groups have completed a site assessment, relocated some segments of walking trails away from the mounds, removed invasive species (ongoing process), re-established native species (ongoing process), and erected some informational signage. The Village acknowledges these previous contributions to preserving and maintaining the mounds and thanks those who have participated.

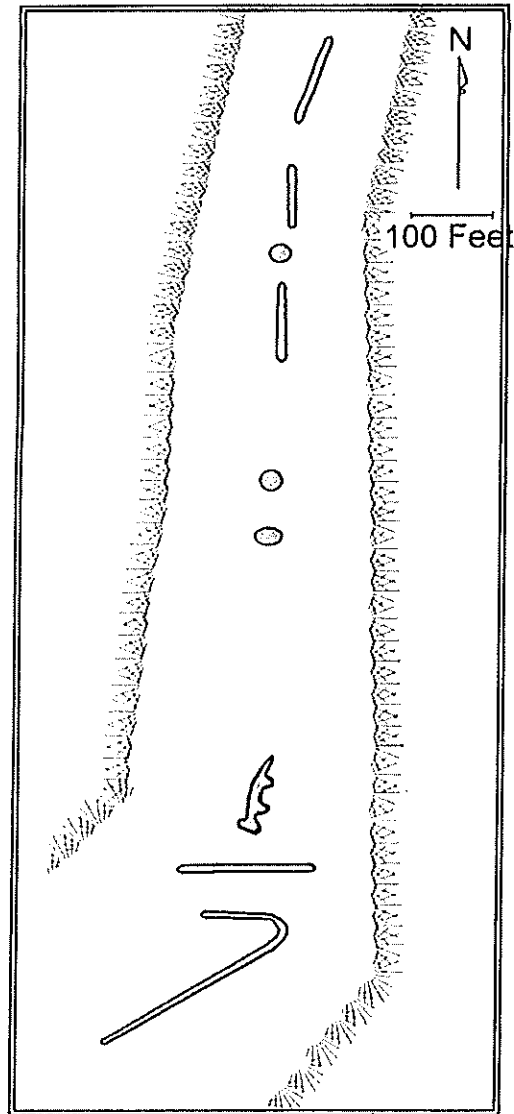
⁸ *Wisconsin Historical Society Assessment of Lewis Mound Group – October, 2007*

IMCP was designated in 2010 as a Community Forest. It is located adjacent to the McFarland School Forest which was established in 2006. The McFarland School Forest Stewardship Plan, which included the Indian mound area through a 2007 Land Use Agreement with the Village, was prepared in 2007 and updated in 2009 by WDNR Forester Steve Holaday. It outlines forest management objectives and recommendations throughout the School Forest. Appendix A of the Stewardship Plan, prepared by State Archeologist John Broihahn, contains an assessment of the current conditions of the mounds and a detailed set of recommendations for future maintenance of the mounds.

In view of the extensive studies that have been conducted on IMCP and the work already completed, the following maintenance priorities are established for the mounds in IMCP:

1. The June 2009 amendment to the McFarland School Forest Stewardship Plan, which splits the former "Stand 1" into two separate forest stands, should be incorporated by the WDNR forester into a new Community Forest management plan for IMCP. This would lead to re-establishment of an oak woodland or oak opening community around the mound groupings, consistent with the native vegetation believed to be present at the time the mounds were built.
2. The October 2007 Wisconsin Historical Society Assessment for the Lewis Mound Group should be followed as a guideline to prioritize maintenance practices on each individual mound.
3. Trails should be relocated further away from the mounds where necessary, erosion of the trail surfaces minimized, and views of the mounds from the trails improved. Relocation of the trail that cuts into mound #2 should be an immediate priority.
4. Tree and shrub removal on and around the mounds should be completed in accordance with Section VI of this policy. Removal of non-native and invasive species and re-establishment of native ground cover species should be ongoing.
5. Informational signage should be installed to protect the mounds and other environmentally sensitive areas, to lead visitors through the park, and to interpret the cultural significance of the mounds.
6. The misleading signage at the west entrance regarding the bike trail should be changed to clarify that the trails in IMCP are not intended for bike riding and that, if bikes are taken into the park, they should be walked and not ridden.
7. The bear mound, the linear mound at the top of the park, and the partial mound should be prioritized as the first mounds to receive Phase 1 maintenance and used as demonstration projects to assess the appropriateness and effectiveness of the recommended maintenance protocols. Once Phase 1 maintenance activities are completed on these higher priority mounds, Phase 1 work on all remaining mounds should commence as soon as time and resources permit.
8. Seek approval from Wisconsin Historical Society to remove man-made fill deposited years ago at the base area of the old water tower and along the southern edge of the access road. As an alternative, seek approval to augment and regrade these areas to create more natural looking contours.

IMCP Mound Site



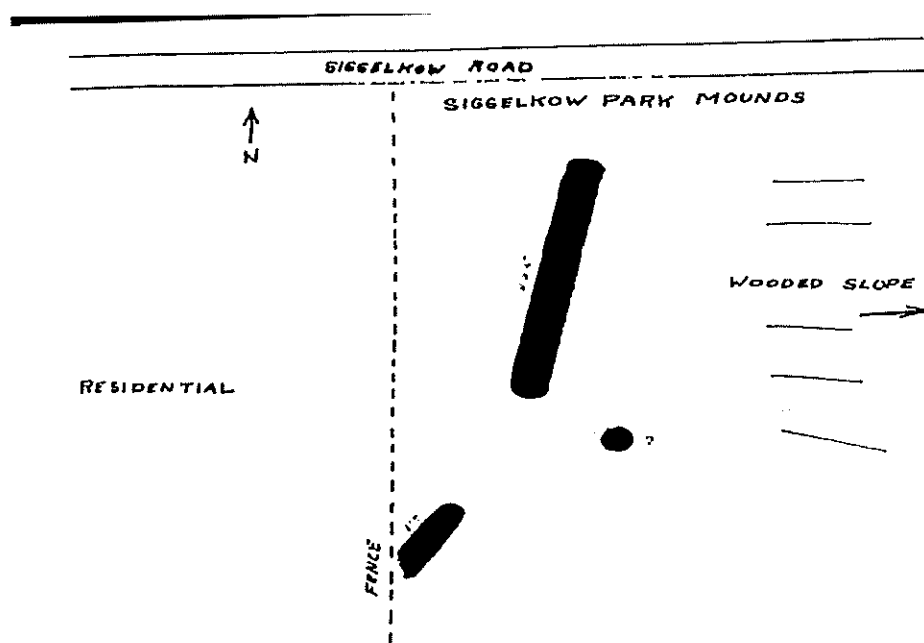
B. Siggelkow Park

Siggelkow Park contains the Siggelkow Park Mounds Group which consists of at least two linear mounds and an unknown number of other potential mounds. The northernmost of these linears is approximately 225 feet long, ten feet (10') wide, and two feet (2') high and has been potted or looted. The second mound, which is located southwest of the first, is about 57 feet long but has been truncated by residential development. There are also faint signs of a possible conical or effigy mound remnant. These mounds have been catalogued as a group with a fifteen feet (15') no disturbance buffer. The Siggelkow Park Mound Group is eligible for listing on the National Register of Historic Places "because it is likely to contain important information on the prehistoric Late Woodland cultural stage in Wisconsin and because it is a good representative of a distinctive type and period of construction."

The Siggelkow Park mound site has been mapped and broadly evaluated by the Wisconsin Historical Society but they have not provided any specific recommendations on maintenance. The following short term maintenance priorities are established for the mounds site in Siggelkow Park:

1. Complete a comprehensive site assessment including a tree inventory, risk assessment, and a more thorough archeological evaluation of the possible remnant of a conical or effigy mound.
2. Complete Phase 1 of vegetation management consistent with Section VI of this policy.
3. Prepare a long term plan of phased maintenance.

Siggelkow Park Mound Site



C. Taylor Road Conservancy

The Taylor Road Conservancy is located on the eastern drumlin of conjoined drumlins that now straddle Lexington Street. It contains the Evans-Nelson mound site which currently consists of one linear mound. Historical records indicate the earlier presence of more linear mounds at this site but they apparently have been destroyed by a combination of cultivation and the huge cut made into the hill southwest of Taylor Road. The remaining linear mound has been truncated by a logging-style road at its southern end but is otherwise in good condition. Approximately one half of the mound is located on Village-owned park land and the other half was carved out of Lot 20 of Woodland Commons subdivision and dedicated to the Village, so the entire mound is under public ownership and protection. This mound has been catalogued with a fifteen feet (15') no disturbance buffer. As part of the subdivision platting process, the Village created a twenty feet (20') buffer and environmental corridor around the mound. (See map under "D" below.)

The Taylor Road Conservancy mound site has been privately surveyed and also located and broadly evaluated by the Wisconsin Historical Society which did not provide any specific recommendations on maintenance. The following short term maintenance priorities are established for the mound site at the Taylor Road Conservancy:

1. Relocate as soon as possible the footpath that currently crosses a portion of the mound and block off the old footpath.
2. Complete a comprehensive site assessment including mapping and a risk assessment.
3. Complete Phase 1 of vegetation management consistent with Section VI of this policy.
4. Install warning signage and notify adjacent residents about the presence of the mound and educate them on its cultural significance and the importance of protecting the integrity of the mound.
5. Prepare a long term plan of phased maintenance.

D. Woodlands Commons Park

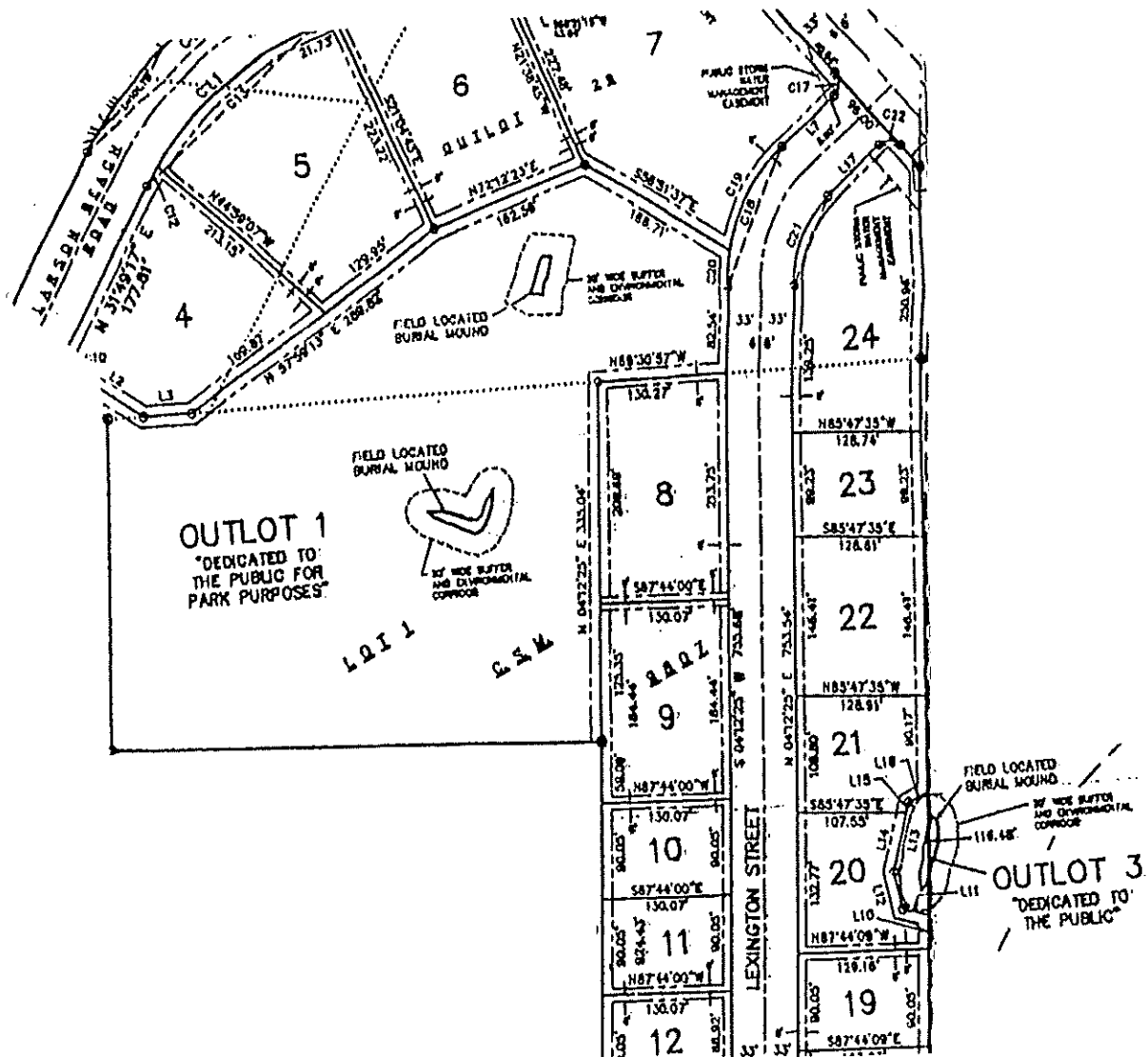
Woodland Commons Park is located on the western drumlin of conjoined drumlins that now straddle Lexington Street. It contains the Dale Mound Site which currently consists of one linear and one angular linear which is bent at right angles to itself. Historical records indicate the earlier presence of four mounds at this site but some were apparently destroyed in 1984 when the hillside was excavated for fill for reconstructing US Highway 51. The northernmost surviving linear was also truncated by this excavation process. This mound site has been catalogued as a group with a fifteen feet (15') no disturbance buffer. As part of the subdivision platting process, the Village created a twenty feet (20') buffer and environmental corridor around each mound.

The Woodland Commons Park mound site has been privately surveyed and also located and broadly evaluated by the Wisconsin Historical Society which did not provide any specific recommendations on maintenance. The following short term maintenance priorities are established for the mound site at Woodland Commons Park:

1. Remove immediately any evidence of human encroachment and inappropriate use of the area near the northernmost mound. Construct as soon as possible a low split rail fence to prevent future encroachment.

2. Complete a comprehensive site assessment including mapping, a tree inventory, and a risk assessment.
3. Complete Phase 1 of vegetation management consistent with Section VI of this policy.
4. Prepare a long term plan of phased maintenance.

Taylor Road Conservancy Mound Site and Woodland Commons Mound Site



VIII. MONITORING AND EVALUATION OF MOUND SITES

It is important that the Village make steady, annual progress in implementing these mound preservation and maintenance policies and goals. An example of an ongoing assessment grid has been created for potential use in keeping simultaneous track of the progress being made at all four mound sites (see Appendix A). Another example assessment grid, which is site-specific and more detailed, has also been created to monitor progress at each individual mound site (see Appendix B). Something similar to these example assessment grids should be updated annually and used by the Village Board (or a body to which it assigns the responsibility) to re-evaluate the status and current condition of all mound sites.

The Village should establish and update annually a five-year plan which sets forth clear goals for preservation, maintenance, and possible restoration of the mounds in each of the four sites. The annual update should be completed in time to set priorities and establish funding needs as part of the Village's budget process.

This policy should be reviewed at least every five years with an eye to evaluating its continued applicability to the various mound sites. As appropriate, the policy should be updated to reflect changes in community thinking or approach, new discoveries, methods, or technological applications, unexpected field results, or changes in available funding or labor resources.

IX. EDUCATION AND PUBLIC OUTREACH

Indian Mound Conservation Park (IMCP) is managed by the Village and is registered as a Community Forest. The McFarland School Forest occupies 6.9 acres adjacent to the mound site and is currently used for field trips and classes including Native American History and the mound building culture. The potential exists for developing cooperative educational activities due to the proximity of the mound site to the schools. These entities share not only contiguous boundaries, but a strong commitment to fostering an informed and engaged citizenry. Their cooperative efforts provide a foundation for achieving the very desirable goal of education and public outreach. Effective education and public outreach at IMCP may encourage other Village civic or interest groups to become involved with the preservation and maintenance of the mounds.

Recommended objectives of an effective education and public outreach program would include:

1. To inform visitors about the human and natural history of the sites
2. To enhance existing cultural and historical resources with complementary educational activities (e.g. joint activities with the McFarland Historical Museum or the McFarland School District)
3. To foster teaching and learning related to Native American culture and history
4. To develop awareness, appreciation, knowledge, and skills related to sustainable care of the environment and the Indian mounds
5. To engage residents and students in experiential learning through field experiences

Desirable components of an education and public outreach program that would help achieve the above objectives might include trails and informational signage, classes/workshops, speakers, and perhaps an interpretive center. Because of the natural settings in which most of the mounds are located, it would be possible to easily integrate educational objectives related to the environment on such topics as ecology, forest management, native and invasive species, wildlife, birding,

nature writing, storm water management, and water quality. The environmental education objectives for the McFarland School District, which incorporate all of these suggested topics, have been developed and are outlined in the School Forest Education Plan.

X. CONCLUSION

The Village Board believes that the recommendations contained in this policy document will advance McFarland a long way toward meeting desirable goals for preserving, maintaining, and restoring McFarland's Indian mounds. The Board is confident that, as interim goals are reached, ongoing evaluations completed, and new goals established, the Village will make continuous progress in establishing the optimum environment for protecting and preserving the mounds at all four of the sites.

In adopting these policies, the Village Board has been guided by several over-arching principles. These are the enormous sense of responsibility engendered by the presence of the Indian mounds, the profound desire to protect and preserve the mounds for future generations, and the recognition that McFarland, though restricted by small size and fiscal limitations, can and must increase its efforts to do what must be done in the interests of the Indian mounds.

APPENDICES

Appendix A – General Assessment Grid (example) for all Four Mound Sites

Appendix B – Specific Assessment Grids (example) for Each Mound Site

Appendix C – *Assessment of Current Conditions and Recommendations for the Lewis Mound Group in Indian Mound Conservation Park* – John Broihahn, State Archeologist

Appendix D – *Restatement of the Lewis Mound Group Assessment* – Alan Lulloff

Appendix E – *Mound Preservation and Maintenance*, Ho-Chunk Department of Heritage Preservation

Appendix F – *Burials, Earthworks, and Mounds Preservation Policy & Plan*, WI Dept. of Natural Resources

Appendix G – *Proposed Protocols for Cultural Resources Protection and Preservation on Public and Private Lands In the Lower Wisconsin State Riverway*

Appendix H – *Indian Mounds: Cultural Resources Fact Sheet 2*, National Resource Conservation Service

Appendix I – *Fact Sheet: How Trees Benefit Mounds and The Oaks in Indian Mound Conservancy*, Alan R. Lulloff, P.E. CFM

August, 2010

1

Sample All-Sites Assessment Grid

McFarland Indian Mounds - All Sites Assessment Grid				
Long-term Goals	Indian Mound Conservation Park 9	Siggelkow Group 3	Taylor Road Conservancy 1	Woodland Commons 2
Number of recognized mounds				
Maintenance and Preservation				
Completed archaeological & risk assessment				
Completed tree inventory				
Optimal conditions determined				
Optimal conditions established				
Assessment and Evaluation				
Annual				
Five-Year				
Public Education/Information Activities				
Speakers				
Interpretive trails				
Signs/maps				
Recruitment/training of volunteers				
Official Status				
Registered as National Landmark				
Registered as local landmark				
Grants applied for/received				

Sample Assessment Grid
Indian Mound Conservation Park

Indian Mound Conservation Park Mounds	Hook	Linear 1	Bear (effigy)	Oval	Conical 1	Linear 2	Conical 2	Linear 3	Linear 4
Maintenance/Preservation 2010-11									
Continue/complete trail relocation									
Create brush barriers									
Phase I tree removal									
Treat all stumps									
Continue removal of invasive species									
Continue removal of woody brush									
Begin/continue seeding of native species									
Conduct annual assessment one year from beginning of Phase 1									

Sample Assessment Grid
Indian Mound Conservation Park

Indian Mound Conservation Park Mounds	Hook	Linear 1	Bear (effigy)	Oval	Conical 1	Linear 2	Conical 2	Linear 3	Linear 4
Long Term Goals									
Mound clearly visible with well defined shape									
Trails are outside the 15' perimeter and prevent undesireable foot traffic									
invasive species are under control									
Undesirable woody brush is under control									
Desirable native species are thriving									
Mound is covered with desirable native species; erosion is controlled									
Designated trees have been removed									
Official Status									
Archaeological/SHS Assessment									
Registered as National Landmark									
Registered as a Local Landmark									

Sample Assessment Grid
Indian Mound Conservation Park

Indian Mound Conservation Park Mounds	Hook	Linear 1	Bear (effigy)	Oval	Conical 1	Linear 2	Conical 2	Linear 3	Linear 4
Grants applied for/received									
Education/Public Outreach									
Begin education/public outreach activities									

Sample Evaluation Phase 1
Indian Mound Conservation Park

Indian Mound Conservation Park Mounds Evaluation Phase 1	Hook	Linear 1	Bear (effigy)	Oval	Conical 1	Linear 2	Conical 2	Linear 3	Linear 4
Photograph each mound where Phase 1 work has been completed									
Record specific maintenance activities performed to date									
Record any detrimental results of Phase 1 work									
Record any positive results of Phase 1 work									
Recommend maintenance priorities for Phase 2 work									

2
Sample Evaluation Phase 1
Indian Mound Conservation Park

3

Sample Evaluation Phase 1

[illegible]

Preliminary Assessment Grid - Siggelkow Park

Siggelkow Park	Northern linear	SW linear	Remnant
Maintenance & Preservation Goals - 2010-11			
Photograph mounds prior to beginning work			
Archaeological and risk assessment including mapping	Priority	Priority	Priority
Tree inventory	Priority	Priority	Priority
Begin Phase 1 tree removal			
Long Term Goals			
All mounds clearly visible with well defined shapes			
Trails provide views of mounds and prevent undesirable foot traffic			
Invasive species are under control			
Undesirable woody brush is under control			
Desirable native species are thriving			
Mounds are covered with desirable native species			
Erosion is controlled			
Hazardous, unhealthy, trees have been removed along with those designated for removal by a qualified arborist			
Official Status			
Archaeological/Historical Soc. Survey	Priority	Priority	Priority
Registered as National Landmark			
Registered as a Local Landmark			
Grants applied for/received			
Education/Public Outreach Goals 2010-11			
Begin education/public outreach activities			

1
Evaluation Phase 1
Siggelkow Park

Siggelkow Park	Northern Linear	SW Linear	Remnant
Evaluation Phase #1 photograph each mound where Phase 1 work has been completed record specific maintenance activities performed to date record any detrimental results of Phase 1 work record any positive results of Phase 1 work recommend maintenance priorities for Phase 2 work			

**Lewis Mound Group (47 DA74)
McFarland Indian Mounds Park**

Assessment of Current Conditions and Recommendations

This site was listed on the National Register of Historic Places in 1984. The National Register boundary includes the entire hill ending near the base, or just above the private parcels with houses that surround the bluff. Because the site is listed on the National Register and is publicly owned, all projects occurring on the parcel must be reviewed by the Wisconsin Historical Society.

The site was cataloged as a cemetery under 157.70 in 1998. The mounds were cataloged individually with a 5.0 ft. buffer. Any ground disturbing activities, or potential ground disturbing activities, that occur on the mounds or within the 5.0 ft. buffer must be reviewed by the Wisconsin Historical Society.

We have been asked to provide information for long term planning associated with this site. The school is now managing the forest and they want to make sure the mounds are appropriately treated and I hope incorporated in the curriculum.

These comments are based upon on a 21 August 2007 and 26-27 September 2007 site visits.

Area A. Southwest Entrance - The two existing paths (east and northwest) come within 5.0 ft. and/or are cutting into the base of Mound #1 (the Hook Mound).

Recommendation: We suggest that the entrance be pushed west and that the two paths diverge further to the west. The East path should be moved south and the Northeast path should be moved northwest. Both paths should be at least 15.0 ft. away from the mound.

Area B. A volunteer path crossed Mound #1 at this point. It is now blocked on both sides by brush. No recent use or the re-development of the path was noted. The main path that runs on the north side of the mound has developed some alluvial fans that threatened to encroach on the mound.

Recommendation: Additional brush should be piled in this area to deter any re-routing of the path. The volunteer path will disappear over time. The main path should be stabilized to stop erosion and moved away from the mound so that it is at least 15.0 ft. distant. The existing paths should be obliterated and seeded.

Mound #1 (The Hook Mound). It is presently covered primarily with a light understory and ground vegetation. Several trees are growing along the east-west portion of the mound. There are some dead trees on the mound.

Recommendation: The dead trees and the trees growing on the mound should be removed. The area should be re-seeded with appropriate vegetation, or vegetation that will stabilize the surface of the mound and keep woody vegetation from returning. The visible outline of the mound should be preserved as part of the vegetation management plan.

Area C. The main path at this point cuts across the end of the linear mound (Mound #2).

Recommendation: The entire path should be pushed west and the east-west sections of the path around the mound should be moved north and south so that the path is at least 15.0 ft. away from the mound. The existing paths should be obliterated and seeded.

Area D. A volunteer path crossed Mound #2 at this point. It included both foot and probably bicycle travel. It is now blocked on both sides by brush. The brush is occasionally moved and the path used for foot and bike traffic. The main path that runs on the north side of the mound at this point has developed some alluvial fans.

Recommendation: The main path should be moved north and west so that it is at least 15.0 ft. from the mound. The path on the north side of the mound should be stabilized to prevent erosion. This may help prevent use of the volunteer path. This path should be obliterated and the area seeded. The volunteer path should be blocked with large logs and brush.

Mound #2 (Linear). There is an obvious depression in the mound caused by the volunteer path. No trees were observed on this mound. There are some dead trees on the mound.

Recommendation: The obvious depression in the mound should be repaired with clean soil—in this case clean soil means that the source and the soil have been checked for the presence of artifacts. The dead trees on the mound should be removed. This area and the remainder of the mound should be re-seeded with appropriate vegetation, or vegetation that will stabilize the surface of the mound and keep woody vegetation from returning. The visible outline of the mound should be preserved as part of the vegetation management plan.

Area E. The current path cuts into the back of the bear (Mound #3).

Recommendation: This path needs to be moved to the west and configured in such a way that erosion is controlled and it is at least 15.0 ft. from the mound.

Mound #3 (The Bear). Trees are growing near the head and feet of the bear. There are also trees growing along the edge of the mound

Recommendation: Trees growing near the head and feet of the bear should be removed as should the trees growing adjacent to the mound. This area and the remainder of the mound should be re-seeded with appropriate vegetation, or vegetation that will stabilize

the surface of the mound and keep woody vegetation from returning. The visible outline of the mound should be preserved as part of the vegetation management plan.

Area F. The main trail runs within 5.0 ft. of the mound.

Recommendation: This trail should be re-routed to the west to go around the mounds and not through the mounds. It should be at least 15.0 ft. from the mounds. The existing trail should be blocked and obliterated.

Mound #4. This conical mound is covered with low grassy and sedge vegetation. There are two trees growing near the base of the mound.

Recommendation: The trees near the base of the mound should be removed.

Area G. The main trail runs within 5.0 ft. of the mound.

Recommendation: This trail should be re-routed to the west to go around the mounds and not through the mounds. It should be at least 15.0 ft. from the mounds. The existing trail should be blocked and obliterated.

Mound #5. This conical mound is covered with low grassy and sedge vegetation.

Area H. Area H is the disturbance associated with the building of the earlier water tower. This concrete circular (22.0 ft dia.) base has a pile of soil on top of it.

Mound #6. This linear mound is covered with low grassy and sedge vegetation. A few small trees are present. Much larger trees are present along both longer sides of the mound.

Recommendation: The small trees on the mound and those lining the mound should be removed.

Area I. The main trail runs within 5.0 ft. of the mound.

Recommendation: This trail should be re-routed to the east so that it is at least 15.0 ft. away from the mounds. The existing trail should be blocked and obliterated.

Mound #7. One small tree is growing on the mound and woody plants are present.

Recommendation: The tree should be removed. The mound should be re-seeded with appropriate vegetation, or vegetation that will stabilize the surface of the mound and keep woody vegetation from returning. The visible outline of the mound should be preserved as part of the vegetation management plan.

Mound #8. Trees are present near the base of the mound. The current path is 7.0 ft. from the mound.

Recommendation: The trees near the base of the mound should be removed.

Other Burials. During pipeline work for the water tower in 1996, one human burial was unearthed. It was not associated with a mound, or mound remnant. The remains were removed and reburied. The reburial area is marked on the attached map. A minimum 15.0 ft. buffer should be maintained on all sides of the reburial.

Recommendation: A 15.0 ft. buffer should be established around the reburial.

Signage. We suggest that signage that introduces people to the Native history of the area, the importance of the mounds, and the protections provided under 157.70 be present at all entrances to the area. Marking each mound with a small sign may prevent disturbances and inappropriate use.

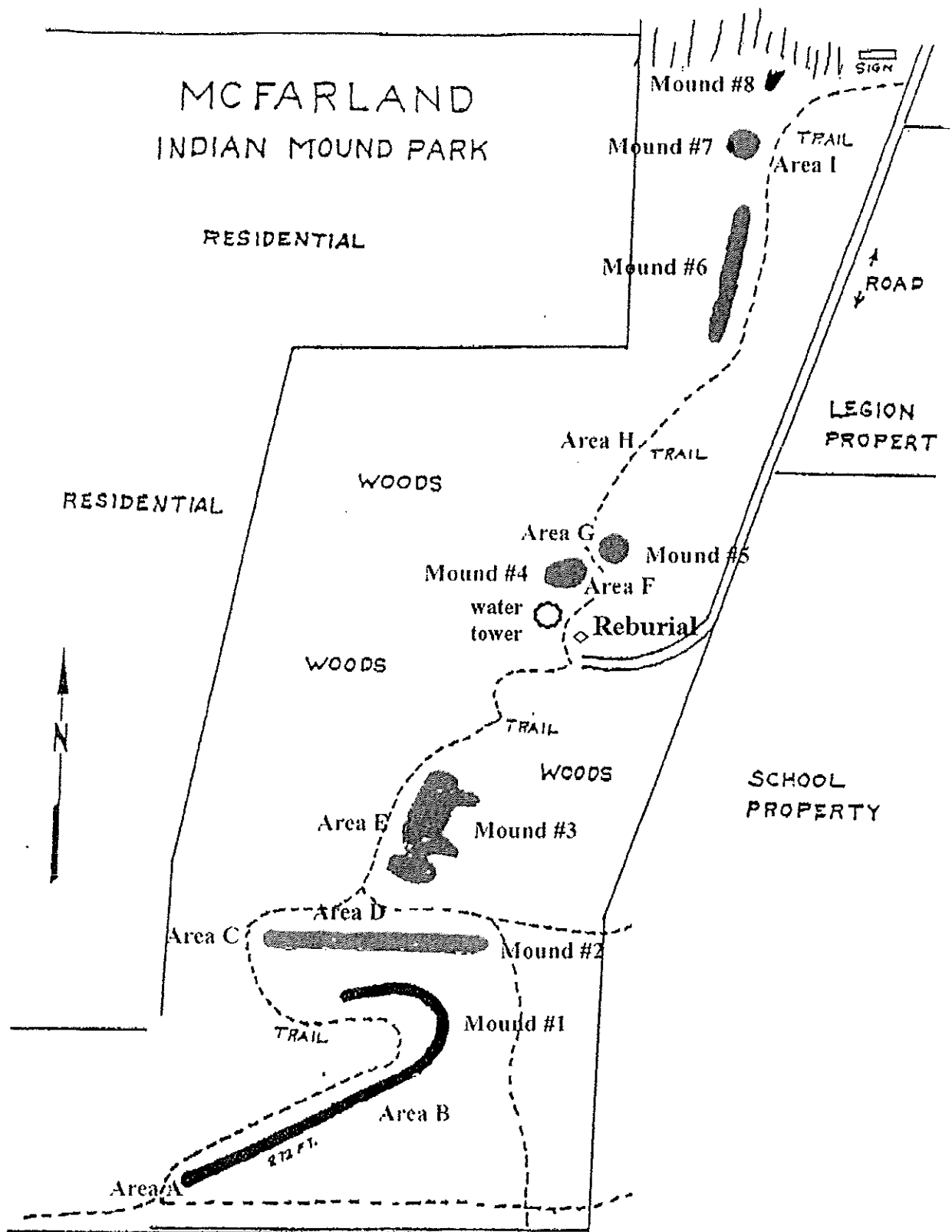
Tree removal. At this point in time, all of the trees growing on the mounds seem to be healthy and they are not in immediate danger of tipping over.

Removal of trees and shrubs from mounds and immediately adjacent areas (ca. 15.0 ft.) is generally desirable to protect them from windthrow and other damage, and to encourage growth of ground cover that prevents erosion. However, in some instances selected trees may be retained for forestry purposes or when significant, unavoidable mound damage might occur during tree removal; or for other management purposes.

All tree removal should be done during frozen ground. Trees growing on the mounds should be hand cut, or cut with a machine that can stay at least 15.0 ft. from the mounds. The trees should be cut close to the ground and stumps should be left intact. The stumps can be treated to prevent regrowth. During tree removal, trees should not be dropped or drag across the mounds, and machinery and other vehicles should not be driven across the mounds. The logs and other material should be hauled away or scattered or piled at least 15 ft. from the defined burial area or mound.

Vegetation. Vegetation replacement should be appropriate for the current use, or planned restoration.

Trails. All trails should be moved back at least 15.0 ft. from the mounds. The trails should be stabilized to prevent erosion. It may be desirable to cover the new trails with material that helps not only stabilize them but also clearly marks them as the "official" routes. When existing trails are removed, they need to be obliterated and/or blocked and vegetated.



