Appendix A
Watershed Management Planning Guidance and Criteria

The development of new watershed management plans and general updates of existing watershed management plans are not eligible under this Request for Proposals. However, limited funding is available for technical revisions of) watershed management plans approved generally within the last 2 to 5 years. Technical revisions must be a component of a larger nonpoint source (NPS) implementation project. Technical revisions consist of adding or updating information for specific pollutants, sources or causes for otherwise current and approved watershed management plans. Technical revisions could include, but are not limited to:

- Field inventories identifying specific sites that are the sources and causes of NPS pollutants impairing a designated use.
- Environmental or social monitoring.
- Incorporating the NPS load allocation from approved Total Maximum Daily Loads or new impaired waterbody listings from Michigan's current 303(d) list.
- Models that identify and prioritize areas for restoration or protection like the landscape level wetland functional analysis.

The NPS Program will continue to review and approve watershed management plans as meeting state and federal criteria. It is strongly encouraged that NPS staff be contacted for involvement and guidance early in all planning projects regardless of the project funding source.

The United States Environmental Protection Agency's (USEPA) Nine Minimum Elements of Watershed Management Planning

To ensure that Section 319 projects make progress towards restoring waters impaired by NPS pollution, watershed-based plans that are implemented with Section 319 funds must include nine minimum elements of watershed management planning. The USEPA has developed a handbook describing these elements and how they can be met. The USEPA believes that these nine elements are critical to ensure that public funds are used effectively.

Clean Michigan Initiative (CMI) Watershed Management Planning

No longer in force. All CMI-NPS funds have been expended and CMI criteria are no longer required.

Watershed Planning Resources

Numerous watershed management planning resources are available on the NPS Program Web page under the Technical Assistance section, see "Developing an Approvable Watershed Management Plan."

- Checklist for a 319 Approved Watershed Management Plan
- Michigan NPS Program Watershed Management Planning White Papers
    - Watershed Characterization
    - Scale Considerations
    - Inventories for Watershed Management Planning
        - Animal Feeding Operations Inventory

        - Stream Walk
    - Evaluation of Midlevel NPS Loading Model

Appendix B

Tribal and Impacted Communities

Background

The U.S. Environmental Protection Agency's (USEPA) National Nonpoint Source (NPS) Section 319 Program is devoted to the protection and restoration of waters from sources of NPS pollution. The program benefits thousands of communities and individuals through the work of State, Territorial, and Tribal NPS Programs in collaboration with dedicated local organizations. USEPA and the state of Michigan recognize that water quality impacts can disproportionately affect urban and rural communities with vulnerable populations. Collectively, for the purposes of this appendix, these communities will be referred to as "tribal and impacted communities".

NPS Program Flexibilities

USEPA guidance released in May 2024 allowed flexibility for the NPS Program to better serve tribal and impacted communities. Elements from the guidance have been incorporated into this Request for Proposals (RFP) and are listed below.

- **Required Minimum Match** for projects affecting tribal and impacted communities is reduced from 25% to 10%. This match can consist of cash or in-kind services from non-federal sources.
- **Tribal Entities**
  - Proposals sponsored by tribal entities are now eligible to compete for Michigan's NPS pass-through funding.
  - USEPA-approved Tribal NPS management program plans (see following list) will now be considered as an acceptable alternative to a nine-element Watershed Management Plan.
    - Bay Mills Indian Community
    - Grand Traverse Band of Ottawa and Chippewa Indians
    - Little Traverse Bay Band of Odawa Indians
    - Little River Band of Ottawa Indians
    - Match-e-be-nash-she-wish Band of Pottawatomi Indians of Michigan
    - Nottawaseppi Huron Band of the Potawatomi
    - Pokagon Band of Potawatomi Indians
    - Saginaw Chippewa Indian Tribe
  - Proposals sponsored by tribal entities may implement projects consistent with either an up-to-date USEPA-approved Tribal NPS management program plan or a watershed management plan approved as meeting both state and federal criteria.

Proposals Affecting Tribal and Impacted Communities

Proposal selection will be determined as described in the RFP (Funding Priorities, page 13) based on the proposed activities. For proposals submitted by tribal and impacted communities, additional consideration will be given to how the project would impact both the community and the environment. Preferred proposals will leverage partnerships among community organizations and local businesses which are already rooted in the communities being served.

Appendix C

General Guidance for Land/Water Interface Permits

Many activities that involve the physical alteration of aquatic ecosystems at the land/water interface (lakes, rivers/streams, wetlands, and Great Lakes and flood plains) require permits under the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

The following information is intended to be used as a general guide to assist grant applicants in determining if a state permit may be necessary to conduct activities involving physical alterations at the land/water interface. This is not an all-inclusive guide. Activities involving environmental areas, high-risk erosion areas, and critical dunes are not addressed here. Information specific to these programs is available on the Shorelands Management webpage. *Depending on the complexity of the activity, it may be prudent to secure necessary permits in advance of submitting a grant proposal.*

It is recommended that this information be used in consultation with Water Resources Division (WRD) field staff. In addition, professional consultants may provide assistance if practiced in the specific area of interest. The online Land and Water Interface Decision Tree (PDF) may also be helpful. WRD staff contact information is available on the Floodplain Engineering Staff (PDF) map.

Generally, most activities that involve or result in a use or physical change to a regulated aquatic resource at the land/water interface will require a permit (see page 3 for additional information).

Grant applicants are advised that *NOT ALL land/water interface activities can be permitted* and should therefore use sound environmental practices and methods when planning or designing a project. It is essential to avoid activities that cannot or are unlikely to be permitted when submitting proposals. When developing a project proposal, applicants should address the items listed below. These queries are intended to draw the applicants' attention to the possible need for permits and direct their efforts towards avoiding the need for a permit or towards increasing the potential of securing a permit.

1. Have all the aquatic features, including flood plains, where appropriate, been identified on the project plans? **Yes** ☐ **No** ☐

2. Have all the *regulated* natural resources been located on the project site(s) and identified on the plans? **Yes** ☐ **No** ☐

3. Does the grant proposal involve impacts to any of the following: inland lakes, the Great Lakes, streams, rivers, wetlands, or floodplains? Impacts would include activities such as dredging, excavating, filling, draining, constructing in, relocating, converting, increasing flows, or increasing water temperature (this is a partial list of usual activities and is not all-inclusive). If the answer is yes, a permit is required (unless specifically exempted). **Yes** ☐ **No** ☐

4. *Is the extent of impact to* the regulated resources *incidental (minor)* i.e., does it qualify as a minor activity under the NREPA, and is the bulk of the work on upland/non-flood plain with only a small ancillary activity (necessary to make the primary project functional) in the regulated resource? **Yes ☐ No ☐**

5. Is the work major (with significant impact to the resource) in nature (i.e., most or all of the planned work will occur in a regulated resource and will have considerable impact to the regulated resource)? **Yes ☐ No ☐**

6. Has the *design been adjusted to avoid and minimize* the impact to regulated resources? **Yes ☐ No ☐**

7. Have the best available design elements been utilized in developing the plan? **Yes ☐ No ☐**

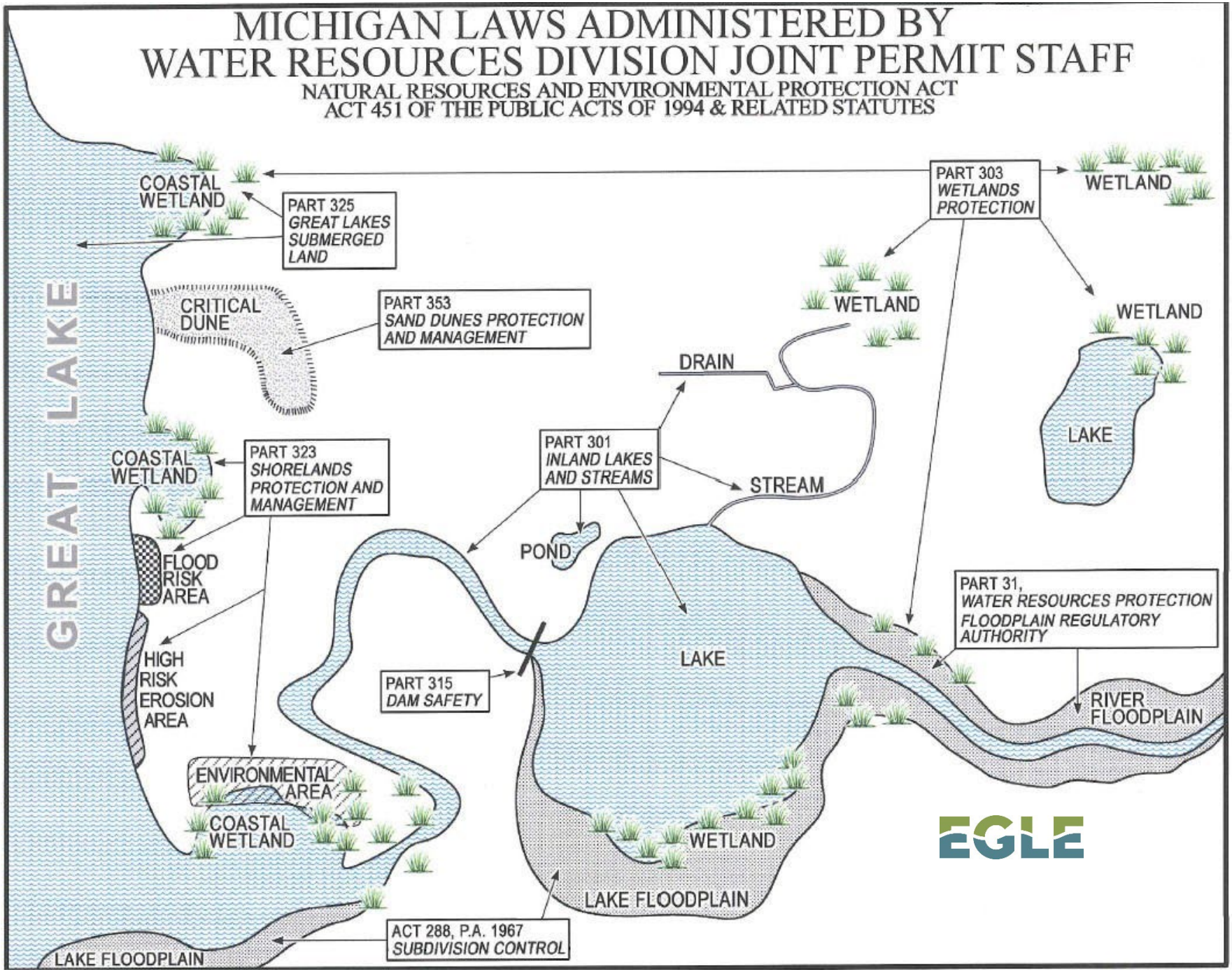
8. Have you contacted the WRD staff for advice or information? **Yes ☐ No ☐**

9. Has your consultant advised you of the need for and likelihood of acquiring needed permits? **Yes ☐ No ☐**

10. Have you *applied for a permit*? **Yes ☐ No ☐**

11. Have you determined whether or not the project can be accomplished if a permit cannot be granted for any regulated activity associated with the project? **Yes ☐ No ☐**

NOTE: Permit reviews are normally multi-faceted considering a number of elements. In addition to assessing those noted in item 3 above, some of the other resource specific elements that may be considered are wildlife habitat, fish habitat, degree of impact, alternatives, flood potential, amount of resource impacted, presence of endangered or threatened species, location of affected resource, relationship of affected resource to other features, ownership riparian rights, public trust, and public interest as well other elements. If a permit is required, it is crucial that the likelihood of securing such permit is addressed early in the process. There is no certainty that a permit can be issued until a permit application has been fully processed.


