

Oakland County Community Planning Inventory for Natural and Water Resource Protection	
Table of Contents	Page
<u>I. COMMUNITY SHAPSHOT</u>	
Contact Information	2
Overview of Resource Protection Measures	2
<u>II. GREEN INFRASTRUCTURE</u>	
Natural Areas/ Open Space	3
MNFI	3
Greenway Corridors	3
<u>III. TRAILS</u>	
Community Trails	4
Oakland County Trails Master Plan	4
<u>IV. ECOSYSTEM HEALTH & WILDLIFE NEEDS</u>	
Habitat Protection	5
Native Vegetation	5
Invasive Species Management	5
<u>V. WETLAND & WOODLAND PRESERVATION</u>	
Woodland Protection	6
Wetland Protection	6
Riparian Lands: Stream Corridors and Floodplains	6
<u>VI. STORMWATER MANAGEMENT</u>	
Stormwater Management	7
Impervious Surface Reduction	7
Erosion/ Sedimentation Control	7
<u>VII. WATER & SEWER PLANNING</u>	
Groundwater and Wellhead Protection	8
Wastewater Planning	8
Pollution Prevention	8
<u>VIII. LAND DEVELOPMENT</u>	
The Development Review Process	9
Smart Growth/ Green Development Design	9
<u>IX. FUNDING & OUTREACH</u>	
Environmental Education and Outreach	10
Funding Mechanisms for Environmental Stewardship	10

I. COMMUNITY SNAPSHOT

[back to top](#)

Community Name:

Date:

Main Contact Name:

Key Staff (Name, Phone, Email):

Planning Staff

Public Works/Engineering Staff

Has your community designated a knowledgeable staff person or consultant to manage activities related to water resource protection?

Has your community designated a knowledgeable staff person or consultant to manage activities related to natural areas preservation and/ or green infrastructure?

Has your community designated a knowledgeable staff person or consultant to manage activities related to community trails?

Has your community established methods or strategies for intra-governmental communication and coordination of priorities and initiatives? If so, how is this accomplished?

Has your community adopted any of the following types of resource protection measures?

Resource Protection Measure:	YES/NO	Document	Comments/ Examples
<u>Plans:</u>			
Natural Areas/Open Space /Greenways			
Recreation			
Watershed Management			
Stormwater Management			
Wastewater (Septic/Sewer) Infrastructure			
Wellhead Protection			
Public Education			
Illicit Discharge Elimination			
Other:			
<u>Ordinances/Guidelines/Standards:</u>			
Storm Water Management			
Impervious Surface/Infiltration			
Natural Features Setback			
Resource Protection Overlay District			
Cluster Development			
Wetland Protection			
Woodlands Protection			
Native Vegetation			
Invasive Species			
Flexible Parking Requirement Standards			
Flexible Private Road Standards			
Structural Best Management Practice Standards for Stormwater			
Native Vegetation Practice Standards			
Criteria for Site Plan Review			
Dedicate staff that enforces ordinances in the field			
Other Standards			

II. GREEN INFRASTRUCTURE

Natural Areas/ Open Space, MNFI, Greenway Corridors

[back to top](#)

Master Plan Goals and Policies	YES/NO	Document	Comments/ Examples
Does your Master Plan....?			
1. Include goals, objectives, and policies that recognize the ecological and socioeconomic importance of preserving natural areas and open space			
2. Include a map that identifies the location of natural areas and other ecologically sensitive features to promote preservation of natural systems while allowing development that complies with the natural capacity of the land			
3. Provide a green infrastructure vision for creating a linked network of key natural areas and connecting greenways			
a. Incorporate the Oakland County MNFI Potential Natural Areas GIS Coverage (or equivalent inventory).			
b. Inventory and map potential greenway corridors that connect key natural areas in your community			
c. Keep an updated 'threats and opportunities' map for natural areas and lands of ecological significance			
d. Propose location-specific tools and techniques for preserving and connecting natural areas.			
e. Identify roles and responsibilities for implementing the green infrastructure vision.			
f. Identify a timetable for implementing the green infrastructure vision			
g. Coordinate green infrastructure planning with adjacent community, County, or regional landuse planning			
4. Recognize the importance of long-term stewardship and management of preserved natural areas and greenway corridors			
a. Clearly specify how community open space will be managed and designate a sustainable legal entity responsible for management			
b. Advocate a working relationship with a local land conservancy and/ or other conservation partners			
c. Propose a mechanism for tracking the status and success of the green infrastructure vision.			
Development Regulations, Standards, & Procedures			
Does your community....?			
1. Have a regulatory mechanism in place that requires or encourages the linking of natural areas with adjacent natural areas or open space in site planning			
2. Discourage the fragmentation of natural areas and greenway corridors in site planning			
3. Require or encourage the protection of open space in new developments through a conservation easement or similar agreement			
4. Provide a green infrastructure map to guide the placement of open space during the site planning process for new developments			
5. Provide incentives to developers and landowners to conserve natural areas and greenway corridors			
6. Encourage TDR or PDR programs to shift development from ecologically sensitive areas to higher density growth areas			
a. Advocate cooperative inter-municipal TDR banks			
b. Provide zoning incentives for purchase of development rights in receiving zones			