APPENDIX D

Lewis Mound Group (47 DA74) - McFarland Indian Mound Conservation Park
Assessment of Current Conditions and Recommendations
John Broihan - State Archaeologist - October 2007

Area	Recommendations	WHS Indicates "Desirable"	Issues
Area A. Southwest Entrance - The two existing paths (east and northwest) come within 5.0 ft. and/or are cutting into the base of Mound #1 (the Hook Mound).	Recommendation: We suggest that the entrance be pushed west and that the two paths diverge further to the west. The East path should be moved south and the Northeast path should be moved northwest. Both paths should be at least 15.0 ft. away from the mound.		None
Area B. A volunteer path crossed Mound #1 at this point. It is now blocked on both sides by brush. No recent use or the re-development of the path was noted. The main path that runs on the north side of the mound has developed some alluvial fans that threatened to encroach on the mound.	Recommendation: Additional brush should be piled in this area to deter any re-routing of the path. The volunteer path will disappear over time. The main path should be stabilized to stop erosion and moved away from the mound so that it is at least 15.0 ft. distant. The existing paths should be obliterated and seeded.		None
Mound #1 (The Hook Mound). It is presently covered primarily with a light understory and ground vegetation. Several trees are growing along the east-west portion of the mound. There are some dead trees on the mound.	Recommendation: The dead trees and the trees growing on the mound should be removed. The area should be re-seeded with appropriate vegetation, or vegetation that will stabilize the surface of the mound and keep woody vegetation from returning. The visible outline of the mound should be preserved as part of the vegetation management plan.		4 large oaks
Area C. The main path at this point cuts across the end of the linear mound (Mound #2).	Recommendation: The entire path should be pushed west and the east-west sections of the path around the mound should be moved north and south so that the path is at least 15.0 ft. away from the mound. The existing paths should be obliterated and seeded.		None
Area D. A volunteer path crossed Mound #2 at this point. It included both foot and probably bicycle travel. It is now blocked on both sides by brush. The brush is occasionally moved and the path used for foot and bike traffic. The main path that runs on the north side of the mound at this point has developed some alluvial fans.	Recommendation: The main path should be moved north and west so that it is at least 15.0 ft. from the mound. The path on the north side of the mound should be stabilized to prevent erosion. This may help prevent use of the volunteer path. This path should be obliterated and the area seeded. The volunteer path should be blocked with large logs and brush.		None
Mound #2 (Linear). There is an obvious depression in the mound caused by the volunteer path. No trees were observed on this mound. There are some dead trees on the mound.	Recommendation: The obvious depression in the mound should be repaired with clean soil—in this case clean soil means that the source and the soil have been checked for the presence of artifacts. The dead trees on the mound should be removed. This area and the remainder of the mound should be re-seeded with appropriate vegetation, or vegetation that will stabilize the surface of the mound and keep woody vegetation from returning. The visible outline of the mound should be preserved as part of the vegetation management plan.		Bicycles using mounds as jump ramps has been reoccurring problem. Note: WHS does not recommend removing any live oak trees near this mound

Area	Recommendations	WHS Indicates "Desirable"	Issues
<u>Area E.</u> The current path cuts into the back of the bear (Mound #3).	<u>Recommendation:</u> This path needs to be moved to the west and configured in such a way that erosion is controlled and it is at least 15.0 ft. from the mound.		Proper routing to manage stormwater runoff needed before trail route can be finalized.
<u>Mound #3 (The Bear).</u> Trees are growing near the head and feet of the bear. There are also trees growing along the edge of the mound	<u>Recommendation:</u> Trees growing near the head and feet of the bear should be removed as should the trees growing adjacent to the mound. This area and the remainder of the mound should be re-seeded with appropriate vegetation, or vegetation that will stabilize the surface of the mound and keep woody vegetation from returning. The visible outline of the mound should be preserved as part of the vegetation management plan.		None
<u>Area F.</u> The main trail runs within 5.0 ft. of the mound.	<u>Recommendation:</u> This trail should be re-routed to the west to go around the mounds and not through the mounds. It should be at least 15.0 ft. from the mounds. The existing trail should be blocked and obliterated.		None
<u>Mound #4.</u> This conical mound is covered with low grassy and sedge vegetation. There are two trees growing near the base of the mound.	<u>Recommendation:</u> The trees near the base of the mound should be removed.		1 Burr Oak
<u>Area G.</u> The main trail runs within 5.0 ft. of the mound.	<u>Recommendation:</u> This trail should be re-routed to the west to go around the mounds and not through the mounds. It should be at least 15.0 ft. from the mounds. The existing trail should be blocked and obliterated.		None
<u>Mound #5.</u> This conical mound is covered with low grassy and sedge vegetation.			
<u>Area H.</u> Area H is the disturbance associated with the building of the earlier water tower. This concrete circular (22.0 ft dia.) base has a pile of soil on top of it.			
<u>Mound #6.</u> This linear mound is covered with low grassy and sedge vegetation. A few small trees are present. Much larger trees are present along both longer sides of the mound.	<u>Recommendation:</u> The small trees on the mound and those lining the mound should be removed.		1 Oak - North End 3 Oaks - South End
<u>Area I.</u> The main trail runs within 5.0 ft. of the mound.	<u>Recommendation:</u> This trail should be re-routed to the east so that it is at least 15.0 ft. away from the mounds. The existing trail should be blocked and obliterated.		Trail relocated off top of mound in late '80s Moving trail down the slope to the east may prompt people to ignore trail and instead walk along top of linear mound as they had in the past.

Area	Recommendations	WHS Indicates "Desirable"	Issues
Mound #7. One small tree is growing on the mound and woody plants are present.	Recommendation: The tree should be removed. The mound should be re-seeded with appropriate vegetation, or vegetation that will stabilize the surface of the mound and keep woody vegetation from returning. The visible outline of the mound should be preserved as part of the vegetation management plan.		Note: WHS does not recommend removing large oak tree near mound
Mound #8. Trees are present near the base of the mound. The current path is 7.0 ft. from the mound.	Recommendation: The trees near the base of the mound should be removed.		None
Other Burials. During pipeline work for the water tower in 1996, one human burial was unearthed. It was not associated with a mound, or mound remnant. The remains were removed and reburied. The reburial area is marked on the attached map. A minimum 15.0 ft. buffer should be maintained on all sides of the reburial.	Recommendation: A 15.0 ft. buffer should be established around the reburial.		WHS needs to mark burial site so that buffer can be established
		Signage. We suggest that signage that introduces people to the Native history of the area, the importance of the mounds, and the protections provided under 157.70 be present at all entrances to the area. Marking each mound with a small sign may prevent disturbances and inappropriate use.	Sign locations near mounds need to be approved by WHS.
Tree removal. At this point in time, all of the trees growing on the mounds seem to be healthy and they are not in immediate danger of tipping over.		Removal of trees and shrubs from mounds and immediately adjacent areas (ca. 15.0 ft.) is generally desirable to protect them from windthrow and other damage, and to encourage growth of ground cover that prevents erosion. However, in some instances selected trees may be retained for forestry purposes or when significant, unavoidable mound damage might occur during tree removal, or for other management purposes.	What process will be used to evaluate which trees should be retained? There appears to be 8 to 10 oaks that should be evaluated for retention.
	All tree removal should be done during frozen ground. Trees growing on the mounds should be hand cut, or cut with a machine that can stay at least 15.0 ft. from the mounds. The trees should be cut close to the ground and stumps should be left intact. The stumps can be treated to prevent regrowth. During tree removal, trees should not be dropped or drag across the mounds, and machinery and other vehicles should not be driven across the mounds. The logs and other material should be hauled away or scattered or piled at least 15 ft. from the defined burial area or mound.		

Area	Recommendations	WHS Indicates "Desirable"	Issues
		<u>Vegetation.</u> Vegetation replacement should be appropriate for the current use, or planned restoration.	
		<u>Trails.</u> All trails should be moved back at least 15.0 ft. from the mounds. The trails should be stabilized to prevent erosion. It may be desirable to cover the new trails with material that helps not only stabilize them but also clearly marks them as the "official" routes. When existing trails are removed, they need to be obliterated and/or blocked and vegetated.	



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 Cultural Resources Division
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 (715) 284-7181/ (800) 561-9918 FAX (715) 284-7449

Mound Preservation and Maintenance

Mound builders took great care in construction and maintaining their expressions of their religious faith. The most intimate human emotions were shared with the creator at these symbolic expressions of religion from birth to death.

It is through this intense faith that these mounds have endured nature's wrath for 1,000 years. Many were lost not to time, but to a new and indifferent people with religious intolerants that came and occupied this land. After the last 150 years, only a fraction remains of these sacred sites. The remaining mounds yet continue to endure and reflect the passion of faith that those who stood before them a thousand years ago.

The existing mounds continue to be threatened today by indifference. This lack of connection and respect for other religions is seen in how protected mounds are cared for. It is not uncommon to run power mowers over them that hack, and mutilate the delicate contours that were so patiently applied, or to allow trees and brush to grow that threatens the integrity and promotes deterioration of the mounds. Yet the caretakers of today would not plant trees in their house of worship or deface their family or church cemetery. It is with this concern to insure that these sacred sites remain for the next seven generations that the following educational guidelines are used in caring for these most sacred ancient sites.

Tree Maintenance

Tree removal: benefit: (1) promote light for growth of protective grass; (2) prevent tree falls and loss of integrity of mound.

Phase I. Remove all hazard dead leaning trees, decayed trees, trees with excessive branch loss.

Phase II. Remove all trees on mounds.

Phase III. Remove all trees within five feet of mounds.

Phase IV. Create an Oak savannah/White Pine grove or native grassland area.

1. Alternative: remove all low land trees that have surface roots and no taproots.

Note: 1. All cutting is done when ground is frozen to minimize ground disturbance.

2. No removal of stumps.

A new growth/suckers from stumps to be treated with herbicide, such as garlon, to limit growth of woody vegetation. Recommend painting or swabbing application method to reduce amount to herbicide used.

Ground Maintenance

The best method applied by mound builders.

Natural means: Prescribe burn – setting the area to fire.

Benefit: reduces the woody plants;

 Lowers the ph;

 Promotes growth of protective grasses;

 Low cost.

Negative: not always possible due to fire hazards.

Mechanical

Mowing alternatives: (1) hand mow at a high setting to minimize ground disturbance; (2) mow around the mounds regularly and push mow mounds only in early spring to promote grasses and to remove emergent seedlings.

Benefit: high grass on mounds – discourages pedestrian traffic and provides a protective cover.

Negative: labor costs.

Prepared by: Ho-Chunk Nation Heritage Preservation Department, Jay Toth, Archeologist, Randy Polema, Aquatic Biologist, and David Olson, Forestry Tech.

WISCONSIN DEPARTMENT OF NATURAL RESOURCES BURIALS, EARTHWORKS, AND MOUNDS PRESERVATION POLICY & PLAN

People have settled here, raised families here, worked here, and died here for thousands of years. Common people built this land, this place we call Wisconsin. They hunted mammoth along the edges of continental glaciers. They cleared the land and they raised crops. They built towns and cities. And they buried their dead ...

The Department of Natural Resources (DNR) is the State's single largest owner of archaeological sites, historic structures, and other important cultural resources, including burial areas. The DNR *manages* these important cultural resources - physical records of our common past - on behalf of the people of Wisconsin.

Burial sites are universally considered sacred, and it is DNR policy that all such areas on DNR properties will be appropriately cared for, and will be treated with the respect they deserve.

Indian earthworks or "mounds" are by far the most conspicuous and numerous of burial features occurring within DNR properties. More mounds were built by American Indian communities in Wisconsin than in any other region of North America. Prior to EuroAmerican settlement, there may have been 15,000 to 20,000 mounds in the state - perhaps 4,000 of these remain today. The earliest mounds, dating as far back as 500 BC were round or "conical" in shape. At about AD 800, people began to build mounds in other forms as well, including linear-shaped, and "effigy" mounds made in the shape of birds, turtles, bears, panthers and other animals (more effigy mounds occur in Wisconsin than anywhere else in the world). Still later, a small number of platform or pyramidal mounds were constructed. Mounds may exist singly, or as "mound groups" of several to over 100 individual mounds, sometimes clustered as "sub-groups" within a larger group. Additionally, both Indian (prehistoric as well as historic) and non-Indian peoples (EuroAmerican settlers and others) have been buried in *non-mound* settings.

All of these sites are protected from disturbance under the State's burial sites law (Wisconsin Statutes s.157.70). An important feature of WS 157.70 stipulates that there may be no disturbance of the burial or within (a minimum of) five feet from the perimeter or base of a mound or other defined burial area. A buffer greater of 15 feet or greater is preferred, and is the DNR standard (exceptions considered in consultation with the Wisconsin Historical Society).

The DNR recognizes that it has a responsibility for the proper stewardship of all burial areas occurring on DNR properties, and has developed these standards to better care for these important places. The following standards apply to human burial sites of all forms – including non-mound burials; conical, linear, effigy and platform mounds; and other types of burial sites. This policy and standards do not apply to areas where cremated human remains have been recently deposited or dispersed. The policy and plan components apply to all DNR properties. Submerged burials require additional considerations; please consult with the Departmental Archaeologist for further guidance.

This policy and plan recognizes that the pace of implementation will reflect the availability of needed resources, including both staffing and funding. That noted, implementation of this policy is a priority for the Department, and should be realized sooner rather than later.

For management purposes, it may be useful to think of burial areas as "preserves" which occur within a larger setting, and which have different management needs than other areas of the DNR property within which they occur.

DNR BURIAL SITE MAINTENANCE PLAN

General Considerations

Each burial site is unique and should be assessed according to the condition of the burial area proper, general conditions of the site, location (including public accessibility/remoteness), and risk of damage. Features of this Burial Site Maintenance Plan can generally be applied to all burial sites (non-mound and mound), but may need tailoring to better accommodate the unique characteristics of specific burial sites.

Individual Bureaus and Property Managers should consider prioritizing which sites first need attention, and will generally be those considered to be "at risk" (e.g., due to erosion caused by pedestrian or vehicular traffic, or by natural forces), burial sites which are relatively accessible, and burial sites which occur in developed areas of State Parks and other high traffic or high profile areas.

As noted above, state law requires that there may be no disturbance of a burial or within (a minimum of) five feet from the perimeter or base of a mound or other defined burial area, and without a permit from the Director of the Wisconsin Historical Society (WHS). A **buffer** greater than fifteen feet is always preferred (as noted previously, and in consultation with WHS, fifteen feet is the DNR standard). However, *when they occur in "groups" or "sub-groups" (e.g., distinct clusters of burial features [e.g., mounds] which form a larger "group"), burial features should generally be maintained as a group or sub-group, with the buffer area extending out from a perimeter line which circumscribes the group or sub-group, rather than out from individual burial features.* Trails through such areas should be carefully planned to avoid impacts to burial features (see below also). Existing trails running through mound groups or other burial areas should be evaluated and re-routed, if necessary, to avoid adverse impacts to the burial area.

At this time, burial sites located in more remote areas and/or away from public use areas should not be signed and should remain in a more natural condition than described below – as appropriate, you may consider removing dead or diseased trees (to ground surface only – no stump removal), deadfall, brush, and small trees (≈10 inch diameter or less) occurring on or within ≈15 feet of the perimeter of defined non-mound burial sites or mound bases on such remote sites.

It may be desirable and efficient to organize **regional work teams** to implement vegetation control measures, especially for wooded areas. Development of such teams would be useful both for establishing local "experts" better able to recognize burial sites, as well as for creating capable and efficient functional units that can more expeditiously implement woody vegetation control and other maintenance measures.

The Departmental Archaeologist is available to provide training in the recognition of burial mounds and other burial sites.

Archaeological Assessment

The first steps in the development of a maintenance plan for a mound or non-mound burial site are: (1) contact the Departmental Archaeologist to discuss the proposal and to determine if the site has been previously recorded with the Office of the State Archaeologist at the WHS; and (2) identify associated, extant records which may include detailed maps, descriptions, photographs of the burial area, and records of previous investigations. At the end of this process, copies of newly-developed, maps, photos, etc. should be provided to the Departmental Archaeologist.

After identifying and reviewing such information, it may be desirable to conduct an archaeological survey via pedestrian reconnaissance to identify extant mounds or other burial features. If one is not already available, an *accurate* map of the burial area should then be made, including (as appropriate) mound shapes, dimensions, mound-mound angle(s), presence of "spirit houses", depressions or other burial features, general condition (e.g., obvious looters pits, animal burrows, other actual/potential impacts), and relationship to nearby (relatively) prominent topographic features. DNR personnel, DNR-approved hired consultants, or DNR-approved cooperative partners may complete this mapping. Include GPS coordinates and elevations for each mound/burial feature as able (or at least first and last mounds in the group). All notes, maps and photos should include dates. *Any observed artifacts or bone materials observed at-surface should be immediately reported to the Departmental Archaeologist – do not attempt to remove them!*

Vegetation Assessment

After completing the archaeological survey, conduct a vegetation assessment – if wooded, consult with the area DNR forester or plant ecologist at the outset of this assessment component. Include a description of the existing plant community, including endangered and threatened species and invasives, and a discussion of forest health (especially impacts of tree removal on mounds) if the area is wooded. Also identify the probable pre-modern vegetation, address suitable methods for restoration of the native plant community, and evaluate the sustainability of future vegetation. Note whether the use of fire is an appropriate and desirable vegetation management tool for mounds and adjacent areas.

Vegetation Control / Tree Removal

Removal of trees and shrubs from mounds and immediately adjacent areas (within ≈15 feet of mound base) is generally desirable to protect them from windthrow and other damage, and to encourage growth of ground cover that helps prevent erosion. However, at some locations, selected trees may be retained for forestry purposes; when significant, unavoidable mound damage would occur during tree removal; or for other management purposes.

During tree removal, avoid disturbing the burial site in any way. Do not drop trees on or drag them across the burial areas, drive machinery over the areas, or stage vehicles or material on them. Remove trees only when the ground is frozen. Stumps are to be left in place or cut to ground level (see below). Remove vegetative material by hauling it away or scattering or piling it at least 15 feet from the defined burial area or mound (consider trail development issues!). Ideally, volunteers must be supervised by a person with experience in the recognition of early burial sites, especially in the case of mound sites (also consult with the Departmental Archaeologist).

For burial areas that are overgrown with WOODY VEGETATION, as needed (due to personnel, budget, or other constraints), scheduling of tree removal on burial sites can be done in phases (refer also to DNR "Chain Saw" policy), and would reasonably progress from more heavily visited areas to less visited areas. Using a phased approach:

Phase I involves the removal of trees that are dead, leaners, damaged, diseased, or insect infested; brush; trees less than ≈5 inches in diameter; herbaceous plants; and invasive species on or within ≈15 feet of a defined burial area or mound base.

Phase II involves removal of all trees that are less than ≈10 inches in diameter from the mounds, and the removal of all dead, down and hazardous trees on or within ≈15 feet of a defined burial area or mound base.

Phase III involves the removal of all remaining trees on or within ≈15 feet of a defined burial area or mound base.

Stump removal is prohibited; stumps may only be cut or ground only to ground level and, if needed, one should only utilize smaller equipment to grind/cut the stump, and should not penetrate below the "natural" surface and into the soil of a burial area/mound or adjacent areas (remember, per state law, there is to be no soil disturbance within at least five feet of a burial site/mound base).

Chemical treatment may be a necessary component of invasives and/or woody (including stumps) vegetation control. Ideally, herbicide application is selective and targeted rather than broadcast type (although broadcast spraying may be required to control or eradicate certain undesirable species).

Grassy vegetation (ideally no- or low-maintenance, preferably with native species) should be established to stabilize area soils and inhibit woody plant succession. Mowing and/or periodic, controlled burning may be useful in maintaining such cover (see also below).

For burial areas covered by TURF-TYPE VEGETATION, vegetation control typically consists of mowing, augmented, as needed, by periodic controlled burning. Be careful to AVOID having mowing equipment blades or deck "clip" or other wise cut into the burial area, especially when cutting on or over mounds. Consider that mounds do not need to be mowed with every mowing; indeed, it is desirable to not mow mounds routinely or cut the grass as short – this can help to minimize inadvertent impacts to mounds, as well as "highlight" mound shape and so make them more evident to the public (see also below). Mowing of mounds should not occur when soils are water-saturated. Hand-mowing of mounds is preferable.

LONG TERM MAINTENANCE CONSIDERATIONS

Long term maintenance of burial areas focuses on developing and maintaining appropriate ground cover to prevent erosion and limit growth of new invasive and/or woody vegetation, and to prevent inadvertent impacts due to poor trail design or other unintentional or intentional damage. Species selection depends on soil and canopy conditions and should consist of native species commonly found in the area. Issues of public accessibility, the relative remoteness of the burial site, and the ability (or inability) to periodically monitor it must also be considered when contemplating selective revegetation. Ideally, vegetation suppression and subsequent revegetation efforts will result in an area plant mix which requires little or no routine maintenance.

All trail development proposals adjacent or proximal to burial sites on DNR properties must be reviewed by the Departmental Archaeologist prior to implementation (see also below).

Chemical treatment should be limited, but may be necessary in some circumstances, especially to control re-growth of invasives or woody vegetation. While broadcast spraying is generally discouraged on burial sites, it may be needed in order to control invasives or other undesirable species on or adjacent to burial areas.

As above, limit or avoid mowing on mounds because it can damage mound contours, cause soil compaction, result in edge diffusion, and encourage people to walk on the mounds. In some cases mowing may be necessary to promote a thick ground cover and control growth of woody plants and invasives. Mow once in the spring and once again in the fall, with the mower deck set

high to avoid ground disturbance. When mowing with a lawn tractor rather than a push mower, the use of a four wheel drive vehicle with low impact tires is recommended. An alternative to mowing mounds is to mow around them; again, this serves to highlight their shapes and reduce negative impacts. The equipment operator should be well trained and use extra caution to avoid cutting into the edges of the mounds.

In a prairie or oak savanna setting, **prescribed burns** may be conducted to control invasives and woody vegetation, as well as to enhance the growth of native plants. The use of fire will depend on local circumstances. Consult plant resource management professionals to determine if fire is appropriate and how frequently it should be used as a control measure. During burns, monitor installation of firebreaks and use of firefighting equipment to ensure that mounds are not disturbed.

MOUND/BURIAL SITE RESTORATION

In some cases, the repair of damaged mounds or other burial areas may be appropriate, and requires consultation with a number of parties. The Departmental Archaeologist will coordinate restoration requests with the WHS, interested tribal governments, and other interested parties. A recommended general procedure is to: (1) record the nature and extent of the damage and current condition of the mound (include sketch map and photographs); (2) remove leaf litter from the damaged area; (3) lay geotextile fabric on the ground surface in the area of the damage, (4) scatter current year coins (year of restoration; nickel preferred) on the fabric to indicate the time of restoration, and (5) use hand tools to place new soil from an off-site location on the fabric to replace missing soil. The restored section will likely require seeding to inhibit erosion. Photographs should be taken once the restoration has been completed.

The "restoration" or "reconstruction" of burial sites/mounds that appear to have been completely destroyed requires similar consultation. Work may involve complete reconstruction of the site if its original location and configuration can be accurately established. *Note: even though the above-ground portion of a burial site (e.g., a "mound") may appear to be destroyed, associated sub-surface pit burials may remain intact – do not assume that a burial is completely destroyed just because the above-ground component is gone!*

Neither chalk nor lime should be applied to the ground surface to outline extant or destroyed mounds (among other things, this changes soils chemistry, and may adversely impact revegetation efforts).

PUBLIC USE, TRAILS, SIGNS, AND FENCES

Burial/mound sites located in more **remote areas**, away from more readily monitored, higher traffic public use areas, should not be signed and should remain in a more natural condition. Such sites should not have trails built to, around, or proximal to them.

Except for maintenance, **pedestrian (or other) traffic should not be allowed on burial sites/mounds**. Do not locate signs, fence posts, picnic tables, or public events on them. For sites located in public use areas, erect signage indicating that the site is protected from disturbance by State law and, when appropriate, affirming the sacred nature of burial sites/mounds to Indian or other related communities, and directing people to stay on the trail and off the mounds or other burial site. **Signs** may also inform the public about the significance of mounds and the people who built them, and may include maps of a specific mound group or mound groups in the vicinity. Interpretive signage should be developed in consultation with the

Departmental Archaeologist, in cooperation with respective Bureau interpretive staff (e.g., for Parks, this would be the Chief Naturalist). Signs must be located a minimum of 15 feet away from the burial sites perimeter or mound base.

Trails may be established in the vicinity of burial sites, especially mounds, both to encourage public visitation and to direct associated traffic, but they must be located a minimum of five feet from the defined burial site perimeter or mound base (more than five feet is preferable). A trail does not need to be built to provide access to every mound in a group of mounds – too often, that kind of approach unnecessarily complicates trail design and compromises the long-term integrity of the mounds. The trunks of small diameter trees that have been removed from the burial areas/mounds may be used to mark the edges of trails. Use wood chips, shredded bark, or mowing for trail maintenance. Trail design should also take into account aesthetics, viewsheds, and erosion control; however, *avoiding impacts to the burial area is a primary consideration in any trail design proposal*. Developing trails in and around mound groups requires having an accurate map of mound(s) and mound groups!

Fencing may be considered to help direct and limit traffic flow, and to prevent the development of informal trails which may result in adverse burial site impacts. If needed, fencing should ideally be a "low-profile" type, such as a waist or mid-thigh high, split-rail fence. In some instances, barrier-type vegetation may be a desirable alternative or adjunct to fencing; selection of plant type(s) should be made in consultation with a DNR Forester or other plant specialist.

APPROVALS AND RELATED ISSUES

The Departmental Archaeologist will review and approve all related signage, burial site de-vegetation, maintenance, restoration, or trail development and relocation proposals and, as indicated, will consult with interested third parties (e.g., individual families, tribal governments) when such burial areas are known to be associated with such parties.

Copies of all pertinent documentation, including maps, photos, etc., should be retained by the respective property manager, and two copies of these documents should be forwarded to the Departmental Archaeologist.

LOWER WISCONSIN STATE RIVERWAY BOARD
PROPOSED PROTOCOLS FOR
CULTURAL RESOURCES PROTECTION AND PRESERVATION
ON PUBLIC AND PRIVATE LANDS IN THE
LOWER WISCONSIN STATE RIVERWAY

Introduction

The Lower Wisconsin State Riverway (Riverway) encompasses nearly 80,000 acres along the final 92 miles of the Wisconsin River, beginning below the dam at Prairie du Sac and extending to the confluence with the Mississippi River near Prairie du Chien. The project encompasses bluffs, bottomlands, islands, sandbars, swamps, prairies and woods within the lower Wisconsin River valley. The project was created in 1989 to protect the scenic beauty and natural character of the valley, to provide a quality public use recreational area and to manage the corridor's resources for the long term benefit of the citizens of the State of Wisconsin. The Wisconsin Department of Natural Resources (WDNR) was charged with acquisition of lands within the project boundary from willing sellers, either fee title acquisition or scenic easement. Currently (April – 2006), over 46,000 acres within the project boundary are owned or controlled by WDNR.

Cultural Resources

The Riverway and surrounding lands contain an abundance of archeological and historical resources, many of which are located on state owned or managed lands. These resources include rock art, earthworks (effigy, conical and linear mounds), Native American habitation sites and agricultural fields, historic sites associated with Euro-Yankee exploration (missionaries, fur traders, etc.) as well as post-settlement farmsteads, cemeteries and ghost towns.

Of special note, the Riverway contains a high concentration of effigy mounds and numerous conical and linear mounds. The Town of Eagle, Richland County, is believed to have the highest concentration of bird forms (thunderbird, eagle, hawk, falcon, etc.) within the effigy mound region. Due to the mapping and surveying of earthworks by T.H. Lewis, C.E. Brown, S. Taylor and others in the mid to late 19th century and early 20th century, the previous existence of thousands of mounds is known. As we view the landscape in the early 21st century, there remain mounds in the Riverway but the once rich tapestry of tumuli that covered the prairies and hills has dwindled substantially and the extant earthworks created by the hand of a once thriving culture over 1000 years ago now are numbered in the dozens. Some of these mounds are on privately owned lands, some are on tribal lands and many are located on public lands. The Ho-Chunk Nation has stated that the effigy mound builders were their ancestors and the mound sites are sacred. The religious or spiritual aspects of these sites to the Ho-Chunk Nation and other Native Americans are important considerations in any discussion of protection or preservation.

With land ownership, there is an ethical responsibility for proper stewardship and, in the case of known archeological or historical sites; the burden of responsibility for stewardship is greater to assure proper protection of these unique features. The State of Wisconsin should be a leader in protecting and preserving these sites and should offer a model for other units of government and private citizens to emulate. Therefore, the following maintenance protocol is provided as a general guideline for proper stewardship of archeological sites containing effigy, conical and/or linear mounds.

MOUNDS MAINTENANCE PROTOCOL

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Site Assessment

A comprehensive site assessment is required at each site to evaluate the existing plant community and opportunity for restoration of the native plant community, to determine the conditions of the mounds, to determine the need for mapping, and to assess risks to the mounds. The assessment will identify those features which render each site unique and will influence the maintenance regimen selected.

Vegetative Survey

An initial survey of trees, shrubs and herbaceous is required to create an inventory to be used in management decisions. Notations should be made regarding listed species. An assessment of native plant community relicts should be recorded and an evaluation of the treatment necessary to restore the native plant community should be detailed. Tree canopy and ground cover should be noted. Comments regarding tree species and potential for adverse impact from disease or insect infestation should be included. The potential for use of fire at the site should be recorded. Following implementation of Phases I-III at the site, which may include the use of fire, another survey should be conducted to evaluate the response of the native plant community at the site.

Archeological Survey

An archeological survey of the site should be conducted both before and after phased work is implemented. At minimum, the number and type of mounds should be recorded and surface observations should be conducted. The condition of the mounds should be noted, such as whether the edges are well-defined or diffuse and whether the mounds are well-preserved or have been damaged. An additional walk through the site should be conducted following extensive tree removal or introduction of fire to the site. Artifacts found should be left at the site and not moved and should be reported to the DNR archeologist or Wisconsin Historical Society. **Artifacts may not be removed from the site!**

Mapping

While adequate maps of some mound groups are available, the vast majority of mound groups require mapping. New technologies are available that would enhance existing maps. Global Positioning System (GPS) coordinates for the mounds should be taken. Mapping is important to assure an accurate record of the site is maintained. Site assessment should include notations regarding proximity to water features, proximity to roads and other notable features of the site.

Mapping of sites on state owned lands also is important for fire control personnel. Heavy equipment operating in thick smoke or under night conditions may have difficulty seeing a mound or mound group. GPS coordinates for mounds will assist fire control personnel in avoiding disturbance of important cultural resources when engaged in firefighting.

Cooperative efforts between federal and state agencies, local units of government, the university or technical school system, the Ho-Chunk Nation or other tribal entities, or 501c(3) organizations should be encouraged. Funding for mapping of mound sites should be sought through agency budgets, local governmental budgets, grant resources and private donations.

MOUNDS MAINTENANCE PROTOCOL

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Risk Assessment

Each mound site should be assessed for inherent risks. Notations should be recorded regarding potential threats to the mound(s) from erosion (destabilized river banks, encroaching gullies); proximity to residential/commercial/industrial development, roads, agriculture, pedestrian or bicycle trails, playgrounds and parks; non-native invasive species and tree species of concern due to disease or insects. For example, property managers may wish to evaluate the number of ash trees at a site due to the potential for infestation by the emerald ash borer and the subsequent treatment recommended for infested areas (removal of all ash trees within ½ mile and removal of stumps and roots). Removal of all ash trees from the mounds or within 5 feet of the mounds may be considered a priority in areas where EAB infestation is incipient. Other species may come with a different suite of potential calamitous diseases or insect problems (Dutch elm, gypsy moth, oak wilt, etc.) Mounds associated with a "high risk" for damage should receive immediate attention to assure protection and preservation.

Mounds maintenance: A Phased Approach

The phased approach to mounds maintenance in the Riverway was developed by the Ho-Chunk Nation and Lower Wisconsin State Riverway Board (LWSRB) in regard to a project to maintain the mound group identified as McClary #4 in the Town of Eagle, Richland County. The site was purchased by the Ho-Chunk Nation in 1994. Because the site is located within the Riverway boundary, a permit for vegetative removal from the LWSRB was required. The phased approach was developed in order to assess visual impacts when viewed from the river, as required by the Riverway law. The Ho-Chunk Nation successfully has implemented Phases I & II and is in the process of implementing Phase III. The phased approach (Phases I/II) has been utilized at state owned sites in the Riverway including the Dingman, Hamilton, Jonas and Bloyer mound groups. (NOTE: An LWSRB permit is required for maintenance of a known archeological site pursuant to RB 2.06, Wisconsin Administrative Code.)

The phased approach is designed for sites that have not been managed or maintained and are generally overgrown with trees and/or woody vegetation. Activities should occur when the ground is frozen or dry and the leaves are off the deciduous trees. Frozen ground conditions are preferred. Ground disturbance should be minimized at all times. (NOTE: Each mound or mound group is unique and should be assessed according to the condition of the mound(s), condition of the site and risk of damage.)

Phase I

Phase I involves removal of dead or down trees, trees which represent an imminent hazard to the mounds (leaners in danger of uprooting, storm damaged, diseased or insect infested), woody vegetation - trees and brush less than 5" diameter at breast height (DBH) - and non-native invasive species. Healthy trees larger than 5" DBH remain. Material should be taken off the mounds and scattered or piled 25 feet or more from the mound wherever possible. A minimum of 15 feet should be maintained between brush piles and the mound. Pole size material may be utilized for trail demarcation or material may be chipped and used on trails. In some cases, material may be removed and transported to a compost area or burn pile.

MOUNDS MAINTENANCE PROTOCOL

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Phase II

Phase II involves removal of all trees <14" DBH from the mound as well as continuing with brush removal efforts. Within 5 feet of the mound, all dead, down and hazard trees are removed.

Phase III

Phase III involves removal of all trees, healthy or not and regardless of size, from the mound and from within 5 feet of the mound.

Phase IV

Phase IV represents the long term maintenance of the site including establishment of appropriate ground cover to prevent or minimize erosion. Control of woody vegetation continues. Where feasible, restoration of the native plant community is encouraged. Seed should be collected from the adjacent area. Local genotype seed also may be purchased and planted. Ideally, seed would be hand broadcast planted following a fall prescribed burn. Attention should be paid to species selection when considering trees to be retained at a site in regard to long term canopy cover, suitability for the site, susceptibility to disease and/or insect infestation and longevity. Stump removal, if done at all, should only utilize small equipment to grind the stump and should not penetrate the soil of the mound.

Mounds maintenance: Other considerations

Mowing

Mowing should be limited or avoided. The use of native plants to establish ground cover is preferred. In some cases, occasional mowing may be appropriate. Where mowing does occur, the mower deck should be set at a high level to avoid ground disturbance, enhance vegetative growth and avoid erosion. Hand mowing (push mower) or mechanical mowing (lawn tractors) should be evaluated carefully. Compaction and exacerbation of edge diffusion should be avoided. If lawn tractors are used, 4WD or AWD vehicles with low impact tires are recommended to minimize compaction and ground disturbance. An alternative to mowing over the mounds is to mow around the mounds, preferably, maintaining a minimum 5-foot buffer area. Careful consideration should be given to mowing around the mounds to avoid ground disturbance and adverse impact to the mound edges. Any equipment operator should be trained thoroughly and should have extensive knowledge of the equipment being used at the site. An alternative to mowing is to use a hand held motorized brush cutter. As with any activity related to mounds maintenance, assessment of soil conditions is critical. Again, activities should only occur when the ground is frozen or dry to avoid compaction.

MOUNDS MAINTENANCE PROTOCOL

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Burning

The use of fire to control woody vegetation and to enhance the native plant community in a prairie or savanna ecosystem is a viable tool for the property manager. The use of fire as a tool should be made on an individual site basis. While restoration of the native plant community at each mound site is the ultimate goal, other factors may preclude the restoration effort, including the re-introduction of fire. Surveys of the site should be conducted prior to burning to assess the native plant community and to determine if artifacts are present on the surface. Additional surveys should be conducted following the controlled burning to look for artifacts and to determine the response of the native plant community to fire. The frequency of fire at a site should be determined following consultation with appropriate resource management professionals. Installation of firebreaks and use of firefighting equipment at a site should be carefully monitored.

Chemicals

The use of chemical treatments to control woody vegetation or non-native invasive species should be limited but may be required in some circumstances. Removal of woody vegetation by hand, both initially and on a routine maintenance basis, is preferred. However, herbicide use may be required to control some species. The use of chemicals is an important decision for a site. The type of herbicide used is a critical component of the decision making process as is the application. In general, stump treatment of trees or woody vegetation with a small brush is preferred. Again, generally speaking, the broadcasting of chemicals is discouraged. A distinction should be made between chemical use on the mounds versus chemical use on the land adjacent to the mounds.

Trails

Pedestrian traffic should not be allowed on the mounds! Trails should be established at those sites where public visitation either is likely or is encouraged. Trails should be located 10 feet or more from the mound where possible (a minimum of 5 feet). Small trees and large brush stems that have been removed from the mounds in phase I or II successfully have been used for trail demarcation. The use of wood chips, shredded bark or mowing may be considered for trail maintenance. Location and design of trails should consider proximity to mounds, aesthetics, viewsheds and erosion control.

Signage

Signage at mound sites should be minimized but efforts should be made to educate and inform the public about the significance of the site and the people who constructed the earthworks. Maps of the mounds at specific sites or in a general context of other mound groups in the vicinity may be useful. A generic sign for selected sites that describes the effigy mound building culture and the types of mounds (effigy, linear or conical) may be appropriate. Affirmation of the sacred nature of the site to Native American peoples should be included in the signage. A strong statement about staying off the mounds and information on the burial sites preservation law should be included. Site specific signage should include a map of the site and information regarding the unique features of the site. In some circumstances, brochures or small maps could be provided to visitors.

MOUNDS MAINTENANCE PROTOCOL

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Repair of damaged mounds

Where appropriate, repair of mounds damaged by post Euro-Yankee settlement activities and/or natural causes may be considered. Coordination with the Wisconsin Historical Society (WHS), WDNR archeologist and Ho-Chunk Nation is required.