MICHIGAN LAWS ADMINISTERED BY
WATER RESOURCES DIVISION JOINT PERMIT STAFF
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT
ACT 451 OF THE PUBLIC ACTS OF 1994 & RELATED STATUTES
GREAT LAKE
COASTAL WETLAND
PART 325
GREAT LAKES SUBMERGED LAND
CRITICAL DUNE
PART 353
SAND DUNES PROTECTION AND MANAGEMENT
COASTAL WETLAND
PART 323
SHORELANDS PROTECTION AND MANAGEMENT
FLOOD RISK AREA
HIGH RISK EROSION AREA
ENVIRONMENTAL AREA
COASTAL WETLAND
LAKE FLOODPLAIN
PART 303
WETLANDS PROTECTION
WETLAND
WETLAND
WETLAND
DRAIN
LAKE
PART 301
INLAND LAKES AND STREAMS
STREAM
POND
PART 315
DAM SAFETY
LAKE
PART 31,
WATER RESOURCES PROTECTION
FLOODPLAIN REGULATORY AUTHORITY
RIVER FLOODPLAIN
WETLAND
LAKE FLOODPLAIN
ACT 288, P.A. 1967
SUBDIVISION CONTROL
EGLE

Appendix D

Guidance for Projects in Coastal Areas

The Coastal Nonpoint Pollution Control Program, established by Section 6217 of the federal Coastal Zone Act Reauthorization Amendments, addresses Nonpoint Source (NPS) pollution problems in coastal waters. Section 6217 requires states and territories with approved Coastal Zone Management Programs to develop Coastal Nonpoint Pollution Control Programs. In its program, a state or territory describes how it will implement nonpoint source pollution controls, known as management measures within its designated Coastal Nonpoint Boundary. This program is administered jointly by the United States Environmental Protection Agency and the National Oceanic and Atmospheric Administration.

As a condition of Michigan's Coastal Nonpoint Pollution Control Program, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) has agreed to prioritize specific activities within Michigan's Coastal Nonpoint Boundary (Figure 1) as well as requiring some additional elements in EGLE funded watershed management plan technical updates within the boundary. The priority activities and additional elements for technical updates are listed below.

Priority activities for implementation projects within Michigan's Coastal Nonpoint Boundary:

A. Projects implementing Low Impact Development/Green Infrastructure within urban clusters in the Coastal Nonpoint Source Boundary (Figure 2 and Table 1).
B. Projects for the development of local storm water ordinances for urban clusters in the Coastal Nonpoint Source Boundary that:
    a. reduce the average annual total suspended solids loadings by 80 percent (80%),
    b. maintain post-development peak runoff rate and average volume at levels that are similar to pre-development levels.
C. Septic system inspect/repair/replace projects consistent with Appendix H, the Nonpoint Source Program's "Septic Systems Minimum Standards", and the approved watershed management plan for the targeted watersheds shown in Figure 3.
D. Projects for the update or development of local ordinances that require inspection and maintenance of residential septic systems.
E. Projects including social surveys within the Coastal Nonpoint Boundary must include an enhanced septic focused section consisting of selected stock questions and custom questions (available from NPS staff).

Additional planning elements for EGLE funded technical revisions for watershed management plans within the Coastal Nonpoint Boundary:

1. All EGLE funded technical revisions of watershed management plans covering Urban Clusters within the coastal nonpoint source boundary (Figure 2 and Table 1) will include recommendations for controlling post construction sediment and runoff rates and volumes (reduce the average annual total suspended solids loadings by 80 percent (80%) and maintain post-development peak runoff rate and average volume at levels that are similar to pre-development levels).

2. All EGLE funded technical revisions of watershed management plans within the coastal nonpoint source boundary will include a Septic System section that includes system distribution and density information, a summary of pertinent water quality data, and a review of Septic System related codes and ordinances to support comprehensive approaches to deal with Septic System issues.
3. Specific Septic System maintenance and inspection recommendations will be included in all EGLE funded technical updates of watershed management plans covering water bodies with impairments or impacts caused by failed or failing septic systems. EGLE encourages recommendations to support comprehensive approaches with a mix of regulatory and voluntary actions to best deal with existing and potential future problems.

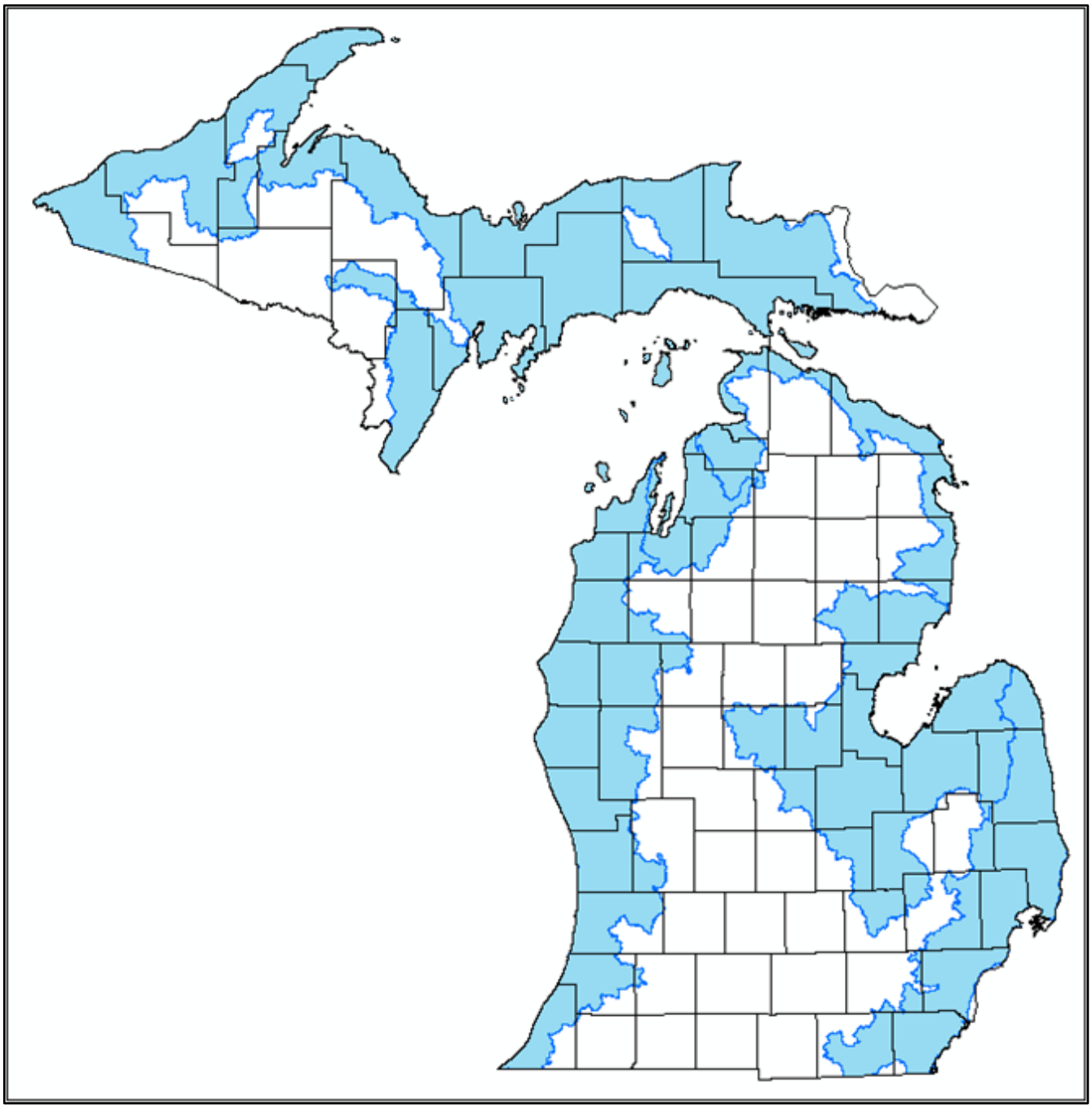


Figure 1 Michigan's Approved Coastal Nonpoint Boundary (shaded Blue)

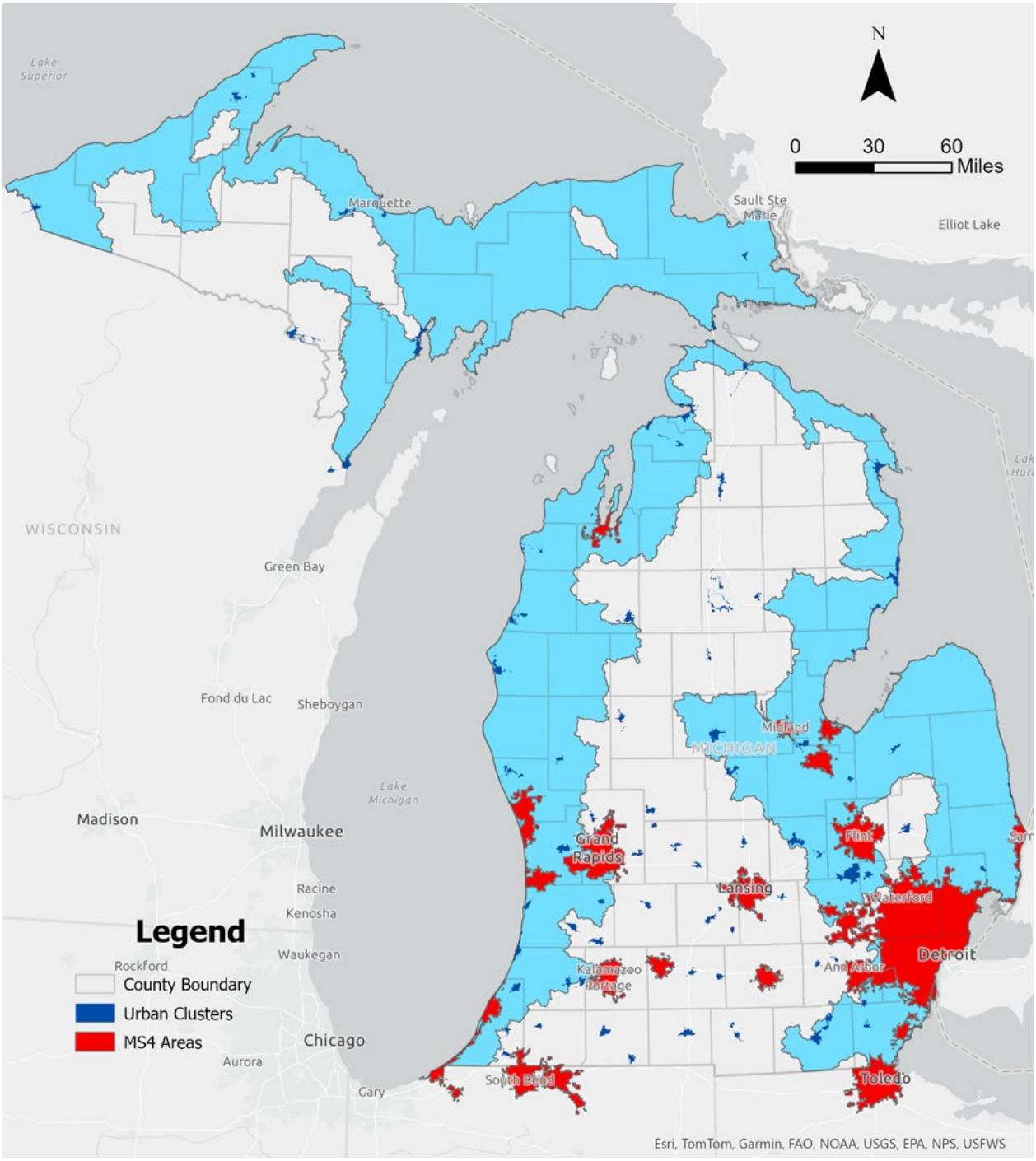


Figure 2 Urban Clusters within Michigan's Coastal Nonpoint Boundary

Table 1. Urban areas within the Coastal Nonpoint Boundary with a population of more than 1,999 but less than 50,000