III. TRAILS

Community Trails, Oakland County Trails Master Plan

[back to top](#)

*** Oakland County defines 'trail' as a multi-use pathway, generally separate from roadways. The term 'trail' encompasses safety/ side paths, bike routes, bike lanes, and park paths. The Oakland County Trails Master Plan is a vision to link trail pathways and greenways throughout Oakland County and SE Michigan.*

Master Plan Goals and Policies	YES/NO	Document	Comments/ Examples
Does your Master Plan....?			
1. Include goals, objectives, and policies that recognize the health, fitness, non-motorized transportation, economic, and recreational benefits of developing and maintaining a community trail system			
2. Outline a proactive approach to identifying and prioritizing the development of key trail connections and linkages			
3. Coordinate community trail planning with adjacent community, County, and regional green infrastructure planning			
4. Reference or incorporate the Oakland County Trails Master Plan			
Development Regulations, Standards, & Procedures			
Does your community....?			
1. Provide a map of the community's green infrastructure vision to guide the placement of trails during the development planning process			
2. Advocate community participation with Oakland County Trails Advisory Council (OTAC)			
3. Require or encourage developers to incorporate connections to the existing linked trails network where applicable?			
4. Require or encourage all trail development to respect the natural characteristics of the land and its capacity to support recreational use.			
5. Promote and/ or require long-term stewardship and management of designated trailways systems			
6. Have a mechanism for assessing and addressing trail maintenance needs			
7. Require or encourage trail infrastructure to include educational signage that informs community members of ecological, cultural, and/ or historical landmarks located along the trail			

IV. ECOSYSTEM HEALTH & WILDLIFE NEEDS

[back to top](#)

Habitat Protection, Native Vegetation, Invasive Species Management

Master Plan Goals and Policies	YES/NO	Document	Comments/ Examples
<i>Does your Master Plan....?</i>			
1. Recognize the interdependence of natural resources and the critical role functioning ecosystems play in protecting the health, safety, and welfare of residents			
2. Include a map of MNFI or other natural features inventory that recognizes these areas as critical for ecosystem health			
3. Include goals, policies, and objectives for preserving/ and or restoring ecosystems			
4. Outline a proactive approach to protecting high-priority natural areas and/ or high-quality wildlife habitat areas			
5. Recognize the natural capacity and limitation of land to support development			
6. Recognize the importance of native vegetation in protecting vital air, land, and water resource quality			
7. Include goals, objectives, and policies that promote the retention and restoration of native vegetation			
8. Include goals, objectives, and policies to address removal and management of invasive species on public and private lands			
<i>Development Regulations, Standards, & Procedures</i>			
<i>Does your community....?</i>			
1. Provide model development principles that can be applied to site designs to reduce the impact of development on a site's natural resources or ecosystem functions			
2. Require developers to obtain an opinion from the MDEQ regarding the occurrences of threatened or endangered plant or animal species on a property prior to construction.			
3. Require or encourage the relocation of at-risk plants and animals to suitable habitat prior to site development			
4. Promote habitat protection and/ or enhancement as part of site development.			
5. Require and encourage the retention of native vegetation during site development			
6. Prevent the spread of soils containing invasive species during site development			
7. Outline a proactive approach for long-term invasive species monitoring and eradication throughout the community			
8. Adopt and enforce an ordinance that prohibits the use of invasive plants and encourages the use of native plants in all landscaping			
9. Advocate public education regarding the negative impacts invasive species have on native ecosystems			

V. WETLAND & WOODLAND PRESERVATION

[back to top](#)

Woodland Preservation, Wetland Preservation, Riparian Lands: Stream Corridors & Floodplains

Master Plan Goals and Policies	YES/NO	Document	Comments/ Examples
Does your Master Plan....?			
1. Recognize the ecological importance of wetlands, woodlands and riparian buffers and the functions they play in protecting residents' health, safety, and welfare from problems such as flooding and water pollution			
2. Inventory and map wetland, woodland, and riparian buffer resources within the community			
3. Include goals, policies, and objectives to protect wetlands in an ecosystem context by protecting adjacent buffers, uplands and transitional areas			
4. Include goals, policies, and objectives that discourage upland activities that have a negative impact on the natural hydrology of wetlands or streams			
5. Include goals, policies, and objectives that advocate maximizing the width of riparian and wetland buffers			
6. Include goals and objectives to identify and preserve key riparian corridors that link the community's open spaces and natural areas			
7. Describe desirable and undesirable uses of floodplains and buffer zones			
8. Include goals, policies, and objectives to prohibit or discourage construction with the 100-year floodplain			
9. Include goals, policies, and objectives that discourage the channelization, rerouting, or any other topographical disturbance to a stream corridor to accommodate site development			
10. Include goals, policies, and objectives to restore degraded buffer zones with native vegetation			
Development Regulations, Standards, & Procedures			
Does your community....?			
1. Adopt a natural feature setback ordinance to preserve wetland and riparian buffers, and floodplains (Please specify your community's adopted setback width. <i>Recommended setback width of >50 ft</i>)			
2. Adopt a wetland ordinance that protects wetlands below state protection criteria (< 5 acres in size)			
3. Include a 'Functionality Clause' within the wetland ordinance requiring a hydrological assessment of the property (preferably by a hydrological engineer) prior to development to ensure that the proposed development will not alter or disturb the natural hydrology of wetlands found on site or any existing hydrological connections to other water features within the watershed.			
4. Adopt a woodland protection ordinance that includes special provisions for landmark trees and prohibits clearcutting of trees on development sites			
5. Coordinate riparian buffer regulations that are applied to community streams and rivers with regulations protecting county drains			
6. Provide developers with a Water Resources Overlay District designed to protect wetlands, woodlands, stream corridors and floodplain and related buffers			
7. Provide developers and community residents with a list of desirable, native riparian plant species to use in buffer restoration initiatives			
8. Replace trees that are removed during site development with comparable (native) species			
9. Require the retention or restoration of naturally vegetated buffers along drainage corridors, wetlands, and floodplain boundaries			
10. Restrict clearing and construction within the floodplain			