At the Dingman mound group in the Town of Eagle, Richland County, repair of three conical mounds was accomplished in May of 2005. The mounds were damaged by looters at an unknown point in time within the previous 150 years. Permission to execute the repairs was secured from the WHS, WDNR and Ho-Chunk Nation. The project was undertaken with supervision from the WDNR archeologist. Leaf litter was removed from the damaged area. Geotextile fabric was placed in the excavated area to present a barrier from the original soil and the new soil. Coins minted in 2005 (in this case, buffalo nickels) were placed on the fabric at points throughout the bottom of the disturbed area to indicate the time of introduction of the new soil. Soil was then placed in the damaged area by hand (bucket by bucket) until the mound was restored. The soil was obtained off-site to provide distinction between the original soils and the newly introduced soil. Ground cover was quickly established during the late spring and summer months. No erosion was evident during periodic monitoring. Significant canopy cover was present which may have assisted with erosion control during the time immediately following repairs.

Restoration of destroyed mounds

Restoration of destroyed mounds (as opposed to repair of damaged mounds) should be discussed with WHS, the DNR archeologist, the Ho-Chunk Nation and other interested tribal governments. In some locations, establishment of chalk or lime outlines of destroyed mounds may enhance educational opportunities. In other cases, the actual reconstruction of a destroyed mound may be appropriate. Restoration of the Panther Spirit Mound near Mauston involved cooperative efforts by the Ho-Chunk Nation and students from the Mauston School District.

Volunteers

Volunteers often are enlisted to assist with mounds maintenance activities, monitoring and education. In the Riverway, volunteer groups have provided hundreds of labor hours to protect significant archeological sites on state owned lands. Two prominent groups include Cultural Landscape Legacies, Inc. (CLL) and the Friends of the Lower Wisconsin (FLOW). CLL & FLOW volunteers provided equipment and labor to remove brush and trees and create trails at sites near Muscoda. In addition, one building was razed utilizing the CLL and FLOW labor force.

Volunteers require supervision and instruction. CLL has used the opportunity for education and sets aside time for volunteers to be instructed on the sanctity of the mounds to Native Americans and to discuss the effigy mound building culture. Use of volunteers requires a qualified team leader, either a person with an archeological/anthropological background or with experience in maintenance of archeological sites. The use of equipment by volunteers should be monitored closely. While well-meaning, most volunteers are not "expert" operators of mechanical equipment. Persons using chainsaws or mechanical brush cutters should have appropriate safety equipment and the number of persons using mechanical equipment should be limited to avoid safety issues.

MOUNDS MAINTENANCE PROTOCOL

Page -7-

Conclusions

State officials and private landowners both have a tremendous responsibility to properly maintain the known archeological sites on lands within or adjacent to the Riverway (and elsewhere). The Lower Wisconsin State Riverway Board and Cultural Landscape Legacies recognized a unique opportunity exists to create a model of mound protection to be emulated statewide by other governmental units and by private landowners. This document is a result of efforts spearheaded by Riverway Board staff with the cooperation of many people on the mounds maintenance protocol committee.

The Riverway Board and Cultural Landscape Legacies also recognizes great potential exists for education of the general public on the mound building culture, the sacred aspects of the mounds and the importance of the mounds to contemporary Native Americans, including the Ho-Chunk Nation. A synergistic approach to the mounds protection and preservation effort with involvement of federal and state agencies, local governments, the educational system, tribal governments, nonprofit organizations and private landowners could result in a truly magnificent outcome, not only for the current generation but also for future generations.

*Proposal prepared by
Mark E. Cupp, Executive Director
Lower Wisconsin State Riverway Board
Final revisions completed April 20, 2006*

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Original draft and revisions reviewed by the Lower Wisconsin State Riverway
Mound Maintenance Protocol Ad Hoc Committee (membership list attached)

**LOWER WISCONSIN STATE RIVERWAY
MOUNDS MAINTENANCE PROTOCOL AD HOC COMMITTEE**

LOWER WISCONSIN STATE RIVERWAY BOARD

Mark Cupp, Executive Director

CULTURAL LANDSCAPE LEGACIES, INC.

Robert Salzer, President
William G. Gartner, Board of Directors
Richard Cupp, Board of Directors
Frank Shadewald, Member & private landowner

HO-CHUNK NATION

Jay Toth, HCN Archeologist

NATIONAL PARK SERVICE
EFFIGY MOUNDS NATIONAL MONUMENT

Tom Sinclair, Facilities Manager

NATURAL RESOURCES CONSERVATION SERVICE

Sam Skemp, District Conservationist
Greg Yakle, District Conservationist &
Ho-Chunk Liaison

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Steve Colden, DNR Riverway Manager
Victoria Dirst, DNR Archeologist
Brad Hutnik, DNR Riverway Forester
Mark Martin, DNR Conservation Biologist
Maggie Haas, Riverway LTE Forester
Jacob Elder, Riverway LTE Forester

Indian Mounds



Large Flat-Topped Mounds in Cultivated Field

What Are Indian Mounds?

Indian mounds are the visible testament of the first Mississippians. Mounds are planned earthen architecture made by Native American people for a variety of reasons including ceremonial and domestic uses.

Many people today believe that any elevated area with artifacts is an Indian mound, but actual mounds only make up a small fraction of the known archaeological sites in Mississippi.

How Were Mounds Made?

Construction of mounds was accomplished by heaping basket loads of soil and other materials onto natural land surfaces. Some mounds were built in multiple construction stages over long periods of time and others were built quickly in single episodes.

Where Are Mounds Found?

Mounds are found in nearly every county in Mississippi, but they are most common in the Delta counties and along major waterways. Mounds tend to be located on high natural levees or on terraces adjacent to floodplains, but can also be found in upland areas—especially in the Loess Bluffs region.

Nearly all mounds are located on private land. Therefore, landowner cooperation is crucial for their long-term preservation.

How Old are Mounds?

Indians first built mounds in the Lower Mississippi Valley by about 4000 B.C. Widespread construction of mounds, however, began around 100 B.C. Mounds continued to be built for another 1,800 years until around A.D. 1700.

Characteristics:

- ◆ Conical Mounds
 - Rounded top
 - Usually small 3-10 feet tall
 - 50-100 feet diameter
 - Burial often primary purpose
 - Built during most time periods
- ◆ Rectangular Platform Mounds
 - Flat-topped pyramid
 - Often large, 15-60 feet tall
 - covering 0.1 to several acres
 - Platform for buildings
 - primary purpose
 - Often burial location of important individuals
 - 100 B.C.—A.D. 1700
- ◆ Mounds can stand alone or be in groups of 20 or more.
- ◆ Mounds can be associated with large villages, or have little evidence of habitation.
- ◆ About 1,100 mound sites are recorded in Mississippi. (There are about 26,000 archaeological sites.)



Conical Mound in Grass Cover



Cultural Resources Fact Sheet 2
Cliff Jenkins, Cultural Resources Specialist

How Were Mounds Used?

The purpose of some of the most ancient mounds is still shrouded in mystery, although it has been proposed that they possibly functioned as territorial markers.

People buried their dead in some of the mounds, while at other sites great temples were built atop the mounds.

The shape and size of the mound can give clues to its intended purpose. Conical mounds were frequently constructed primarily for mortuary purposes. Rectangular, flat-topped mounds were primarily built as a platform for a building such as a temple or residence for a chief. Many later mounds were used to bury important people.

Mounds are often believed to have been used to escape flooding. However, mounds are typically located on high natural levees or terraces above the flood plains, and many mounds were constructed in upland areas where flooding would not be a concern.

Why Are Mounds Important?

Mounds are irreplaceable resources. Indian mounds and the archaeological deposits they contain are the only evidence we have for most of Mississippi's human history.

Each mound has a story to tell. Careful archaeological investigations at mounds provide valuable information about how people lived in the past.

Mounds provide many Native American people today with an important link to their culture and their past. Mounds that contain burials are particularly significant.

Threats To Mounds

Development spreading into rural areas and some agricultural practices are the main threats to mounds. Deliberate destruction by looting is also a serious problem.

However, a lack of awareness is perhaps the most serious threat to the survival of many mounds. Because mounds lack the visual impact of other historic monuments, such as the cliff dwellings in the Southwest or antebellum homes, many people are unaware of why they are important.

Are Indian Mounds Protected?

Protection of Indian mounds in Mississippi primarily relies on voluntary stewardship. State burial laws do provide some protection for mounds on private land by making it illegal to desecrate a cemetery or open graves.

Mounds on State and Federal property are protected by a number of laws and regulations. Severe penalties are imposed for illegal digging or removal of artifacts on public lands.



Destruction of the Blaine Mound, Hinds County

Best Management Practices

Effective resource management comes from understanding the values of the mounds and ensuring that any decision tries to balance the effects of any management action so that negative effects are minimized and positive effects are maximized.

Some recommended Best Management Practices for mounds:

- Document mounds located on your property in the State Archaeological Site File.
- Check the mound condition on a regular basis, and take action to stop destabilizing actions such as erosion.
- Contact professionals for help in dealing with your mound.
- Avoid ground disturbing activities and frequent traffic (pedestrian, vehicles and livestock) on mounds.
- Remove mounds from cultivation. Consider establishing permanent grass cover on the mound, and create a 30 foot buffer zone around the base of the mound.
- Mounds with tree cover: The possibility of wind thrown trees is a potential concern. Overturned trees can pull up large chunks of soil with the root system causing damage to cultural deposits. Root penetration of trees and scrub can also have a significant impact on archaeological deposits. However, removal of long established trees can be more detrimental to the mound than maintaining the existing cover.
 - Clear small underbrush from mounds. As needed, removal and reduction of scrub growth should be carried out with hand tools during the winter and concentrate on scrub with stems over 1 inch in diameter cutting as near the base as possible.
 - Scrub growth and brush piles can also attract burrowing animals which damage cultural deposits.

For more information contact:

Cultural Resources Specialist
Natural Resources Conservation Service
McCoy Federal Building, Suite 1321
100 W. Capitol Street
Jackson, MS 39269
(601)965-4139
www.ms.nrcs.usda.gov



Fact Sheet

How Trees Benefit Mounds

This document is a summary of research on the relationship of trees and mounds. The information was compiled to provide information for the Village of McFarland policy on preservation and maintenance of mounds in the village.

Trees Provide Erosion Protection - The book Native American Mounds in Madison and Dane County makes the following statement regarding the mounds built by the Woodland mound builders in McFarland's Indian Mound Conservancy: "Situated on the ridge of a glacial drumlin, this group overlooks Lake Waubesa and Mud Lake to the west and south ...**These mounds are in very good condition...**". (Birmingham and Rankin, 1994)

This is consistent with a 1998 assessment of earthworks in the United Kingdom that states: "Many sites now under grass cover have been wooded at some stage in their land management history and they have better overall surface condition from this stabilizing cover of former woodland. Today we admire the condition of a particular earthwork but fail to recognize that this is historically due to a former woodland". (Jones, 1998)

Rain is one of the most efficient causal forces of erosion. Several studies have looked at the kinetic forces of rain drops and how they can physically dislodge soil particles (Evans, 1980; Imeson, 1984; Allen, 1991; Tamm, 1991). When rainfall occurs on a slope, a downward movement of any exposed soil particles will result, producing a slow but steady form of erosion. (Evans, 1980)

A woodland canopy with its increased evapotranspiration and interception, reduces the quantity of rainfall that reaches the soil compared with open ground or grassland. Where rain does reach the forest soil it has a reduced kinetic energy resulting from impacts with vegetation on its way through the canopy, and understory thus minimizing any soil movements from rain splash. (Wilson and Cooke, 1980)

The removal of trees from raised earthworks such as banks or burial mounds can have an adverse effect on the stability of the remaining soil. Soil consists of particles capable of moving past each other and allowing larger scale migration, especially on slopes. Shear strength is a function of the friction created between adjacent particles. A wet soil will have an increased volume that expands the spaces between particles thus reducing their friction and the soil shear strength (Biddle, 1998). The presence of roots within soil significantly increases its resistance to shearing (Waldron and Dakessian, 1981) by providing a lattice to support it. [Note: A good example of this is on the linear mound just south of the Bear Mound. The trail is cutting into the west end of the mound. The roots from two trees are helping minimize the damage by keeping the trail from cutting further into the mound.]

Adverse Impacts of Tree Removal - A US Dept of Agriculture – National Resource Conservation Service publication states: "The possibly of wind thrown trees is a concern. However, **removal of long established trees can be more detrimental to the mound than maintaining the existing cover.**" www.ms.nrcs.usda.gov/technical/IndianMounds_2.pdf

The author of the NRCS publication indicates that the physical process of removing long established trees causes substantial damage to the mounds and the surrounding environment. In addition to rutting which is very visible, soil compaction is a common problem. (Cliff Jenkins, 2010). This is consistent with damage that occurred in Indian Mound Conservation Park during some tree removal associated with oak wilt in 2005 and again in January 2010.

While the SHS does indicate that "Removal of trees from mounds and immediately adjacent areas is **generally desirable** to protect them from windthrow" ... At the same time, the SHS recognizes the potential risks associated with tree removal when it states: "However, at some locations, **selected trees may be retained ... when significant, unavoidable mound damage would occur during tree removal ...**"

Where the decision has been made to remove trees from sensitive sites, they are usually felled and the stumps left in the ground to rot, thus minimizing below ground disturbance. Tree removal and subsequent root death on a sloping soil ... may lead to a higher risk of soil erosion. Once a root has decayed, voids may be left within the soil. Water can drain through these channels and the surrounding soil will creep in from the sides. (Richardson, 1995; Biddle, 1998)

Mitigating windthrow risk: The Wisconsin State Historical Society risk assessment of the mounds in Indian Mound Conservancy states "all of the trees growing on the mounds seem to be healthy and not in immediate danger of tipping over."

While the SHS risk assessment indicates there is no immediate danger, there are ways to further minimize windthrow risks. Jones (1998) suggested that "the use of species that favor a more vertical root system, such as oak, may be beneficial in the stabilization of earth banks". Research conducted after a major storm in England in 1987 states: "Trees with a tap root (e.g. oaks) have a strong main root that descends vertically from the underside of the trunk. Tap root trees are much less susceptible to windthrow". Of the 4511 wind thrown trees surveyed, only 2.4 % were found to have tap roots (Cutler, Gasson and Farmer 1990).

This is consistent with the published Ho Chunk protocol on mound maintenance (p. 33 of the draft policy) which states that as an alternative to removing all trees: "remove all low land trees that have surface roots".

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Subject: FW: Village of McFarland - Policy for mound preservation and maintenance.

Hi Sayer,

I have now looked over the documents sent. Sorry for the delay – we’re right smack dab in the middle of our tribal budget work, as well as two grants we’re working to fulfill before spring.

Let’s see, I would consider the following when you begin to revisit these documents in earnest:

POLICY FOR PRESERVATION AND MAINTENANCE OF MCFARLAND’S INDIAN MOUNDS

- Try to eliminate the term “Indian” from the document
 - You can use terms such as, indigenous, native american, etc. if possible. Some federal regulations utilize the term indian though, so you’d want to conform to the prevailing terminology being discussed
 - The term indian mound could be re-termed burial mound (in accordance to 157.70) in some of the instances it is used
- The cultural importance should extend to all of us, as they are part of all of our history within the auspices of the four lakes region
- Increasing mound buffer sizes
 - Wisc. Stat. 157.70 increased the states recognized soil disturbance buffer area from 5’ to 10’
 - As land managers, I would want to increase the protection and preservation buffer to 25’ for the soil disturbance, tree & vegetation management processes
 - I believe the WHS asks for this as a consideration
- Review the ongoing documentation of the various phases of implementation
 - Review the changes to the management plan that were based off the initial implementation
- Place within the policy, the request to meet onsite with both the State Archaeologist & Ho-Chunk Nation THPO
 - Do a walk-through to discuss better administrative practices that can be instilled within the next review phase of the implemented plan
 - Create a 5 year revisit to the various documents
- Review the Photographic History of each mound
 - Share this information with both the State and HCN
- Instill an educational outreach program for the local community(s)
 - Create a “Friends of McFarland Burial Mounds” buy-in
 - Work with the Village School Programs to assist in various field activities
- Begin to focus on the fact; burial mound sites are in essence large mortuaries & sacred sites that carry much history and connection to that specific site (Compare to Arlington Cemetery), and that they are much more than just conservancy/park space
 - Land use should be viewed as Religious/Sacred/Cemetery sites first and foremost
- Include lidar imagery for each mound group
- I don’t agree with some of the Lower Wisconsin State Riverway Board policies for mound maintenance/management. We can discuss at a later date though

MOUNDS TREE INVENTORY

- I’d be interested in seeing the results from the work completed regarding the tree removals, along with the adjustment of the management of the mounds, buffer areas and other environmentals effected by this work.
 - If there’s been a file created to assist the management needs for the four mound sites, who would have this
- Was there a need to address the stumps left
 - Did sucker/volunteer trees begin to grow from the stumps, or were they treated
- What steps were taken to adjust for the woody material and invasive plants that come afterwards
 - Mowing, herbicides, hand removal, spring burns

MOUNDS VEGETATION ASSESSMENT

- Was there going to be an ongoing process of development that directs what is being followed that can be adjusted for effects of the work needed
 - I didn't see too much information about the remnant prairie plant seed base, and what mixtures should be considered, that would assist the remnant source
 - I don't think I seen anything written regarding burrowing animal protocols on and around the mounds
- Will the vegetation on and around the mounds be mechanical and/or hand mowed – this is something that requires a firm understanding on soil disturbance protocols
- Is there the possibility of creating Programmatic Agreements with volunteer/interest groups to assume certain management/maintenance responsibilities
- How did tree management work effect the vegetation management protocols, and were there needed adjustments when the tree canopy was adjusted by the plans
 - Tree cutting distance from mounds for the tree management & vegetation management are different it seems – how did this become resolved

Of course these are only my thoughts on the matter, as I am sure there's a lot of administrative allowances being taking to address the maintenance and management of these sites that can be codified into the updated documents during the revisit of these.

I'll be anxious to come visit the sites with you folks soon now, as spring is just around the corner it seems. If it'd help some, we also manage mound sites and we could always meet onsite of one of these to talk shop on how to make it work more effectively, efficiently as well as educationally.

Again, I apologize for the late response. I hope this finds you all in good spirits.

Best regards,

Bill Quackenbush
Tribal Historic Preservation Officer
Cultural Resources Division Manager
Ho-Chunk Nation of Wisconsin
(715) 284-7181 Ext. 11121
Bill.Quackenbush@ho-chunk.com

McFarland
SUMMARY SHEET

MEETING DATE: Monday, September 11, 2023

SECTION: Business

DEPARTMENT: Public Works

CONTACT: Sayer Larson, Parks Superintendent

AGENDA ITEM: Discussion and action regarding revisions to Tree Planting Bid and Specification Request for Proposal

PREVIOUS ACTION:

none

ISSUE SUMMARY:

Attached in the packet you'll find a revised tree planting request for proposal (RFP) for contracted tree plantings. The consultant developing the Urban Forestry Management Plan provided edits to the existing RFP and bid specification sheet. Zones 3 and 4 on the forestry zone map will be the primary planting locations for fall 2023.

FINANCIAL/BUDGET IMPACT:

The Village has a capital budget of \$25,000 for tree planting in 2023.

VILLAGE PLAN REFERENCE:

none

ORDINANCE REFERENCE:

none

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Recommend approval of edits to the Tree Planting Bid and Specification Request for Proposal.

ATTACHMENTS:

1. 2023 Tree Specs RFP form_revision1
2. forestryzones

**BID & SPECIFICATIONS FOR
Village of McFarland, Wisconsin**

PROJECT: 2023 Street Tree Planting

OWNER: Village of McFarland
5915 Milwaukee St. P.O. Box 110
McFarland, WI 53518-0110

CONTACT: Lee Igl, Director of Public Works (608) 838-7287
Sayer Larson, Parks Superintendent (608) 838-7287

Bids will be accepted by **mail or electronically only** until 3:00 P.M. local time Thursday September 28, 2023.

Physical address: Village of McFarland
PO Box 110
McFarland, WI 53558-0110
Attn: 2023 Tree Bids

E-mail address: public.works@mcfarland.wi.us
Subject line: 2023 Tree Bids

The village is not responsible for any submitted bids that do arrive to us, whatever the reason may be.

QUALIFICATIONS:

Bidders shall provide example of one to three (1-3) prior projects (similar in scope and scale) along with references as part of the bid.

RIGHTS RESERVED:

The Village of McFarland reserves the right to reject any and all bids, for whatever reason, and to waive any informalities in bids or in the bid process. No Bidder may withdraw a bid within 60 days after the actual date of the opening of the bids.

Intent of Specifications

The attached specifications and instructions are intended for bid of plant materials and installation in quantities and species as listed. Quantities may vary subject to funding. Please note the following;

- The exact planting locations will be provided by the Village and/ or Village's representative.
- Furnishing plant materials and installation of material shall conform to the dates as detailed per the specifications.
- No substitutions in sizing, container type or species/cultivar are allowed without prior written approval from the Village and/or Village's representative.

Site Inspection

It is recommended that all bidders become familiar with existing field conditions and planting sites prior to preparing the bid.

Guarantee

All plant material and plantings shall be guaranteed for one (1) year after planting. This is a one-time replacement for each tree. Planting stock will be maintained and watered during this year by residents and Village staff. Contractor shall conduct a site walk-through and review with the Village staff upon completion of planting, a minimum of one (1) additional walk-through during the first planting season and one final walk through prior to the end of the guarantee. All failed plant material shall be replaced **during the current or next planting season as soon as possible as on a mutually agreed upon date.**

Supervision

The Village of McFarland and representative shall inspect and approve all plant material and installation and may provide a full-time inspection of the work on site. Should any dispute arise with regard to quality of material and workmanship as detailed in the specifications, both parties will work jointly to resolve the issue(s), but the final decision shall rest entirely with the Village.

Any plant material not meeting quality and specifications shall be returned immediately.

Labor, Equipment, Permits, Etc.

The contractor shall furnish at their own cost and expense all transportation, labor, materials, and equipment needed to perform the work in the highest quality manner possible according to the specifications. The contractor shall have a competent foremen/ supervisor on-site the entire duration of the project. All project work shall be completed in accordance to the specifications, local and state codes. All permits and approval costs shall be borne by the contractor.

Pre-Planting Conference

The selected contractor shall arrange a meeting with the Village's representative prior to the start of the planting project. This meeting will provide a review of all aspects of the program and ensure that all requirements, specifications, and the project schedule are understood. Planting locations will be determined by the Village prior to work.

Utilities Coordination

After the Village has marked all proposed tree planting locations, the contractor shall be responsible for contacting and notifying local utilities (digger's hotline) as to the area of work and timing of the work. ~~Village shall mark all proposed tree locations prior to contacting digger's hotline.~~ Contractor shall notify the Village's representative of any conflicting planting location. In the case of location conflicts, the Village's representative will work with the contractor to propose a mutually agreed upon location for the planting.

Observation of Applicable Laws

The awarded contractor shall observe and comply with all state and local laws and ordinances or regulations which in any manner affect the conduct of this work. Contractor shall indemnify and hold harmless the Village of McFarland, its representative and all of its officers, agents and employees against any and all claims for any material other liability arising from or based upon the conduct of work or violations of any law, ordinance, regulation, or order, whether by contractor or contractor's employees.

Prior Project Work

Contractor shall provide example of 1-3 prior projects (similar in scope and scale) along with references as part of the bid.

Insurance Requirements

Contractor is to carry their own Liability, Auto and Worker's Compensation Insurance. The Contractor is to furnish a copy of insurance of at least \$1,000,000.00 protection, to the Village, against any accident claims that may be made by the owners and or employees of said Contractor prior to starting. Contractor must show proof of insurance as part of the bid.

Scope of Work

The contract award includes plant material and installation of the specified number of trees as listed by species, cultivar and size. Installation includes digging and preparing the planting hole, setting the specified tree, back-filling with appropriate material, restoration of the planting area, mulching, staking (as required) and initial watering. In addition, the contractor shall place and fill irrigation bags as provided by the Village. All work must be performed in accordance the following specifications.

1. All plants shall be premium grade stock, regionally grown in planting zones 4 or 5A. Caliper size is determined at 6" above the root flare. Heights are determined by distance from top of root flare to top of branches.
2. All planting stock shall have well-formed, typical uniform branching, free of disease, insects and mechanical injury, with a well-developed root system, straight trunk and defined leader. **No narrow branch attachments or included back (unless consistent with the species), no crossing limbs, architecture must be consistent for the species, cultivar, or variety specified.**
3. Trees shall be furnished as specified by size, root type, species and cultivar.
4. All trees shall conform to American Nursery Standard for Nursery Stock (ANSI Z60.1-2004).
5. All plants shall be tagged securely, identifying species, size and grower.
6. Plants shall be protected properly from weather and handling during transit.
7. All prices shall include delivery to the planting sites and installation as described in the scope of work.
8. All bare root plantings shall be staked **as defined in specifications.**
9. Village staff or representative may reject any trees or work that does not meet specifications.
10. Village staff and representative must be notified at least three (3) days prior to arrival of materials by to arrange inspection of plant material at delivery.
11. The contractor shall provide as-built plans detailing location and plant species no more than 30 days after completion.
12. **All work shall be completed prior to November 1, 2023.**

Planting Specifications

1. Terrace planting locations will be marked with paint and stake by Village. Contractor will be provided an address and species list and will be responsible for planting the proper species at the listed address.
2. Sod shall be removed from the planting site and not used to refill the hole. Each hole shall be dug to match the root depth of the tree. Additional loose soil shall be then placed on the root system in a manner that will eliminate voids and air pockets. Any additional topsoil needed to fill the tree pits shall be furnished by the contractor.
3. All planting holes shall be dug a minimum of **twice the width of the root ball or 6" wider than the farthest extending bare root.** Trees shall be centered in each hole. **Balled and burlapped holes are not to be excavated deeper than the depth of the root ball.** If an auger is used, holes shall be cleaned out by hand to accommodate **bare** root structures. Prune damaged roots. The tree shall be planted so the soil is

“dished” to facilitate watering. All bare root stock must stay moist from nursery to the time of planting and shall be wrapped in wet straw and plastic. Roots shall be dipped in or treated with a root stimulator one day prior to planting. Bare root plants shall be backfilled halfway and watered with approximately 5 gallons of water to compact the soil and remove air pockets. Continue backfilling until planted at proper depth **with the root flare at grade and a dish created for watering. Water again until soil is saturated.** ~~and water again with 3-5 gallons of water.~~

4. All trees shall be planted where the root flare meets the soil grade of the site. If root flare is not found on balled and burlapped tree, contractor shall remove excess soil to expose the root flare at the proper depth. Trees not planted at the proper depth shall be rejected.
5. All trees shall be mulched with 3-4” of double shredded hardwood mulch. “Mulch rings” shall be a 3-4’ diameter or at least 6” past disturbed grade, whichever is greater. Mulch shall be “dish” shaped to help facilitate watering. No mulch shall be placed on the trunk.
6. Contractor shall be responsible for initial watering and placement and filling of irrigation bags as provided by the Village.
7. All bare root trees shall be staked with 2” square Oak posts, furnished by the contractor. Trees shall be firmly cross-tied to the stakes with nylon webbing. The Village may identify additional trees to be staked as needed. Contractor to provide written pricing for additional staking of trees at the time the bid is submitted.
8. All balled & burlapped trees shall be set properly in the planting pit and arranged to sit properly. Binding cord shall then be cut and removed. Wire cage shall be removed or pulled back from the top 1/3 of the ball and burlap in this area shall be removed. **(See Appendix A)**
9. Container grown trees shall have the pots removed and roots sliced vertically. **All encircling roots must be removed or straightened.**
10. Contractor shall follow instructions for grow bags as provided by the grower.
11. **All debris shall be removed from planting sites and disposed of properly.**
12. **Any minor damage to branches or root system shall be pruned and cleaned up as instructed by the Village.**

Published by the authority of:

Matt Schuenke

Village Administrator

McFarland 2023 Plant Schedule

Example

Variety	Species	Size	Qty	Price each (installed)	Sub Total
American Redbud	Cercis canadensis	1 1/2" B&B	7	123.45	\$864.15
Patriot Elm	Ulmus 'Patriot'	1 1/2" B&B	9	678.9	\$6,110.10
Ginkgo	Ginkgo biloba 'Autumn Gold'	1 1/2" B&B	2	456.78	\$913.56
		Total	18		
Grand Total					\$7,887.81

Variety	Species	Size	Qty	Price each (installed)	Sub Total
Tulip Tree	Liriodendron Tulipifera	1½ inch B&B	15		
Northern Catalpa	Catalpa speciosa	1½ inch B&B	15		
Kentucky Coffee Tree	Gymnocladus dioicus 'Espresso'	1½ inch B&B	10		
American Redbud	Cercis canadensis	1½ inch B&B (single stem)	10		
Winter King Hawthorne	Crataegus viridis 'Winter King'	1½ inch B&B	5		
Serviceberry – Autumn Brilliance	Amelanchier x grandiflora 'Autumn Brilliance'	1½ inch B&B (single stem)	5		
Ohio Buckeye	Aesculus glabra	1½ inch B&B	5		
Common Hackberry	Celtis occidentalis	1½ inch B&B	5		
Patriot Elm	Ulmus 'Patriot'	1½ inch B&B	5		
Redmond Linden	Tilia americana 'Redmond'	1½ inch B&B	5		
Skyline Honey Locust	Gleditsia triacanthos 'Skycole'	1½ inch B&B	5		
Grand Total					

**THE VILLAGE RESERVES THE RIGHT TO CHANGE
QUANTITIES AND OMIT SPECIES AS DESIRED
OR NEEDED.**

APPENDIX A: B&B PLANTING DETAIL

INTERNATIONAL SOCIETY OF ARBORICULTURE

INTERNATIONAL SOCIETY OF ARBORICULTURE
1400 WEST ANTHONY DRIVE
CHAMPAIGN, IL 61821
(217) 355-9411
(217) 355-9516 FAX

DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.

STAKE TREES ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. SEE STAKING DETAIL.

WRAP TREE TRUNKS ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. SEE WRAPPING DETAIL.

MARK THE NORTH SIDE OF THE TREE IN THE NURSERY, AND ROTATE TREE TO FACE NORTH AT THE SITE WHEN EVER POSSIBLE.

SET TOP OF ROOT BALL FLUSH TO GRADE OR 25-50 MM (1-2 IN.) HIGHER IN SLOWLY DRAINING SOILS.

50 MM (2 IN.) MULCH. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK. MAINTAIN THE MULCH WEED-FREE FOR A MINIMUM OF THREE YEARS AFTER PLANTING.

NOTE: FOR DIMENSIONS OF PLANTING AREAS, TYPES OF SOIL AMENDMENTS, OR SOIL REPLACEMENT, SEE "SOIL IMPROVEMENT DETAILS."



EACH TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TREES WHERE THE TRUNK FLARE IS NOT VISIBLE SHALL BE REJECTED. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.

MULCH RING
1800 MM (6 FT.) DIAM. MIN.
2400 MM (8 FT.) DIAM. PREFERRED

200 MM (8 IN.)

100 MM (4 IN.) HIGH EARTH SAUCER BEYOND EDGE OF ROOT BALL.

REMOVE ALL TWINE, ROPE AND WIRE, AND BURLAP FROM TOP HALF OF ROOT BALL.

IF PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, CUT THE WIRE BASKET IN FOUR PLACES AND FOLD DOWN 200 MM (8 IN.) INTO PLANTING HOLE.

PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.

TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOT BALL DOES NOT SHIFT.

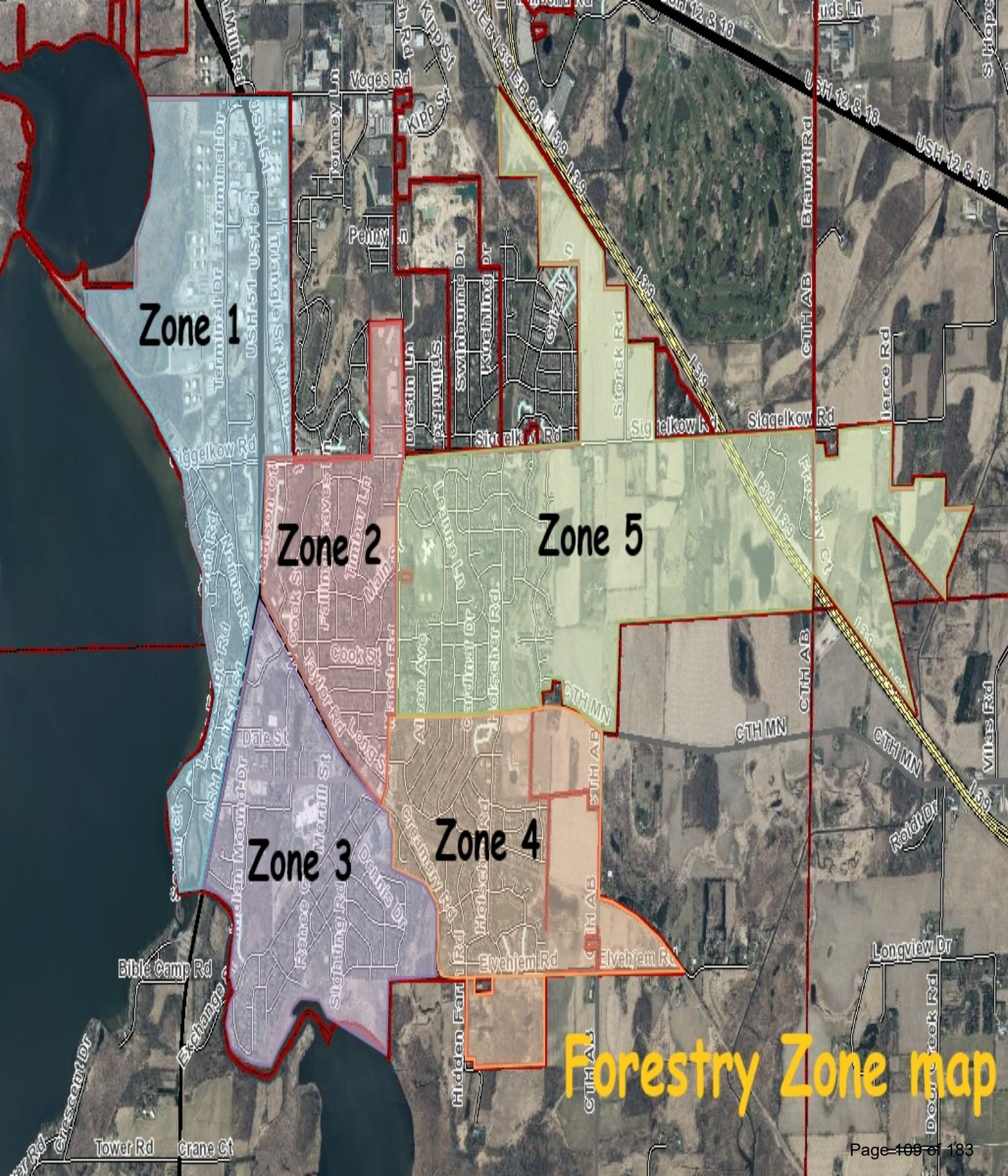
NOTES

1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.



TREE PLANTING DETAIL - B&B TREES IN ALL SOIL TYPES

NOTE: THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 2400 MM (8 FT.) SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.



Zone 1

Zone 2

Zone 5

Zone 3

Zone 4

Forestry Zone map

**VILLAGE OF
McFarland
SUMMARY SHEET**

MEETING DATE: Monday, September 11, 2023

SECTION: Business

DEPARTMENT: Community Development

CONTACT: Kong Thao, Associate Planner

AGENDA ITEM: Discussion and action to submit the Village of McFarland's 2022 Green Tier Annual Report to the Wisconsin Department of Natural Resources.

PREVIOUS ACTION:

ISSUE SUMMARY:

The Wisconsin Department of Natural Resources establishes the Green Tier Legacy Communities (GTLC) network to advance sustainable practices and stretch limited local government resources. GTLC offers regional collaboration opportunities and additional grant point consideration for select state grants, grant notifications and opportunities for joint grant application. As part of the program, participating communities are required to provide the WDNR with an annual report. The 2022 Green Tier Annual Report will be the Village's second annual report submitted to the Wisconsin Department of Natural Resources. All subsequent data for the reporting reflects activity achieved in 2022.

The packet includes a final copy of the Village's 2022 metrics and supporting actions spreadsheets. The data has been collected through collaborative efforts across all Village departments.