NAME	POPULATION	HOUSING UNITS	AREA (SQMI)	POPULATION DENSITY (#/sqmi)
Adrian, MI	29,206	11,726	13.38	2,183.61
Allendale, MI	25,094	8,006	10.55	2,379.70
Alma--St. Louis, MI	17,417	5,455	9.04	1,927.72
Alpena, MI	15,425	8,062	12.71	1,213.72
Boyne City, MI	3,990	2,708	5.32	750.53
Calumet, MI	5,112	2,927	2.48	2,058.07
Caro, MI	5,383	2,567	4.54	1,184.83
Charlevoix, MI	3,777	3,092	4.05	933.52
Cheboygan, MI	5,142	3,100	6.03	853.04
Douglas, MI	3,259	2,651	4.23	770.07
Dundee, MI	5,252	2,314	3.90	1,346.19
Durand, MI	5,056	2,354	3.78	1,337.45
East Tawas, MI	4,844	3,004	5.00	967.87
Escanaba, MI	21,159	10,444	18.06	1,171.40
Frankenmuth, MI	5,045	2,475	2.92	1,725.79
Frankfort, MI**	2,603	2,627	4.24	614.31
Fremont, MI	5,165	2,426	3.83	1,348.01
Holly, MI	8,934	3,792	5.09	1,756.18
Houghton--Hancock, MI	15,358	5,955	7.95	1,932.89
Ironwood, MI--WI*	5,165	3,081	4.38	1,178.90
Ishpeming, MI	11,298	5,357	5.84	1,934.55
Kinross, MI	5,100	951	3.20	1,593.38
Ludington, MI	11,883	7,235	12.70	935.98
Manistee, MI	8,093	4,590	9.08	891.01
Marinette--Menominee, WI--MI*	8,656	4,681	4.81	1,799.42
Marquette, MI	24,682	11,592	12.69	1,944.86
Milan, MI	7,861	2,674	3.39	2,316.32
Mount Pleasant, MI	30,738	13,793	14.76	2,082.10
Oscoda--Au Sable, MI	8,558	7,258	18.59	460.43
Owosso, MI	22,329	10,344	13.61	1,640.19
Paw Paw Lake, MI	7,526	4,106	6.77	1,112.29
Paw Paw, MI	5,662	2,675	5.64	1,004.49
Petoskey, MI	12,233	8,601	15.37	795.98
Richmond, MI	6,034	2,628	2.96	2,040.86
Sault Ste. Marie, MI	12,877	6,042	8.18	1,574.01
South Haven, MI	6,357	5,509	9.38	677.48
St. Ignace, MI	3,457	2,336	5.70	606.99
Tecumseh, MI	13,684	5,914	10.13	1,351.18
Wayland, MI	4,957	2,007	3.39	1,463.87
Whitehall, MI	8,678	4,196	8.57	1,012.11

Table 1. Notes
***:** 2020 Census Urban Area includes more than one state
****:** New Urban Area from the 2020 Census
POPULATION: Population of the 2020 Census Urban Area within MI
HOUSING UNITS: Housing unit count of the Urban Area within MI
AREA: Land area of the Urban Area within MI (square miles)
POPULATION DENSITY: Population density of the Urban Area within MI (square miles)

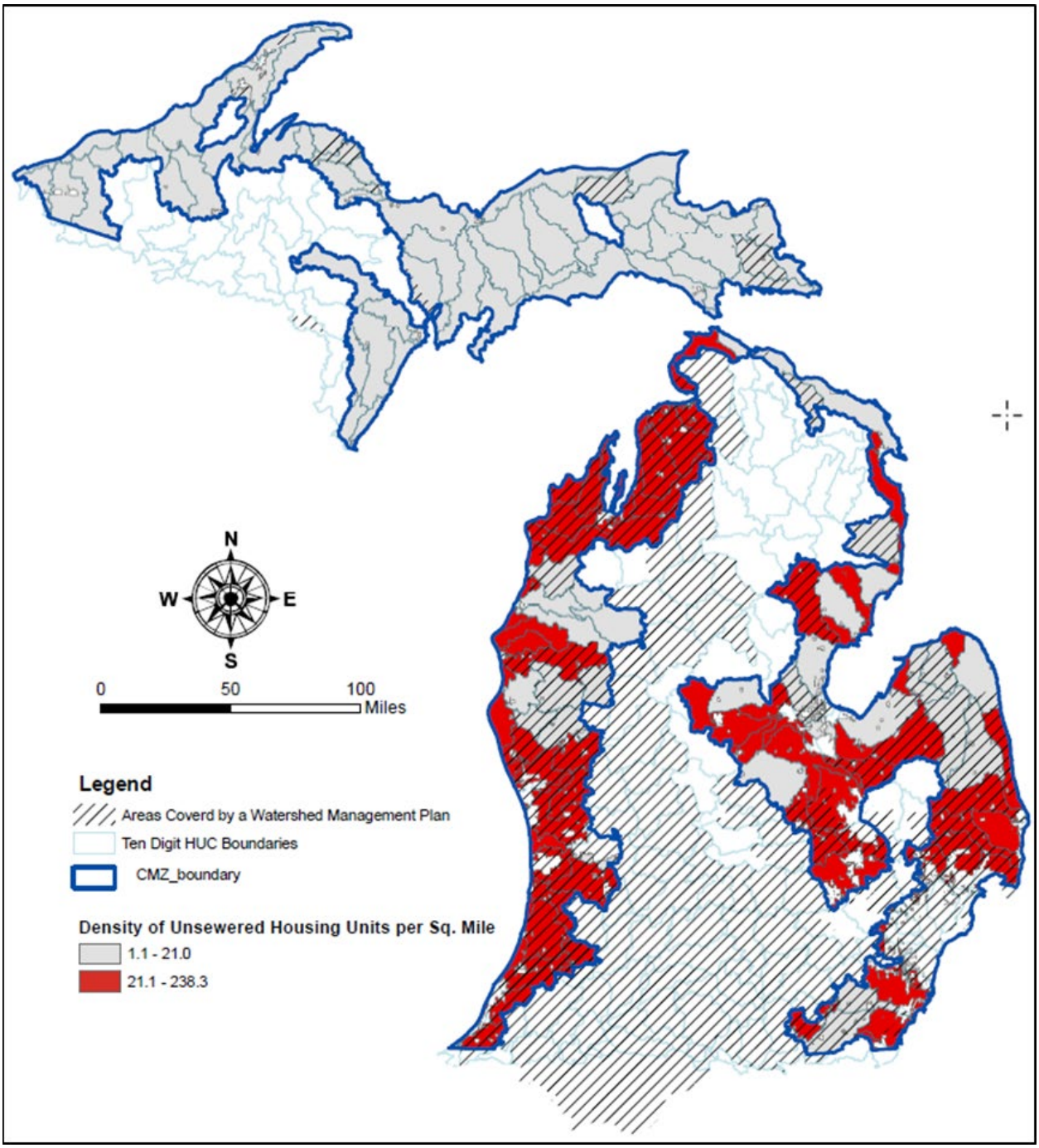


Figure 3 Target Watersheds, HUC-10 Watersheds with a Septic System Density Greater than 21 Systems per Square Mile.

Appendix E

Guidance for Hydrologic and Geomorphic Analyses for Implementation Projects

Often, streambank erosion is part of a natural stream process that is not caused by human influence and is not causing any stream impairment. When erosion is unnatural and excessive, it is often the result of changes in the amount of runoff from the contributing watershed or due to channelization of the stream. Grant funding will not be awarded to proposals attempting to treat natural erosion sites or proposals attempting to fix unnatural or excessive erosion without addressing the underlying cause.

Implementation grant proposals with major stream treatments such as stream channel restoration, stream rehabilitation, or stream bank stabilization must include a **statement on hydrology/morphology.** The statement must provide a site-specific analysis of the cause and magnitude of the problem to be addressed with grant funds.

The hydrology/morphology statement should describe, in one to two pages, the hydrologic and geomorphic condition of the stream, including if and how the hydrologic conditions have changed over time and the corresponding changes to the morphological stream conditions. The statement should summarize reports and data and outline the steps taken to determine the hydrologic/geomorphic status. Applicants should be prepared to supply the full reports or data used to make the hydrologic/geomorphic assessment. Applicants should be aware that proposals to stabilize erosion caused by natural river processes are not likely to be funded with nonpoint source grants. The justification to stabilize erosion at these sites may be more appropriate for other grant programs.

The hydrologic/geomorphic assessment should utilize recognized tools such as stream flashiness indices; channel evolution models; regional reference curves; stream bed particle size assessments; streambank stability analysis; stream power calculations; regime equation calculations; or similar measurements or models. The Department of Environment, Great Lakes, and Energy's Nonpoint Source Program has provided a number of guidance documents and tools on the Nonpoint Source Hydrologic Analysis page. In particular, see "Stream Stability Assessment Guidelines for NPS Grant Applicants (PDF)". Hydrologic and geomorphic stability assessments are especially important in watersheds that have been significantly disturbed or modified. Hydrologic and geomorphic assessment shall include an inventory of current site condition (i.e., stable, aggrading, or degrading), identification of the type, extent, magnitude, and cause(s) of the stability problem(s) to be addressed, and a prediction of future stream response to the proposed treatment.

Alternative treatment options should be considered that are based on suitability of the site, an analysis of bank and/or bed stability, and be consistent with appropriate bank and/or bed stabilization techniques. For stream bank stabilization projects, the applicant shall first consider vegetative treatments. Problems that cannot be controlled by vegetative treatments alone should consider a combination of structural treatments and vegetative treatments. No stream stabilization should be implemented until it has been determined that the hydrologic condition of the contributing watershed is stable or actively being stabilized. It is important to note that in-stream Best Management Practice (BMPs) are temporary tools to aid the goals of stream restoration and stream stabilization projects rather than the final solution, therefore

making sure in-stream BMPs are appropriate and correctly sized and oriented is a key step for stream restoration/stabilization projects; applicants should be ready to explain how each proposed in-stream BMP will aid the overall project success. Proposals that implement restoration work from upstream to downstream are typically more competitive.

Geomorphic assessments for proposed changes in channel alignment, or channel geometry, shall include the stream reaches upstream and downstream of the project area. Channel width-to-depth ratios, stream bed slope, meander pattern, and other bed features of the proposed channel designs shall be modeled according to a stable reference reach. Reference reaches are nearby, hydrologically and geomorphically stable stream segments. A reference reach could be upstream or downstream of the project area, or in a nearby watershed. Assessment of the current and future discharge and sediment regimes shall be based on conditions in the watershed above the proposed channel alignment, as close as possible to the project reach.

Appendix F

Guidance for Wetland Related Elements in Nonpoint Source (NPS) Proposals

Background

Prior to European settlement, the state of Michigan contained an estimated 11 million acres of wetlands, covering approximately 30 percent (30%) of the state's land mass. Approximately 6.5 million acres of those original wetlands remain. The primary reasons for wetland losses have been drainage for conversion to agriculture and urban development. Watersheds are significantly influenced by their wetlands. Wetlands provide many valuable water quality related functions including storing floodwaters, trapping sediments and nutrients, and protecting erodible stream banks and shorelines. Wetlands also contribute to groundwater recharge and provide valuable fish and wildlife habitat. Restoring, enhancing, or protecting wetlands can have positive water quality impacts. Therefore, the NPS Program is encouraging the integration of wetland restoration and protection goals into local watershed management plans and supports the restoration and protection of wetlands as a means of addressing water quality concerns.

Wetlands and Watershed Management Plan Technical Revisions

All watershed plans must consider a wetlands component which results in the development of an inventory of existing wetlands, the identification of potential wetland restoration areas, and procedures and strategies to prioritize historically lost wetlands for restoration and existing wetlands for enhancement and preservation. These elements are eligible activities for watershed management plan technical revisions.

Maps depicting current wetlands and areas with the potential for wetland restoration are available through the Wetlands Map Viewer or from Jeremy Jones; Wetlands, Lakes, and Streams Unit; Field Operations Support Section; Water Resources Division; at JonesJ28@Michigan.gov or 517-899-6122.

The Department of Environment, Great Lakes, and Energy (EGLE) endorses the use of a Landscape Level Wetland Functional Assessment (LLWFA) to prioritize areas for wetland restoration and protection. Methodologies to conduct an LLWFA of existing and historically lost wetlands were developed by the United States Fish and Wildlife Service. EGLE has modified and refined the LLWFA process to reflect Michigan conditions. The LLWFA methodology is based on an inventory of existing wetlands, and a determination of the functions they are performing. This information is then used to prioritize them for protection and restoration. The LLWFA methodology will also allow the identification of historically lost wetlands, determine the functions they once provided, and prioritize wetlands for restoration in order to obtain the most significant water quality improvements.