FINANCIAL/BUDGET IMPACT:

None.

VILLAGE PLAN REFERENCE:

ORDINANCE REFERENCE:

Sec. 2-398(a). - Sustainability & Natural Resources Committee

(a) Reviewing and submitting annually to the Wisconsin Department of Natural Resources the Village's Green Tier Legacy Community Annual Report and advising on the implementation of recommended Green Tier strategies.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Motion, and second, to approve submittal of the Village of McFarland's 2022 Green Tier Annual Report to the Wisconsin Department of Natural Resources.

ATTACHMENTS:

1. Village of McFarland_2022 Supporting Actions



2. Village of McFarland_2022 Metrics Section

Data Collection Preview - Supporting Actions Section

This spreadsheet is intended to help you prepare for 2022 annual reporting with a preview of supporting actions. You can think of it as a menu of options that communities can choose from to help improve metrics over time. This is also the section where you can tell the stories of how your community is working to be more sustainable and continually improve.

When the scoresheet programming is finished, the new form will look very different, but it will ask for the exact same information that this spreadsheet asks for. If you gather the data here, it will be easier to enter into the new scoresheet. You can also use the optional feedback columns to offer feedback on the new metrics if you have any.

It is organized around six sustainability issue areas:

- Energy & Emissions
- Transportation
- Land Use
- Water Quality & Conservation
- Solid Waste
- Health & Equity

There is a tab for each issue area. Each tab has a table with colored headers.

- **Grey columns** provide information about the supporting action
- **Green columns** are where you enter information about the action - if you took it. If not, leave the section blank. You only need to fill out lines for actions your community has taken or is planning to take.
- **Gold columns** are where you enter comments about the scoresheet itself

It is certainly not expected that your community is working on all of these actions. This section simply intended to gather information about actions your community is taking and offer ideas for the future.

Please use this section to offer details in the narrative column. We will all be able to pull data from this section to learn from each other's experiences. There will be a place in the newly programmed scoresheet for these narratives.

Each table looks like this:

Supporting Action Id	Action	Supported Metrics (LU-X). If none listed, add summary in Narrative Report (NAR)	Year Implemented- enter UNK if unknown	Completed, Ongoing or In Progress, In Planning	Narrative Report (Optional - describe the project or action)	BETA TESTERS FEEDBACK: Comments about the action (Optional)
Identifier for each supporting action	Description of an action your community could take to help improve performance on one or more of the metrics	A list of metrics this supporting action may be able to help improve	If your community has completed this action, indicate when it was implemented	If your community has taken this action or plans to soon, please indicate current progress	If your community has completed this action, is working on it, or is in the planning phase, please describe how its going, feature milestones and challenges, and offer any other information you think may be of value to other communities considering taking this action	This is where you can offer feedback about the action itself - should it be on the scoresheet? Any other comments about it? Are there supporting actions that are missing?

There is also a Metrics Section that you can preview in a separate spreadsheet. The new form will record all data in the same place - it is just in two spreadsheets for previewing purposes.

Questions? Contact Jennifer Feyerherm at jennifer.feyerherm@wisconsin.gov or 608-287-4175

Supporting Action id	Action	Supported Metrics (LU-X). If none listed, add summary in Narrative Report (NAR)	Year Implemented, enter UNK if unknown	Completed, Ongoing or In Progress, In Planning	Narrative Report (Optional - describe the project or action)	BETA TESTERS FEEDBACK: Comments about the action (Optional)
ERSA-1	Complete a municipal GHG inventory for Scope 1 and 2 and establish baseline emissions	ER-6	2021	In Planning	Included in the Energy Section of the Sustainability Plan (page 14) adopted in 2021.	
ERSA-2	Complete a municipal GHG inventory for Scope 3 and establish baseline emissions	ER-6	2021	In Planning	Included in the Energy Section of the Sustainability Plan (page 14) adopted in 2021.	
ERSA-3	Complete the ICLEI US Community Protocol and establish baseline emissions	ER-6				
ERSA-4	Establish municipal and community-wide emissions reduction, energy reduction, onsite renewable energy and/or energy efficiency goals in a supporting plan or resolution.	ER-1, ER-2 (all), ER-3 (all), ER-4, ER-6	2021	Completed	Included in the Energy Section of the Sustainability Plan (page 14) adopted in 2021.	
ERSA-5	Use Focus on Energy, utility Commitment to Community programs, and/or other resources to conduct energy assessments on municipal facilities that are identified as high energy users	ER-3A, ER-3B, ER-4, ER-6	2023	In Progress	An energy audit for the Municipal Buildings will occur in 2023	
ERSA-6	Use ENERGY STAR Portfolio Manager, or other software tools, to track energy use in all municipal facilities	ER-3 (all), ER-4	UNK	In Planning	Identified as a Mid-Term Action within the Energy Actions from the Sustainability Plan (page 15)	
ERSA-7	Require new municipal buildings, and significant remodels of existing buildings, to be designed to achieve a sustainable building certification, such as an ENERGY STAR score of 75, or certification through LEED, WELL, Passive House, Net Zero Energy, Green Globes, or Living Building. The local government may specify the sustainability standard(s) that it will recognize and include an EUI target in the construction contract	ER-1, ER-3 (all), ER-4 ER-6	2023	In Planning	Remodeling of the Municipal Center will follow the completion of the Public Safety Building and transition of Fire & Rescue, Police, and Village Court. Initial planning will look to repurpose the vacated space to add sustainable features.	
ERSA-8	Increase visibility of renewable energy in the community by installing PV systems at government facilities and enable public access to electricity production data monitoring.	ER-1, ER-2A, ER-3A, ER-4, ER-6	2021	Ongoing, In Progress	The Village website includes a data monitoring site (SolarEdge) tracking the energy usage of the building's solar PV system. Future solar PV sites will include similar data monitoring sites to track energy generation.	
ERSA-9	Offer renewable energy purchasing or participation programs or promote existing programs from outside sources to residents and businesses.	ER-2A	2021, 2022	Ongoing	Promotion of solar group buy program has continued to be successful since. 31 recorded solar permits in 2021, 21 recorded solar permits in 2022.	
ERSA-10	Take steps to simplify the solar permitting process and remove other barriers to residential solar implementation.	ER-2A	UNK	In Planning	Working towards SoSmart designation.	
ERSA-11	Leverage Focus on Energy and University of Wisconsin System resources to offer public educational programs, or otherwise provide resources for interested parties, on energy efficiency upgrades for homes and businesses	ER-2A				
ERSA-12	Implement a plan to upgrade all municipally owned or controlled streetlights and stop lights to LED lamps.	ER-3A, ER-6	UNK	Ongoing	The Village owns a small portion of the street lights within the community. Most are owned and operated by the regional utility provider, Alliant Energy. Replacement to LED Lighting has been at failure.	
ERSA-13	Incorporate energy efficiency upgrades for lighting, HVAC and building shells for all municipal buildings into the community's capital improvement plan.	ER-3, ER-6	2022	In Planning	Planning for municipal energy audit began in late 2022 and expected to be implemented in 2023.	
ERSA-14	Make watt meters available to the public	ER-2A				
ERSA-15	Adopt an energy use disclosure ordinance for residential and/or commercial buildings (Requires the seller of a property to inform prospective buyers of the building's energy use for one, or more previous years).	ER-2				
ERSA-16	Pass a resolution to become a State of Wisconsin Energy Independent Community with updated goals extending beyond 25% renewable energy by 2025	ER-1, ER-6	2021	Completed	The Village has not adopted a resolution but has adopted a Sustainability Plan that includes similar energy independent goals. Included in the Energy Section of the Sustainability Plan (page 14) adopted in 2021.	
ERSA-17	Purchase renewable electricity for municipal buildings	ER-1, ER-6				
ERSA-18	Establish policy requiring that all new and renovated municipal buildings must achieve a community-determined sustainable building certification	ER-1, ER-3, ER-5A, ER-6		In Planning	Included as a Near Term action in the Energy Section of the Sustainability Plan (page 14) adopted in 2021	
ERSA-19	Capture biogas from wastewater treatment facility, landfill, or community compost facility and use biogas to power operations.	ER-1, ER-6			Village does not have or own any of these facilities.	
ERSA-20	Implement a plan to upgrade all municipally owned or controlled street lights to LED lamps.	ER-3A, ER-6				Redundant to ERSA-12
ERSA-21	Include energy efficiency, renewable energy, and/or sustainable building certification requirements or incentives into TIF policies and other programs assisting commercial development projects.	ER-2, ER-5B	2022	Completed		
ERSA-22	Improve all aspects of the energy reduction program by increasing the amount of grant funding awarded to the City/County and track the amount of funding annually by making it part of staff responsibilities to do so. Please elaborate on this action in the narrative portion of the report.	ER-ALL	2022	Ongoing	In 2022, the Village submitted two OEI EIGP applications for a joint comprehensive energy plan audit with the McFarland School District and a microgrid battery storage at the Public Safety Center. Funding was awarded for only the microgrid and battery storage.	
Other	Describe a supporting action your community has taken that is not in the list	NAR	2021	Completed, In Progress	We adopted a Sustainability Plan in 2021. We are planning to create a new Sustainability & Natural Resources Committee in 2022. The Village is entering into a lease agreement with Alliant Energy under their Customer Hosted Renewable Program (In Progress).	

Supporting Action Id	Action	Supported Metrics (LU-X). If none listed, add summary in Narrative Report (NAR)	Year Implemented, enter UNK if unknown	Completed, Ongoing or In Progress, In Planning	Narrative Report (Optional - describe the project or action)	BETA TESTERS FEEDBACK: Comments about the action (Optional)
TSSA-1	Require bike parking for all new non-residential and multifamily uses.	TS-1, TS-4, TS-6, TS-8		In Planning	To be considered in 2024 Zoning Code Update	
TSSA-2	Set standard for placement and number (as function of intensity of use) of bike parking spaces. See: https://www.apbp.org/bicycle-parking-solutions https://www.apbp.org/assets/docs/EssentialsOfBikeParking_FINA.pdf	TS-1, TS-4, TS-6, TS-8		In Planning	To be considered in 2024 Zoning Code Update	
TSSA-3	Create public-facing resource showing all bike routes and pedestrian paths.	TS-1, TS-4, TS-6, TS-7	2020	Ongoing	Included in the Village interactive Zoning Map web map.	
TSSA-4	Identify, sign, maintain, and clear bike routes in the community year-round	TS-1, TS-4, TS-5, TS-6, TS-7, TS-8	UNK	Ongoing	Included in the Village interactive Zoning Map web map.	
TSSA-5	Receive certification by the League of American Bicyclists as a Bicycle Friendly Community. Work with Businesses to promote bike commuting Source: https://www.activewisconsin.org/ and https://www.bikeleague.org/	TS-1, TS-4, TS-6, TS-7		In Planning	Identified as a Long-Term Action Item within the Transportation Section of the Village's Sustainability Plan adopted in 2021 (page 17).	
TSSA-6	Promote bike safety and other active living education and awareness sessions, through in-school education programming, bike rodeos, and other public-facing efforts; or work with a community organization to do the same	TS-1, TS-4, TS-5, TS-6, TS-7, TS-8	UNK	Ongoing	Police Department holds annual bike safety educational events	
TSSA-7	Implement a bike-share program for residents and visitors	TS-1, TS-4, TS-6, TS-7, TS-8	2021	Ongoing	Introduction of the first Bcycle program began in 2021 but received its pilot year in 2022 due to supply delays. With a late start to the year when the Village finally received its bikes. We will repeat the pilot year in 2023 to better acquire ridership data.	
TSSA-8	Require large employers (50+ employees) seeking rezoning to create a transportation demand management plan	TS-8				
TSSA-9	Increased safe pedestrian and bike routes to parks and public greenspace and other key destinations (grocery stores, schools, other public facilities, etc.)	TS-1, TS-4, TS-5, TS-6, TS-7, TS-8	UNK	Ongoing	Future Bike/Ped facilities are working to create more connectivity among existing and surrounding trails. Future facilities will incorporate growth into development east of the Village.	
TSSA-10	Eliminate or lower parking minimums from non-residential districts, when applicable	TS-8		In Planning	To be considered in 2024 Zoning Code Update	
TSSA-11	Charge impact fees to developers for new roads and utilities	TS-8	UNK	Ongoing	Developers are required to pay for new road and utilities to serve their projects with any upizing costs to serve future growth paid by the Village or future benefiting property owners.	
TSSA-12	Create and implement a plan to incorporate EVs, hybrids, and alternative fuel vehicles to municipal fleet vehicle replacement plan.	TS-2, TS-3, TS-8	2021	Ongoing	Within the Sustainability Plan, page 16-Transportation, the plan identifies preferences to increase the number of vehicles among Municipal transportation fleet. Likely, this goal will be an "as needed" approach when each department looks to change their fleet vehicle.	
TSSA-13	Install public EV charging stations	TS-2, TS-3, TS-8		In Planning	Within the Sustainability Plan, page 16-Transportation, the plan identifies goals to increase the number of public EV charging stations throughout the Village. EV Charging stations or EV ready locations are being considered for the updates to the Municipal Center	
TSSA-14	Create a policy and train staff that prohibits idling of municipal fleet vehicles for more than 5 minutes	TS-3, TS-8		In Planning	Identified as a Mid-Term Action Item within the Transportation Section of the Village's Sustainability Plan adopted in 2021.	
TSSA-15	Ban idling of unoccupied vehicles community-wide	TS-8		In Planning	Identified as a Mid-Term Action Item within the Transportation Section of the Village's Sustainability Plan adopted in 2021.	
TSSA-16	Prepare a plan that identifies disconnections in bike and pedestrian networks, prioritizing fixes and identifying potential funding sources for the most important projects. Consider solving the last mile challenge where present.	TS-1, TS-4, TS-5, TS-6, TS-7, TS-8	2019	On-going, In Planning	The Village adopted an Outdoor Recreation Plan in 2019 that includes maps of existing and future bike and pedestrian routes. These are integrated into our online GIS webmap. In 2022-2023, the Village will be updating its East Side Neighborhood Plan which will include revisiting planned bike and pedestrian routes in this portion of the Village.	
TSSA-17	Identify four-lane roadways with fewer than 20,000 vehicles per day (AADT) and evaluate them for "road diets" with bike lanes or on-street parking	TS-1, TS-4, TS-5, TS-6, TS-7, TS-8				
TSSA-18	Calculate Walkscores and Bikescores for the community on the whole and develop a plan to improve those scores Source: https://www.census.gov/topics/employment/commuting/guidance/commuting.html	TS-3, TS-8				
TSSA-19	Establish an expanded public transit that serves commuters from all neighborhoods and major parks and recreation facilities, and has racks on vehicles for carrying bicycles.	TS-7, TS-8		In Planning	The Village is in the early conversations with Madison Transit to establish public transit routes that will better serve the community.	
TSSA-20	Adopt and implement a pedestrian and bicycle safety and improvements plan	TS-7, TS-8	2019	On-going, In Planning	The Village has adopted an Outdoor Recreation Plan that includes maps of existing and future bike and pedestrian routes. These are integrated into our online GIS webmap. In 2022-2023, the Village will be updating its East Side Neighborhood Plan which will include revisiting planned bike and pedestrian routes in this portion of the Village.	Seems very similar to TSSA-16
TSSA-21	Create a standing committee to promote pedestrian and bicycle improvements	TS-1, TS-4, TS-6, TS-7, TS-8				
TSSA-22	Implement a complete streets plan	TS-7, TS-8				
TSSA-23	Evaluate any proposal to add lanes to a two-lane roadway for a center turn lane, the preferred option over an expansion to four lanes.	TS-8		In Planning	Future roadway expansion has been discussed in the East Side Neighborhood Plan Update. The plan update is scheduled to be completed in 2023, addressing growth east from the Village center. Any future reconstruction of Sigelkew Road to four lanes east of Catalina Parkway should include this evaluation	
TSSA-24	Improve all aspects of the transportation systems program by increasing the amount of grant funding awarded to the City/County and track the amount of funding annually by making it part of staff responsibilities to do so. Please elaborate on this action in the NAR portion of the report.	TS-ALL	UNK	Ongoing	The Village will be reconstructing Exchange Street in 2024, with funding assistance provided through the Madison MPO. The Village plans to continue to seek grants/cost sharing agreements for future projects where applicable.	
TSSA-25	Incorporate access to bicycle and pedestrian infrastructure into decisions for siting of municipal county and school facilities, as well as into zoning decisions	TS-1, TS-4	UNK	Ongoing	Ongoing efforts by Community & Economic Development/Engineering/Public Works during review of public projects	
TSSA-26	Pass ordinances that support the reduction of GHG emissions from transportation, including more funding for walking, biking, transit, reduced idling, required impact fees, transportation demand management, etc.	TS-ALL				
Other	Describe a supporting action your community has taken that is not in the list	NAR				

Supporting Action Id	Action	Supported Metrics (LU-X). If none listed, add summary in Narrative Report (NAR)	Year Implemented, enter UNK if unknown	Completed, Ongoing or In Progress, In Planning	Narrative Report (Optional - describe the project or action)	BETA TESTERS FEEDBACK: Comments about the action (Optional)
LUSA-1	Identify priority areas, like business centers or corridors, underutilized former industrial areas, or other previously developed but poor quality areas along rivers, lakes, or streams, for infill development and then facilitate development of those areas without removal or with the addition of valuable green spaces (i.e. Parks, recreational spaces, natural/preserved habitat, conservation lands). When possible restore shoreline and flood prone areas to native habitat or with low impact infrastructure like pathways or boardwalks.	LU-1, LU-3, LU-4, LU-5, LU-6, LU-9, NAR	UNK	Ongoing, In Planning	The Village has three existing TIF Districts, Terminal Triangle District Plan, Redevelopment District Plan #1, Redevelopment District Plan #2, and a Comprehensive Plan. These planning documents identify and prioritize infill development. In 2023, the Village will update the Terminal Triangle District Plan, the Redevelopment Plans, and create a new Downtown Master Plan. These planning projects will further identify and plan for infill development.	
LUSA-2	Facilitate or incentivize brownfield site redevelopment or remediation in the community or county. When possible restore areas in flood prone locations to native habitat.	LU-1, LU-3, LU-4, LU-6, LU-9	UNK	Ongoing	The Village has three existing TIF Districts that provide opportunities to incentivize brownfield site redevelopment.	
LUSA-3	Zoning codes allowing beekeeping on single family, institutional, or agricultural properties	NAR		In Planning	This action has been identified in the Sustainability Plan, page 23, Land Use & Development Actions for Long-Term Actions. To be considered in 2024 Zoning Code Update.	
LUSA-4	Increase requirements for minimum tree plantings in redevelopments and new developments and require planting of diverse native tree species.	LU-3, LU-5, LU-7	UNK	Ongoing, In Planning	Village ordinances already require the use of native plantings. Further adjustments to landscaping requirements to be considered when the Village updates its Zoning Code in 2024	
LUSA-5	Set standards for redevelopment projects to reduce overall intensity of development by requiring green infrastructure and minimum green space provisions per square foot of impervious footprint.	LU-3, LU-6	UNK	Ongoing, In Planning	Village ordinances already require minimum green space provisions. Further adjustments to these requirements to be considered when the Village updates its Zoning Code in 2024	
LUSA-6	Create land bank to acquire and assemble priority infill sites or to preserve land for flood mitigation, reduction of density, parks/dedicated public green space, or trails/pathways to increase accessibility	LU-3, LU-4, LU-5	UNK	Ongoing	The Village utilizes its TIF Districts and park impact fees to acquire and assemble priority infill sites or to increase park spaces.	
LUSA-7	Revise zoning requirements for office and retail districts to permit floor-area ratio >1 on average https://www.planning.org/pas/reports/report111.htm	LU-8		In Planning	To be considered in 2024 Zoning Code Update	
LUSA-8	Promote, through local policy initiatives, life cycle or adaptable housing options, such as "aging in place", accessory dwelling units (ADUs), Universal or Inclusive Design, Dementia Friendly Communities, Age-Friendly Communities, workshops, presentations, etc. to minimize sprawl and improve infill development and density.	LU-2, LU-10		In Planning	Allowing ADU's has been identified in the Sustainability Plan, page 23, Land Use & Development Actions for Mid-Term Actions. Preliminary discussion and research was presented to the Plan Commission at the October 18th, 2022 meeting. To be considered in 2024 Zoning Code Update.	
LUSA-9	Adopt a tree preservation ordinance https://www.isa-arbor.com/education/onlineresources/treeordinancguidelines	LU-7				
LUSA-10	Set a tree canopy goal, perform a tree canopy assessment, and develop a forestry management plan to achieve it.	LU-7	2022	Ongoing	The Parks Department has completed a tree canopy assessment in June 2022. A tree management plan for tree removal, maintenance, and planting followed the assessment.	
LUSA-11	Require a planting scoresheet to regulate the amount of trees, shrubs, bushes that will be planted in redevelopments or new developments	LU-3, LU-7	UNK	Completed	The Village Code of Ordinance establishes Sec. 62-310. -Site/design review requires this from all developments which include residential projects consisting of three or more dwelling units, any commercial, any industrial, any public utility or government entity or religious organization, and any parking area including five or more parking spaces.	
LUSA-12	Certification as Tree City USA	LU-7	2009	Completed	In 2022, the Village will receive a growth award for Tree City.	
LUSA-13	Certification as Bird City Wisconsin Community	NAR	2011	Completed	In 2021, the Village reached high flyer status for Bird City.	
LUSA-14	Revise zoning codes for commercial, industrial, multifamily, or institutional properties to protect existing native habitats like sensitive areas, wildlife habitats, and wetlands, or to require installation of green infrastructure.	LU-5, LU-6	UNK	Ongoing, In Planning	Village ordinances already require protection of wetlands. The Village is planning to update the Zoning Code in 2024 which will provide an opportunity to further explore this topic.	
LUSA-15	Improve all aspects of the land use program by increasing the amount of grant funding awarded to the City/County and track the amount of funding annually by making it part of staff responsibilities to do so. Please elaborate on this action in the NAR portion of the report.	LU-ALL	UNK	Ongoing	The Village plans to continue to seek grants/cost sharing agreements for future projects where applicable.	The wording of this action item, and those similar in other sections, is awkward. Municipalities can increase the amount of grants they pursue but increasing the amount of funding awarded is out of our hands.
LUSA-16	Implement zoning code strategies to increase overall density located in areas that are highly accessible to population needs like public transit, healthy food options, daycare/childcare - schools, green space/recreational areas, and healthcare	LU-3, LU-4, LU-6		In Planning	In 2022-2023 the Village will be updating its East Side Neighborhood Plan to consider these strategies. In 2024, the Village will be updating its Zoning Code to consider these strategies.	
LUSA-17	At the beginning of project planning identify potential opportunities and/or funding to better connect state, regional, or local greenspaces	LU-3, LU-4, LU-5, LU-6	UNK	Ongoing, In Progress	Most plans development by the Village include an implementation section that identifies potential sources of project funding. In 2023, the Village plans to review our Capital Improvement Plan and Strategic Plan to identify potential sources of grant funding for each project	
LUSA-18	Organize a volunteer work day on public or private lands to help promote sustainable land use impacts (pulling invasives, planting trees, improving trails, treating plants/trees, etc.).	LU-2, LU-3, LU-4, LU-5, LU-6, LU-7, LU-10, LU-11	UNK	Ongoing	The Village has an annual volunteer clean-up day around the time of Earth Day. The Parks Department hosts other smaller volunteer clean-up days as well.	
LUSA-19	Inform residents and businesses, including properties used for agriculture, that are located along waterways or within flood zones of ways to mitigate flood damage to their properties and businesses. (FEMA funding, flood mitigation techniques, process for filing a LOMR, etc.)	LU-2, LU-9, LU-11				

LUSA-20	Create agricultural incentives and educational material through a land and water conservation department and inform farmers on sustainable agricultural land use practices (cover crops, buffer crops, harvestable buffers, direct injection manure, composting, application practices, etc.)	LU-5, LU-10, LU-11				
LUSA-21	Implement a conservation program to educate and incentivize the private ownership of deeded lands dedicated for conservationist practices, to be held on a permanent basis without the ability to develop or utilize for any economic or utilitarian purposes other than for ecological survey, hunting, fishing, or trapping. Many times these are done through conservation easements. https://dnr.wisconsin.gov/aid/Easements.html Other Examples: https://dnr.wisconsin.gov/topic/Lands/VPA	LU-5, LU-7, LU-8, LU-9, LU-10				
LUSA-22	Promote sustainable land use practices for private and institutional properties through education and outreach.					
Other	Describe a supporting action your community has taken that is not in the list	NAR				

Supporting Action Id	Action	Supported Metrics (LU-X), if none listed, add summary in Narrative Report (NAR)	Year Implemented, enter UNK if unknown	Completed, Ongoing or in Progress, In Planning	Narrative Report (Optional - describe the project or action)	BETA TESTERS FEEDBACK: Comments about the action (Optional)
WQCSA-1	Reduce use of synthetic chemical pesticides, herbicides, and fertilizers in municipal, town, or county landscape management and try to promote use of more natural management processes.	WQC-1, WQC-2, WQC-3	2020	Ongoing	Chapter 3 Vegetation Management Use Policy which guides the use of pesticides and fertilizers in Village owned property	
WQCSA-2	Supervise chemical applicators during pesticide or other chemical application to storm water ponds to ensure best management practices are implemented	WQC-1, WQC-3				
WQCSA-3	Create community policy and best management practices for minimizing chemical use during vegetation management	WQC-1, WQC-2, WQC-3, WQC-9	UNK	Ongoing	No program at this time. Village Public Works write articles to be included in the various newsletters	
WQCSA-4	Eliminate use of groundwater for irrigation in municipal landscape management	WQC-1, WQC-2, WQC-3, WQC-6				
WQCSA-5	Establish 75-foot natural vegetation buffer around surface water	WQC-1, WQC-2, WQC-3	1982	Completed	This is required in areas subject to the Dane County Shoreland Zoning Ordinances but not in areas of the Village annexed before May 7, 1982. This areas require a 40' setback.	
WQCSA-6	Apply block rates to residential and commercial water billing	WQC-7			We have one rate for 59,000 gallons of water and less and a separate rate for 60,000 and more. Not sure if this qualifies as block rates	Define block rates
WQCSA-7	Offer water and sewer billing credits for installation and use of stormwater management systems (ex. Rain barrels, rain gardens, swales, pervious pavement)	WQC-1, WQC-2				
WQCSA-8	Develop a water efficiency and conservation plan for City, Town, or County buildings.	WQC-6, WQC-8				
WQCSA-9	Install Faucet aerators and low-flow plumbing fixtures in all municipal facilities	WQC-6	UNK	Ongoing	Complete as needed	
WQCSA-10	During televising inspections clean at least 10% of the entities sanitary sewer collection system per year	WQC-14	2020	Ongoing	Clean 33.3% of the sanitary collection system per year	
WQCSA-11	Televise or visually inspect greater than 10% of sanitary sewer collection system per year	WQC-14	2020	Ongoing	Televise 33.3% of the sanitary collection system per year	
WQCSA-12	Establish a program to inspect and control grease in sewer system	WQC-15	UNK	Ongoing	Village maintains an ordinance related to grease (Sec. 47-109) and annual televising is used to inspect for grease trap maintenance. Public Works may contract for additional annual inspections in 2023/24	
WQCSA-13	Create program and train staff to identify any unapproved illicit discharges from commercial and/or industrial users	WQC-3	UNK	Ongoing	The Village utilizes our consultant engineer for this service	
WQCSA-14	Establish legal authority to inspect private residences or businesses to prohibit sump pump connections to the sanitary sewer system	WQC-14	UNK	Completed	Sec. 8-311. - Conducting Tests of the Village's Municipal Code of Ordinance establishes this.	
WQCSA-15	Establish a pretreatment or industrial control program that implements legal authority to administer fees/charges, to issue permit limitations for high flow and/or high strength waste discharges to the sanitary sewer system	WQC-1, WQC-3			Madison Metropolitan Sewerage District does this for those within Village limits	
WQCSA-16	Provide financial assistance to residents to replace lead sewer laterals.	WQC-10 , HECO-2				
WQCSA-17	Reduce rates of inflow and infiltration in sanitary system by at least 10%	WQC-14, WQC-15	UNK	Ongoing	Working on this through our cleaning and televised work completed each year	
WQCSA-18	Create an inventory of wetlands in the community and ensure no net loss of preserved wetlands.	WQC-1, WQC-2, LU-5	UNK	Completed	WDNR has completed a wetland inventory for the entire state. Individual development projects are required to provide certified wetland delineations	
WQCSA-19	Adopt a transferable development rights program to provide an incentive for landowners to preserve sensitive natural lands and wildlife habitat on the fringe of waterways	WQC-1, WQC-2, LU-9, LU-10, LU-5				
WQCSA-20	Establish a dedicated source of funding for open space acquisition and management (e.g., bond proceeds, sales tax)	WQC-1, WQC-2, LU-3, LU-5, LU-6, LU-10	UNK	Completed	The Village collects park impact fees that are segregated into a specific fund for park acquisition and management	
WQCSA-21	Provide financial support to or collaborate with land trusts to acquire critical natural areas on or near waterways	WQC-1, WQC-2, LU-5, LU-6, LU-10				
WQCSA-22	Develop a water loss control plan with targets below the 15% required by the state and include a system-wide water audit implementation and time table	WQC-6, WQC-8	UNK	Ongoing	Record water loss percentage on Public Service Commission report annually. Currently below 15%	
WQCSA-23	Replace concrete channels with re-meandered and naturalized creeks, wetlands, or swales	WQC-1, WQC-2				
WQCSA-24	Join EPA's WaterSense Program for water utilities or the Groundwater Guardian Green Sites program and promote them to local business.	WQC-1, WQC-2, WQC-3, WQC-9, WQC-12				
WQCSA-25	Develop partnerships with businesses to repurpose high strength water waste.	WQC-3, WQC-5, WQC-9, NAR				
WQCSA-26	Develop a storm sewer catch basin cleaning program to reduce trash, debris, suspended solids, and heavily laden organic material from entering water bodies	WQC-4, WQC-5	2021	Ongoing	Adopt-a-Storm Drain through MAMSWAP	
WQCSA-27	Develop leaf and yard waste collection program	WQC-4	UNK	Ongoing	Residential can bring yard waste material to the yard waste site for disposal	
WQCSA-28	Develop a regular street sweeping program to reduce total suspended solids	WQC-1, WQC-2, WQC-3, WQC-4, WQC-5	UNK	Ongoing	Daily records are taken as part of MS4 permit requirements	
WQCSA-29	Require redevelopment of commercial and light industrial business areas to incorporate stormwater management plans that set infiltration and pollutant reduction standards	WQC-1, WQC-2, WQC-3, WQC-4, WQC-5	UNK	Ongoing	Included in various Village Ordinances, in particular, Article XVIII. - Stormwater Management	
WQCSA-30	Develop and implement annual construction permitting and inspection program	WQC-1, WQC-2, WQC-3, WQC-5	UNK	Ongoing	The Village requires permits for new stormwater basins and maintenance agreements	Unclear what this is specifically relating to
WQCSA-31	Develop and implement asset management plans that set targets for the sustainable maintenance, operation and renewal of water and wastewater infrastructure.	WQC-6, WQC-8, WQC-11, WQC-14, WQC-15	UNK	Ongoing	Currently have a long term capital improvement plan that addresses water and wastewater infrastructure maintenance.	
WQCSA-32	Facilitate public-private partnerships to offer rain barrels to residents annually.	WQC-1, WQC-2, WQC-6, WQC-7, WQC-9	UNK	Ongoing	In partnership with MAMSWAP	
WQCSA-33	Implement salt wise workshops for salt applicators and require Public Works applicators to get certified	WQC-12, WQC-13	UNK	Ongoing	Public Works staff attend Salt Wise workshops	

WQCSA-34	Implement an incentive program for residents and multifamily complexes to encourage on demand water softener and low flow toilet installations	WQC-7, WQC-9	2021	Ongoing	Participated in a pilot program with Madison Metropolitan Sewerage District (MMSD) to encourage softener evaluations including tune-ups and replacements for inefficient softeners. No program for low flow toilets at this time.	
WQCSA-35	Develop financial incentive program to promote and increase the amount of green roofs and other types of stormwater runoff and treatment control best management practices in new developments and redevelopments	WQC-1, WQC-2, WQC-3, WQC-9	UNK	Ongoing	Village ordinance has the option for commercial properties to receive stormwater reduction in fees if criteria is met Sec. 47-272. The Village also provides incentives within TIF Districts for sustainability improvements.	
WQCSA-36	Implement a drug take back program and host a secure drop off site to mitigate the amount of drugs placed in the landfills or that get flushed to sewage treatment plants and eventually end up polluting rivers, lakes, streams, oceans.	WQC-14, WQC-15	UNK	Ongoing	The Village's Police Department implements a drug drop off program in the Municipal Center's foyer area.	
WQCSA-37	Improve all aspects of the WQC program by increasing the amount of grant funding awarded to the City/County and track the amount of funding annually by making it part of staff responsibilities to do so. Please elaborate on this action in the NAR portion of the report.	WQC-ALL	UNK	Ongoing	The Village plans to continue to seek grants/cost sharing agreements for future projects where applicable.	
WQCSA-38	Implement a stormwater and/or sanitary effluent testing or monitoring program to annually test at least 10% of the system.	WQC-1, WQC-2, WQC-3, WQC-12, WQC-13, WQC-14, WQC-15	UNK	Ongoing	Madison Metropolitan Sewerage District tests our effluent as part of their invoicing to the Village. As part of our MSA permit, public works inspects stormwater facilities for any illicit discharges	
WQCSA-39	Sponsor or hold education and outreach informational workshops, presentations, or other efforts designed to engage residents, business owners, or City/County staff on stormwater and water quality and conservation best management practices	WQC-ALL				
WQCSA-40	DNR requires creation of a program to get private wells abandoned when served by a local water utility. Create a process and maintain it to track and get all private wells in the City abandoned.			Ongoing	Village maintains an ordinance requiring abandonment of private wells and connection to public water when it becomes available in front of the parcel	
Other	Describe a supporting action your community has taken that is not in the list	NAR				