Elements for Inclusion in Watershed Management Plans

The following wetland related elements should be considered for watershed planning projects:

1) Compile wetland information on a watershed basis.
2) Assess local wetland protection capacity.
3) Identify wetland partners and roles.

4) Create an inventory of existing wetlands and potential wetland restoration sites within the watershed using Geographic Information System wetland related data layers (inventory/maps are now available from EGLE).
5) Conduct an LLWFA, or similar protocol, of the watershed to produce an analysis of both historic and present-day wetlands and their functions. The results are used to estimate the cumulative effect of historic wetland losses on the watershed and water quality. The results will assist the grantee in setting goals to replace wetland functions that have been lost since pre-settlement. The results will also be a critical source of information for developing procedures to prioritize existing wetlands for protection and preservation as well as prioritizing historically lost wetlands for restoration. **Note:** A map is included at the end of this guidance indicating areas where an LLWFA has been completed by EGLE or is underway.
6) Define wetland goals and objectives for the watershed.
7) Develop a wetland restoration strategy. The strategy should identify the tools that will be used to accomplish the physical restoration as well as a system to prioritize which historically lost or degraded wetlands should be restored.
8) Develop a wetland protection/preservation strategy. The strategy should specify the methods or tools that will be used to increase the protection of existing wetlands and to prioritize the preservation of the highest quality wetlands.
9) Screen “priority” wetlands for further assessment and field evaluation.

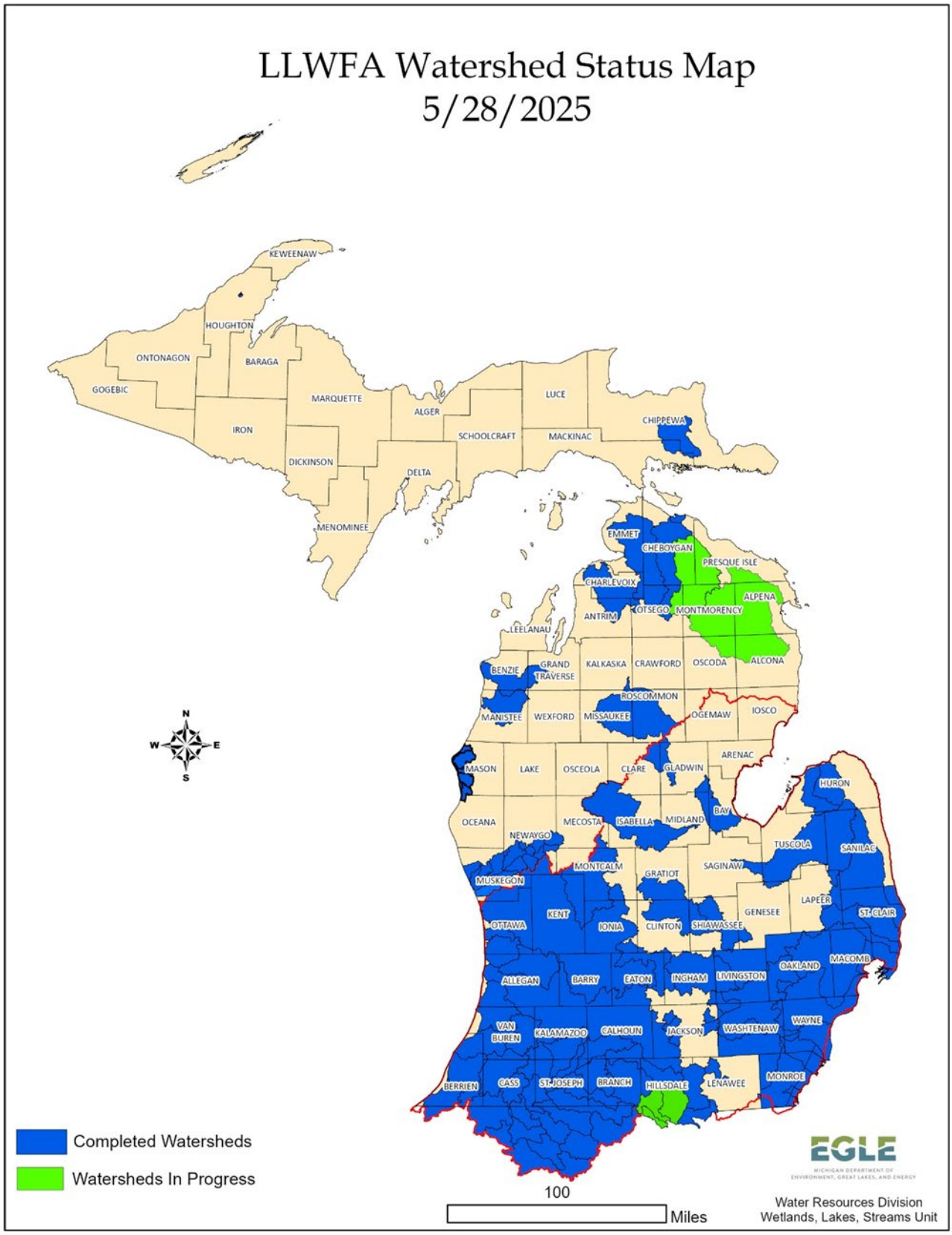
Projected Environmental Improvement

The short-term outcomes of this effort will be that grantees will gain an increased knowledge of where their wetlands are located, the specific functions that wetlands perform, and the overall importance of wetlands in the watershed. The expected transitional outcomes will be changes in practices that impact wetlands and local decisions that can protect or preserve wetlands. The anticipated long-term outcomes will be improved water quality as a result of existing wetlands that are protected and the restoration of wetlands that improve water storage and pollution removal capabilities.

Wetlands and Watershed Management Implementation

EGLE endorses the use of an LLWFA to prioritize areas for wetland restoration and protection. Therefore, proposals in watersheds with a completed LLWFA must use the tool to identify specific wetlands to address the water quality concerns and critical areas identified in the watershed plan. Proposals in areas without an LLWFA must include the rationale or methodology used to select specific wetlands for restoration or protection. The rationale or methodology must include the water quality concerns and critical areas identified in the watershed plan. Proposals to restore or protect wetlands with NPS funds or for match must identify specific locations. Those that include landowner letters of support will rank higher than those lacking such support. Proposals that will utilize NPS funds for technical and staff support and restore or protect wetlands using other sources of funding (Farm Bill, for example) will not have to provide specific locations and best management practices at the proposal stage. Rather, such proposals must include a description of the protocol or methodology that will be used to target the pollutants/causes/sources and critical areas of the applicable watershed management plan.

LLWFA Watershed Status Map
5/28/2025



Appendix G

United States Environmental Protection Agency's Supplemental Guidance
Watersheds in and Near Metropolitan Areas -
Preventing, Reducing, and/or Eliminating Impacts Associated with Urban Runoff

Background

Urban Runoff is storm water runoff from urban and suburban areas. As areas are developed, land uses change and more impervious surfaces are created. These changes to the land affect the volume of runoff and the pollutant levels in runoff. The increased volume of storm water runoff and the increased pollutant loads profoundly affect the hydrology of water bodies and water quality. The watershed approach is the most effective way to address these problems. There are two main Clean Water Act Programs Nonpoint Source (NPS) and National Pollutant Discharge Elimination System (NPDES) that must work together in order for local communities and watershed groups to develop and implement watershed management plans that will protect and/or restore water quality. The NPS Program has funding and technical resources and the NPDES program establishes requirements that, integrated together, can be very effective catalysts for action.

Section 319 funds can be used, within certain limitations as discussed further below, to assist in the management of urban runoff. The purpose of this supplemental guidance is to promote the effective integration of Section 319 NPS and Section 402 NPDES Programs in urban and suburban areas on a watershed basis. Additionally, this guidance will help states determine if particular proposed urban runoff projects/activities are eligible for Clean Water Act Section 319 funding and identify opportunities for coordination between the NPS and NPDES Programs. Note: this guidance is for the purpose of assessing the eligibility of projects/activities for funding, and this guidance is not set forth for the purpose of evaluating compliance with storm water discharge permits or other enforceable requirements. Over time it is expected that permits, Total Maximum Daily Loads (TMDL), Municipal Separate Storm Sewer Systems (MS4) Storm Water Management Plans, and Storm Water Pollution Prevention Plans (SWPPP) will describe more specifically/explicitly what practices are required, which should facilitate determinations regarding what projects/activities are eligible for Section 319 funding. Additionally, it is expected that as progress is made in integrating the NPS and NPDES programs, future permits will be developed which will do even more to support the watershed approach.

Watershed Management Projects/Activities

Watershed Planning

In limited scenarios, Section 319 funds can be used for technical revision updates to already existing watershed management plans. For areas where development is occurring or is expected to occur, states should support watershed organizations in carrying out watershed planning and implementation projects which explicitly consider the effects of land use and development practices on water resources. For example, as part of a watershed planning and protection initiative in a developing area, a watershed group should include estimates of runoff quantities, pollutant loads, and the watershed effects of alternative various growth and development scenarios. The watershed plan should also include, as appropriate, recommendations for zoning, buffers, and urban runoff management measures. Note: Section 319 funds cannot be used for projects or activities that are required under a Section 402 or 404 permit (or any permit or court order), as discussed further below. Thus, while Section 319 funds can be used for limited watershed planning work, these funds cannot be used to develop (or implement) MS4 storm water management plans.

Watershed Permits Which Incorporate Watershed Plans

There may be cases where NPDES permits incorporate by reference parts or all of a watershed plan. This can be extremely valuable in terms of helping to ensure consistency and to foster the full implementation of the watershed plan. However, this can present additional complications in terms of Section 319 funding eligibility determinations. For example, a watershed plan might recommend restoration/stabilization of certain portions of a stream channel. Is this restoration work now ineligible for funding because the watershed plan is cross-referenced to the permit?

The approach that is recommended is as follows:

- Identify what components of the watershed plan implement aspects of the six minimum control measures or are otherwise enforceable requirements under a NPDES permit (see further discussion below on making such determinations).
- Identify what components of the watershed plan are intended to be implemented to the extent feasible or as circumstances allow, but which are not considered to be *enforceable* requirements under the permit. For example, a stream bank stabilization project included in the watershed plan may not be considered to be an enforceable requirement under the watershed permit.
- Record the above in the permit, the watershed plan, or the watershed plan approval letter.

Projects/activities that are outlined in the watershed plan but are not considered to be enforceable requirements under the permit are potentially eligible for Section 319 funding.

Urban Runoff Implementation Projects/Activities

States can utilize Section 319 funds (subject to certain eligibility requirements) for implementation of management practices to restore/protect water resources. The following are guidelines for such projects/activities:

The Management Practice Must Address Nonpoint Source Runoff

Section 319 funds can be used for source control best management practices (BMP) or runoff control BMPs, but not for point source controls. As a rule of thumb, BMPs which reduce the amount of runoff generated or which intercept and infiltrate, hold, or treat storm water before it enters the municipal storm sewer system or surface water system are potentially eligible for Section 319 funding. Note: a key factor is "*has the storm water entered the municipal system* or *surface water system*." If, for example, a BMP/treatment device is located at the edge of a parking lot such that it intercepts and treats runoff from the parking lot before that water goes to the municipal system, that BMP/treatment device would potentially be eligible, even if the runoff flowed through a grate or catch basin. The BMP would be intercepting runoff from the parking lot before that water goes into the municipal sewer system. On the other hand, an end-of-pipe device to treat storm water from the municipal storm sewer system before it is discharged to a water body would generally be considered a point source control and would not be eligible for Section 319 funding. The Management Practice Should Address a Nonpoint Source Impairment.

Incremental Section 319 funds must be used for projects/activities which will measurably address documented water quality impairment(s). For the purposes of this supplemental guidance, *documented water quality impairment(s)* means water quality standards violations documented by a 303(d) listing, by local monitoring data, or through a build-out analysis. The build-out analysis should be able to justify the need to do headwater protection within MS4 jurisdictions. *Measurably address documented nonpoint source water quality impairments* includes modeled results to show load/volume reductions and is not limited to the measured in-stream improvements. The project does not necessarily need to fully resolve impairment(s), but it should be part of the solution to the impairment, and the contribution to addressing the documented impairment(s) needs to be quantified. Prevention activities can be focused on areas less than one acre if the areas are located in an impaired watershed.

The Management Practice Must Not Be Required Pursuant to a Federal or State Discharge Permit

Section 319 funds cannot be used by any entity for projects or activities that are required under a federal or state NPDES permit. Under the NPDES Program, storm water permit coverage is required for storm water discharges from large, medium, and regulated small MS4s. There are six "minimum control measures" identified for MS4 systems:

- Public Education and Outreach
- Public Participation/Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping

Projects or activities carried out to comply with these minimum control measures are not eligible for Section 319 funding. However, there may be some types of activities that could be eligible, and in meeting the six minimum measures there are opportunities to promote the watershed approach. Following are brief discussions regarding the six minimum control measures:

Public Education and Outreach (PDF) - Basic education and outreach activities directed to homes and businesses in the MS4 area are generally not eligible for Section 319 funding. However, specialized education/outreach initiatives may be eligible. For example, signage to showcase and explain an urban runoff project demonstrating a new or innovative technology may be eligible for 319 support. Also, activities such as a workshop on Low Impact Development covering an entire watershed or region (vs. a regulated MS4 area) may be eligible.

Municipalities have opportunities to advance the watershed approach as part of their education and outreach work. For example, when distributing educational materials and performing outreach to inform citizens about the impacts polluted storm water runoff discharges can have on water quality, a municipality can use this as an opportunity to promote the watershed approach and the local watershed groups/organizations working in the area. A municipality can also support local volunteer monitoring efforts as part of its public education and outreach.

Public Participation/Involvement (PDF) - This minimum control measure is focused on providing opportunities for citizens to participate in program development and implementation, including effectively publicizing public hearings and/or encouraging citizen representatives on a storm water management panel. While such activities are likely not 319-eligible, for municipalities this is another opportunity to promote involvement with local watershed management planning and implementation efforts.

Illicit Discharge Detection and Elimination (PDF) - Pursuant to this minimum control measure MS4 permittees need to develop and implement a program to detect and eliminate illicit discharges to the storm sewer system. This includes activities like developing and enforcing a local ordinance, and a surveillance/detection program. Such activities are not 319-eligible. To complement the MS4 illicit discharge detection and elimination program, municipalities can coordinate with local watershed groups so adequate downstream water quality monitoring occurs. Being able to document the success and/or impact of activities is extremely important to both the local watershed group as well as the permittee.

Construction Site Runoff Control (PDF) - This minimum control measure calls for municipalities to develop, implement, and enforce an erosion and sediment control program for construction activities that disturb one or more acres of land. Activities such as conducting inspections and compliance/enforcement proceedings would not be 319-eligible. An example of an activity that could be 319-eligible and which would promote the watershed approach would be an MS4 community working with local watershed group to promote consistency of practices and approaches by builders for activities outside the community's jurisdiction.

Post-Construction Runoff Control (PDF) - MS4 permittees are responsible for developing, implementing, and enforcing a program to address discharges of storm water runoff from new development areas after construction is completed and the site is in use. This may include measures such as establishing requirements in an ordinance for detention or infiltration of certain flow amounts. Controls could also include preventive actions such as protecting sensitive areas (e.g., wetlands, forested areas). An example of an activity that could be 319-eligible and which would put into practice the watershed approach would be working with local groups to demonstrate and communicate on the feasibility and benefits of sustainable

land use and development practices in the watershed, such as Smart Growth and Low Impact Development. A watershed plan could include specific recommendations regarding post-construction runoff controls as part of build-out analysis.

Pollution Prevention/Good Housekeeping (PDF) - Under the MS4 permit communities need to develop and implement activities designed to prevent or reduce pollutant runoff from municipal operations. The program must include municipal staff training on pollution prevention measures and techniques (e.g., regular street sweeping, reduction in the use of pesticides or street salt, frequent catch-basin cleaning). An example of an activity that could be 319-eligible and which would promote the watershed approach would be a community working with local watershed groups to convert turf areas in parks, particularly parks adjacent to water resources, to native prairie plants (the prairie plants will absorb more storm water and trap more pollutants, as compared to turf grass, and will help reduce the presence of gulls or geese which contribute to bacteria loadings to water resources).

There are likely to be situations where a project or activity is somehow related to a minimum control measure, but it is not clear if that activity is *required* or not. For example, if a community wishes to develop a program to have pet stores and shelters distribute information and materials to improve pick-up of pet wastes, would that be an eligible cost? It is recommended that states examine such projects/activities which are proposed for funding as follows:

1. Is there language in the applicable NPDES permit that specifically requires the project/ activity?
2. Does the MS4 storm water management plan (or an SWPPP) specifically identify the project/ activity as a measure that will be carried out to comply with the permit?
3. Is the project/activity clearly required to meet one of the six minimum measures?
4. Is the project/activity required to achieve load reductions specified in a TMDL?

If the answer to all these questions is no, and if the project/activity addresses the pollutants of concern identified in the Watershed Management Plan, the project/activity is potentially eligible for Section 319 funding.

Types of control measures and BMPs that have been or are being implemented within Phase I or Phase II jurisdictions with Section 319 funds (because they have been documented to be outside what is required under the applicable MS4 permit) include:

- Riparian management, streambank rehabilitation, and in-stream measures to eliminate/reduce channel instability.
- Wetland creation, restoration and/or enhancement for water quality purposes.
- Source area management/pollution prevention, such as critical area seeding of non-construction areas.
- New technologies and approaches, such as green roofs.
- Information and education related to new approaches and technology.
- Conveyance system inlet BMPs, such as sand filters.
- Alternative road and parking pavements.

- Converting/adjusting water quantity structures/devices to incorporate water quality benefits.
- BMPs such as rain gardens and rain barrels in residential and governmental projects.

Permits and local storm water plans/programs vary considerably; the applicable permit(s) should be reviewed before any of these activities are undertaken with Section 319 funds.

State programs (NPS/NPDES) can develop documents to more specifically define what is required under applicable permits, and what would generally be considered to be outside the scope of what is required and can submit such documents to the U.S. Environmental Protection Agency for concurrence, if it is believed such documentation would be helpful.

To ensure projects/activities proposed for funding are not required pursuant to a permit, applicants for Section 319 grants for storm water-related projects/activities in MS4 areas, applicants must include as part of their application materials a statement documenting that the work proposed for funding is not required under a storm water discharge permit (or other environmental permits).

Monitoring/Evaluation

Monitoring needed to help develop watershed plans is generally eligible for funding, including source identification monitoring (e.g., bacterial source tracking project to determine whether *E. coli* in an urban watershed is from human or origins). Any monitoring required pursuant to a regulation or permit would not be eligible for funding. Monitoring done by a community should be coordinated with watershed management plan development and implementation, and where possible should be done in such a manner that the data can be used for multiple purposes and to establish baselines against which progress can be evaluated.

At the community or subwatershed level, monitoring includes identifying and tracking what management measures and practices have been implemented. Management measures should be tracked in a database that identifies the type of measure, location, date of installation, and ownership. This database then serves as the foundation for local monitoring and maintenance of management measures that must occur to ensure the practices remain in place and function as designed.

At the project scale, urban runoff implementation projects should include provisions for measuring or evaluating the effects of the practices or control measures put in place. This may include monitoring of the performance of a specific management measure and quantifying the loading reductions achieved. This data should be coordinated and correlated with the tracking and monitoring of management measures done at the community or subwatershed level. In-stream monitoring can be conducted by the state or by a watershed organization to assess the effects of watershed plan implementation in terms of attainment of designated uses.

State Initiatives/Activities to Address Urban Runoff Issues

In addition to the above, states may use Section 319 funds for state-wide NPS program activities which foster or promote improved management of urban runoff. Among the types of activities states may directly or indirectly (i.e., via sub-grants or contacts) carry out with Section 319 funds are the following:

(1) Education and outreach to local officials, engineers, planners, developers, real estate professionals, financial institutions, and/or the public on innovative or "green" approaches to reducing urban runoff, e.g., Smart Growth, Low Impact Development, Conservation Development/Design.

(2) Work to develop improved/model local codes and ordinances which result in improved management of urban runoff. This includes work on codes and ordinances related to sustainable land use and development practices. Many local codes and ordinances have provisions which discourage (or even prohibit) certain sustainable design features and/or BMPs. Example of code requirements which may need to be updated include criteria for street widths, setbacks, and densities, requirements which may inhibit use of native landscaping and rain gardens.
Note, the state cannot use Section 319 funds to directly or indirectly carry out an activity that is required of a permittee. For example, the state cannot develop an Illicit Discharge Control Ordinance for a MS4 community.

(3) Plan and support research, demonstration projects, and quantification efforts related to the performance and/or effects on water resources of new or innovative urban runoff management practices. Signage or publications designed to highlight the design and performance of demonstration projects would in most cases be considered beyond the scope of the education and outreach called for under the six minimum control measures and would thus be potentially eligible for Section 319 funding.

(4) Assist in making planning tools and data available to local units of government, developers, and other stakeholders. This may include making available water quality data and/or GIS layers (e.g., land use coverages), or it may include furthering the use of models and other analytical tools.

Appendix G.1

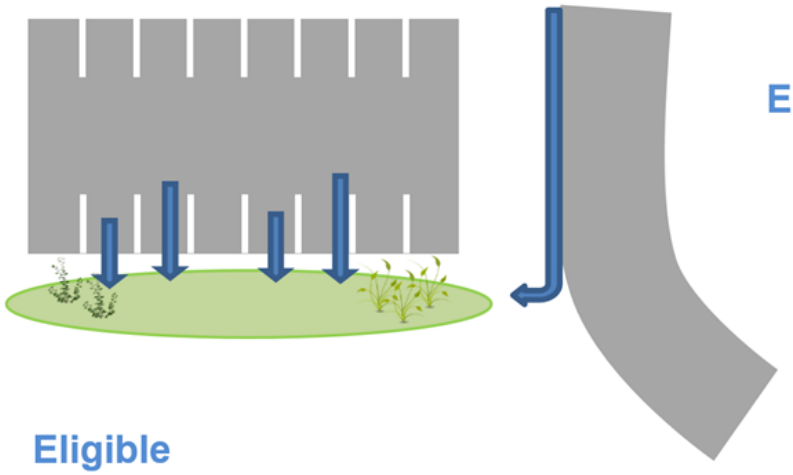
Addressing Storm Water under Michigan's Nonpoint Source Program – What's Eligible

Neither the federal Clean Water Act – Section 319 nor the State Clean Michigan Initiative Nonpoint Source (NPS) grant funds can be used to meet the conditions of a permit. In urban areas there has been confusion about when treatment provided by best management practices (BMP) exceeds the requirement of a Municipal Separate Storm Sewer (MS4) permit, what is point source and what is nonpoint source runoff. The following scenarios were developed by Michigan Department of Environment, Great Lakes, and Energy NPS Program staff with input from U.S. Environmental Protection Agency Region 5 NPS staff to illustrate common situations where NPS grant funds are often requested to be used. Each scenario includes specific conditions and is followed by a response discussing the eligibility for NPS funding. Activities that are not eligible for funding are also not eligible as matching activities. The scenarios provided here do not cover every possible scenario and other situations not covered should be discussed with NPS staff for clarification. In addition to the issues discussed here, other NPS requirements (priority recommendations in critical areas of approved watershed management plans, for instance) may impact the eligibility of specific BMPs and sites.

An MS4 is a conveyance of storm water, owned and operated by a municipality and is not a Water of the State. By contrast, an open county drain conveys storm water but, with limited exceptions, also has many other natural inputs and attributes that make it a Water of the State. A direct discharge to a Water of the State which is not part of an MS4 is not subject to a municipality's MS4 permit. However, most municipalities do not differentiate between properties that discharge into the MS4 and properties that do not. NPS grant funds are applied to control nonpoint source runoff prior to entering a storm sewer system or Water of the State.

Storm Water Eligibility Scenario 1 – In an area with a regulated MS4, storm water runs off a parking lot or road directly into a BMP (e.g., a rain garden) and subsequently discharges into a stream. The site is regulated by the local storm water ordinance; however, the BMP provides more treatment than required by the MS4 permit (In Michigan, MS4 permit requirements are generally based on NPS design criteria). Is the BMP eligible for NPS grant funding?