Supporting Action Id	Action	Supported Metrics (LU-X). If none listed, add summary in Narrative Report (NAR)	Year Implemented, enter UNK if unknown	Completed, Ongoing or In Progress, In Planning	Narrative Report (Optional - describe the project or action)	BETA TESTERS FEEDBACK: Comments about the action (Optional)
SWSA-1	Conduct a waste audit for municipal facilities (including recycling, composting as able).	SW-4	UNK	Ongoing	Receive monthly estimated amount of waste generated. No formal waste audit has been completed	
SWSA-2	Conduct a community-wide waste audit (including recycling, compost, as able), ideally breaking out data by different sectors (residential/commercial/institutional, renters/owners, etc.) to further elucidate performance and where to address future efforts.	SW-ALL	UNK	Ongoing	Receive monthly estimated amount of waste generated. No formal waste audit has been completed	
SWSA-3	Implement an ordinance requiring or incentivizing the recycling and reuse of construction and demolition waste (at minimum, update information on requirements for C&D waste, including required asbestos notification to DNR). Resources: https://dnr.wisconsin.gov/topic/SmallBusiness/Resources/ConstructDemo.html https://dnr.wisconsin.gov/topic/Demo	SW-1, SW-2, SW-5			No current ordinance however asbestos notification is required to the DNR	
SWSA-4	Ensure community access to composting collection program. If access exists, engage in education and promotion to increase use of existing programs/facilities. If access is limited, implement curbside composting service (or another locally-relevant service that provides similar access) in the community.	SW-3			No food composting program exists. Yard waste composting exists with drop-off at public works facility. Completed some community education programs in connection to the MS4 permit.	Clarify if this is for yard waste or food waste
SWSA-5	Ensure community access to collection programs for wood waste from construction & demolition and yard waste. If access exists, engage in education and promotion to increase use of existing programs/facilities. If access is limited, implement pickup/dropoff service or other collection program accessible to community members.	SW-1, SW-5		In Planning	Identified as a Mid-Term Action in the Village's Sustainability Plan (page 19)	
SWSA-6	Ensure community access to collection programs for electronic waste. If access exists, engage in education and promotion to increase use of existing programs/facilities. If access is limited, implement collection program accessible to community members. Resource: For electronics collection sites, see https://wisconsin.dnr.shinyapps.io/EcycleCollectorSite/	SW-1, SW-2, SW-4	UNK	Ongoing	Village provides residents with information regarding where these items can be recycled	
SWSA-7	Ensure community access to collection programs for hazardous waste (paints, volatile compounds, oils, batteries, pharmaceuticals, sharps, etc.). If access exists, engage in education and promotion to increase use of existing programs/facilities. If access is limited, implement a collection program accessible to community members. Resource: For sharps collection sites, see https://wisconsin.dnr.shinyapps.io/sharpscollectorSite/	SW-1, SW-2, SW-4	UNK	Ongoing	Waste oil and antifreeze collection available for drop off at Public Works facility. All other items are recommended to be sent to Dane County clean sweep. Med drop off located in entry way of municipal center. Police department recently hosted a drug take back event.	
SWSA-8	Host annual events to allow recycling of items that are typically difficult to recycle (E-waste, paints or volatile compounds, oils, batteries, etc.)	SW-1, SW-2, SW-4				
SWSA-9	Create and implement a municipal waste-reduction plan and education program following the "7 Rs" (Rethink, Refuse, Reduce, Reuse, Repair, Rot, Recycle)	SW-1, SW-2, SW-3				
SWSA-10	Implement waste-reduction practices, such as encouraging electronic document use to decrease printing, and installing water bottle filling stations to reduce plastic bottle use.	SW-1	UNK	Ongoing	The Village has tried to go paperless as much as possible including digital access to meeting packets, reducing printing. Water bottle filling stations are installed within new buildings and park shelters.	
SWSA-11	Spot-check businesses and rental properties to ensure adequate recycling facilities. Recycling facilities are required by law, but enforcement is complaint-based. Actively checking would go above and beyond existing regulations/compliance.	SW-1, SW-2			Businesses and rental properties are not within the village scope of recycling services. These are contracted separately of the village.	
SWSA-12	Work with your MRF to expand the list of recyclables they accept, and provide clear guidance to residents on what can be recycled locally, keeping said guidance updated on a regular basis as markets and facilities change.	SW-1, SW-2, SW-4	UNK	Ongoing	List of recycling products are available on the Village website.	
SWSA-13	Implement programs to help reduce the use of single-use shopping bags and Styrofoam containers.	SW-1	2022	Ongoing	The Lion & Lioness Club implements a plastic bag collection program since January 14, 2022 at two locations in McFarland, the Municipal Center and Pick N Save.	
SWSA-14	Provide block polystyrene recycling pick-up or drop-off for residents.	SW-1, SW-2				
SWSA-15	Bill residents for municipal waste collection based on the amount of waste collected	SW-1			All residents are charged a base refuse collection fee annually	
SWSA-16	Consider a Master Recycling program (akin to Master Gardener and Master Naturalists programs), such as the one being piloted by the City of Madison and Sustain Dane. Resource: https://sustaindane.org/sustain-dane-programs/#masterrecycler	SW-1, SW-2, SW-4, SW-5				

SWSA-17	Implement outreach strategies that provide education to residents and businesses on recycling and composting opportunities and requirements, building on the "7 Rs of recycling," working to decrease "wish-cycling," promoting life-cycle thinking through awareness of items made from recycled materials (e.g. park benches made from recycled plastic bottles), and increasing proper recycling behavior to minimize contamination and decrease costs associated with recycling. Resources: https://www.epa.gov/smm/sustainable-materials-management-smm-web-academy-webinar-effective-strategies-reducing	SW-2, SW-4, SW-5	UNK	Ongoing	Information for this is made available through the Village website for residents. Also, additional information is sent within Outlook or The Lookout newsletters for reminders.	
SWSA-18	Implement a sustainable purchasing policy encouraging municipal purchases take into account factors such as made from recycled and recyclable/compostable materials, energy used to create the product, local sourcing, etc. Resources: https://repeat.net/ https://www.naspo.org/green-purchasing-guide/	SW-1, SW-2, SW-3, SW-4				
SWSA-19	Implement outreach campaigns encouraging residents to donate unwanted items for reuse (for example, clothing and household items in good condition to thrift stores; cardboard boxes to moving companies, churches, or other organizations; building materials to companies like Habitat for Humanity).	SW-1				
SWSA-20	Utilize rechargeable batteries whenever possible for municipal purposes and recycle used lithium ion batteries	SW-1, SW-2, SW-4	UNK	Ongoing	Public works utilizes cordless tools whenever possible.	
SWSA-21	Promote diversion of still-usable food from waste stream, through food banks, donation of deer meat from hunting season, partnerships between restaurants/grocers and food-donation programs, etc. Resource: https://www.epa.gov/sustainable-management-food/tools-preventing-and-diverting-wasted-food	SW-1				
SWSA-22	Improve all aspects of the SW program by increasing the amount of grant funding awarded to the City/County and track the amount of funding annually by making it part of staff responsibilities to do so. Please elaborate on this action in the NAR portion of the report.	SW-ALL	UNK	Ongoing	The Village plans to continue to seek grants/cost sharing agreements for future projects where applicable.	
Other	Describe a supporting action your community has taken that is not in the list	NAR				

Supporting Action Id	Action	Supported Metrics (LU-X). If none listed, add summary in Narrative Report (NAR)	Year Implemented, enter UNK if unknown	Completed, Ongoing or In Progress, In Planning	Narrative Report (Optional - describe the project or action)	BETA TESTERS FEEDBACK: Comments about the action (Optional)
HESA-1	Implement zoning ordinances and programs to enable home-based or community gardens and food plots to improve accessibility to local food production and implement locations for resale of made goods and produce	HECO-2, HECO-3, HECO-5, HEALL-6	UNK	Completed	The first community garden was established on 5710 Anthony Street. This location is located between the United Church of Christ and Homestead apartment complex.	
HESA-2	Enact a Health In All Policies resolution or ordinance	All		In Planning	Identified as a Near-Term Action in the Village's Sustainability Plan (page 25)	
HESA-3	Incorporate Health in All Policies (HIAP) and Diversity Equity Income (DEI) objectives in Comprehensive Plan updates	All		In Planning	Village will update its Comprehensive Plan in 2026-27	
HESA-4	Identify healthy food deserts in the community and use economic development tools to eliminate those deserts.	HECO-2, HECO-3, HECO-5, HEALL-6				
HESA-5	Adopt an ordinance that bans use of tobacco and e-cigarettes on municipal lands and that limits exposure to secondhand smoke in apartment buildings	HECO-2, HECO-4		In Planning	Identified as a Near-Term Action in the Village's Sustainability Plan (page 25)	
HESA-6	Implement a plan for crime reduction through environmental design	HECO-6				
HESA-7	Establish a Health Impact Assessments policy and procedures to assess existing and proposed programs or projects, including when an assessment is required and its scope https://www.cdc.gov/healthypolicies/hia.htm	All				
HESA-8	Create a Food Systems Plan that addresses the production, distribution, value-added, marketing, end-market, and disposal of food, and charge a new or existing governmental body to oversee the plan's implementation.	SW-1, SW-3, HECO-2, HECO-3, HECO-5				
HESA-9	Create a Food Policy Council to advise governing officials and staff on ways to provide cheap, accessible, healthy food options to the community, especially sensitive populations.	HECO-2, HECO-3, HECO-5, HEALL-3, HEALL-5			The Village does not have a Food Policy Council, but it does support the efforts of the local food pantry and its initiatives.	
HESA-10	Establish and implement Harm Reduction strategies for establishments such as alcohol outlets, gun stores, and sexual oriented establishments (e.g. zoning limitations and ordinances). https://www.dhs.wisconsin.gov/scanda/alcohol-prevention-report.pdf	HECO-2, HECO-6, HECO-10, HECO-11		In Planning	To be considered when the Village updates its Zoning Code in 2024	
HESA-11	Implement a wellness program for employees and engage employers to establish employee wellness programs.	HECO-2, HECO-3, HECO-5	UNK	Ongoing	Wellness program offered through WI Employee Trust Funds Program (Well Wisconsin program); Active discussion continue to help determine recent changes in Employee benefits.	
HESA-12	Provide a farmers market for at least 6 months out of the year and ensure participation in the EBT/Foodshare program to enable Foodshare participants to benefit	HECO-2, HECO-3, HECO-5, HEALL-3	UNK	Ongoing	The existing farmer's market is located in the parking lot of the Pick 'n Save grocery store. In 2022, the program operated May 5th to October 28th, every Thursday, 2:00 PM - 6:00 PM. The indoor farmer's market is held every November 5th - December 22 every Saturday, 9:00 AM - 2:00 PM.	
HESA-13	Provide, support, or encourage health and equity professional development opportunities for staff	HEALL-3	UNK	Ongoing	This supporting action varies among each department, but professional development opportunities are encouraged	
HESA-14	Complete a community vulnerability assessment https://coast.noaa.gov/digitalcoast/topics/vulnerability/ https://em.countyofdane.com/hazards/mitigation-plan	HECO-2, LU-9, WQC-1	2022	Completed	The VOM was a participant in the Dane County Natural Hazard Mitigation Plan Update. The multi-jurisdictional plan was approved by FEMA Dec 20, 2022.	
HESA-15	Improve all aspects of the Health In All Policies program by increasing the amount of grant funding awarded to the City/County and track the amount of funding annually by making it part of staff responsibilities to do so. Please elaborate on this action in the NAR portion of the report.	All	UNK	Ongoing	The Village plans to continue to seek grants/cost sharing agreements for future projects where applicable.	
HESA-16	Create a racial equity Action Plan Use a tool, such as TDCA, to help assess your local government's culture and readiness to engage in racial equity work.	HECO-7, HEALL-1, HEALL-2, HEALL-3	2022	Ongoing	In 2022 the Village completed a DEI Report.	
HESA-17		HECO-7, HEALL-1, HEALL-2, HEALL-3				
HESA-18	Conduct a survey of citizens' perception of diversity and inclusion within the municipality.	HEALL-1, HEALL-2, HEALL-3	2022	Completed	In 2022 the Village completed a DEI Report.	
HESA-19	Create municipal board/committee(s) specifically focused on sustainability, resource conservation, environmental and equity concerns, etc.	All, NAR	2020, 2022	Completed	The Village established the Ad-hoc Sustainability Committee in 2020 tasked with creating the Sustainability Plan. After successfully completing their job in 2021 and adopting the plan, this committee was later reformed to the Sustainability & Natural Resources Committee in May 2022. Meetings are held every 2nd Monday of every month at 6:00 PM in the Municipal Center Community Room.	
HESA-20	Host regular educational events related to equity, inclusivity, and diversity	HEALL-1, HEALL-2, HEALL-3, HEALL-5	2022	Ongoing	In 2022 the Village completed a DEI Report. Projects in 2023 include land recognition and pride events	
HESA-21	Create a process for community members to directly offer input in decision making (eg. participatory budgeting, deliberative engagement, etc.)	HEALL-2, HEALL-3, HEALL-4, HEALL-5	UNK	Ongoing	All scheduled Village-hosted meetings are open to the public to attend, during which there is a section dedicated to public appearances. Here, the floor is open to anyone wishing to speak directly to the committee/commission, either virtually or in-person, adhering to the 3-minute limit. Additionally, public comments may also be submitted to the Village Clerk to be included as part of the meeting packets.	
HESA-22	Create a language access plan to ensure equal access to local government processes and information regardless of primary language	HEALL-2, HEALL-3, HEALL-4, HEALL-5				
HESA-23	Conduct an analysis of your local boards/commissions/committees to better understand power and representation.	HEALL-2, HEALL-3, HEALL-4, HEALL-5	2022	Completed	Formation and reform of committees/commissions were assessed and revised during this period.	
HESA-24	Create a plan or process by which you can increase diversity and representation on local boards/commissions/committees, especially active recruitment of members from underrepresented, vulnerable and impacted communities.	HEALL-2, HEALL-3, HEALL-4, HEALL-5		Ongoing	In 2022 the Village completed a DEI Report. Emphasis is placed on increasing diversity and representation on local committees as vacancies arise.	
HESA-25	Create a local committee, task force, or team that is interdepartmental and can coordinate complex issues of health, safety, and sustainability across departments	All				
HESA-26	Demonstrate communication and/or coordination between city departments and public health (whether city or county). Examples include inviting public health to the table during a Comprehensive Planning process, or Plans related to housing, transportation, etc. Conversely, Public Health can collaborate with city departments for things like the Community Health Improvement Process and Community Health Assessment process.	All				
HESA-27	Improve all aspects of the DEI and HIAP programs by increasing the amount of grant funding awarded to the City/County and track the amount of funding annually by making it part of staff responsibilities to do so. Please elaborate on this action in the NAR portion of the report.	All	UNK	Ongoing	The Village plans to continue to seek grants/cost sharing agreements for future projects where applicable.	
Other	Describe a supporting action your community has taken that is not in the list	NAR				

Data Collection Preview - Metrics Section

This spreadsheet is intended to help you prepare for 2022 annual reporting with a preview of the quantitative environmental indicators that will be requested once Scoresheet programming is finished.

When the scoresheet programming is finished, the new form will look very different, but it will ask for the exact same information that this spreadsheet asks for. If you gather the data here, it will be easier to enter into the new scoresheet. You can also use the optional feedback columns to offer feedback on the new metrics if you have any.

Metrics designated as core metrics are intended for everyone to fill out. Metrics not designated as core are optional, but if you do track them please share your data.

The scoresheet is organized around six sustainability issue areas:

- **Energy & Emissions**
- **Transportation**
- **Land Use**
- **Water Quality & Conservation**
- **Solid Waste**
- **Health & Equity**

There is a tab for each issue area. Each tab has a table with colored headers.

- **Grey columns** provide information about the metric
- **Green columns** are where you enter your data and narrative
- **Gold columns** are where you enter comments about the scoresheet itself

This is what each table looks like:

Metric		Description	Applicability		Core Metric		Enter		Narrative: DO NOT discuss Supporting Actions here, only notes about the actual metric if you have them		Optional	
Number	Key Indicator		All/County/Municipality		Yes/No		2022 Data				Any comments about the metric? Should it be core?	
Identifier for each metric	The desired environmental outcome. Also notes the units in which the data should be reported	A description of what is measured, including the methodology for finding it	Indicates which level of government the metric applies to. Note: "Municipality" includes cities, towns, and villages		Reporting is required for core metrics and optional for others		This is where you enter your data. Additional columns will be added each year		Only use this space for offering any special notes about the number in the Data column - qualifications, special considerations, etc. Please do not use this space to share experiences - those stories go in the Supporting Actions spreadsheet. If all the stories go in the same sheet, they will be easier to find and compare		This space is for comments about the metric itself. Comments entered here will be used to improve the Scoresheet. Offer feedback about things like whether the data was easy to find, the methodology was clear and easy to follow, whether the metric is pertinent to you, whether the metric will help you tell your sustainability story, etc.	

There is also a Supporting Actions Section that you can preview in a separate spreadsheet. The new form will record all data in the same place - it is just in two spreadsheets for previewing purposes.

Questions? Contact Jennifer Feyerherm at jennifer.feyerherm@wisconsin.gov or 608-287-4175

Metric		Description	Applicability	Core Metric	Enter	Narrative: DO NOT discuss Supporting Actions here, only notes about the actual metric if you have them	Optional
Number	Key Indicator						
ER-1	Municipal use of renewable electricity (%)	Percentage of local government's (GTLc member's) overall electricity consumption that comes from renewable energy sources. Methodology A: 1. Use billing statements for all of the local government's electric utility accounts to calculate total annual electricity consumption in kilowatt hours (kWh). 2. Review billing statements to calculate total renewable electricity purchased during the year. 3. Consult monitoring software for on-site renewable energy sources to calculate total on-site renewable energy generated (kWh). 4. Review billing statements to calculate total on-site renewable electricity that was exported. 5. Calculate [On-site electricity produced + renewable energy purchased]/[Total purchased electricity + total generated electricity consumed on-site] Methodology B: 1. Download electricity consumption data from ENERGY STAR Portfolio Manager for all municipal buildings, including the column labeled "Green Power." 2. Sum the total kWh of "Green Power" used during the year. 3. Consult monitoring software for on-site renewable energy and sum the total kWh generated that were consumed on-site. 4. Calculate [(Green Power used + Renewable electricity generated and consumed on-site)/Total purchased electricity + Total renewable electricity generated that was consumed on-site.]	All	Y	2.9%	33.03 MWh of solar production in 2022 from the Public Works rooftop solar. Total kWh in 2022 = 1,142,313	
ER-2A	Community electricity use (Annual kWh per capita)	Electricity use in the member community Methodology 1. Coordinate with electric utilities that serve the community to obtain aggregate electricity sold in the jurisdiction during the year (kWh) 2. Calculate: [Aggregate electricity sold in the community by Utility A + Utility B + Utility N]/Population	All	N	6598.56	[Alliant Energy: 47,853,609.74 kWh] + [MG&E: Commercial/Industrial - 13,543,490 kWh + Residential - 1,533,345 kWh] / DOA Pop. Est. in 2022 = 9537; values reflect the 53558 zip code.	
ER-2B	Community natural gas use (annual therms per capita)	Natural gas use in the member community Methodology 1. Coordinate with natural gas utilities that serve the community to obtain aggregate natural gas sold in the jurisdiction during the year (Therms) 2. Calculate: [Aggregate therms sold in the community by Utility A + Utility B + Utility N]/Population	All	N	430.14	[Alliant Energy: 3,622,247.57 Therms] + [MG&E: Commercial/Industrial - 62,680 Therms + Residential - 417,350 Therms] / DOA Pop. Est. in 2022 = 9,537	
ER-3A	Government building electricity use (annual kWh per capita)	Gross electricity consumption (kWh) by local unit of government (GTLc member) Methodology 1. Use billing statements for all of the local government's electric utility accounts to calculate total annual electricity consumption (kWh). [Alternatively, use ENERGY STAR Portfolio Manager to determine total electricity purchased for the year.] 2. Consult monitoring software for on-site renewable energy sources to calculate total on-site renewable energy consumed on-site (kWh) 3. Sum purchased electricity and on-site generated electricity consumed (kWh) 4. Divide total kWh by the population	All	Y	123.24	Total Municipal annual electricity consumption (kWh) = 1,142,313; Renewable Energy generated from Public Works Solar = 33.03 MWh = 33,030 kWh; DOA Population Est. in 2022 = 9,537	
ER-3B	Government building natural gas use (Annual therms per capita)	Total natural gas consumption (therms) by local unit of government (GTLc member) Methodology 1. Use billing statements for all of the local government's natural gas utility accounts to calculate total annual natural gas consumption. [Alternatively, use ENERGY STAR Portfolio Manager to determine total natural gas purchased for the year.] 2. Divide total therms by the population	All	Y	5.18	[Alliant - 48,729 Therms] + [MGE - 661 Therms]; DOA Population Est. in 2022 = 9,537	
ER-3C	Government building fuel oil consumption (gallons per capita)	Total building fuel oil consumption (gallons) by local unit of government (GTLc member) Methodology 1. Use invoices from all delivered fuel oil used as energy for facilities to sum total gallons purchased during the year. [Alternatively, use ENERGY STAR Portfolio Manager to determine total fuel oil (all types) purchased for the year.] 2. Divide total Gallons by the population	All	Y	1.75	Fuel = 16,716.83 gal; DOA Population Est. in 2022 = 9,537	
ER-3D	Government building propane consumption (lbs per capita)	Total building propane consumption (pounds) by local unit of government (GTLc member) Methodology 1. Use invoices from all delivered propane used as energy for facilities to sum total pounds purchased during the year. [Alternatively, use ENERGY STAR Portfolio Manager to determine total propane purchased for the year.] 2. Divide total pounds by the population	All	Y	0.00	Total Municipal propane consumption = 0; DOA Population Est. in 2021 = 9,537	
ER-4	Government building Energy Use Intensity (EUI) (kBtu/sq ft)	Overall energy use intensity of all buildings owned by local unit of government (GTLc member). Methodology A: 1. Identify all energy uses in ER-3A - ER-3D that supply buildings.* 2. For each energy use, convert to kilo British Thermal Unit (kBtu) equivalents: (1 kWh = 3.412 kBtu, 1 therm = 100 kBtu, 1 gallon fuel oil = 138.5 kBtu, 1 lb propane = 21.5 kBtu) 3. Sum the indoor square feet of all government buildings 4. Divide total kBtu calculated in step 2 by total square feet calculated in step 3. *For purposes of calculating EUI, energy that supplies non-building uses (ex. street lights) should be excluded. Methodology B: Input the portfolio average Site EUI value from ENERGY STAR Portfolio Manager.	All	Y	83.64	Total Municipal annual electricity consumption (kWh) = 1,142,313; (- 28,436 kWh from US Hwy 51 Lighting, -967 kWh from Flower Corner, - 56 kWh from 4905 Farwell Flasher, -40 kWh from Creamery Rd Flasher, -70 from 5204 Farwell Flasher, and -124 from Bashford Flasher); after kWh to kBtu conversion = [DIFF * 3.412]; Total Municipal annual gas consumption (Therms) = 48,729; conversion of Therms = 48,729*100; total sf of all "enclosed" buildings = 103,649 sf	
ER-5A	Number of sustainable government buildings (count)	Number of sustainability-certified buildings owned by local unit of government (GTLc member). Methodology 1. Count of all buildings owned by the local unit of government that are certified by LEED, WELL, ENERGY STAR, Passive House, Net Zero Energy, Green Globes, Living Building 2. Communities may contact DNR staff regarding consideration of additional building certification types	All	Y	0.00		
ER-5B	Number of sustainable buildings in the community (count)	Number of sustainability-certified privately owned buildings in the member community Methodology 1. Count of all privately-owned buildings in the jurisdiction that are certified by LEED, WELL, ENERGY STAR, Passive House, Net Zero Energy, Green Globes, Living Building 2. Communities may contact DNR staff regarding consideration of additional building certification types	All	N	0.00		

ER-6	GHG emissions intensity - government facilities (metric tons per capita)	Metric tons of carbon dioxide equivalents (CO2e) emitted from energy consumed by government buildings Methodology Follow the instructions in the GTLC Emissions Calculator to determine the per capita GHG emissions for the municipality/county for the reporting year.	All	N	MROE=111.05	Alliant Energy= 1,142,313 kWh & 48,729 therms; and MGE= 18,726 kWh & 661 therms. DOA pop. est. in 2022 = 9537; MROW=88.61; RFCW=86.83	
ER-7	Transportation fuel use (gallons per capita)	Gallons of gasoline and diesel transportation fuel used by vehicles owned by the local government. Methodology 1. Sum all gasoline and diesel fuel purchased for vehicles owned by the unit of government during the reporting period. Gallons of fuel purchased may be determined based on any of the following (listed from most to least preferred) A. Reports from fleet management software B. Compilation of individual fuel purchase receipts C. If data regarding gallons purchased is not available, calculate total spent on transportation fuel and divide cost by average daily cost of gasoline during the reporting period. 2. Divide total gallons purchased by the population in the county or municipality (as applicable)	All	N	2.84	Fuel = 16,716.82 gallons; diesel fuel = 7,264.49 (Voyager) + 3077 (Zurbuchen) or 10,341.49 gallons	
ER-8	Hybrid and electric vehicles (number AND %)	Number and percentage of Evs and hybrids in the municipal fleet. Methodology: Call fleet services department or relevant public works employee to find out the total number of vehicles in the fleet and the number of hybrid and electric vehicles (combined) in the municipal fleet. Report the actual number AND the total percentage of hybrid and electric vehicles.	All	Y	1/45 or 2%	1 EV, 45 total vehicles	
ER-9	Alternative fuel vehicles (Number AND %)	Number and percentage of alternative fuel vehicles in the municipal fleet. Methodology: Call fleet services department or relevant public works employee to find out the total number of vehicles in the fleet and the number of alternative fuel vehicles. Report the actual number AND the total percentage of alternative fuel vehicles.	All	Y	0		

Metric		Description	Applicability All/County/Municipality	Core Metric Yes/No	Enter 2022 data	Narrative: DO NOT discuss Supporting Actions here, only notes about the actual metric if you have them	Optional Any comments about the metric? Should it be core?
Number	Key Indicator						
TS-1A	Miles of bike infrastructure (miles of bikeways / centerline miles of motor vehicle roads)	Miles of designated bike ways and biking infrastructure like painted bike lanes, designated bike boulevards, bike paths/shared paths, etc. Methodology: Using GIS or other mapping tools, measure in miles for biking infrastructure as described above. [Source: This may require collaboration with Planning/GIS/Public Works - Here is an public project to map all bicycle facilities. https://www.cyclism.org/#map=9/44.4403/-448.7975/cyclism]	All	Y	26.23 mi	Bike and Multi-use = 138,505.7 ft = 26.23 mi; 2021 - 131,945 ft or 24.99 mi.	
TS-1B	Miles of pedestrian infrastructure (miles)	Miles of designated pedestrian infrastructure like sidewalks, trails, pathways, etc. Methodology: Using GIS or other mapping tools, measure in miles for pedestrian infrastructure as described above.	All	Y	31.43 mi	Miles of pedestrian walkways/infrastructure = 165,938.9 ft = 31.43 mi	
TS-2	Walking infrastructure (walkscore average)	Average Walkscore for the community. Methodology: Look up your community's walk score. If your community does not have a walkscore, pick 3 prominent walking destinations and average their scores. Source: https://www.walkscore.com/	Municipality	N	65		A bit subjective as the person filling out can pick locations in parks, neighborhoods to average a higher/lower score.
TS-3	Increase in complete streets (count)	Cumulative miles or feet of complete streets projects constructed. Methodology: Record the miles of street corridors that are designed to "Complete Streets" standards.	All	N	57.7 mi or 304,444.6 ft	(Bike and Multi-Use = 138,505.7 ft = 26.2 mi); (Pedestrian Facilities = 165,938.9 ft = 31.4 mi);	(2021 Reporting comment included) Provide your definition of Complete Streets as some communities may interpret this differently. For example, is sidewalks on one side only a complete street? Defining exactly what is all included in Complete Streets will also help communities strive more to increase this. Unit used for this should reflect miles or feet. Count would indicate the number of streets identified as complete streets.
TS-4	Publicly accessible EV charging stations (count)	Number of publicly accessible EV charging stations. Methodology: Go to US DOE's Alternative Fuels Data Center, select "Electric" under fuel choice, enter your location, and count the stations within your borders. https://afdc.energy.gov/stations/#/find/nearest	All	N	0		
TS-5	Traffic fatalities & serious injuries (number per capita)	Number of traffic fatalities and serious injuries on streets within City Limits OR on County Highways (bike, ped, or vehicle) Methodology: Find your community in the WisTransPortal System and set the dates to the reporting year. Count the number of traffic fatalities and suspected serious injuries. Report that number divided by the population of your community for a per capita count. Source: https://transportal.coe.wisc.edu/partners/community-maps/	All	N	0		

Metric		Description	Applicability	Core Metric Yes/No	Enter	Narrative: DO NOT discuss Supporting Actions here, only notes about the actual metric if you have them	Optional
Number	Key Indicator		All/County/Municipality		2022 data		Any comments about the metric? Should it be core?
LU-1	Number of known polluted sites (% of known sites)	Percent of known brownfield sites that have been remediated in the municipality or county. If none, then state NA. Methodology: *BRRTS system at DNR has all sites listed that are KNOWN - BRRTS on the Web. Can search by municipality and/or county. Use the download button at the top of the table to download a spreadsheet. Filter in the status column to select only records that are OPEN or CLOSED. Count the total number of sites listed within the jurisdictional boundary and divide by those that are labeled as CLOSED. If no sites exist, state NA.	All	Y	98%		
LU-2	Total green space acreage (Acres)	Total green space acreage, including parks, natural areas, wildlife corridors, etc. Methodology: Using GIS, select parcels or portions of designated green spaces within a parcel. Using the attribute table, sum the amount of acres.	All	Y	376.4 acres		
LU-3	Accessibility and connectivity of trails and paths (Miles per capita)	Miles of recreational trails or shared use pathways per capita Methodology: GIS data recorded for trails and shared use pathways should be available from the County or Municipality. Measure the distance using a measurement tool or by aggregating all recorded distances for trails known for the County or City and then divide distance by population.	All	Y	0.003	138505.7 ft = 26.23 mi	
LU-4	Accessibility to open green space and parks (% of res. properties within .5 mile)	Percent of all residential properties within .5 mile radius of dedicated open green spaces or parks. Methodology: Using GIS, draw buffers of .5 miles around all park spaces, select any residential (Single, Two, Multi Family) properties that intersect the buffered zones. Divide number of residential properties selected intersecting the buffered zones by total number of residential properties. Convert to %. ** Green spaces must be accessible to the public for recreational purposes. Swamps, wet prairies, brushlands, private parks, etc. that are not easily accessible for recreational purposes like hiking, hunting, fishing, sports, play, etc. should not be considered for this metric. To be considered, these spaces should not be in a state of environmental degradation or misuse.	Municipality	Y	99%		
LU-5	Tree canopy (% of tree canopy maintained by Muni/County)	Estimate the percent of City or County managed tree canopy that received inspections or maintenance from municipal or county staff or a hired consultant in the reporting year. ** Via WDNR or County Tree Canopy data using imagery classification software). OR Municipal/County tree inventory database updates Methodology: Using GIS software or records from hired consultants and/or forestry/public works departments, calculate the percentage of urban street and park trees or county forests that received some type of inspection or maintenance in a given year (watering, pruning, root growth applications, pest treatments, etc.)	All	N	27%	VOM-Public Works removed 98 trees and trimmed approximately 1000. Inventory of 4079	
LU-6	Impervious area (% Imperviousness City Wide)	Decrease or maintain amount of percent imperviousness within the municipality Methodology: Using GIS and LiDAR or heads up digitization, calculate the percent of impervious to previous surfacing in the city. Track changes annually.	Municipality	N	NA		A higher level of GIS skill and knowledge to be able to calculate this value. Some communities might be limited in their resources and cannot determine the value.
LU-7	Flood vulnerability (% of Total Properties)	Percent of all properties within the county or municipality that are impacted by the 100 year floodplain, flood storage district, floodway, or flood fringe. Methodology: Consult your local floodplain manager or FEMA Flood Insurance Rate Map Overlay local properties with the FEMA flood layers to extract the number of structures or properties that would be impacted locally by a 100 year flood. This data should be managed by local zoning authorities or request GIS data from the County. Here is FEMA's maps for reference. https://hazards.fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0ad851996444d4879338b5529a9dcd .	ALL	N	NA		A higher level of GIS skill and knowledge to be able to calculate this value. Some communities might be limited in their resources and cannot determine the value.
LU-8	Land conservation practices (Acres held for conservation)	Number of acres held in deeds or by conservationist groups, including those held by public institutions. Methodology: Aggregate acres of lands dedicated for conservationist practices within the county or municipality. These acres must be held for conservation purposes only, not to be used for any purposes other than biological/ecological survey, conservation, hunting, trapping, or fishing. These lands are typically preserved as native habitat receiving some management practices to maintain health. See - https://dnr.wisconsin.gov/topic/timberlands/dnrlands and/or local County data for more information on dedicated lands.	All	N	277.97	Total area of CO zoned parcels = 277.97 (2022); No additional conservation lands added.	
LU-9	Sustainable agricultural practices (Acres dedicated for sustainable practices)	Number of acres of agricultural land that has been voluntarily dedicated for sustainable conservationist agricultural practices. Methodology: Typically these acres of farmland are participating in a regional effort, sometimes led by the County's Land and Water Conservation Departments or by a regional non-profit dedicated to land conservation and water quality. Many times these practices are supported by grant funding (state, regional, or local) to incentivize and teach farmers different sustainable methods for conservation agriculture. The three principles being crop diversification, minimal soil movement, and permanent soil cover. Another component would be the eco-friendly application of herbicides, pesticides, and fertilizers.	County	N	NA		Hard for staff to know what practices are or aren't being used on agricultural lands

		Resources: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/wi/programs/?cid=nrcs142p2_020735						
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Metric		Description	Applicability All/County/Municipality	Core Metric Yes/No	Enter 2022 data	Narrative: DO NOT discuss Supporting Actions here, only notes about the actual metric if you have them	Optional Any comments about the metric? Should it be core?
Number	Key Indicator						
WQC-1	Surface water pollutants - Phosphorus (%)	Phosphorus runoff aggregated for the entire municipality Methodology: Using WinSLAMM or equivalent software, calculate stormwater quality of water runoff across all city watersheds. Required by DNR for permitted MS4's within a TMDL watershed. Enter NA if not permitted by DNR. **For Separated Storm Sewer Systems - MS4 Permitted or regional effort to reduce stormwater runoff.	Municipality	Y	35%	Value provided by Village of McFarland Public Works	
WQC-2	Surface water pollutants - Suspended solids (%)	Suspended solids in stormwater runoff Methodology: Using WinSLAMM or equivalent software, calculate stormwater quality of water runoff across city watersheds. Required by DNR for permitted MS4's within a TMDL watershed. Enter NA if not permitted by DNR. **For Separated Storm Sewer Systems - MS4 Permitted or regional effort to reduce stormwater runoff.	Municipality	Y	47%	Value provided by Village of McFarland Public Works	
WQC-3	Surface water pollutants - illicit discharges (%)	Percent of municipally managed stormwater outfalls inspected for illicit discharges of pollutants Methodology: Aggregate a number of all publicly maintained stormwater outfalls in the City and count the number that have been inspected in the reporting year. **For Separated Storm Sewer Systems - MS4 Permitted or regional effort to reduce stormwater runoff.	Municipality	Y	100%	Value provided by Village of McFarland Public Works	
WQC-4	Water use - Government (gallons per capita)	Total volume of water used in municipal operations Methodology: Utilities are required to meter water use unless it is gray water. Any source of water provided through a utility should have a billing cycle. Check utility billing for municipal or township properties currently using utility provided water. Add up all water use. Divide by the community's population.	Municipality	Y	66.37	2022 = 633,000 gallons; DOA pop. est. in 2022 = 9537	
WQC-5	Water use - Community (gallons per capita)	Total volume of water used in the community Methodology: Request information from the local water utility. This information should be stored and recorded for WDNR reporting purposes.	Municipality	Y	2388.24 gal/capita	Gallons of groundwater pumped: 227,766,000. Residential & Multi-Family: 166,301,000 Commercial: 25,078,000 Public Authority: 9,871,000; DOA pop. est. in 2022 = 9537	
WQC-6	Water use - All (%)	Percent water loss in water utility system Methodology: Calculate or aggregate total gallons pumped (not billed) by utility vs. gallons paid for by customer base (Gallons pumped vs. gallons used). The difference between the two should be the amount of gallons being lost in the utility infrastructure.	All	Y	11.64%	Total billed 201,250,000. Total groundwater pumped 227,766,000.	
WQC-7	Maintain clean potable water resources (%)	Percent of the known number of existing lead water service lines replaced during reporting year, if completed, please state 100% Methodology: Request information from the local water utility. If no known lead service lines exist, fill in NA.	Municipality	N	100%	Value provided by Village of McFarland Public Works	
WQC-8	Surface water pollutants - Salt (pounds per mile)	Pounds of salt applied during snow and ice management per miles of streets receiving snow and ice maintenance Methodology: Consult the public works department or engineering department or GIS department to aggregate miles of streets maintained by the entity (County/Town/City) for snow and ice maintenance. Then create a ratio of the number of lbs. of salt and or gallons of brine (can calculate lbs. of salt in the brine based on the mixing ratios used by the streets crews) used to maintain those streets annually.	All	Y	6818.181818	2022 Salt-300 tons Brine-1500 gal. Lane Miles-88; 2021's salt total usage was 630 tons	
WQC-9	Surface water pollutants (%)	Percent of sanitary sewer annually inspected by televising sewer lines or by some other method Methodology: Contact your utilities or public works departments.	All	N	33%	1/3 of the Village is inspected by televising per year	
WQC-10	Surface water pollutants (%)	Percent of sanitary manholes and grease traps inspected each year Methodology: Contact your utilities or public works departments.	All	N	Manholes-33%, Grease traps 0%		