Response – Since this site is covered by a local storm water ordinance, only the cost of the additional treatment provided over what is required is eligible for NPS grant funds. Because retrofitting an existing site is generally not a requirement of most MS4 permits, retrofitting a site with storm water controls is often eligible for NPS grant funds.

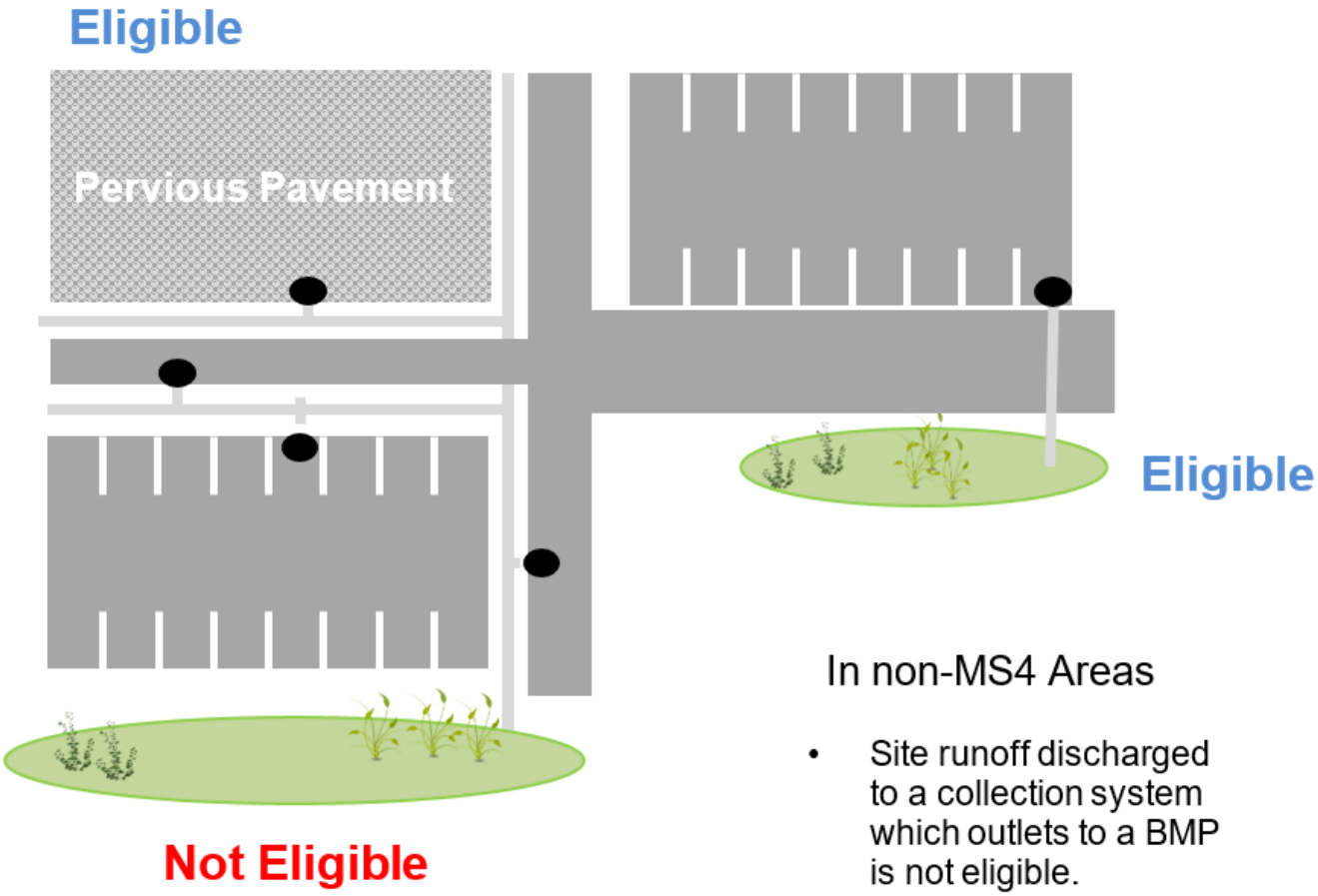


In MS4 Areas

Storm water runs off a parking lot or road into a BMP (e.g., a rain garden) and subsequently discharges into a stream or infiltrates. The BMP provides more treatment than required by the MS4 permit.

Storm Water Eligibility Scenario 2 – Road and parking lot runoff on a large site such as a school campus or from multiple small sites is collected in catch basins and a storm sewer line which outlets to a BMP. The BMP then discharges directly to a stream. Are the BMPs eligible for NPS grant funds in a non-MS4 area? Are they eligible in an MS4 area?

Response – Application of BMPs after runoff enters a conveyance system (i.e., a pipe that collects storm water to transport it to treatment or a discharge point) is not eligible regardless of whether the area is an MS4 or non-MS4. An exception would be a pipe directly into a BMP or to transport storm water a short distance, such as under a road, which is eligible in a non-MS4 area. In an MS4 area none of the BMPs are eligible unless they provide more treatment than required as described in Scenario 1.

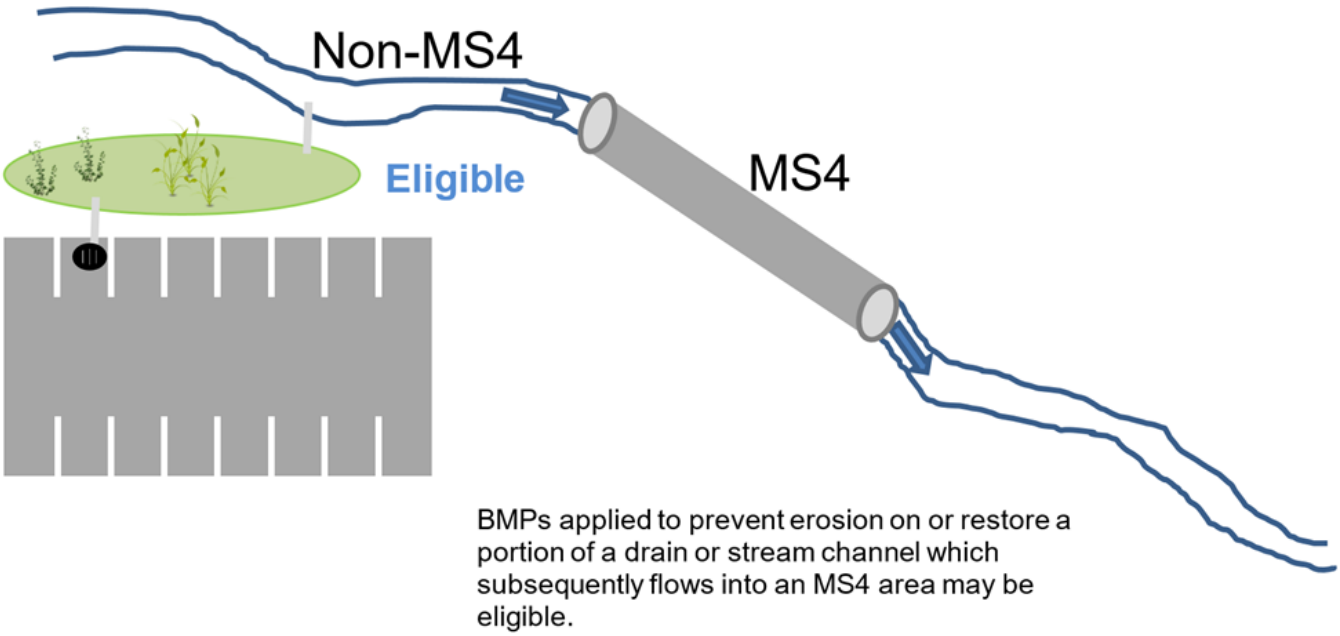


In non-MS4 Areas

- Site runoff discharged to a collection system which outlets to a BMP is not eligible.
- BMPs applied before entering the system are eligible.
- Discharges from a single site into a pipe for purposes of transporting a short distance to a BMP are eligible.

Storm Water Eligibility Scenario 3 – In a non-MS4 area, storm water runs off directly into a BMP that discharges into an open drain or stream which, further downstream, becomes enclosed as part of an MS4. A BMP is proposed to stop erosion in the open drain, which is contributing sediment and creating water quality impairments to the stream downstream of the MS4. Is this BMP eligible for funding?

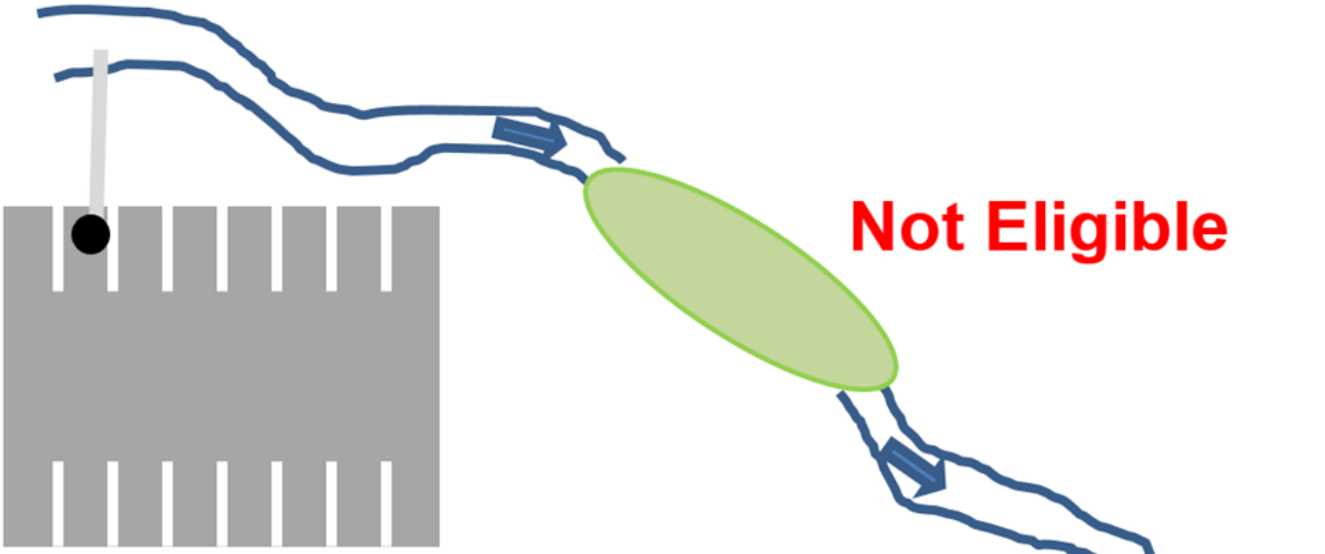
Response – BMPs applied to the portion of the drain that is not an MS4 may be eligible. Private drains are not considered to be part of the MS4. Streambank restoration in a drain which is not Waters of the State is not eligible.



BMPs applied to prevent erosion on or restore a portion of a drain or stream channel which subsequently flows into an MS4 area may be eligible.

Storm Water Eligibility Scenario 4 – In either an MS4 or non-MS4 area, the stream channel is excavated for a short distance, or a dam is constructed across the stream channel for the purpose of capturing pollutants within the stream channel. Are these BMPs eligible for NPS grant funding?

Response – Using a stream channel, lake, or wetland to capture pollutants is not eligible. Doing so will likely cause the waterbody to fall short of the water quality standards associated with it. In addition, while this technique may treat NPS pollutants that have entered the waterbody, the sources of these pollutants are not addressed. By contrast, restoration of a waterbody to directly control the source of a pollutant may be eligible for NPS grant funding.



Using a stream channel, lake or wetland to trap pollutants is not eligible. The first priority of Nonpoint Source control is treatment at the source.

Appendix H

Septic Systems

Background

There are more than 1.3 million septic systems currently in use in Michigan. This type of sewage management is frequently used in rural and suburban residential areas that lack access to public wastewater collection systems. Septic systems can provide adequate water quality and environmental protection when properly designed, sited, constructed, maintained, and operated. It is generally accepted that these types of systems will continue to serve as the appropriate sewage treatment method in many areas both now and in the future. The proper functioning of these systems is necessary to protect public health and water quality and the issue of how to effectively address the repair of failing or malfunctioning systems is of primary importance. Nationally, failure rates range from 0.4 percent to 70 percent but are typically 10 percent to 20 percent. However, the statewide failure rate in Michigan is thought to be more than 20 percent.