Metric		Description	Applicability <i>All/County/Municipality</i>	Core Metric Yes/No	Enter 2022 data	Narrative: DO NOT discuss Supporting Actions here, only notes about the actual metric if you have them	Optional Any comments about the metric? Should it be core?
Number	Key Indicator						
SW-1	Landfill waste (Tons/yr or cu. yds/yr, per capita)	Annual tonnage of waste received at landfill locations (both municipal and residential). Methodology: 1. Collect data from waste management company, or from municipal staff tasked with waste collection (waste may not be reported on currently, but likely tracked by waste management company and can be requested). 2. Divide total pounds by the population to get per-capita figure.	All	Y	0.2301541	69.66 tons municipal; 2,125.32 tons-residential; total McFarland-2,194.98 ton; DOA Population estimate (2022): 9537	Might be better to report pounds per capita
SW-2	Recycling (Tons/yr or cu. yds/yr, per capita)	Annual tonnage of recyclable waste received at recycling locations (both municipal and residential). Methodology: 1. Collect data from waste management company, or from municipal staff tasked with waste collection (recycling tonnage is generally reported to the DNR annually, but if not available the waste management company likely tracks this info and can provide it). 2. Divide total pounds by the population to get per-capita figure.	All	Y	0.0999423	1.5 tons of plastic bags collected from Lion's Club bag drop off program; 30.95 tons municipal; 920.70 tons-residential; total McFarland-953.15 tons; DOA Population estimate (2021): 9537	Might be better to report pounds per capita
SW-3	Composting (Tons/yr or cu. yds/yr, per capita)	Annual tonnage of compostable organic waste received at municipal composting locations or annual tonnage of waste sent to private composting locations. Methodology: 1. Collect data from waste management company if available, or from municipal staff tasked with waste collection. 2. Divide total pounds by the population to get per-capita figure.	All	N	0		Might be better to report pounds per capita
SW-4	Contamination rate (% of total waste tonnage)	Rate of cross-waste stream contamination Methodology: 1. Contact waste management company to request figures for tonnage sent to landfill from recyclables collections. 2. Divide this landfilled extraction from amount of recycling collected to calculate recycling "cross-contamination" as a percent.	All	N	NA		
SW-5	Construction and demolition waste recycling (% of total waste tonnage)	Annual tonnage of Construction and Demolition (C&D) waste collected for recycling and diverted from landfills. Methodology: 1. If this data is reported to the responsible unit or waste management company, collect C&D waste diverted from landfills for recycling. 2. Divide this diverted tonnage from total amount of waste sent to landfill to calculate C&D diversion as a percent.	All	N	NA		

Metric		Description	Applicability <i>All/County/Municipality</i>	Core Metric Yes/No	Enter 2022 data	Narrative: DO NOT discuss Supporting Actions here, only notes about the actual metric if you have them	Optional Any comments about the metric? Should it be core?
Number	Key Indicator						
HEALL-1	DEI or HIAP education	Number of community-wide DEI events (in person or virtual) hosted Methodology: If you have more to share please elaborate in the narrative section.	ALL	N	7	7 Public Meetings for the DEI Committee were held in 2022.	
HEALL-2	DEI or HIAP outreach	Annual increase in followers on a dedicated health and equity or DEI on social media account If no dedicated account then put NA. Methodology: If you have more to share please elaborate in the narrative section.	ALL	N	N/A		The Village of McFarland does not have a dedicated health and equity or DEI social media account, just general account for Village
HEALL-3	DEI or HIAP resources	Total budget allocated to DEI initiatives in the community or county. Methodology: If you have more to share please elaborate in the narrative section.	ALL	N	\$43,000	\$43,000 for consultant to conduct the Equity Audit, SWOT Analysis, Equity Institute, and Leadership Development for Diversity, Equity and Inclusion	
HEALL-4	Civic engagement	Voter turnout for local elections by percent of voting aged population Methodology: Consult WI Elections Commission or City/County Clerk's office. Calculate the average voter turnout over the course of the reporting year for any election where a local government office was in play	ALL	Y	Nov. - 84.0%; Aug. - 38.7%; Apr. 25.9%	November General Election - 84.0%; August Partisan Primary - 38.7%; April Spring Election - 25.9%	
HEALL-5	Volunteerism in local government (events, committees, work groups, etc.)	Number of community volunteers on committees and for events hosted by local government (self reported)	ALL	N	358	Events include 258 volunteers and Commission/Committees include 100: McFarland Community Service Day (200), Adopt a Playground (15), Adopt a Hydrant (11), Dog Park Volunteer (7), Police Car Washing (25);	
HEALL-6	Housing and transportation burden	Percentage of income spent on housing and transportation Methodology: Follow link and enter town/village/city/county name into search window. Use the Average under Housing + Transportation Costs % Income H+T Affordability Index	ALL	Y	48%	Housing 27%, Transportation 21%	

Metric		Description	Applicability	Core Metric	Enter	Narrative: DO NOT discuss Supporting Actions here, only notes about the actual metric if you have them	Optional
Number	Key Indicator						
			All/County/Municipality	Yes/No	2022 data		Any comments about the metric? Should it be core?
HECO-1	Outdoor air quality (Index Value - EPA)	EPA Outdoor Air Quality Index Methodology: Sum the days for the reporting year for the county that are in the orange category (Unhealthy for sensitive individuals) or above	County	Y			
HECO-2	Life expectancy (Average Age)	Average life expectancy in the County Report the County Value	County	Y			
HECO-3	Adult obesity rate (% Obese)	Obesity rate in the community Report the County Value for the % of adults with obesity	County	Y			
HECO-4	Asthma rate (# Emergencies per 10K)	Age-adjusted asthma emergency room visit rates by county Use the rate per 10,000	County	Y			
HECO-5	Access to Healthy Food (% of Pop. Limited Access)	Percentage with Limited Access to Healthy Foods Report the % limited access to healthy foods **For municipalities tracking this information please comment on the metric item in the narrative section.	County	Y			
HECO-6	Violent crime rate (Crimes per 100,000 pop.)	Violent crimes per 1000 population Report the County Value because it is already normalized for 100,000 population	County	N			
HECO-7	Residential segregation (County Value)	Residential segregation - Non-white/white Index of dissimilarity where higher values indicate greater residential segregation between Black and White county residents. Report the County Value	County	Y			
HECO-8	Senior education and participation programming (# per capita)	A count of publicly provided senior programming providing education on health and wellness Methodology: Aging and Disability Resource Centers (ADRC) are required to submit monthly activity reports with encounter data to DHS, gather data from monthly reports	County	N			
HECO-9	Affordable housing units (% of Housing)	Housing units designated as affordable housing Methodology: Select your county, aggregate the # of units, normalize per capita	County	Y			
HECO-10	Drug overdose deaths	Drug overdose mortality rate Methodology: Report the County Value	County	Y			
HECO-11	Alcohol-impaired driving deaths	% Alcohol-impaired driving deaths by county Methodology: Report the County Value	County	Y			

McFarland
SUMMARY SHEET

MEETING DATE: Monday, September 11, 2023

SECTION: Business

DEPARTMENT: Community Development

CONTACT: Kong Thao, Associate Planner

AGENDA ITEM: Discussion and action to pursue SolSmart Designation

PREVIOUS ACTION:

ISSUE SUMMARY:

SolSmart is a program which assists local governments in establishing regulatory and ordinance structures that catalyze the development of solar energy projects. Administered by the U.S. Department of Energy (DOE), SolSmart focuses primarily on removing barriers to solar projects within the larger community, but also includes resources to advance municipal use of solar energy.

Local governments may seek certification through SolSmart at one of four levels (bronze, silver, gold, and more recently, platinum), which are awarded based on the level of the local government's accomplishments in creating solar-friendly policy tools. Why is this important?

SolSmart participant communities receive technical assistance from SolSmart staff and contractors, creating easier access for property owners and streamlining processes. At the time of this packet's publication, 21 Wisconsin local governments, including Fitchburg and Madison, have earned SolSmart designation.

Communities in Wisconsin include: Amherst (S), Ashland (S), Ashland County (S), Bayfield (B), Bayfield County (B), Bayside (G), Eau Claire (G), Egg Harbor (S), Fitchburg (B), La Crosse (G), La Crosse County (B), Madison (G), Milwaukee (G), Plover (S), Portage County (B), Racine (B), Sheboygan (B), Stevens Point (G), Wauwatosa (G), Wisconsin Rapids (G), and Wood County (G).

NOTE: (B) = Bronze, (S) = Silver, (G) = Gold

Below are example criteria and recommendations provided by SolSmart's point value system.

Each item listed is not required. There are certain core criteria that must be met along with the point requirement to proceed onward towards the next tier.

- Create an online permitting checklist, increasing transparency for community members and solar installers
- Review local zoning codes and identify restrictions that intentionally or unintentionally prohibit solar PV development
- Provide clear guidance for solar in historic and special use districts on the community's solar landing page



- Share Renew Wisconsin's interactive solar map on the community's solar landing page
- Provide Property Assessed Clean Energy (PACE) financing for eligible properties
- Allow solar by-right accessory use in all zones (so solar installations don't require special permits or hearings)
- Cross-train both inspection and permitting staff on solar PV

Several links are provided for additional information related to SolSmart and its resources.

- [SolSmart Page](#)
- [SolSmart Program Guide, March 2023](#)
- [Webinar Presentation Slides, June 15, 2023](#)
- CARPC solar landing page: <https://www.capitalarearpc.org/community-regional-development/solar-development/>

The packet includes a letter of intent to be sent to SolSmart, identifying our community's priorities and interests. Following this, SolSmart staff will review our website and determine what points are already earned and which seem easy to add. Village Staff will receive a list from SolSmart and work to meet the items identified, later receiving a designation. Future items will be scheduled as necessary for Committee or Staff review and discussed regarding this program's growth and its activity.

FINANCIAL/BUDGET IMPACT:

There no cost to any community participation or renewal fee designation for this program.

VILLAGE PLAN REFERENCE:

[McFarland Strategic Implementation Plan, 2022/2023](#)- Public Infrastructure. Plan for and align physical facilities and open space to support future service delivery, quality of life and infrastructure needs.

Objective (2) Improve current Village facilities, including maintenance enhancements, and identify new systems to promote sustainability

Objective (3) Develop capital improvement plans to support infrastructure needs aligned with future growth to forecast cost implications and implementation schedule.

Action Step VI - Continue planning with partners as applicable to develop solar arrays to offset municipal energy consumption.

ORDINANCE REFERENCE:

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Motion, and second, to approve submittal of a letter of intent to SolSmart to become a SolSmart-designated community.

ATTACHMENTS:

1. SolSmart_Solar_Statement_Village_of_McFarland-September 2023

SOLAR STATEMENT



Thursday, September 7, 2023

Scott Annis
International City/County Management Association
777 North Capitol St. NE, Ste. 500
Washington, DC 20002

Theresa Perry
Interstate Renewable Energy Council
125 Wolf Road, Suite 207
Albany, NY 12205

Dear Scott Annis and Theresa Perry:

On behalf of the Village of McFarland, I am proud to announce our commitment to become a SolSmart-designated community. In partnership with the SolSmart team, our dedicated staff members will work to improve solar market conditions, making it faster, easier, and more affordable for our residents and businesses to install solar energy systems. These efforts will also increase the efficiency of local processes related to solar development, which may save our local government time and money.

We will leverage SolSmart to achieve the following solar goals:

- **Coordinate with local and regional entities to ensure equitable access to solar energy.**
- **Install solar energy systems on key local government facilities.**
- **Expand and communicate solar finance options for residential or commercial properties.**

These goals demonstrate that our community is committed to making continual improvement in our solar market. This includes ensuring solar development is inclusive and equitable. We're looking forward to learning more from the SolSmart program how to expand access to solar for all our residents and support solar energy adoption for those that are under resourced or underserved.

The SolSmart program will build on our current and past solar efforts, such as:

- The energy objectives and actions identified in our [Sustainability Plan, 2021](#).
- Installation of [PV solar generation panel on the roof of our Public Works Building](#) in 2021.
- The near completion of our Net Zero Public Safety Center. The building received a Level 3 Climate Champion award from Dane County Office of Energy and Climate Change in the Other category.
- The Public Safety Center is also supplemented with future construction of a microgrid and battery storage option per the awarded funding from the OEI EIGP.
- The recently completed joint contract with the McFarland School District and Alliant Energy for an 8-acre parcel of land designated for a customer hosted solar farm project.
- And currently, the Village is working with a consultant to develop a comprehensive energy plan. This plan will help guide future sustainable efforts and energy demand among our municipal facilities and fleet vehicles.

To measure progress along the way, we will track key metrics related to solar energy deployment, such as installed solar, permitting processing time, and growth in residential installations.

We understand that the SolSmart program has criteria and point requirements as outlined in the SolSmart Program Guide needed to achieve each tier of designation. We're excited to submit this solar statement to complete the first requirement of the program.

Inquiries related to our SolSmart participation can be directed to *Andrew Bremer, Community & Economic Development Director* at andrew.bremer@mcfarland.wi.us.

SOLAR STATEMENT



Sincerely,

A handwritten signature in black ink that reads "Andrew Bremer".

Andrew Bremer, AICP
Community & Economic Development Director
Village of McFarland

McFarland
SUMMARY SHEET

MEETING DATE: Monday, September 11, 2023

SECTION: Business

DEPARTMENT: Community Development

CONTACT: Andrew Bremer, Comm & Eco Dev Director, Kong Thao, Associate Planner

AGENDA ITEM: Discussion and action to make a recommendation to the Village Board regarding Ordinance 2023-10, an ordinance amending various sections of the McFarland Building Code related to site erosion control and stormwater management.

PREVIOUS ACTION:

August 15, 2023 - Plan Commission held introductory discussion on this item. No action taken.

ISSUE SUMMARY:

Dane County made several updates to their code of ordinances to help mitigate flooding, including requiring peak rate control for the 200-year storm, the previous requirement was 100-year, definition updates (e.g. redevelopment sites), definition additions (e.g. green infrastructure), and adding volume requirements for closed watersheds. The latter actually mirrors what the Village already did for Juniper Ridge. As a municipality within the County, the Village is required to enforce these new requirements and has been doing so since they went into effect. Within the packet is a draft copy of Article 8-XVII Site Erosion Control and Article 8-XVIII Stormwater Management prepared by the Village Engineer illustrating the proposed revisions in order to bring the Municipal Code up to the current County requirements. These ordinances are part of Chapter 8, Building Code.

- Amend Section 8-671 to provide additional specifications on discharge of sediment
- Amend Section 8-672 Maintenance of Control Measures, language on BMPs, best management practices, includes additional details.
- Amend Section 8-705 General Plan Requirements, subsection (b)(11)(a) has been amended according to the U.S. Natural Resources Conservation Service Technical Guide.
- Added the following definitions to Section 8-815
 - (d) *Closed Watershed*. An area that does not have a surface outlet, with water only able to leave through evaporation, infiltration, or mechanical means. For the purposes of this ordinance, the following are considered closed watersheds:
 - (1) Internally drained watersheds that are at least 20,000 square feet in area and at least one (1) foot in depth from invert to lowest surface outlet.
 - (2) Watersheds with no surface outlet discharges from a two (2) year, twenty four (24) hour design storm.
 - (3) Areas that have historically not drained through surface outlets, as determined



by the local approval authority.

- (m) *Green Infrastructure*. Practices that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters. Green Infrastructure includes, but is not limited to, the following practices: rainwater harvesting/reuse, rain gardens, bioretention systems, infiltration basins, planters that are connected to roof drainage, vegetated swales, permeable pavement, green roofs, and rain barrels.
- Amended definition for *Redevelopment* to: Any development that replaces existing impervious surfaces or results in the cumulative increase of less than 20,000 square feet of impervious surface to a site since August 21, 2001 on sites predominately developed as commercial, industrial, institutional or multifamily. Sites may be a combination of new development and redevelopment.
- Amend Section 8-844 Stormwater Discharge Quantity. Updates were made to predevelopment peak runoff rates for two-, ten-, 25-, 100-year. Additionally, the 200-year runoff rate is added.
- Added additional section standards to Section 8-444:
 - (j) For redevelopment with proposed impervious surface area greater than 80% of existing, the first 0.5 inches of runoff must be captured using green infrastructure.
 - (k) Closed Watersheds. Pre-development modeling must include closed watershed areas. Sites within closed watersheds must be designed to achieve 90% Stay-on without exemption. Sites with areas subject to inundation (ground elevations below the watershed outlet elevation) must include:
 - (1) A stable outlet capable of handling overflow events.
 - (2) An emergency drawdown or pumping plan.
 - (3) Storage capacity for back-to-back 100-year storm events.

The Plan Commission will hold a public hearing on Ordinance 2023-10 at their September 19 meeting prior to providing a recommendation to the Village Board.

FINANCIAL/BUDGET IMPACT:

None

VILLAGE PLAN REFERENCE:

ORDINANCE REFERENCE:

Article XVII Site Erosion Control

Article XVIII Stormwater Management

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Motion, and second, to recommend approval to the Village Board of Ordinance 2022-10, an ordinance amending various sections of the McFarland Building Code related to site erosion control and stormwater management.



ATTACHMENTS:

1. Draft Ord_2023-10 Erosion Control and Stormwater Management_08.29.2023

**VILLAGE OF MCFARLAND
ORDINANCE 2023-10**

**VARIOUS AMENDMENTS TO ARTICLE 8-XVII SITE EROSION CONTROL AND
ARTICLE 8-XVIII STORMWATER MANAGEMENT**

PURPOSE: To amend Chapter 8, Building Code, Article 8-XVII Site Erosion Control and Article 8-XVIII Stormwater Management.

SPONSOR: Andrew Bremer, AICP, Community & Economic Development Director

RECOMMENDED REFERRAL: Plan Commission, Sustainability & Natural Resources Committee

PUBLIC HEARING (RECOMMENDED) Class 2, held by Plan Commission

WHEREAS, the Plan Commission, and Sustainability & Natural Resources Committee, have determined that certain amendments to the Village Building Code are necessary in order to meet erosion control and stormwater management requirements adopted by Dane County; and

WHEREAS, the Plan Commission has held a public hearing on the proposed amendments at their September 19, 2023 meeting; and

WHEREAS, the Village Board has determined that the proposed amendments contained herein will promote the public interest by mitigating erosion and flooding.

NOW THEREFORE, be it ordained by the Village Board of the Village of McFarland, in the State of Wisconsin, as follows:

SECTION 1: **AMENDMENT** “8-671 Design Criteria, Standards And Specifications For Control Measures” of the Village of McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

8-671 Design Criteria, Standards And Specifications For Control Measures

All control measures required to comply with this Article shall meet the design criteria, standards and specifications for the control measures based on accepted design criteria, standards and specifications identified by the Building Inspector and/or Village Engineer to prevent or reduce all of the following:-

- (a) Deposition of soil from being tracked onto streets by vehicles.

- (b) The discharge of sediment from disturbed areas into on-site storm water inlets.
- (c) The discharge of sediment from disturbed areas into adjacent waters of the state.
- (d) The discharge of sediment from drainage ways that flow off the site.
- (e) The discharge of sediment by dewatering activities.
- (f) The discharge of sediment eroding from soil stockpiles existing for more than seven (7) days.
- (g) The transport by runoff of chemicals, cement and other building compounds and materials on the construction site during the construction period.

(Code 1998, § 15-5-5)

SECTION 2: **AMENDMENT** “8-672 Maintenance Of Control Measures” of the Village of McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

8-672 Maintenance Of Control Measures

All sedimentation basins and other control measures necessary to meet the requirements of this Article shall be maintained by the applicant or subsequent landowner during the period of land disturbance and land development of the site in a satisfactory manner to ensure adequate performance and to prevent nuisance conditions. The BMPs used to comply with this section shall be implemented as follows:

- (a) Erosion and sediment control practices shall be constructed or installed before land disturbing construction activities begin.
- (b) Erosion and sediment control practices shall be maintained until final stabilization.
- (c) Final stabilization activity shall commence when land disturbing activities cease and final grade has been reached on any portion of the site.
- (d) Temporary stabilization shall commence when land disturbing construction activities have temporarily ceased and will not resume for a period exceeding fourteen (14) calendar days.
- (e) BMPs that are no longer necessary for erosion and sediment control shall be removed.

(Code 1998, § 15-5-6)

SECTION 3: **AMENDMENT** “8-705 General Plan Requirements” of the Village of McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

8-705 General Plan Requirements

- (a) *Generally.* Erosion control plans required under Section 8-703 may include consideration of adjoining landowners' cooperative efforts to control transport of sediment, and shall include the items required in Section 8-672.
- (b) *Plan elements.* All erosion control plans shall include the following elements:
- (1) Site boundaries superimposed on a USGS 7.5-minute topographical map;
 - (2) Cross sections of road and drainage ditches;
 - (3) Profiles within road and drainage ditches;
 - (4) Culvert sizes;
 - (5) Direction of flow of runoff;
 - (6) Watershed size for each drainage area;
 - (7) Design discharges for ditches and structural measures;
 - (8) Runoff velocities for particular projects:
 - a. The standard design shall include run-off velocities for the two-year 24-hour storm event;
 - b. Designs of detention basins shall include, in addition to the two-year 24-hour storm, runoff velocities for the ten-year 24-hour storm event;
 - (9) Fertilizer, mulching and seeding rates and recommendations;
 - (10) Time schedules for stabilization of ditches and slopes;
 - (11) Plans shall adhere to the following minimum standards:
 - a. ~~Prevent gully erosion and limit off-site permissible annual aggregate soil loss for exposed areas resulting from sheet and rill erosion to an annual, cumulative rate not to exceed 7.5 tons per acre per year~~Limit total off-site permissible annual aggregate soil loss for exposed areas resulting from sheet and rill erosion to an annual, cumulative soil loss rate not to exceed 5.0 tons sediment yield per acre annually, as determined using the U.S. Natural Resources Conservation Service Technical Guide;
 - b. Plan compliance under Subsection (b)(2)k.1. shall be determined using the Natural Resource Service Technical Guide or other commonly accepted soil erosion control methodology approved by the Dane County Conservationist and the Village Engineer, which includes the following considerations:
 1. Season of year;
 2. Site characteristics;
 3. Soil erodibility and slope; and
 - c. For internally drained sites, erosion control measures for plan approval need not attempt to regulate soil transportation within the limits of the disturbed area;
 - (12) Description of methods by which sites are to be developed, indicating how the project will be phased to minimize the extent of area disturbed throughout the construction period;
 - (13) A proposed timetable of steps to mitigate the erosion caused by land development activity, in a manner consistent with accepted erosion control

methods suitable to the specific site, including a timetable for prompt revegetation; all revegetation by seeding must be completed by September 15. Any seeding not completed by September 15 must be accomplished using sod. Any vegetated areas not established by November 15, shall be considered as though no vegetation is established until April 15 of the following year at the soonest and may be subject to additional erosion control measures such as sod, erosion mat, increased application rates of seed and mulch, or other measures required by the Village Engineer;

- (14) Provisions to ensure no increase in surface water drainage from sites during or after construction, unless water is discharged into existing, adequate drainage areas, specifying all stormwater management controls such as outlet control structures or basins necessary to comply with maximum permitted discharges;
- (15) Provisions to prevent mud-tracking off-site onto public thoroughfares during the construction period;
- (16) Special provisions for erosion control practices and maintenance on sites with disturbed slopes greater than ten percent;
- (17) Special provisions for erosion control practices and maintenance on sites adjacent to wetlands or surface water bodies; and any proposed modifications to approved plans or alterations to accepted sequencing of land disturbing activities at the site shall be approved by the Village Engineer prior to implementation of said changes;
- (18) Provisions to ensure streets are swept clean of sand, dirt, mud, trash, straw, etc., daily;
- (19) Limits of disturbed area;
- (20) Limits of impervious area; and
- (21) Provisions to reduce dust by means of watering or application of polymers or other acceptable means of dust control.

(Code 1998, § 15-5-7(b); Ord. No. 2002-09, § 7, 9-9-2002; Ord. No. 2005-04, §§ 3, 8—13, 3-28-2005)

SECTION 4: **AMENDMENT** “8-815 Definitions” of the Village of McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

8-815 Definitions

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

- (a) *Agricultural land use/activity.* Use of land for planting, growing, cultivating and harvesting of crops for human or livestock consumption; pasturing or yarding of

- livestock; growing and tending of gardens and trees; and harvesting of trees.
- (b) *Best management practice (BMP)*. A practice, technique, or measure that is an effective, practical means of preventing or reducing soil erosion and/or water pollution from runoff both during and after land development activities. These can include structural, vegetative or operational practices.
 - (c) *Business day*. A day on which Village offices are routinely and customarily open for business.
 - (d) *Closed Watershed*. An area that does not have a surface outlet, with water only able to leave through evaporation, infiltration, or mechanical means. For the purposes of this ordinance, the following are considered closed watersheds:
 - (1) Internally drained watersheds that are at least 20,000 square feet in area and at least one (1) foot in depth from invert to lowest surface outlet.
 - (2) Watersheds with no surface outlet discharges from a two (2) year, twenty four (24) hour design storm.
 - (3) Areas that have historically not drained through surface outlets, as determined by the local approval authority.
 - (e) *Common plan of development or sale*. All lands included within the boundary of a certified survey or plat, or with a series of adjacent surveys or plats created for the purpose of development or sale where multiple, separate and distinct land-developing activity may take place at different times and on different schedules.
 - (f) *Community water supply*. A public water supply system that serves at least 15 service connections used by yearround residents or regularly serves at least 25 yearround residents. Any water supply system serving seven or more homes, ten or more mobile homes, ten or more apartment units or ten or more condominium units shall be considered a community water supply system unless the owners of the property served by the water supply system provide information to the satisfaction of the Director of Public Works indicating that 25 yearround residents will not be served.
 - (g) *Design storm*. A hypothetical discrete rainstorm characterized by a specific duration, spatial distribution, rainfall intensity, return frequency, and total rainfall depth.
 - (h) *Discharge volume*. The quantity of runoff discharged from the land surface as the result of a rainfall event.
 - (i) *Division of land*. Either a minor or major Subdivision as defined in this Section respectively.
 - (j) *Existing development*. Buildings, other structures and impervious surfaces existing prior to the adoption of the ordinance from which this Article is derived.
 - (k) *Fee in lieu*. A payment of money to the Village in place of meeting all or part of the stormwater performance standards required by this Article.
 - (l) *Financial guarantee*. A cash deposit, performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantee submitted to the Village by an applicant to ensure that requirements of this Article are carried out in compliance with the stormwater management plan.
 - (m) *Green Infrastructure*. Practices that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or

to surface waters. Green Infrastructure includes, but is not limited to, the following practices: rainwater harvesting/reuse, rain gardens, bioretention systems, infiltration basins, planters that are connected to roof drainage, vegetated swales, permeable pavement, green roofs, and rain barrels.

- (n) *Gross aggregate area*. The total area, in acres, of all land located within the property boundary containing the land development activity.
- (o) *Groundwater enforcement standard*. A numerical value expressing the concentration of a substance in groundwater, which is adopted under Wis. Stats. § 160.07 and Wis. Admin. Code § NR 140.10 or Wis. Stats. § 160.09 and Wis. Admin. Code § NR 140.12.
- (p) *Groundwater preventive action limit*. A numerical value expressing the concentration of a substance in groundwater, which is adopted under Wis. Stats. § 160.15 and Wis. Admin. Code §§ NR 140.10, 140.12, or 140.20.
- (q) *Heavily disturbed site*. A site where an area of land is subjected to significant compaction due to the removal of vegetative cover or earth moving activities, including filling.
- (r) *Hydrologic soil group (HSG)*. The same meaning as used in the runoff calculation methodology promulgated by the United States Natural Resources Conservation Service Engineering Field Manual for Conservation Practices.
- (s) *Impervious surface*. A surface that does not allow infiltration during precipitation events. Rooftops, sidewalks, parking lots, and street surfaces are examples of impervious surface.
- (t) *Infiltration*. The process by which rain or surface runoff penetrates into the soil.
- (u) *Land development activity*. Any activity that changes the volume or peak flow discharge rate of rainfall runoff from the land surface. These land development activities include, but are not limited to, any manmade alteration of the land surface that results in a change in topography or existing vegetative and nonvegetative soil cover, which may lead to changes in stormwater runoff and result in increased soil erosion and movement of sediment into waters of the state, clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities, and the construction or redevelopment of buildings, roads, parking lots, paved and unpaved areas and similar facilities. This term does not include agricultural land use activities.
- (v) *Lightly disturbed site*. A site where an area of land is subjected to minor compaction due to the limited removal of vegetative cover or earth moving activities.
- (w) *Maintenance agreement*. A legal document that is filed with the County Register of Deeds as a property deed restriction, and which provides for long-term maintenance of stormwater management practices.
- (x) *Municipal water supply system*. A community water supply system owned by a city, village, county, town, town sanitary district, utility district, public inland lake and rehabilitation district, municipal water district or a federal, state, county or municipal owned institution for congregate care or correction, or a privately owned water utility serving the foregoing.
- (y) *New development*. Any of the following activities:
 - (1) Structural development, including construction of a new building or other structures;

- (2) Expansion or alteration of an existing structure that results in an increase in the surface dimensions of the building or structure;
 - (3) Land disturbing activities; or
 - (4) Creation or expansion of impervious surface.
- (z) *Nonerosive velocity*. A rate of flow of stormwater runoff, usually measured in feet per second, that does not erode soils. Nonerosive velocities vary for individual sites, taking into account topography, soil type, and runoff rates.
- (aa) *Nonstorm discharge*. A discharge to the stormwater management system created by some process other than stormwater runoff.
- (ab) *Nonstructural measure*. A practice, technique, or measure to reduce the volume, peak flow rate, or pollutants in stormwater that does not require the design or installation of fixed stormwater management facilities other than residential development. Development of the following land uses: commercial, industrial, government and institutional, recreation, transportation, communication, and utilities. The term does not include agricultural land use activity.
- (ac) *Peak flow discharge rate*. The maximum rate at which a unit volume of stormwater is discharged resulting from a rainfall event.
- (ad) *Pervious surface*. A surface that allows infiltration of precipitation or surface flow during a large portion of a precipitation event. Lawns, fields and woodlands are examples of pervious surfaces.
- (ae) *Plan*. An erosion control plan under Article XVII, Division 2 of this Chapter or a stormwater management plan under Division 8-XVIII-4 of this Article.
- (af) *Post-construction stormwater discharge*. Any stormwater discharged from a site following the completion of land development activity and final site stabilization.
- (ag) *Post-development condition*. The extent and distribution of land cover types, anticipated to occur under conditions of full development that will influence stormwater runoff and infiltration.
- (ah) *Practice/management practice*. A practice, technique or measure that is an effective, practical means of preventing or reducing soil corrosion and/or water pollution from runoff both during and after land development activities.
- (ai) *Predevelopment condition*. The extent and distribution of land cover types present before the initiation of land development activity, assuming that all land uses prior to land development activity are managed in an environmentally sound manner. Lands shall be deemed to have runoff characteristics equivalent to NRCS TR-55 Curve Numbers (CNs) of 30, 58, 71 and 78 for Hydrologic Soil Groups A, B, C, and D, respectively. This term is used to match pre- and post-development stormwater peak flows and volumes as required by this Article. In a situation where cumulative impervious surface created after the adoption of the ordinance from which this Article is derived exceeds the 20,000 square feet threshold, the pre-development conditions shall be those prior to any land disturbance.
- (aj) *Pretreatment*. The treatment of stormwater prior to its discharge to the primary stormwater treatment practice in order to reduce pollutant loads to a level compatible with the capability of the primary practice.
- (ak) *Redevelopment*. Any development that replaces existing impervious surfaces or results

in the cumulative increase of less than 20,000 square feet of impervious surface to a site since August 21, 2001 on sites predominately developed as commercial, industrial, institutional or multifamily. Sites may be a combination of new development and redevelopment.

~~Any construction, alteration or improvement exceeding 4,000 square feet of land disturbance performed on sites where the entire existing site is predominantly developed to commercial, industrial, institutional or multifamily residential uses. Projects may include a mix of redevelopment and new impervious surfaces.~~

- (al) *Residential*. A residential dwelling containing one or two dwelling units.
- (am) *Runoff*. The rainfall, snowmelt, or irrigation water flowing over the ground surface.
- (an) *Runoff curve number (RCN)*. The meaning used in the runoff calculation methodology promulgated by the United States Natural Resources Construction Service Engineering, Field Manual for Conservation Practices.
- (ao) *Site*. The bounded area described in an erosion control plan or stormwater management plan.
- (ap) *Site restriction*. Any physical characteristic that limits the use of a stormwater best management practice.
- (aq) *Slope*. The net vertical rise over horizontal run, expressed as a percentage, which represents a relatively homogeneous incline or decline over an area of land.
- (ar) *Storm events*. The precipitation amounts that occur over a 24-hour period that have a specified recurrence interval for Dane County, Wisconsin. For example, one-year, two-year, ten-year and 100-year storm events mean the precipitation amounts that occur over a 24-hour period that have a recurrence interval of one, two, ten and 100 years.
- (as) *Stormwater conveyance system*. Any method employed to carry stormwater runoff from a land development activity to the waters of the state. Examples of methods include: swales, channels and storm sewers.
- (at) *Stormwater management measure*. Structural or nonstructural practices that are designed to reduce stormwater runoff pollutant loads, discharge volumes, and/or peak flow discharge rates.
- (au) *Stormwater management plan*. One or more documents that together identify the actions to be taken and/or the practices to be installed to reduce stormwater peak discharge rates, volumes and pollutant loads, from land development activity, to levels meeting the purpose and intent of this Article.
- (av) *Stormwater management system plan*. A comprehensive plan developed to address stormwater drainage and nonpoint source pollution control problems on a watershed or sub-watershed basis, and which meets the purpose and intent of this Article.
- (aw) *Stormwater runoff*. That portion of precipitation falling during a rainfall event, or that portion of snow- and ice-melt, that does not soak into the soil, and flows off the surface of the land and into a natural or artificial conveyance network.
- (ax) *Street reconstruction*. Removal and replacement of the road subgrade, where existing stormwater conveyance systems are modified.
- (ay) *Structural measure*. A source area practice, conveyance measure, and/or end-of-pipe treatment that is designed to control stormwater runoff pollutant loads, discharge volumes, and peak discharge rates. Channels, weirs, swales, detention and retention ponds, and overflow and outfall structures are all examples of structural measures to

contain storm events.

- (az) *Structure*. Any human-made object with form, shape and utility, either permanently or temporarily attached to, placed upon, or set into the ground, stream bed or lake bed.
- (ba) *Submission*. The plan materials and/or hydrologic calculations required to be presented to the Village for review.
- (bb) *TR-55*. Technical Release 55, Urban Hydrology for Small Watersheds, published by the Engineering Division, United States Natural Resource Conservation Service, United States Department of Agriculture, June 1992.
- (bc) *Unnecessary hardship*. That circumstance where special conditions, which were not self-created, affect a particular property and make strict conformity with regulations unnecessarily burdensome or unreasonable in light of the purposes of this Article.
- (bd) *Village Engineer*. The individual designated to administer the Article.
- (be) *Well*. An excavation or opening into the ground made by digging, boring, drilling, driving or other methods for the purpose of obtaining groundwater.
- (bf) *Wetland functional value*. The type, quality, and significance of the ecological and cultural benefits provided by wetland resources, such as: flood storage, water quality protection, groundwater recharge and discharge, shoreline protection, fish and wildlife habitat, floral diversity, aesthetics, recreation, and education.
- (bg) *Wetlands*. An area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions. These wetlands include existing, mitigated and restored wetlands.
- (bh) *WPDES*. Wisconsin Pollutant Discharge Elimination System.
- (bi) *WPDES stormwater permit*. A permit issued by the Wisconsin Department of Natural Resources under Wis. Stats. § 283.33 that authorizes the point source discharge of stormwater to waters of the state.

(Code 1998, § 15-5-23; Ord. No. 2002-10, § 1(15-5-23), 9-9-2002; Ord. No. 2005-05, § 2, 3-28-2005)

SECTION 5: **AMENDMENT** “8-844 Stormwater Discharge Quantity” of the Village of McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

8-844 Stormwater Discharge Quantity

Unless otherwise provided for in this Article, all land development activities subject to this Article shall establish on-site management practices to control the peak flow rates of stormwater discharged from the site as described in this Article. Infiltration of stormwater runoff from driveways, sidewalks, rooftops, parking lots, and landscaped areas shall be incorporated to the maximum extent practical to provide volume control in addition to control of peak flows. On-site management practices shall be used to meet the following minimum performance standards, however, redevelopment projects shall not be required to comply with Subsections (a), (b) or (c) of this Section:

(a) *Runoff rate control.*

- (1) *Hydrologic calculations.* All runoff calculations shall be according to the methodology described in TR-55, or other methodology approved by the Village Engineer and the Dane County Conservationist. The pre-development runoff curve number (RCN) used in such calculations shall be 30 for HSG A, 58 for HSG B, 71 for HSG C, and 78 for HSG D.

Heavily disturbed sites will be lowered one permeability class for hydrologic calculations. Lightly disturbed areas require no modification. Where practices have been implemented to restore soil structure to predeveloped conditions, no permeability class modification is required.

- (2) *Design standards.* All stormwater facilities shall be designed, installed and maintained to effectively accomplish the following [storms, using the NOAA Atlas 14 website](#):

- a. Maintain predevelopment peak runoff rates for the two-year, 24-hour storm event (~~2.83~~2.9 inches over 24 hours duration);
- b. Maintain predevelopment peak runoff rates for the ten-year, 24-hour storm event (4.~~20~~5 inches over 24 hours duration);
- c. Maintain predevelopment peak runoff rates for the 25-year, 24-hour storm event (4.~~89~~4 inches over 24 hours duration);
- d. Maintain predevelopment peak runoff rates for the 100-year, 24-hour storm event (6.~~05~~1 inches over 24-hour duration);
- e. [Maintain predevelopment peak runoff rates for the 200-year, 24-hour storm event \(7.29 inches over 24-hour duration\).](#)

- (b) *Peak flow rates of stormwater runoff.* The proposed land development shall not increase peak flow rates of stormwater runoff from that which would have resulted from the same storm occurring over the site with the land in its predevelopment conditions for storms of 24-hour duration and recurrence intervals of two, ten, 25, ~~and~~ 100, ~~and~~ 200 years.

- (c) *Conveyance systems.* All stormwater conveyance systems within the proposed development, and receiving surface runoff from the proposed development, shall be designed to completely contain peak storm flows as described in this Article. Calculations for determining peak flows for conveyance system sizing shall use curve numbers based on the existing or future proposed land use for off-site areas (whichever results in the highest peak flows), and the proposed land use for the on-site areas. Appropriate post-development curve numbers are described in TR-55.

- (d) *Open channel conveyance systems.* For open channel conveyance systems the peak flow from the 100-year, 24-hour storm shall be completely contained within the channel bottom and banks.
- (e) *Storm sewer pipes.* For storm sewer pipes the peak flow from the ten year, 24-hour storm shall be completely contained within the pipes.
- (f) *Determination of peak flow rates and volume of runoff.* Determination of peak flow rates and volume of runoff for purposes of meeting the requirements of this Article shall be computed based on the principals and procedures described in TR 55. The Village Engineer may approve other calculation methods.
- (g) *Rainfall distributions.* The rainfall distributions for the storm events shall be based on the NRCS Type II storms as described in TR-55.
- (h) *Increases or decreases in the hydrology of wetlands.* Increases or decreases in the hydrology of wetlands shall be minimized to the extent practical. Where such changes are proposed, the impact of the proposal on wetland functional values shall be assessed using methods acceptable to the Village Engineer. Significant changes to wetland functional values shall be avoided as defined in Wis. Admin. Code Ch. NR 103.
- (i) *Runoff from the ~~1~~200-year storm.* Runoff from the ~~1~~200-year storm to public right-of-way stormwater easements, or environmental corridors where downstream accommodations are not in place shall be maintained.
- (j) For redevelopment with proposed impervious surface area greater than 80% of existing, the first 0.5 inches of runoff must be captured using green infrastructure.
- (k) Closed Watersheds. Pre-development modeling must include closed watershed areas. Sites within closed watersheds must be designed to achieve 90% Stay-on without exemption. Sites with areas subject to inundation (ground elevations below the watershed outlet elevation) must include:
 - (1) A stable outlet capable of handling overflow events.
 - (2) An emergency drawdown or pumping plan.
 - (3) Storage capacity for back-to-back 100-year storm events.

(Code 1998, § 15-5-25(b); Ord. No. 2002-10, § 1(15-5-25(b)), 9-9-2002; Ord. No. 2005-05, § 7, 3-28-2005)

SECTION 6: **AMENDMENT** “8-904 Requirements” of the Village of McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

8-904 Requirements

- (a) *Enumerated.* The stormwater management plan required under this Article shall comply with the requirements in Chapter 14 of the Dane County Ordinances, as well as the following:

- (1) Name, address, and telephone number for the following or their designees:
landowner; developer; project engineer for practice design and certification;
person responsible for installation of stormwater management practices;
person responsible for maintenance of stormwater management practices prior
to the transfer, if any, of maintenance responsibility to another party.
- (2) A proper legal description of the property proposed to be developed
referenced to the U.S. Public Land Survey system or to block and lot numbers
within a recorded land **Subdivision** plat. Include a USGS 7.5-minute
topographical map showing the property boundaries of the proposed
development.
- (3) Predevelopment site conditions, including:
 - a. One or more site maps at a scale of not less than one inch equals 100
feet. The site maps shall show the following:
 1. Site location and legal property description;
 2. Predominant soil types and hydrologic soil groups;
 3. Existing cover type and condition;
 4. Topographic contours of the site at the scale not to exceed
two feet;
 5. Topography and drainage network including enough of the
contiguous properties to show runoff patterns onto, through,
and from the site;
 6. Watercourses that may effect or be affected by runoff from the
site;
 7. Flow path and direction for all stormwater conveyance
sections, including time of travel and time of concentration
applicable to each;
 8. Watershed boundaries used in determinations of peak flow
discharge rates and discharge volumes from the site;
 9. Lakes, streams, wetlands, channels, ditches, and other
watercourses on and immediately adjacent to the site;
 10. Limits of the 100-year floodplain;
 11. Location of wells located within 1,200 feet of stormwater
detention ponds, infiltration basins, or infiltration trenches;
 12. Delineation of wellhead protection areas delineated pursuant
to Wis. Admin. Code § NR 811.16.
 - b. Computations of peak flow discharge rates and discharge volumes for
the two-year/24-hour, ten-year/24-hour, 25-year/24-hour design storm
events and 100-year/24-hour storm events. All major assumptions
used in developing input parameters shall be clearly stated. The
computations shall be made for each discharge point in the
development, and the geographic areas used in making the
calculations shall be clearly cross referenced to the required maps.
- (4) Post-development site conditions, including:
 - a. Explanation of the provisions to preserve and use natural topography

- and land cover features to minimize changes in peak flow runoff rates and volumes to surface waters and wetlands.
- b. Explanation of any restrictions or stormwater management measures in the development area imposed by wellhead protection plans and Village ordinances.
 - c. One or more site maps at a scale of not less than one inch equals 100 feet showing:
 - 1. Revised pervious land use including vegetative cover type and condition;
 - 2. Impervious land use including all buildings, structures, and pavement;
 - 3. Revised topographic contours of the site at a scale not to exceed two feet;
 - 4. Revised drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site;
 - 5. Locations and dimensions of drainage easements;
 - 6. Locations of maintenance easements specified in the maintenance agreement;
 - 7. Flow path and direction for all stormwater conveyance sections, including time of travel and time of concentration applicable to each;
 - 8. Location and type of all stormwater management conveyance and treatment practices, including the on-site and off-site tributary drainage area;
 - 9. Location and type of conveyance system that will carry runoff from the drainage and treatment practices to the nearest adequate outlet such as a curbed street, storm drain, or natural drainageway; watershed boundaries used in determinations of peak flow discharge rates and discharge volumes;
 - 10. Any changes to lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site.
 - d. Computation of the runoff volume resulting from the 1.5-inch rainfall, and computations of peak flow discharge rates and discharge volumes for the two-year/24-hour, ten-year/24-hour, 25-year/24-hour storm events, and 100-year/24-hour storm events. All major assumptions used in developing input parameters shall be clearly stated. The computations shall be made for each discharge point in the development, and the geographic areas used in making the calculations shall be clearly cross-referenced to the required maps.
 - e. Results of investigations of soils and groundwater required for the placement and design of stormwater management measures.
 - f. Results of impact assessments on wetland functional values.

- g. Design computations and all applicable assumptions for the stormwater conveyance (open-channel, closed-pipe) system.
- h. Design computations and all applicable assumptions for stormwater quality practices (sedimentation type, filtration-type, infiltration-type) as needed to show that practices are appropriately sized to accommodate runoff from the 1.5-inch rainfall. For practice designs that depart from those specified in the Wisconsin Storm Water Manual, Part 2, the results of continuous simulation modeling, conducted according to the guidelines established in this manual, shall be presented in such a way as to show the reduction in average annual total suspended solids loading from the developed site.
- i. Detailed drawings including cross sections and profiles of all permanent stormwater conveyance and treatment practices.
- j. Cost estimates for the construction, operation, and maintenance of each stormwater management practice.
- k. Other information as needed by the Village Engineer to determine compliance of the proposed stormwater management measures with the provisions of this Article.
- l. All site investigations, plans, designs, computations, and drawings shall be certified by a competent engineer, to be prepared in accordance with accepted engineering practice and in accordance with The Wisconsin Storm Water Manual, Part 2: Technical Design Guidelines for Storm Water BMP's as published and amended by the State of Wisconsin Department of Natural Resources, the Natural Resources Conservation Service's Field Office Technical Guide, Chapter 4, and any other technical methodology approved by the Dane County Conservationist.

(b) *Exceptions.* The Village Engineer may prescribe alternative submittal requirements for applicants seeking an exemption to on-site stormwater management performance standards under this Article.

(Code 1998, § 15-5-28; Ord. No. 2002-10, § 1(15-5-27), 9-9-2002; Ord. No. 2005-05, §§ 10—12, 3-28-2005)

SECTION 7: AMENDMENT “8-816 Applicability And Jurisdiction” of the Village of McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

8-816 Applicability And Jurisdiction

(a) *Applicability.* This Article applies to land development activities within the boundaries

of the Village as well as all land development activities subject to the Village's extraterritorial plat review jurisdiction that meet the following criteria:

- (1) Any development other than agricultural development after August 22, 2001, that results in the cumulative addition of 20,000 square feet of impervious surface to the site;
 - (2) Agricultural development where the resulting new total impervious surface area exceeds 20,000 square feet;
 - (3) Any development that requires a **Subdivision** plat, as defined in Chapter 56;
 - (4) Any development that requires a Certified Survey Map, as defined in Chapter 56 for property intended for commercial or industrial use;
 - (5) Land development activities that are smaller than the minimum applicability criteria if such activities are part of a larger common plan of development or sale that meets any of the criteria herein, even though multiple, separate and distinct land development activities may take place at different times on different schedules;
 - (6) Land development activity of any size that, in the opinion of the Village Engineer, is likely to result in stormwater runoff which exceeds the safe capacity of the existing drainage facilities or receiving body of water, which causes undue channel erosion, which increases water pollution or the transportation of particulate matter, or which endangers downstream property or public safety.
- (b) *Exemptions and clarifications.* Exemptions from the provisions of this Article shall be as follows:
- (1) Any activity directly related to the planting, growing and harvesting of agricultural crops that creates no impervious surfaces shall be exempt from all requirements of this Article.
 - (2) Redevelopment where no additional impervious surfaces are created shall be exempt from the requirements of Section 8-844. Where new impervious surfaces are created in a redevelopment project, all provisions of this Article shall apply to the new impervious surfaces.

(Code 1998, § 15-5-24; Ord. No. 2002-10, § 1(15-5-24), 9-9-2002; Ord. No. 2005-05, § 3, 3-28-2005)

SECTION 8: REPEALER CLAUSE All ordinances or resolutions or parts thereof, which are in conflict herewith, are hereby repealed.

SECTION 9: SEVERABILITY CLAUSE Should any part or provision of this Ordinance be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the Ordinances a whole or any part thereof other than the part so declared to be unconstitutional or invalid.

SECTION 10: EFFECTIVE DATE This Ordinance shall be in full force and effect from the date of adoption and after the required approval and publication according to law.

PASSED AND ADOPTED BY THE VILLAGE OF MCFARLAND VILLAGE BOARD

	AYE	NAY	ABSENT	ABSTAIN
Brandt	_____	_____	_____	_____
Brassington	_____	_____	_____	_____
Clow	_____	_____	_____	_____
Fessler	_____	_____	_____	_____
Flaherty	_____	_____	_____	_____
Jerke	_____	_____	_____	_____
Wreh	_____	_____	_____	_____

Presiding Officer

Attest

Carolyn Clow, Village President,
Village of McFarland

Cassandra Suettinger, Deputy
Administrator/Clerk, Village of
McFarland

VILLAGE OF
McFarland
SUMMARY SHEET

MEETING DATE: Monday, September 11, 2023

SECTION: Business

DEPARTMENT: Community Development

CONTACT: Andrew Bremer, Comm & Eco Dev Director, Kong Thao, Associate Planner

AGENDA ITEM: Discussion and action to make a recommendation to the Village Board regarding Ordinance 2023-09, an ordinance amending various changes to Chapter 62 - Zoning, related to solar energy collection systems.

PREVIOUS ACTION:

August 15, 2023 - Plan Commission held introductory discussion on this item. No action was taken.

ISSUE SUMMARY:

The Village's Zoning Code does not specifically address uses and regulations for "solar farms", generally defined as where the principal use of the property is for multiple solar collectors on ground mounted racks or poles that harvest and convert solar energy into the electrical grid. The Zoning Code classifies permitted and conditional uses using the North American Industrial Classification System (NAICS). Sec. 62-69 does provide regulations for where "utility lines and pumping stations" are permitted within agricultural, conservancy and residential districts. Sec. 62-71 also provides regulations for where "Utilities (NAICS 221000)" are permitted in commercial districts. Neither of these categories specifically address solar farms. The 2022 NAICS Code 221114 Solar Electric Power Generation is defined as: *"This U.S. industry comprises establishments primarily engaged in operating solar electric power generation facilities. These facilities use energy from the sun to produce electric energy. The electric energy produced in these establishments is provided to electric power transmission systems or to electric power distribution systems."* NAICS Code 22114 also includes Corresponding Index Entries titled "electric power generation, solar", "power generation, solar electric," and "solar farms". On-site or on-building "solar collectors", where the solar collectors are not the principal use of the property, are also not particularly well defined under the Village Zoning Code, but are considered permitted accessory uses in all zoning districts by staff. Staff desires to clarify the definitions and regulations concerning the approval processes for solar uses (permitted and accessory) within the Zoning Code.

The Plan Commission will hold a public hearing on Ordinance 2023-09 at their September 19 meeting prior to providing a recommendation to the Village Board.

FINANCIAL/BUDGET IMPACT:

VILLAGE PLAN REFERENCE:



ORDINANCE REFERENCE:

Sec. 62-4. - Definitions

Sec. 62-69. - Permitted uses

Sec. 62-71. - Permitted or conditional uses - Commercial Districts

Sec. 62-210 Specific Requirements Regarding Solar Energy Collection Systems

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Motion, second, to recommend approval to the Village Board of Ordinance 2023-09, an ordinance amending various changes to Chapter 62 - Zoning, related to solar energy collection systems.

ATTACHMENTS:

1. Draft Ord_2023-09 Solar Energy Collection Systems_08.31.2023

**VILLAGE OF MCFARLAND
ORDINANCE 2023-09**

**VARIOUS AMENDMENTS TO CHAPTER 62, ZONING CODE RELATED TO
SOLAR ENERGY COLLECTION SYSTEMS**

PURPOSE: To amend the Village Zoning Code to include regulations regarding Solar Energy Collection Systems

SPONSOR: Andrew Bremer, AICP, Community & Economic Development Director

REFERRAL: Plan Commission (Required), Sustainability & Natural Resources Committee (Recommended)

PUBLIC HEARING (REQUIRED): Class 2, held by Plan Commission

WHEREAS, the Plan Commission, and Sustainability & Natural Resources Committee, have determined that certain amendments to the Village Zoning Code are necessary in order to clarify zoning regulations related to solar energy collection systems; and

WHEREAS, the Plan Commission has held a public hearing on the proposed amendments at their September 19, 2023 meeting; and

WHEREAS, the Village Board has determined that the proposed amendments contained herein will promote the public interest by providing more effective and efficient regulation of solar energy collection systems.

NOW THEREFORE, be it ordained by the Village Board of the Village of McFarland, in the State of Wisconsin, as follows:

SECTION 1: **AMENDMENT** “Subdivision V Signal Receiving Antennas, Wind Energy Systems” of the Village of McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

Subdivision V Signal Receiving Antennas, Wind And Solar Energy Systems

SECTION 2: **AMENDMENT** “62-4 Definitions” of the Village of McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

62-4 Definitions

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

- (a) *Abutting*. Having property or district lines in common (e.g., two lots are abutting if they have property lines in common).
- (b) *Accessory building or use*.
 - (1) An accessory building or use is one that:
 - a. Is customary and clearly incidental to the principal building or principal use;
 - b. Serves exclusively the principal building or principal use;
 - c. Is subordinate in area, extent or purpose to the principal building or principal use;
 - d. Contributes to the comfort, convenience or necessity of occupants of the principal building or principal use served; and
 - e. Is located on the same zoning lot as the principal use served, with exception of such accessory off-street parking facilities as are permitted to locate elsewhere than on the same zoning lot as the building or use served.
 - (2) An accessory building or use includes, but is not limited to, the following:
 - a. A children's playhouse, garden house or private greenhouse;
 - b. A garage, carport, shed or building for storage incidental to a permitted use;
 - c. Incinerators incidental to a permitted use;
 - d. Storage of goods used in or produced by permitted manufacturing activities on the same zoning lot with such activities, unless such storage is excluded by the district regulations;
 - e. The production, processing, cleaning, servicing, testing, repair or storage of merchandise normally incidental to a permitted retail service or business use if conducted by the same ownership as the principal use;
 - f. Off-street motor vehicle parking areas and loading facilities;
 - g. Signs, as permitted and regulated in each district incorporated in this Chapter; and
 - h. Earth station dish antennas, which are ground-mounted or building-mounted.
- (c) *Acre, net*. The actual land devoted to the land use, excluding public streets, public lands or unusable lands, and school sites contained within 43,560 square feet.
- (d) *Adjacent*. Neighboring or within visible proximity (e.g., includes property that is across the street or public right-of-way and includes all properties directly impacted by a proposed development whether abutting or not).
- (e) *Agricultural use*. Any of the following activities conducted for the purpose of producing an income or livelihood: crop or forage production, keeping livestock, beekeeping nursery, sod or Christmas tree production, floriculture, aquaculture, fur

farming, forest management and enrolling land in a federal agricultural commodity payment program for a federal or state agricultural land conservation payment program.

- (f) *Alley*. A public way not more than 24 feet wide that affords only a secondary means of access to abutting property.
- (g) *Animal unit*. One animal unit is the equivalent of one cow, or one horse, or one pony, or one mule, or two hogs or ten sheep, or ten goats or 50 poultry or equivalent combination of them.
- (h) *Apartment*. A room or suite of rooms in a multiple-family structure that is arranged, designed, used or intended to be used as a single housekeeping unit. Complete kitchen facilities, permanently installed, must always be included for each apartment.
- (i) *Arterial street*. A public street or highway used or intended to be used primarily for large volume or heavy through traffic. Arterial streets shall include freeways and expressways as well as arterial streets, highways and parkways.
- (j) *Automobile laundry*. A building or portion thereof containing facilities for washing automobiles using production-line methods with a chain, conveyor, blower, steam-cleaning device or other mechanical devices or any premises with a capacity of washing 20 or more vehicles per eight-hour day.
- (k) *Awning*. A retractable, rooflike cover, temporary in nature, which projects from the wall of a building.
- (l) *Basement*. That portion of any structure located partly below the average adjoining lot grade, which is not designed or used primarily for year-around living accommodations.
- (m) *Block*. A tract of land bounded by streets or by a combination of streets and public parks, cemeteries, railroad right-of-way, bulkhead lines or shorelines of waterways. A block may be located in part beyond the boundary lines of corporate limits of the Village.
- (n) *Boardinghouse*. A building other than a hotel or restaurant where meals or lodging are regularly furnished by a rearrangement for compensation for three or more persons not members of a family, but not exceeding 12 persons and not open to transient customers.
- (o) *Bufferyard*. A unit of land, together with a specified type and amount of planting thereon, and any structures that may be required between land uses to eliminate or minimize conflicts between them.
- (p) *Buildable lot area*. The portion of a lot remaining after required yards have been provided.
- (q) *Building*. Any structure built for the support, shelter or enclosure of persons, animals, chattels or movable property of any kind and which is permanently affixed to the land. When any portion thereof is completely separated from every other portion by masonry or firewall without any window, which wall extends from the ground to the roof, then such portion shall be deemed to be a separate building.
- (r) *Building, completely enclosed*. A building separated on all sides from the adjacent open space or from other buildings or structures by a permanent roof and by exterior walls or party walls, pierced only by windows and normal entrance or exit doors.
- (s) *Building coverage*. The proportion of the lot area, expressed as a percent, that is

- covered by the maximum horizontal cross section of a building or buildings.
- (t) *Building detached.* A building surrounded by open space on the same lot.
 - (u) *Building height.* A vertical distance from the curb level or the approved ground level opposite the center of the front of a building to the highest point of the roof in the case of a flat roof, to the deck line of a mansard roof, and to the mean-height level between eaves and ridges of a gable, hip or gambrel roof.
 - (v) *Building, principal.* A building in which the principal use of the lot on which it is located is conducted.
 - (w) *Building setback line.* A line parallel to the lot line at a distance parallel to it, regulated by the yard requirements set up in this Code.
 - (x) *Bulk.* Used to indicate the size and setbacks of buildings or structures and the location of such buildings or structures with respect to one another and includes the following:
 - (1) Size and height of buildings;
 - (2) Location of exterior walls at all levels in relation to lot lines, streets or to other buildings;
 - (3) Gross floor area of buildings in relation to lot area (floor area ratio);
 - (4) All open spaces allocated to buildings; and
 - (5) Amount of lot area provided per dwelling unit or lodging room.
 - (y) *Business.* An occupation, employment or enterprise that occupies time, labor and materials, or wherein merchandise is exhibited or sold, or where services are offered.
 - (z) *Channel.* Those floodlands normally occupied by a stream of water under average annual high-water flow conditions while confined within generally well-established banks.
 - (aa) *Clinic, medical and dental.* A building in which a group of physicians, dentists or physicians and dentists and allied professional assistants are associated for the purpose of carrying on their professions. The clinic may include an accessory dental or medical laboratory. It shall not include in-patient care or operating rooms for major surgery.
 - (ab) *Club or lodge, private.* A nonprofit association of persons who are bona fide members paying annual dues, which owns, hires or leases a building or portion thereof, the use of such premises being restricted to members and their guests. The affairs and management of such private club or lodge are conducted by a Board of Directors, Executive Committee or similar body chosen by the members at their annual meeting. It shall be permissible to serve food and meals on such premises, provided adequate dining room space and kitchen facilities are available. Where properly licensed under existing Village ordinances, the consumption of intoxicating beverages by members of such club or lodge or their guests may be permitted.
 - (ac) *Community living arrangement.* The following facilities licensed or operated or permitted under the authority of the child welfare agencies under Wis. Stats. § 48.60, foster homes for children under Wis. Stats. § 48.02(6), group homes for children under Wis. Stats. § 48.02(7), and community-based residential facilities under Wis. Stats. § 50.01(1g), but does not include day care centers, nursing homes, general hospitals, special hospitals, prisons and jails. The establishment of a community living arrangement shall be in conformance with applicable Sections of Wis. Stats. §§ 46.03(22), 59.69(15), 62.23(7)(i) and 62.23(7a), and amendments thereto, and also the Wisconsin Administrative Code.

- (ad) *Conditional uses.* Uses of a special nature as to make impractical their predetermination as a principal use in a district.
- (ae) *Conforming building or structure.* Any building or structure that:
- (1) Complies with all the regulations of this Chapter or any amendment thereto governing bulk or the zoning district in which such building or structure is located; or
 - (2) Is designed or intended for a conforming use.
- (af) *Conservation standards.* Guidelines and specifications for soil and water conservation practices and management enumerated in the Technical Guide, prepared by the Natural Resources Conservation Service for Dane County, adopted by the County Soil and Water Conservation District Supervisors, and containing suitable alternatives for the use and treatment of land based upon its capabilities from which the landowner selects that alternative which best meets the landowner's needs in developing soil and water conservation.
- (ag) *Controlled access arterial street.* The condition in which the right of owners or occupants of abutting land or other persons to access, light, air or view in connection with an arterial street is fully or partially controlled by public authority.
- (ah) *Convalescent home and nursing home.* A home for the aged, infirm, chronically ill or incurable persons in which five or more persons not of the immediate family are received, kept or provided with food and shelter or care for compensation but not including hospital clinics or similar institutions devoted primarily to the diagnosis and treatment of disease or injury, maternity cases or mental illness.
- (ai) *Curb level.* The level of the established curb in front of such building measured at the center of such front.
- (aj) *Development.* Any manmade change to improved or unimproved real estate, including, but not limited to, construction of or additions or substantial improvements to buildings, other structures, or accessory uses, mining, dredging, filling, grading, paving, excavation or drilling operations or disposition of materials.
- (ak) *District, basic.* A part of the Village for which the regulations of this Chapter governing the use and location of land and building are uniform.
- (al) *District, overlay.* Overlay districts, also referred to herein as regulatory areas, provide for the possibility of superimposing certain additional requirements upon a basic zoning district without disturbing the requirements of the basic district. In the instance of conflicting requirements, the more strict of the conflicting requirements shall apply.
- (am) *Dwelling.* A building or part of a building containing one or more dwelling units and also containing other directly associated elements such as hallways, storage areas or common laundry facilities. For purposes of this Chapter, this term does not include "group lodging facilities."
- (an) *Dwelling, attached.* A dwelling separated from another dwelling unit and having any portion of any roof, wall or floor in common with another dwelling unit.
- (ao) *Dwelling, detached.* A dwelling that is entirely surrounded by open space on the same lot.
- (ap) *Dwelling, multiple-family.* A building, or portion thereof, containing three or more dwelling units.

- (aq) *Dwelling, single-family.* A building containing one dwelling unit only.
- (ar) *Dwelling, two-family.* A building containing two dwelling units only.
- (as) *Dwelling unit.* An area within a dwelling that is designed, occupied or intended to be occupied by a family (or by a nonfamily household) as permitted by this Chapter as separate living quarters with private kitchen, sanitary, sleeping and living quarters within the unit.
- (at) *Eating place.* Establishments primarily engaged in the retail sale of prepared food and drinks for consumption on the premises. Caterers and institutional food service establishments are included. The term shall not apply to houses of worship, religious, fraternal, youths' or patriotic organizations, service clubs and civic or union organizations that occasionally prepare or serve or sell meals to transients or the general public, nor shall it include any public or private school lunchroom.
- (au) *Efficiency unit.* A dwelling unit consisting of one principal room exclusive of bathroom, kitchen, hallway, closets or dining alcove directly off the principal room, providing that such dining alcove shall not exceed 90 square feet in area and shall not be used for sleeping purposes.
- (av) *Elderly dwelling.* A building, or portion thereof, designed, designated and used exclusively by a person who is 55 years of age or older, or a family, the head of which or spouse is 55 years of age or older.
- (aw) *Essential services.* Services provided by public and private utilities, necessary for the exercise of the principal use or service of the principal structure. These services include underground, surface or overhead gas, electrical, steam, water, sanitary sewerage, stormwater drainage, and communication systems and accessories thereto, such as poles, towers, wires, mains, drains, vaults, culverts, laterals, sewers, pipes, catchbasins, water storage tanks, conduits, cables, fire alarm boxes, police call boxes, traffic signals, pumps, lift stations and hydrants, but not including buildings.
- (ax) *Establishment, business.* A place of business carrying on operations that are physically separate and distinct from those of any other place of business located on the same zoning lot.
- (ay) *Family.* An individual or group of two or more individuals who are related by blood, marriage or adoption, together with not more than four additional persons not so related, living as a single household in a dwelling unit. For purposes of this Chapter, family includes nonfamily households.
- (az) *Family day care.* The provision of day care for children for compensation within a dwelling whether or not licensed by the state, including educational services so long as the care and services are taking place within a dwelling.
- (ba) *Farming, general.* Includes floriculture, forest and game management, orchards, raising of grain, grass, mint and seedcrops, raising of fruits, nuts and berries, sod farming and vegetable farming. General farming includes the operating of such an area for one or more of the above uses with the necessary accessory uses for treating or storing the produce; provided, however, that the operation of any such accessory uses shall be secondary to that of the normal farming activities.
- (bb) *Farmstead.* A single-family residential structure located on a parcel of land, which primary land use is associated with agriculture.
- (bc) *Floor area.* The sum of the gross floor area for each of a building's stories measured

from the exterior limits of the faces of the structure. The floor area of a building includes basement floor area. It does not include cellars and unenclosed porches or any floor space in an accessory building or in the principal building that is designed for the parking of motor vehicles in order to meet the parking requirements of this Article.

- (bd) *Floor area ratio*. An intensity measured as a ratio derived by dividing the total floor area of a building by the gross area site. Where the lot is part of a larger development and has no bufferyard, that lot area may be used instead of the gross site area.
- (be) *Foster home*. Any facility that is operated by a person required to be licensed by Wis. Stats. § 48.62(1)(a) and that provides care and maintenance for no more than four children or, if necessary to enable a sibling group to remain together, for no more than six children or, if the State Department of Children and Families promulgates rules permitting a different number of children, for the number of children permitted under those rules.
- (bf) *Frontage*. All the property abutting on one side of a street between two intersecting streets or all of the property abutting on one side of a street between an intersecting street and the dead end of a street.
- (bg) *Garage, private*. A detached accessory building or portion of the principal building, designed, arranged, used or intended to be used for storage of automobiles of the occupant of the premises.
- (bh) *Garage, public*. Any building or portion thereof, not accessory to a residential building or structure, used for equipping, servicing, repairing, leasing or public parking of motor vehicles.
- (bi) *Gross floor area*. The area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and courts, without deduction for corridors, stairways, closets, the thickness of interior walls, columns or other features. The gross floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include shafts with no openings or interior courts.
- (bj) *Gross site area*. The area of land that is designated by its owner or developer as a tract to be used, developed or built upon as a unit under single ownership or control. The gross site area shall be legally described and made part of the application for zoning approvals.
- (bk) *Group foster home*. Any facility operated by a person required to be licensed by Wis. Stats. § 48.62 for the care and maintenance of five to eight foster children.
- (bl) *Group lodging facilities*. Building or parts of buildings designed, occupied or intended to be occupied as living quarters on a basis other than as a dwelling, dwelling unit, hotel or motel.
- (bm) *Group lodginghouse*. A group lodging facilities containing general lodging rooms not having kitchen facilities, offered for rent or comparable compensation on a monthly or longer basis. Meals or access to common meal preparation facilities may be offered as part of the service to occupants.
- (bn) *Guest, permanent*. A person who occupies or has the right to occupy on a monthly or longer basis a hotel or apartment hotel accommodation as such person's domicile and place of permanent residence.

- (bo) *Historic District*. An area designated by the Village Board on the recommendation of the Landmarks Commission, pursuant to this Section, composed of two or more improvement parcels that together comprise a district of special character or special historic interest or value as part of the development, heritage or cultural characteristics of the Village, state or nation.
- (bp) *Historic site*. A parcel of land having historic significance due to a substantial value in tracing prehistory or history of aboriginal people, or upon which an historic event has occurred, and which has been designated as an historic site under this Chapter, or an improvement parcel, or part thereof, on which is situated an historic structure and any abutting improvement parcel, or part thereof, used as and constituting part of the premises on which the historic structure is situated.
- (bq) *Historic structure*. An improvement that has a special character or historic interest or value in showing the development, heritage or cultural characteristics of the Village, state or nation, which has been designated as an historic structure under this Chapter.
- (br) *Home occupation*. Any activity carried out for gain by a resident conducted as an accessory use in the resident's dwelling unit or in structures accessory thereto.
- (bs) *Home professional office*. A home occupation consisting of the office of a recognized profession.
- (bt) *Hotel*. A facility containing sleeping rooms with private or semi-private bathroom facilities offered overnight lodging to the public for compensation and catering primarily to the traveling public. A hotel shall offer services such as maid, telephone, desk and vending services. It may offer a restaurant, recreational facilities and meeting facilities.
- (bu) *Hotel, apartment*. A building in which at least 90 percent of the accommodations are dwelling units or are occupied by permanent guests.
- (bv) *Household*. A family or nonfamily group living in a nontransient manner in a single dwelling unit.
- (bw) *Impervious surface*. Those surfaces that do not absorb water. They consist of all buildings, parking areas, driveways, roads, sidewalks, and any areas of concrete or asphalt. In the case of lumberyards, areas of stored lumber constitute impervious surfaces.
- (bx) *Impervious surface ratio*. A measure of the intensity of land use that is determined by dividing the total area of all impervious surfaces on a site by the gross site area.
- (by) *Improvement*. Any building, structure, place, work of art or other object that is all or part of any physical betterment of real property.
- (bz) *Improvement parcel*. A parcel of property containing an improvement that is treated as a single entity for the purpose of levying real estate taxes. The term shall also include any unimproved area of land which is treated as a single parcel for real estate tax purposes.
- (ca) *Junk*. Any scrap, waste, reclaimable material or debris, whether or not stored or used in conjunction with dismantling, processing, salvage, storage, baling, disposal or other use or disposition. Junk includes, but is not limited to, vehicles, tires, vehicle parts, equipment, paper, rags, metal, glass, building materials, household appliances, brush, wood and lumber.
- (cb) *Junkyard*. An open area where waste or scrap materials are bought, sold, exchanged,

stored, baled, packed, disassembled or handled, including, but not limited to, scrap iron and other metals, paper, rags, rubber tires and bottles. A junkyard includes an automobile wrecking or dismantling yard, but does not include uses established entirely within enclosed buildings.

- (cc) *Kenel, animal*. Any premises, or portion thereof, where dogs, cats and other household pets are maintained, boarded, bred or cared for in return for remuneration, or are kept for the purpose of sale.
- (cd) *Landmarks Commission*. The Landmarks Commission under this Code.
- (ce) *Landscape surface area ratio (LSR)*. The percentage of the gross site area that is preserved as permanently protected landscaped area.
- (cf) *Landscaped area*. The area of the site that is planted and continually maintained in vegetation, including grasses, ground cover, shrubs, bushes and trees. Landscaped area includes the area located within planted and continually maintained landscaped planters.
- (cg) *Loading area*. A completely off-street space or berth on the same lot for the loading or unloading of freight carriers, having adequate ingress and egress to a public street or alley.
- (ch) *Lodging room*. A room rented as sleeping and living quarters without kitchen facilities and with or without an individual bathroom.
- (ci) *Lodging room (for determining lot area requirements and off-street parking requirements)*. For the purpose of determining the lot area requirements, any lodging room designed or intended to be occupied by more than two persons shall be determined as one lodging room for each two persons; provided, however, that in a lodginghouse or a fraternity and sorority house the number of lodging rooms shall be determined by dividing the total number of persons intended to occupy the lodging rooms by two.
- (cj) *Lodginghouse*. A building where lodging only is provided for compensation for not more than three persons not members of the family.
- (ck) *Lot*. A parcel of land having frontage on a public street, or other officially approved means of access, occupied or intended to be occupied by a principal structure or use and sufficient in size to meet the lot width, lot frontage, lot area and other open space provisions of this Code as pertaining to the district wherein located.
- (cl) *Lot area*. The area of a horizontal plane bounded by the front, side and rear lot lines.
- (cm) *Lot, corner*. A lot of which at least two adjacent sides abut for their full lengths upon a street, provided that the interior angle at the intersection of such two sides is less than 135 degrees. A lot abutting upon a curved street or streets shall be considered a corner lot if the tangents to the curve at its points of beginning within the lot or at the points of intersection of the side lot lines with the street line intersect at an interior angle of less than 135 degrees.
- (cn) *Lot coverage (residential)*. The area of a lot occupied by the principal building or buildings and accessory building.
- (co) *Lot coverage (except residential)*. The area of a lot occupied by the principal buildings or buildings and accessory buildings including any driveways, parking areas, loading areas, storage areas and walkways.