As a condition of Michigan's Coastal Nonpoint Pollution Control Program, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) has agreed to prioritize specific septic system related activities within Michigan's Coastal Nonpoint Boundary as well as requiring some additional elements in EGLE funded new or updated watershed management plans within the boundary. Applicants should refer to Appendix D to determine if this new guidance applies to their proposal.

Funding for Public Involvement and Education

Typically, septic system owners, who are often untrained and uninformed, are responsible for operating and maintaining their individual systems. Performance results under this approach can vary significantly, with operation and maintenance functions driven mostly by complaints or system failures. Many conventional septic system failures have been linked to operation and maintenance failures. Common causes of failure include sludge-filled tanks, and hydraulic overloading caused by increased occupancy or greater water use. Landscape modifications and alteration of the infiltration field surface can also cause problems.

Public involvement and education are critical to successful septic system management. Engaging the public in septic system issues helps to build support for funding, regulatory initiatives, and other elements of a comprehensive program. Educational activities directed at increasing general awareness and knowledge of septic system management efforts can improve the probability that simple, routine operation and maintenance tasks (e.g., inspecting for pooled effluent, pumping the tank) are carried out by system owners.

Information regarding regular inspections, pumping, ground water threats from chemicals, hydraulic overloading from roof runoff or other clear water sources, pollutant loads from garbage disposal units, drain field protection, and warning signs of failing systems can be easily communicated. Flyers, brochures, posters, new media articles and other materials have proven effective in raising awareness and increasing public knowledge of septic system management issues.

The Nonpoint Source (NPS) Program will continue to support homeowner education and awareness of technical and financial options related to septic systems.

Funding for the Repair or Replacement of Failing or Near Failing Septic Systems

The NPS Program supports a comprehensive approach to addressing failing or near failing septic systems. To support comprehensive local programs, the NPS Program will consider proposals to repair failing or near failing septic systems that meet all the following elements:

- The grantee commits to meeting or exceeding the Nonpoint Source Program Septic Repair or Replacement Minimum Standards for all on-site wastewater treatment systems repaired or replaced as part of a Nonpoint Source Program funded project.
- The septic system is within a critical area identified in a watershed plan that has been approved by EGLE as meeting 319 criteria. The plan must also identify water bodies where water quality standards are not being met due in part to failing or near failing septic systems.
- The septic system has been documented as likely causing impairment of water quality. **Please Note: The federal Clean Water Act defines point sources as discrete conveyances such as pipes or man-made ditches. Point sources are not eligible for NPS Program funding. Therefore, proposals to address direct discharges from on-site wastewater treatment system through cheater pipes or man-made ditches are not eligible for funding.*
- The septic system is not within an area determined by NPS staff as having a community-wide problem with failing septic systems that would best be resolved through a more comprehensive solution such as centralized or cluster wastewater treatment systems.
- The county or local government, where the septic system is being repaired or replaced, has an ordinance requiring inspection and correction at the point-of-sale or more frequently (*see examples below*). Or the county or local government is implementing a comprehensive approach to find and fix failing septic systems; the comprehensive approach includes enforcement of existing authorities to replace known failing septic systems; and the county or local unit of government has a record of taking enforcement actions to address known failing systems.
- Prior to funding, the applicant agrees that all failing septic systems identified through the watershed planning and management process will be formally referred to the local health department for parallel follow-up.
- The homeowner commits to sign a 25-year maintenance agreement to ensure the septic system will be operated and maintained appropriately.

Priority will be given to areas where correction of failing and near failing septic systems will result in measurable water quality improvement.

EGLE offers a Septic Replacement Loan Program for areas that don't meet NPS criteria.

Examples of Point of Sale/Property Transfer Programs that include inspections of onsite wastewater treatment systems:

County Level

- Kalkaska County (PDF)
- Manistee County (PDF)

Local Level

- Secord Township (PDF) in Gladwin County (Section 3.33)

Appendix I
Social Indicators and Social Monitoring

Effective management of Nonpoint Source (NPS) water pollution requires addressing both environmental conditions and the choices people make that impact the environment. Monitoring social indicators, like monitoring environmental indicators, yields valuable information about the direction you should take or how well your management strategies are working. If you are monitoring social indicators, developing a watershed management plan, or implementing outreach or education actions from a watershed management plan then this appendix may apply to you.

The United States Environmental Protection Agency (USEPA) Region 5 Social Indicators Work Group developed a step-by-step system; the Social Indicator Planning and Evaluation System (SIPES [PDF]) for using social indicators to help plan, implement and evaluate NPS outreach and education projects. SIPES and the associated Social Indicator Data Management and Analysis (SIDMA) tool (described below) are required to be used by most Michigan NPS grantees that are conducting social monitoring funded with federal funds. The benefits of standard social monitoring protocols include better education and outreach components of watershed management plans, standardized protocols for social surveys across watersheds in Michigan, standardized assessments of the effectiveness of NPS outreach efforts, and comparability at the watershed, regional, and state scale.

The SIDMA tool is a web-based project management aid that supports social monitoring in watershed projects. The SIDMA tool can be used by project coordinators to collect, organize, and use social data and indicators related to water quality improvements.

SIDMA includes the following features:

- ***Survey builder:*** Provides survey questions to be selected and adapted for use by a watershed project.
- ***Data input screens and database:*** Use to input and store responses from questionnaires and other social indicator data.
- ***Online survey tool:*** Allows potential respondents to complete your social indicators survey online.
- ***Data analysis tools:*** Generates basic statistics from survey data for individual questions as well as social indicators.
- ***Report creating tools:*** Helps with communicating social indicator data including custom made graphs and charts.

NPS grant funded projects should use the SIPES guidance and SIDMA tool as follows:

- Watershed management planning projects:
  - Are encouraged to use the SIPES guidance and SIDMA tool to develop baseline information for the general public and known targeted audiences regarding existing knowledge, beliefs, and behavior about environmental and NPS issues.
  - The results of a properly designed SIPES/SIDMA assessment can easily be used to develop recommendations for education and outreach activities for the general public as well as target audiences to address element E of the USEPA's nine required elements of a watershed management plan.

- Implementation projects:
  - With significant outreach and education tasks with the goal of changing knowledge, or awareness should generally include “pre” and “post” SIDMA social monitoring to assess the effectiveness of those activities. Baseline information developed during watershed planning efforts can often be used as the “pre” survey.

When SIDMA is a lower priority:

- Watershed Planning Projects:
  - When preparing a watershed plan that is:
    - “Nested” in a larger watershed with appropriate social monitoring data.
    - Neighboring or near to a watershed with acceptable SIDMA data and similar demographics and issues.
- Implementation Projects:
  - Narrowly focused outreach for a targeted audience and focused on a single pollutant/source/cause with a limited suite of best management practices (BMP). Generally, evaluation will be based on an increased implementation rate for the BMPs or a short survey.
  - Passive outreach efforts such as signage.

For questions, contact Bob Sweet, NPS Unit, Great Lakes Watersheds Assessment, Restoration, and Management Section (GLWARMS), WRD, at SweetR@Michigan.gov or 517-512-9765 or Autumn Mitchell NPS Unit, GLWARMS, WRD at MitchellA24@Michigan.gov or 517-388-6662.

Appendix J
LID and Green Infrastructure

The NPS Program is encouraging projects that utilize LID and Green Infrastructure to address water quality and quantity issues including in areas serviced by combined sewers. High priority projects will have the following attributes:

- Projects will be in watersheds with water quality impairments or have impacts caused by unstable hydrologic conditions.
- LID or Green Infrastructure will be identified as a high priority activity to address restoration or protection goals in the associated approved watershed management or approved tribal NPS management program plan.
- LID or Green Infrastructure activities will be focused on critical areas identified in approved watershed management plans.
- Projects will use the following in their basis of design:
    1. The difference in the post-development and pre-settlement two-year 24-hour runoff volumes, to address water quantity issues.
    2. One inch of runoff (or the 90th Percentile Non-exceedance precipitation event) to address water quality issues.
    3. Or the greater of the two runoff volumes if the approved watershed management plan has identified water quality and quantity issues.

    A lesser basis of design will not be eligible for funding in an MS4 area and will not be a priority outside of MS4 areas (including Combined Sewer Overflow areas).
- Projects that incorporate adjustments for climate change will be more competitive. EGLE recommends a 10% to 30% increase to runoff and treatment volumes for the basis of design.
- Projects that are designed to use infiltration, evapotranspiration and/or storage and re-use of the required storm water runoff volume.
- Projects designed on a site basis shall reduce runoff from the site to the pre-settlement (or undeveloped volume) and/or capture the water quality volume. (LID/GI Scenario 1)
- Projects designed on a catchment* or defined area basis shall reduce runoff from the catchment or defined area to the pre-settlement or undeveloped volume or make substantial progress towards meeting this goal. (LID/GI Scenario 2).

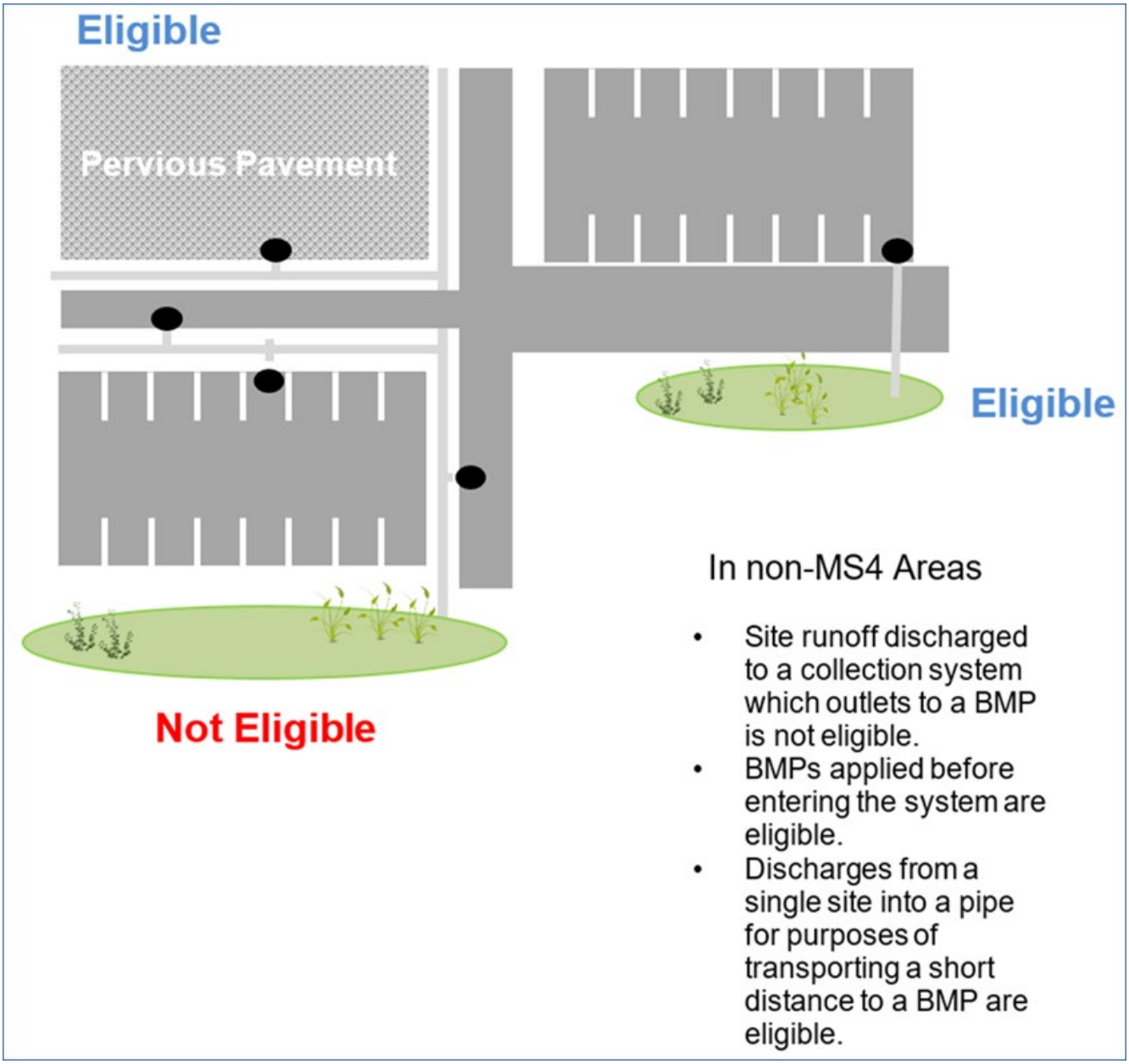
LID/GI Scenario 1

The project site is in a watershed with a water quality impairment and/or flashy flows, and the project goal is to reduce the site's storm water impact as follows:

- For water quantity issues, the applicant would calculate the pre-settlement and post-development runoff volume for the two-year 24-hour precipitation event for the site and design best management practices (BMP) to, at a minimum, treat the difference in the volumes for watershed that were identified to have flashy flows.
- For water quality issues, the applicant would calculate the "first flush" volume as one inch of runoff over the entire site (or the 90th percentile non-exceedance precipitation event) to determine the water quality volume to be treated for watersheds that were identified to have water quality issues.