- (cp) *Lot depth.* The mean horizontal distance between the front lot line and the rear lot line of a lot measured within the lot boundaries.
- (cq) *Lot, interior.* A lot situated on a single street that is bounded by adjacent lots along each of its other lines and is not a corner lot.
- (cr) *Lot line.* A property boundary line of any lot held in single or separate ownership, except that where any portion of the lot extends into the abutting street or alley, the lot line shall be deemed to be the abutting street or alley right-of-way line.
- (cs) *Lot line, front.* In the case of a lot abutting upon only one street, the line separating such lot from such street. In the case of any other lot, the owner shall, for the purpose of this Chapter, have the privilege of electing any street lot line the front lot line, providing that such choice, in the opinion of the Zoning Administrator, will not be injurious to the existing, or to the desirable future development of the adjacent properties.
- (ct) *Lot line, rear.* The lot line that is opposite the most distant from the front lot line. In the case of an irregular, triangular or gore-shaped lot, a line 20 feet in length, entirely within the lot parallel to and most distant from the front lot line shall be considered to be the rear lot line for the purpose of determining depth of rear yard.
- (cu) *Lot line, side.* Any lot line not a front lot line or a rear lot line.
- (cv) *Lot lines.* The property lines bounding the lot.
- (cw) *Lot lines and area.* The peripheral boundaries of a parcel of land and the total area lying within such boundaries.
- (cx) *Lot of record.* A lot that is part of a Subdivision or a Certified Survey Map that has been recorded in the Office of the Register of Deeds of Dane County or a parcel of land, the deed to which was recorded in the Office of said Register of Deeds prior to the effective date of the ordinance from which this Chapter is derived. Any lot or parcel of land created through a violation of any other applicable laws or ordinances of the state and the Village shall not, in this instance, be considered a lot of record.
- (cy) *Lot, reversed corner.* A corner lot, the street side lot line of which is substantially a continuation of the front lot line of the first lot to its rear.
- (cz) *Lot, substandard.* A parcel of land held in separate ownership having frontage on a public street, or other approved means of access, occupied or intended to be occupied by a principal building or structure, together with accessory buildings and uses, having insufficient size to meet the lot width, lot area, yard, off-street parking areas or other open space provisions of this Code as pertaining to the district wherein located.
- (da) *Lot, through.* A lot that has a pair of opposite lot lines along two substantially parallel streets and which is not a corner lot. On a through lot, both street lines shall be deemed front lot lines.
- (db) *Lot width.* The horizontal distance between the side lot lines of a lot, measured at right angles to the lot depth, said measurement to be made at the rear line of the required front yard.
- (dc) *Lot, zoning.* A single tract of land located within a single block which, at the time of filing for a building permit, is designated by its owner or developer as a tract to be used, developed or built upon as a unit under single ownership or control. Therefore, a zoning lot or lots may or may not coincide with a lot of record.
- (dd) *Minor structures.* Any small, movable accessory erection or construction such as

birdhouses, tool houses, pet houses, play equipment, arbors and walls and fences under four feet in height.

- (de) *Mobile home*. A manufactured home that is HUD certified and labeled under the National Mobile Home Construction and Safety Standards Act of 1974. A mobile home is a transportable structure, being eight feet or more in width (not including the overhang of the roof), built on a chassis and designed to be used as a dwelling with or without permanent foundation when connected to the required utilities.
- (df) *Mobile home lot*. A parcel of land for the placement of a single mobile home and the exclusive use of its occupants.
- (dg) *Mobile home park*. A parcel of land that has been developed for the placement of mobile homes and is owned by an individual, a firm, trust, partnership, public or private association, or corporation. Individual lots within a mobile home park are rented to individual mobile home users.
- (dh) *Mobile home Subdivision*. A land Subdivision, as defined by Wis. Stats. Ch. 236 and any Village land division ordinance, with lots intended for the placement of individual mobile home units. Individual homesites are in separate ownership as opposed to the rental arrangements in mobile home parks.
- (di) *Modular unit*. A factory fabricated transportable building unit designed to be used by itself or to be incorporated with similar units at a building site into a modular structure to be used for residential, commercial, educational or industrial purposes.
- (dj) *Motel*. A facility offering services of a hotel but where the sleeping rooms are physically arranged so that most have access to outside, adjacent parking areas without passing through the lobby.
- (dk) *Motor freight terminal*. A building or area in which freight brought by motor truck is assembled and/or stored for routing in intrastate or interstate shipment by motor truck.
- (dl) *Multifamily development*. One lot having a total of three or more dwelling units, regardless of the number of principal residential structures.
- (dm) *Nameplate*. A sign indicating the name and address of a building, or the name of an occupant thereof, and the practice of a permitted occupation therein.
- (dn) *Nonconforming building or structure*. A building or structure that does not comply with all of the regulations of this Chapter or of any amendment hereto governing bulk for the zoning district in which such building or structure is located.
- (do) *Nonconforming use*. A use of land that does not comply with all the regulations of this Chapter or of any amendment hereto governing use for the zoning district in which such use is located.
- (dp) *Nonfamily households*. A group of individuals not exceeding five in number who do not constitute a "family" as defined in this Section and who live as a single household in a dwelling unit.
- (dq) *Nursery school*. A facility licensed as a day care center by the state where persons provide for compensation and/or consideration for service, group care for four or more children under seven years of age, for less than 24 hours a day at a location other than the child's own home or the homes of relatives or guardians.
- (dr) *Nursing home*. An establishment used as a dwelling place by the aged, infirm, chronically ill or incurably afflicted, in which not less than three persons live or are

kept or provided for on the premises for compensation, excluding clinics and hospitals and similar institutions devoted to the diagnosis, treatment or the care of the sick or injured.

- (ds) *Office for a professional person.* An office for a professional person is one in which services are performed by persons engaged in a profession requiring advanced training in a recognized professional specialty and including the fields of religion, architecture, engineering, law, medicine, personal health services and instruction in the liberal or fine arts.
- (dt) *Off-street parking.* A site not within the public right-of-way devoted to the parking of vehicles, including parking spaces, aisles, access drives, and landscaped areas, and providing vehicular access to a public street.
- (du) *Outdoor furnace.* An apparatus designed to burn solid or liquid combustible material to produce heat and/or heat hot water for a building in which it is not located.
- (dv) *Parking lot.* A structure or premises containing five or more parking spaces open to the public.
- (dw) *Parties in interest.* Includes all abutting property owners, all property owners within 100 feet, and all property owners of opposite frontages.
- (dx) *Planned residential development, dwelling.* A parcel or tract of land having an area as required in the district regulations under common management, single ownership, and which is the site for two or more principal residential buildings and where regulations may be modified as regulated in this Chapter.
- (dy) *Professional office in a home.* The office or studio in a person's residence or a person engaged in a recognized professional specialty and including the fields of religion, architecture, engineering, law, medicine, personal health services and instruction in the liberal or fine arts, provided that such use shall comply with all of the conditions of a home occupation, except that mechanical equipment customarily appurtenant to said profession may be used, provided no external manifestations thereof are apparent at the property line.
- (dz) *Public airport.* Any airport that complies with the definition contained in Wis. Stats. § 114.013(3), or any airport that serves or offers to serve common carriers engaged in air transport.
- (ea) *Public way.* Any sidewalk, street, alley, highway or other public thoroughfare.
- (eb) *Railroad right-of-way.* A strip of land containing railroad tracks and customary auxiliary facilities for only track operation. For the purpose of this Chapter, a railroad right-of-way does not include land used or intended to be used for switching, spur, lead, team or siding tracks, freight depots or stations, loading platforms, train sheds, warehouses, car or locomotive shops, car yards or classification yards.
- (ec) *Reserved parking space.* Those off-street parking spaces allocated for temporary standing of automobiles awaiting entrance to a particular establishment.
- (ed) *Retail.* The sale of goods or merchandise in small quantities to the consumer.
- (ee) *Roadside stand.* A temporary structure that is not permanently affixed to the ground and is readily removable in its entirety, which is used solely for the display or sale of farm products produced on the premises upon which such roadside stand is located. No roadside stand shall be more than 300 square feet in ground area and there shall not be more than one roadside stand on any one premises.

- (ef) *Row house*. A place of abode not more than two stories in height, arranged to accommodate three or more attached living units in which each living unit is separated from the adjoining unit by an unpierced vertical occupancy separation of not less than one hour fire-resistive construction, extending from the basement or lowest floor to the underside of the roof boards. Each living unit shall have separate entrances and exits leading directly to the outside.
- (eg) *Screening*. A hedge, wall or fence to provide a visual separator and physical barrier not less than four feet nor more than six feet in height, unless otherwise provided for in this Chapter.
- (eh) *Setback*. The minimum horizontal distance between the front lot line and the nearest point of the foundation of that portion of the building to be enclosed. The overhang cornices shall not exceed 24 inches. Any overhang of the cornice in excess of 24 inches shall be compensated by increasing the setback by an amount equal to the excess of cornice over 24 inches. Uncovered steps shall not be included in measuring the setback.
- (ei) Reserved.
- (ej) *Signs*. Any medium, including its structure, words, letters, figures, numerals, phrases, sentences, emblems, devices, designs, trade names or trademarks by which anything is made known and which are used to advertise or promote an individual, firm, association, corporation, profession, business, commodity or product and which is visible from any public street or highway.
- (ek) *Solar Energy Collection, Farm (Principal Use)*. A lot on which the the primary land use is an array of multiple solar collectors on ground-mounted racks or poles that harvest and convert solar energy into thermal, chemical or electrical energy and transmit the same.
- (el) *Solar Energy Collection System*. All equipment required to harvest solar energy to generate electricity, including storage devices, power conditioning equipment, transfer equipment, and parts related to the functioning of those items.
- (em) *Solar Energy Collection System, Roof & Building Mounted (Accessory Use)*. A solar energy collection system that is structurally mounted to the roof or side of a building or other permitted principal or accessory structure, including limited accessory equipment associated with the system which may be ground mounted. It is installed parallel to the roof or building surface with a few inches gap.
- (en) *Solar Energy Collection System, Ground Mounted (Accessory Use)*. A solar energy collection system and associated mounting hardware that is affixed to or placed upon the ground including but not limited to fixed, passive, or active tracking racking systems.
- (eo) *Story*. That portion of a building included between the surface of any floor and the surface of the next floor above it, or if there is no floor above it, then the space between the floor and the ceiling next above it. Any portion of a story exceeding 14 feet in height shall be considered as an additional story for each 14 feet or fraction thereof. A basement having one-half or more of its height above grade shall be deemed a story for purposes of height regulation.
- (ep) *Story, half*. That portion of a building under a gable, hip or mansard roof, the wall

- plates of which, on at least two opposite exterior walls, are not more than 4 1/2 feet above the finished floor of such story. In the case of single-family dwellings, two-family dwellings and multifamily dwellings less than three stories in height, one-half story in a sloping roof shall not be counted as a story for the purposes of this Code.
- (eq) *Street*. Property other than an alley or private thoroughfare or travelway that is subject to public easement or right-of-way for use as a thoroughfare and serves as a principal means of access to abutting property.
 - (er) *Street yard*. A yard facing a street and extending across the full width of the lot, the depth of which shall be the minimum horizontal distance between the existing street or highway right-of-way line and a line parallel thereto through the nearest point of the principal structure. Corner lots shall have two or more street yards.
 - (es) *Structural alterations*. Any change in the supporting members of a structure, such as foundations, bearing walls, columns, beams or girders.
 - (et) *Structure*. Anything constructed or erected, the use of which requires a permanent location on the ground or attached to something having a permanent location on the ground.
 - (eu) *Temporary auxiliary apartment*. A living arrangement that permits an elderly or handicapped person to live in a temporary separate living area within a single-family detached dwelling unit in the R-1 Residential District, or which permits a relative or personal attendant of an elderly or handicapped person to live in a temporary, separate living area within such a dwelling unit. Such living area may contain separate bath and kitchen facilities to permit a degree of independence. Ingress and egress for such a living area may be either from within the principal dwelling unit or from a side or rear entrance.
 - (ev) *Temporary structure*. A movable structure not designed for human occupancy nor for the protection of goods or chattels and not forming an enclosure, such as billboards.
 - (ew) *Traditional neighborhood development*. A development as defined by Wis. Stats. § 66.1027(1)(c) that exhibits several of the following characteristics: alleys, streets laid out in a grid system, buildings oriented to the street, pedestrian-orientation, compatible mixed land uses, village squares and greens.
 - (ex) *Trailer*. Any structure that is or may be mounted upon wheels for moving about and is propelled by its own or drawn by other motive power and which is used as a dwelling or as an accessory building or structure in the conduct of a business, trade or occupation or issued for hauling purposes.
 - (ey) *Urban residential district(s)*. The R-1, R-1A, R-1B, R-2, R-3, R-MH or R-E zoning districts and residences allowed at a conditional use C-G zoning district.
 - (ez) *Usable open space*. That part of the ground level of a zoning lot, other than in a required front or corner side yard, which is unoccupied by driveways, drive aisles, service drives, off street parking spaces and/or loading berths and is unobstructed to the sky. This space of minimum prescribed dimension shall be available to all occupants of the building and shall be usable for greenery, drying yards, recreational space, gardening, and other leisure activities normally carried on outdoors. Where and to the extent prescribed in these regulations, balconies and roof areas, designed and improved for outdoor activities, may also be considered as usable open space. The usable open space shall be planned as an assemblage or singularly designed area that

maximizes the size for open space usage. The only exception to this standard is where the required open space is designed to be part of the individual living units in the form of patios or decks.

- (fa) *Use*. The purpose or activity for which the land or building thereof is designed, arranged or intended, or for which it is occupied or maintained.
- (fb) *Use, accessory*. A subordinate building or use that is located on the same lot on which the principal building or use is situated and which is reasonably necessary and incidental to the conduct of the primary use of such building or main use, when permitted by district regulations.
- (fc) *Use, conditional*. A use that, because of its unique or varying characteristics, cannot be properly classified as a permitted use in a particular district. After due consideration, as provided for in this Chapter, of the impact of such use upon neighboring land and of the public need for the particular use at a particular location, such conditional use may or may not be granted.
- (fd) *Use, permitted*. A use that may be lawfully established in a particular district or districts provided it conforms with all requirements and regulations of such district in which such use is located.
- (fe) *Use, principal*. The main use of land or building as distinguished from subordinate or accessory use.
- (ff) *Utilities*. Public and private facilities, such as water wells, water and sewage pumping stations, water storage tanks, electrical power substations, static transformer stations, telephone and telegraph exchanges, microwave radio relays and gas regulation stations, inclusive of associated transmission facilities, but not including sewage disposal plants, municipal incinerators, warehouses, shops, storage yards and power plants.
- (fg) *Vision triangle*. A vision triangle is the triangular area located at the street corner formed by connecting the point of intersection of the curbs of the intersecting streets, or the point of intersection of the asphalt edges of the streets if no curb is present, with two other points located a distance away from the point of intersection along the line of the intersecting curb, or the asphalt edge of the street if no curb is present. On collector and arterial streets, the distance away from the point of intersection to the point along that collector or arterial street is 35 feet. For local streets, the distance away from the point of intersection to the point along that street is 30 feet. For private streets, the distance away from the point of intersection to the point along that street is 25 feet. For alleys, the distance away from the point of intersection to the point along that alley is 20 feet. The functional classification of streets and alleys shall be determined by the Village Engineer consistent with the definitions provided under Section 56-2.
- (fh) *Yard*. An open space on the same lot with a structure, unoccupied and unobstructed from the ground upward except the vegetation. The street and rear yards extend the full width of the lot.
- (fi) *Yard, front*. A yard extending across the full width of the lot and lying between the front line of the lot and the nearest line of the building. The side where the address is shall be considered the front yard.
- (fj) *Yard, rear*. A yard extending across the full width of the lot and lying between the rear lot line and the nearest line of the principal building.

- (fk) *Yard, side.* A yard extending from the front yard to the rear yard, lying between the main building and a side lot line. The width of a side yard shall be the minimum horizontal distance between the side lot line and a line parallel thereto through the nearest point of the principal structure. A side yard does not include any yard that is a street yard.
- (fl) *Zero lot line.* The concept whereby two respective dwelling units within a building shall be on separate and abutting lots and shall meet on the common property line between them, thereby having zero space between said units.
- (fm) *Zoning permit.* A permit issued by the Zoning Administrator to certify that the use of lands, structures, air and waters subject to this Chapter are or shall be used in accordance with the provisions of said Chapter.

(Code 1998, § 13-1-300; Ord. No. 2003-03, § 1(13-1-300), 3-24-2003; Ord. No. 2003-04, §§ 2, 3, 3-24-2003; Ord. No. 2009-08, § 2, 3-23-2009; Ord. No. 2009-11, §§ 1, 3, 4-27-2009)

SECTION 3: AMENDMENT “62-69 Permitted Uses” of the Village of
McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

62-69 Permitted Uses

- (a) *Generally.* The permitted and allowable conditional uses in each district of the residential and noncommercial zoning districts shall be set forth in the following table:

RESIDENTIAL DISTRICT PERMITTED USES										
Description	A-1	C O	R-1	R-1A	R-1B	R-2	R-3	R-MH	R-E	RH-1
Residential uses										
Single-family detached dwellings	P	N	P	P	P	P	N	P	P	P
Conversion of a single-family to a two-family	N	N	C	C	C	C	C	C	C	C
Temporary auxiliary apartment ²	N	N	C	C	C	N	C	C	C	C
Manufactured home, built after 10/74	C	N	P	P	P	P	N	P ¹	P	P

Two-family dwellings	N	N	N	N	N	P	P	N	P	N
Zero lot line dwellings	N	N	N	N	N	P	P	N	P	N
Multifamily dwellings, up to eight units/acre	N	N	N	N	N	N	P	N	N	N
Multifamily dwellings, up to 15 units/acre	N	N	N	N	N	N	C	N	N	N
Elderly occupied dwellings, up to ten units/acre	N	N	N	N	N	N	N	N	P	N
Elderly occupied dwellings, up to 21 units/acre	N	N	N	N	N	N	N	N	C	N
Community based residential facilities	N	N	P	P	P	P	P	P	P	P
Business uses										
Community living arrangements, up to eight people	N	N	P	P	P	P	P	P	P	P
Home day care (4—8, licensed) ³	N	N	P	P	P	P	N	P	C	P
Home day care (3 or fewer, unlicensed)	N	N	P	P	P	P	P	P	C	P
Home occupations ³	P	N	P	P	P	P	P	P	P	P
Day care center (9 or more, licensed)	N	N	N	N	N	N	C	N	C	N
Community living arrangements, over eight people	N	N	C	C	C	C	C	C	C	C
Landscaping businesses on parcels 2 acres or larger	P	N	N	N	N	N	N	N	N	C
Public uses										
Greenways, open space, parks and pools	P	P	P	P	P	P	P	P	P	P
Off-street parking facilities	N	C	N	N	N	N	N	N	N	N
Nursing homes, hospitals	N	N	N	N	N	N	P	N	N	N
Clubs, lodges	C	N	N	N	N	N	P	N	N	C

Elementary and secondary schools	C	N	P	P	P	P	P	P	P	P
Public libraries	N	N	P	P	P	P	P	P	P	P
Fire stations	C	N	P	P	P	P	P	P	P	P
Cemeteries and mausoleums	C	N	C	C	C	C	C	C	C	C
Athletic facilities	N	N	C	C	C	C	C	C	C	C
Houses of worship and their affiliated uses	C	N	P	P	P	P	P	P	P	P
Industrial and higher uses										
Sewage treatment plants	N	N	N	N	N	N	N	N	N	N
Utility lines and pumping stations	P	C	P	P	P	P	P	P	P	P
<u>Solar Energy Collection System, Farm (Principal Use)</u>	<u>C</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>
Accessory uses										
Private garage space	P	N	P	P	P	P	P	P	P	P
Gardening/storage sheds	P	C	P	P	P	P	N	N	P	P
Off-street parking facilities	P	C	P	P	P	P	P	P	P	P
Normal household pets, not exceeding 3 mature pets	P	N	P	P	P	P	P	P	P	P
Agriculture and forestry ⁴	P	C	N	N	N	N	N	N	N	P
<u>Solar Energy Collection System, Roof & Building Mounted, and Ground Mounted</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>

P = Permitted, C = Conditional, N = Not Allowed

¹ Manufactured homes placement shall comply with all of the following requirements and limitations:

- (1) The home shall be doublewide of at least 24 feet in width and 36 feet in length.
- (2) The home shall be installed on an approved foundation system in conformity

with the uniform building code. The wheels and axles must be removed.

- (3) The home shall be equipped with foundation siding which in design, color and texture appears to be an integral part of the adjacent exterior wall of the manufactured home.
- (4) The home shall be covered by a roof pitched at a minimum slope of two inches in 12 inches, which is permanently covered with nonreflective material.

²There must be a minimum of 800 square feet of floor area for each dwelling unit, exclusive of halls and entries, cellar and basements.

³Refer to Section 62-230.

⁴Keeping of chickens permitted in residential areas pursuant to subsections (d) and (e).

- (b) *Overlay districts.* Permitted and conditional uses in Overlay Districts shall include the uses permitted in the underlying zoning district subject to additional compliance with the provisions of any requirements of this Section or any other applicable ordinance.
- (c) *Review of building plans.* Within any Overlay District, all plans for new construction or exterior remodeling shall be reviewed and approved by the Village Plan Commission and the Fire/EMS Chief prior to the issuance of a building permit.
- (d) *Keeping of chickens.* The keeping of no more than four chickens shall be allowed in the R-1, R-1A, R-1B, R-2, R-3 and RH-1 districts provided that:
 - (1) The principal use is a single-family or two-family dwelling.
 - (2) No person shall keep any roosters.
 - (3) No person shall slaughter chickens outdoors.
 - (4) Chickens shall be provided with a structure and area exclusively devoted for use as a hen house and fenced outdoor enclosure.
 - a. Chickens must be kept in the hen house or fenced outdoor enclosure at all times and shall not be allowed to run free.
 - b. The hen house shall be a covered, predator-resistant, well-ventilated structure, providing a minimum of two square feet per chicken.
 - c. The outdoor enclosure shall be adequately fenced to contain chickens and protect them from predators.
 - d. The hen house must be kept in a clean, dry, and sanitary condition at all times.
 - e. The outdoor enclosure shall be cleaned on a regular basis to prevent the accumulation of animal waste and offensive odors.
 - f. Chicken feed, if stored outdoors, must be kept in rat-proof containers.
 - (5) The hen house or outdoor enclosure shall be located in the rear yard and no closer than 25 feet to any residential dwelling on an adjacent lot, nor closer than ten feet to the property line.
 - (6) The hen house and outdoor enclosure shall comply with the maximum lot coverage and height requirements for accessory buildings. Refer to Section 62-227 of the Village of McFarland Municipal Code.
 - (7) The permittee shall comply with Wis. Admin. Code § ATCP 17.02 relating to livestock premises registration.

(8) Annual permit.

- a. Any person who keeps chickens in the Village of McFarland under Section 62-69(d) shall obtain an annual permit prior to June 1 of each year, or within 30 days of acquiring the chickens. The permit year commences on June 1 and ends the following May 31.
- b. As part of the initial permit approval process, the Village Building Inspector shall inspect the applicant's property for compliance with this Section. The annual permit renewal process shall not require reinspection.
- c. The Zoning Administrator may revoke a permit if there are two or more violations of this Section, or Chapter 20 of the Village of McFarland Municipal Code, within any six-month period.
- d. Applications shall be made to the Community Development Department on such forms as deemed appropriate, and a fee shall be established from time to time by the Village Board and provided in Appendix A to this Code. Failure to obtain the required permit and pay the required fee will result in forfeiture, including doubling the permit fee.
- (e) The number of livestock kept in the A-1 or RH-1 zoned district shall not exceed one animal unit for each full acre and the lot must be at least two acres in size. For lots zoned A-1 or RH-1 less than two acres but over 20,000 sq. ft. no more than ten chickens shall be allowed. Any structure housing livestock shall be at least 100 feet from an urban residentially zoned district.

(Code 1998, § 13-1-48; Ord. No. 2003-03, § 1(13-1-48), 3-24-2003; Ord. No. 2011-10, § 2, 5-23-2011; Ord. No. 2013-14, § 69, 11-11-2013)

SECTION 4: **AMENDMENT** “62-71 Permitted Or Conditional Uses--Commercial Districts” of the Village of McFarland Municipal Code is hereby *amended* as follows:

AMENDMENT

62-71 Permitted Or Conditional Uses--Commercial Districts

The permitted and allowable conditional uses in each district of the commercial zoning districts shall be set forth in the following table:

COMMERCIAL DISTRICT PERMITTED USES^(4, 5, 6, 7)

Land Uses ⁽¹⁾	NAICS	C-G ⁽²⁾	C-H	C-P	C-L	M-IC

Agricultural services and support	115000	C	C	C	N	N
Mining	212000	N	N	N	N	C
Utilities	221000	N	C	C	N	C
Construction contractors	236000	N	P	P	N	P
Wood product manufacturing	321000	N	p(7)	p(7)	N	P
Drugs manufacturing	325410	N	p(7)	p(7)	N	P
Plastics manufacturing	326100	N	p(7)	p(7)	N	P
Printing	323000	C	C	p(7)	N	P
Fabricated metal manufacturing	332000	N	p(7)	p(7)	N	C
Machinery & equipment	333000	N	p(7)	p(7)	N	P
Computer manufacturing	334000	N	p(7)	p(7)	N	P
Electrical manufacturing	335000	N	p(7)	p(7)	N	P
Manufacturing not listed above		N	p(7)	p(7)	N	P
Retail buildings						
20,000 sq. ft. or greater	44000 — 450000	C	N	N	N	N
Auto dealers (new and used)	441100	C	C	N	N	N
Motorcycle, boat, and other vehicle dealers	441220 & 441229	C	C	N	N	N
Furniture store	442110	P	N	N	N	N
Electronics/appliance store	443100	P	N	N	N	N
Building materials (fully enclosed only)	444100	N	C	C	N	P
Hardware store	444130	P	C	N	N	N
Landscape/nursery	444220	N	C	N	N	N
Food store (except convenience)	445110	P	C	N	N	N
Liquor store	445310	P	N	N	N	N
Pharmacies and drug stores	446110	P	P	N	N	N
Cosmetic and beauty supplies	446120	P	P	N	N	N
Gasoline stations and convenience stores	447110	C	C	N	N	N

Clothing store	448100	P	N	N	N	N
Jewelry store	448310	P	N	N	N	N
Sporting goods, hobby, book and music	451100	P	N	N	N	N
Department store	452110	P	N	N	N	N
Miscellaneous shopping	453000	P	N	N	N	N
Mail-order houses	454113	C	C	C	N	P
Fuel dealers	454310	N	N	N	N	C
Rail transportation	482110	N	N	N	N	C
Trucking	484000	N	C	N	N	P
Transit and ground passenger transportation	485000	C	C	C	N	C
Wholesale, trade (except for petro terminals)	423000 & 424000	N	C	C	N	P
Petro terminal	424710	N	N	N	N	C
Post office	491110	P	N	N	N	N
Warehousing & storage (fully enclosed only)	493110	C	C	P	N	P
Custodial services	561720	N	P	P	C	C
Vehicle repair and body shops	811111 & 811121	C	C	N	C	C
Car wash/oil change	811190	C	P	N	N	N
Consumer electronics repair	811211	C	C	N	C	C
Mini-warehouses	531130	N	C	N	C	N
Commercial banking	522110	P	P	N	P	N
Financial services	522291	P	P	N	P	N
Insurance	524113	P	P	N	P	N
Real estate offices	531210	P	P	N	P	N
Auto leasing	532110	C	C	N	N	N
Movies/videos	532230	P	N	N	N	N
Commercial and industrial equipment rental ⁽³⁾	532400	P	P	P	P	P

Legal services	541110 & 541190	P	P	P	P	N
Accounting and tax preparation	541210	P	P	P	P	N
Architectural engineering and related services	541310	P	P	P	P	N
Computer services	541510	P	P	P	P	N
Management consulting services	541610	P	P	P	P	N
Research/testing services	541710	N	P	C	P	N
Advertising service agencies	541810	P	P	P	P	N
Photo studios	541921	P	C	N	P	N
Employment services	561300	P	P	P	P	N
Business support services	561400	P	P	P	P	N
Travel services	561510	P	N	N	C	N
Veterinary clinics	541940	C	C	N	N	N
Elementary and secondary schools	611110	C	C	N	P	N
Library	519120	C	C	N	P	N
Medical services and offices	621100	P	C	P	P	N
Medical labs	621500	N	C	P	N	N
Hospitals and clinics	622110	C	C	N	N	N
Nursing homes	623110	P	P	N	N	N
Individual and family services, and commercial day care	624100	P	C	N	P	N
Museum/gallery/historical sites	712100	P	C	N	P	N
Bowling center	713950	P	C	N	N	N
Sports and recreation instruction	611620	P	C	N	C	N
Fitness centers	713940	P	C	N	C	N
Amusement arcades (except billiards)	713120	C	C	N	C	N
Lodging	721110	C	P	C	N	N
Restaurants	722100	P	P	N	C	N
Limited-service restaurants, including fast food	722211	C	C	N	N	N

Taverns	722410	P	N	N	C	N
Furniture repair and re-upholstery	811420	C	C	N	C	N
Computer and office machine repair	811212	P	P	N	N	N
Other household repair	811490	P	P	N	C	N
Personal care services	812100	P	N	N	N	N
Funeral home and services	812210	P	C	N	P	N
Kennels and pet boarding	812910	C	C	N	N	N
Laundry, coin-operated	812310	P	N	N	N	N
Dry cleaning and laundry (except coin-operated)	812320	C	N	N	N	N
Parking lots	812930	C	C	N	N	N
Religious/civic/business/professional organizations	813000	P	C	N	P	N
Executive, legislative and other general government	921100	P	N	N	N	N
Residences permitted R-2 and R-3		C	N	N	N	N
Adult businesses (see Section 11-261(d))		N	P	N	N	P
Adult bookstore (see Section 11-261(c))		P	P	N	N	P
Commercial laundry (no direct customer pickups and drop-offs, no dry cleaning)	812331	N	N	N	N	C
<u>Solar Energy Collection System, Roof & Building Mounted, and Ground Mounted (Accessory Use)</u>		<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>

P = Permitted, C = Conditional, N = Not Allowed

(1) The meaning of the terms shall be the same as that used in the North American Industry Classification System (NAICS), 2007 Edition or revised edition thereof, published by the U.S. Printing Office, with the number of the intended NAICS number following the land use name.

(2) All uses that are permitted or conditional in C-G are permitted or conditional in the C-C Central Commercial District.

(3) Indoor storage only. Outdoor storage allowed upon issuance of a conditional use permit.

- (4) All businesses, servicing, processing or display of materials for rent or sale, except for off-street parking of motor vehicles in operable condition and open storage of materials accessory to a principal use shall be conducted within completely enclosed buildings. Open storage accessory to principal uses in the C-G, C-H, C-P, C-L, and C-C zoning districts may be allowed upon issuance of a conditional use permit.
- (5) All nonenclosed areas of the site that are used for off-street parking, loading or driveways for motor vehicles shall be paved or effectively dust-proofed and measures shall exist on-site to prevent tracking of mud from the site on to public streets.
- (6) All commercial business in the C-C, C-G, C-L or M-1C Districts that are open to the public between the hours of 2:30 a.m. and 5:30 a.m. shall require a conditional use permit.
- (7) Light manufacturing, predominantly from previously prepared materials, of finished products or parts, including processing, fabrication, assembly, treatment and packaging of such products, provided all manufacturing activities are contained entirely within an enclosed building, and noise, odor, smoke, heat, glare, and vibration resulting from manufacturing activity, are confined entirely within the building. Does not include industrial processing from raw materials.
- (Code 1998, § 13-1-50; Ord. No. 2003-03, § 1(13-1-50), 3-24-2003; Ord. No. 2004-02, § 1, 1-29-2004; Ord. No. 2009-16, § 1, 8-24-2009; Ord. No. 2011-03, § 1, 1-10-2011; Ord. No. 2014-07, § 1, 6-23-2014; Ord. No. 2015-03A, § 2, 4-27-2015)

SECTION 5: **ADOPTION** “62-210 Specific Requirements Regarding Solar Energy Collection Systems” of the Village of McFarland Municipal Code is hereby *added* as follows:

ADOPTION

62-210 Specific Requirements Regarding Solar Energy Collection Systems(*Added*)

- (a) Ground mounted solar energy collection systems shall comply with the requirements for accessory structures. Roof, building and canopy mounted solar energy collection systems shall comply with the height limits and setbacks for primary structures, when affixed to a principal structure, or accessory structures, when affixed to an accessory structure, with the exemption that the height limits for a primary structure, or accessory structure, may be exceeded by up to twelve (12) inches to accommodate solar energy collection equipment.
- (b) Solar Energy Collection Systems, Farms:
- (1) A certified professional engineer shall certify that the foundation and design on the solar panels are within accepted professional standards given local soil and climate conditions.

- (2) Power and communication lines running between banks of solar panels and to electric substations or interconnections with buildings shall be buried underground.
- (3) Systems, equipment, and structures shall not exceed thirty (30) feet in height when ground mounted.
- (4) Vegetation under ground mounted solar energy collection systems should consist of pollinator-friendly vegetation or similar prairie grass seed mix.
- (5) Ground mounted solar energy collection systems shall have a minimum setback for all equipment, excluding fences, of twenty-five (25) feet from the front lot line and ten (10) feet from side or rear lot lines, subject to modification as approved by the Plan Commission as part of a conditional use permit and site design review permit.
- (6) Systems equipment and structures shall be fully enclosed and secured by a fence or wall per the requirements in Sec. 8-369. Knox boxes and keys, or other similar measures as approved by the McFarland Fire & Rescue Department, shall be provided at locked entrances for emergency personnel access.
- (7) An appropriate warning sign shall be provided at the entrance to the facility and shall include the facilities 911 address and a twenty-four hour emergency contact number.
- (c) Any conditions or restrictions placed on the solar energy collection system shall be limited to those that serve to preserve or protect the public health and safety, or do not significantly increase the cost, or decrease the efficiency of the system. Conditions or restrictions that allow for an alternative system of comparable cost and efficiency may also be imposed.

SECTION 6: **REPEALER CLAUSE** All ordinances or resolutions or parts thereof, which are in conflict herewith, are hereby repealed.

SECTION 7: **SEVERABILITY CLAUSE** Should any part or provision of this Ordinance be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the Ordinances a whole or any part thereof other than the part so declared to be unconstitutional or invalid.

SECTION 8: **EFFECTIVE DATE** This Ordinance shall be in full force and effect from the date of adoption and after the required approval and publication according to law.

PASSED AND ADOPTED BY THE VILLAGE OF MCFARLAND VILLAGE BOARD

_____.

	AYE	NAY	ABSENT	ABSTAIN
Brandt	_____	_____	_____	_____
Brassington	_____	_____	_____	_____
Clow	_____	_____	_____	_____
Fessler	_____	_____	_____	_____
Flaherty	_____	_____	_____	_____
Jerke	_____	_____	_____	_____
Wreh	_____	_____	_____	_____

Presiding Officer

Attest

Carolyn Clow, Village President,
Village of McFarland

Cassandra Suettinger, Deputy
Administrator/Clerk, Village of
McFarland