- If the approved watershed management plan identifies water quality and quantity issues the applicant would calculate both volumes and treat the greater of the two.

The water quality and/or quantity volume will typically be treated on the site the storm water was generated. In some instances, it may be acceptable to transport the storm water a short distance to an off-site treatment location if the storm water does not enter a municipal storm sewer before treatment (See diagram below). In these instances, the storm water runoff from the original site and treatment site should be addressed in the sizing of the BMPs.



LID/GI Scenario 2

The project area is a catchment or two adjacent catchments within the same HUC-12 in a watershed with flashy flows. LID/GI Scenario 2 is not applicable when addressing water quality issues. The project goal is to make substantial progress in restoring the pre-settlement hydrology by capturing the water quantity volume (WQV), defined as the difference between the post development and pre-settlement two-year 24-hour storm event, across the project area. The WQV does not have to be captured at each individual site but the sum of the WQV's for the individual BMPs across the project area must maintain a positive balance. Any volume of stormwater captured and treated, up to the total runoff volume from the post-development two-year 24-hour precipitation event for each BMP's drainage area, counts toward the volume required to restore the catchment's pre-settlement hydrology. The applicant calculates the pre-settlement and post-development runoff volume for the two-year 24-hour precipitation event for the drainage area associated with each individual BMP and the WQV captured and treated by BMPs. BMPs that capture and treat storm water runoff volumes associated with the two-year 24-hour precipitation event and are above the difference in the pre-settlement and post-development two-year 24-hour runoff volume can be used to offset areas that are not capable of meeting the WQV on an individual site basis. The sum of the water volume captured by the BMPs shall address the WQV identified for the project.

The grantee will be responsible for tracking and providing the cumulative WQV and the current WQV captured chronologically with each proposed project. The actual WQV captured must equal or exceed the WQV that is required for the sites that have been submitted for review.

*Note – "catchment" refers to sub-HUC12 areas as delineated in the National Hydrography Dataset Plus (NHDPlus). Catchments can be viewed at pedp-ejscreen.azurewebsites.net. Click on the "Places" icon in the upper left, click on "Other Environmental Data" and then "Water Features" from the drop-down lists. The "Catchments (ATTAINS)" layer is automatically selected. Zoom to your project area and click within the appropriate catchment(s) to find catchment information.

LID/GI Scenario 2 Examples

The following examples show how the order of project implementation of the three proposed sites would or would not satisfy the requirements of LID/GI Scenario 2. The first site is a City Alley project with the difference in the Pre-Settlement-Post Development WQV of 400 Cubic Feet and an actual WQV captured and treated of 200 cubic feet (i.e., 200 cubic feet less than the WQV). The second site is a Big Box Store project with the difference in the Pre-Settlement-Post Development WQV of 600 Cubic Feet and an actual WQV captured and treated of 700 cubic feet (i.e., 100 cubic feet more than the WQV). The third site is a Public Park project with the difference in the Pre-Settlement-Post Development WQV of 300 Cubic Feet and an actual WQV captured and treated of 450 cubic feet (i.e., 150 cubic feet more than the WQV).

The cumulative excess WQV (i.e., the sum of the actual WQV's captured and treated minus the difference in the pre-settlement and post development WQV's) should always be positive as projects are implemented. In Example 1 the grantee decides that the City Alley site is shovel ready and is proposed to be the first implementation site. As we can see in the LID/GI Scenario 2 Example 1 Table, the City Alley site is not an acceptable first project because it

generates a negative 200 cubic feet of excess WQV and there were no previous projects that offset the negative volume.

LID/GI Scenario 2 Example 1 Table

Site	Post Development Runoff Volume (ft^3)	Pre-Settlement Runoff Volume (ft^3)	WQV[1] (ft^3)	Actual WQV[1] Captured and Treated[2] (ft^3)	Excess WQV (ft^3)
Example Calculation	a	b	c = b-a	d	e = d-c
City Alley	500	100	400	200	-200
				Cumulative Excess WQV[3]	**-200**

1. Water Quantity Volume (WQV) refers to the difference in the runoff generated from the Post Development and Pre-settlement two-year 24-hour storm event.
2. WQV Captured and Treated shall not exceed the Post Development two-year 24-hour stormwater runoff volume.
3. Cumulative Excess WQV can never be negative.

In the second example we start with the Big Box Store site which generates a positive 100 cubic feet of excess WQV which makes it an acceptable first project. The City Alley site is proposed to be the second implementation project but as we can see in the LID/GI Scenario 2 Example 2 Table it again would result in a negative 100 cubic feet of cumulative excess WQV is therefore not an acceptable second project.

LID/GI Scenario 2 Example 2 Table

Site	Post Development Runoff Volume (ft^3)	Pre-Settlement Runoff Volume (ft^3)	WQV[1] (ft^3)	Actual WQV[1] Captured and Treated[2] (ft^3)	Excess WQV (ft^3)
Example Calculation	a	b	c = b-a	d	e = d-c
Big Box Store	700	100	600	700	100
City Alley	500	100	400	200	-200
				Cumulative Excess WQV[3]	**-100**

(See LID/GI Scenario 2 Example 1 for Superscript 1, 2 and 3.)

In LID/GI Example 3 the Big Box Store and Public Park sites are proposed and both generate an excess WQV of 100 cubic feet, making them acceptable first and second implementation projects. The City Alley site is proposed as the third implementation project and has a proposed WQV capture 200 cubic feet less than the WQV (i.e. the project will reduce the cumulative excess WQV by 200 cubic feet). As we see in the LID/GI Scenario 2 Example 3 Table, the City Alley site is an acceptable third site as the cumulative excess WQV does not become negative when the project is added to the tracking spreadsheet.

LID/GI Scenario 2 Example 3 Table

Site	Post Development Runoff Volume (ft^3)	Pre-Settlement Runoff Volume (ft^3)	WQV[1] (ft^3)	Actual WQV[1] Captured and Treated[2] (ft^3)	Excess WQV (ft^3)
Example Calculation	a	b	c = b-a	d	e = d-c
Big Box Store	700	100	600	700	100
Public Park	400	100	300	450	150
City Alley	500	100	400	200	-200
				Cumulative Excess WQV[3]	**50**

(See LID/GI Scenario 2 Example 1 for Superscript 1, 2 and 3.)

Appendix K
Agricultural Practices

Targeted and comprehensive approach to farm conservation planning: To be considered a priority for funding, agricultural best management practices (BMP) must be implemented in a comprehensive manner and targeted to critical areas of the watershed.

A. Cropland Management Strategies: Higher priority will be given to proposals that meet the following criteria:

Proposals to address sediment and nutrients from cropland (where there is no manure application) by implementing (at a minimum) all of the following Natural Resources Conservation Service (NRCS) practices on fields proposed for grant funding or for use as match:

1. Nutrient Management (590)
2. Residue and Tillage Management, no-till/reduced till (329 & 345)
3. Cover Crops (340)
4. Filter Strips (393) (if necessary, based on site specific field characteristics)
5. Grassed Waterway (412) or WASCOB (water and sediment control basin) (638) (if necessary, based on site specific field characteristics)

If the landowner is already implementing some of the practices, then funding for the remaining practices is a priority.

Grant funds are only available for implementation of new practices and can include additional practices needed to restore and/or protect water quality. Any additional practices will be funded on a case-by-case basis after considering the causes and sources described in the watershed management plan; the high priority recommendations from the watershed management plan; and the anticipated outcomes described in the grant application.

Locations for nutrient management, residue and tillage management, no-till/reduced till, and cover crop BMPs do not have to be included in the proposals. However, all proposals must state that critical areas will be targeted, and priority proposals must state that a systems-approach will be used. Also, BMP locations must be reported prior to grant close-out.

B. Livestock Management Strategies: Higher priority will be given to proposals that address sediment, nutrients, and bacteria from manure application or livestock operations by implementing the following practices (at a minimum) on all livestock farms receiving cost-share:

1. Comprehensive nutrient management plan (includes no manure application on frozen or snow-covered fields).
2. Controlled/restricted livestock access to surface waters.
3. Residue and tillage management, no-till/reduced till
    - For summer or fall manure applications, if tillage is needed for manure incorporation, a cover crop will be planted, and no tillage will occur the following spring.
    - For spring applications of manure, if tillage is needed for manure incorporation, then no tillage shall occur the previous summer/fall and a cover crop will be planted during the previous summer/fall.
4. Filter Strips (if necessary, based on site specific field characteristics)

5. Grassed Waterway (412) or WASCOB (638) (if necessary, based on site specific field characteristics)

Proposals must include a list of the livestock operations that will be contacted. BMP locations must be reported prior to grant close-out.

BMPs at permitted livestock facilities are only eligible where it can be demonstrated they are above and beyond permit requirements.

C. Drainage Water Management Strategies: A priority will be placed on proposals that promote drainage water management strategies in watersheds with appropriate soils and slopes, as well as nutrient impairments or flow-related impairments caused, in part, by tile line inputs. Managing agricultural drainage water in Michigan can provide benefits such as conserving subsoil moisture, increasing productivity on tile drained fields, and reducing nutrient loading to surface waters. Drainage water management can reduce loadings of nitrates and soluble reactive phosphorus to surface waters and works most effectively on flat or very gently sloped fields with slopes of 0.5 percent or less. Proposals for drainage water management should follow NRCS Standard 554 or equivalent. In addition, the highest priority proposals will implement drainage water management practices in combination with nutrient management (NRCS standard 590) and cover crops (NRCS standard 340).

D. Advanced Nutrient Management: A priority will be placed on proposals that promote advanced nutrient management practices. Advanced nutrient management practices can include grid/zone soil testing, variable rate fertilizer or manure applications, avoiding surface applications of phosphorus (P) fertilizer applications by using practices such as 2” x 2” P placement. Another advanced nutrient management practice could be using P application thresholds lower than the Tri-State Fertilizer Recommendations. For example, the Tri-State Fertilizer Recommendations call for applying P crop removal rates for corn and soybeans, when P soil test levels are between 20-40 ppm (Mehlich 3). Instead, P application could be limited to only applying P at crop removal rates for corn and soybeans when P soil test levels fall below 10 ppm (Mehlich 3). Pop up P fertilizer applications in furrow with the seed, could be allowed regardless of soil P levels.

E. No-till: A priority will be placed on proposals that promote the long-term use of no-till. Long-term use is five consecutive years of using no-till. Nonpoint Source (NPS) grant funds can be used to cost-share up to three years of no-tilling, with the farmer agreeing to no-till on the two years where NPS cost share funds are not available. NPS cost share funds can be used on any combination of consecutive three-year periods, within the five-year period.

F. Cover Crops: A priority will be placed on proposals that promote the long-term use of multi-species cover crops. The multi-species mix must include at least one species that will not winter kill. Long-term use is five consecutive years of using multi-species cover crops. NPS grant funds can be used to cost share up to three years of multi-species cover crops, with the farmer agreeing to use multi-species cover crops on the two years where NPS cost share funds are not available. NPS cost share funds can be used on any combination of consecutive three-year periods, within the five-year period.