VI. STORMWATER MANAGEMENT

[back to top](#)

Stormwater Management, Impervious Surface Reduction, Erosion/ Sedimentation Control

Master Plan Goals and Policies	YES/NO	Document	Comments/ Examples
Does your Master Plan....?			
1. Identify the management of stormwater quality and quantity as an important community goal or policy relating to the the protection of health, safety, and welfare of your community's residents			
2. Identify impervious surface minimization and preservation of natural infiltration to the greatest extent possible as important community goals			
3. Include goals, policies, and objectives that advocate the use of porous pavement and naturally vegetated swales to enhance infiltration and slow runoff velocity			
4. Include goals, policies, and objectives that advocate preserving natural drainage pathways and existing vegetation to the greatest extent possible			
5. Outline goals or objectives to protect the value and function of wetlands that have been incorporated into the stormwater management system			
6. Include goals, policies, and objectives that recognize the importance of controlling erosion and sedimentation as they relate to water and habitat quality, and to the health, safety, and welfare of the community			
7. Outline a goal or policy to incorporate innovative stormwater management BMP's or low-impact design techniques where feasible			
Development Regulations, Standards, & Procedures	YES/NO	Document	Comments/ Examples
Does your community....?			
1. Discourage discharge of untreated stormwater and effluent into natural water bodies (wetland, stream, river, lake) or sensitive terrestrial areas			
2. Encourage site design plans to include effective criteria for stormwater BMPs. If so, how?			
3. Require performance standards for stormwater management (e.g. maintain pre-development runoff rates or volumes, pollutant removal standards, etc.). Please list examples.			
4. Require maintenance and monitoring agreements for all stormwater management systems or other BMPs			
5. Provide developers with guidelines to make drainage systems and retention ponds visually attractive while enhancing the system's functionality (for example, avoiding traditional turf grass, using native species and contoured ponds)			
6. Encourage the developer to use native vegetation swales, buffers, and infiltration areas to manage stormwater			
7. Encourage the developer to design sidewalks, roads, and driveways to minimize impervious surfaces			
8. Promote the use of porous pavement in site development guidelines			
9. Encourage developers to protect steep slopes and cuts and to stabilize disturbed areas within 2 weeks			
10. Encourage developers to preserve natural contours, vegetation, and drainage patterns by incorporate the existing landform into development designs, and keeping grading and site preparation to a minimum			
11. Have a mechanism in place to responding to public complaints regarding construction site erosion control			

VII. WATER & SEWER PLANNING

[back to top](#)

Groundwater and Wellhead Protection, Wastewater Planning, Pollution Prevention			
Master Plan Goals and Policies	YES/NO	Document	Comments/ Examples
Does your Master Plan....?			
1. Outline goals, policies, and objectives that address wastewater planning and relate adequate wastewater treatment to the protection of the health, safety, and welfare of residents			
2. Identify groundwater as a natural resource important to the health, safety, and welfare of community residents, and outline the importance of groundwater recharge to maintaining the integrity of aquatic resources such as streams and wetlands			
3. Identify and map the groundwater recharge area(s) that contributes to your community's groundwater supply. Advocate eliminating potential sources of pollution and retaining as much permeable surface as possible in identified recharge area(s).			
4. Advocate the use of maps and discussion relating to current and planned wastewater infrastructure and soil cabability in land use, zoning, and site plan decisions			
5. Identify the sanitary sewer infrastructure needed (location and capacity of service) based on projected population growth, and outline a construction, maintenance, and replacement schedule for future and current sewer infrastructure			
6. Identify areas within the community that are suitable and unsuitable for septic systems, and include a map and discussion of soils and their capabilities for handling septic systems			
Development Regulations, Standards, & Procedures	YES/NO	Document	Comments/ Examples
Does your community....?			
1. Require septic systems to be located atleast 100 feet from wetlands, streams, lakes, or other water features			
2. Require regular maintenance and inspection of septic systems			
3. Encourage developers to address preserving the balance and integrity of the hydrogeological system in site development plans. If so, how?			
4. Advocate that the majority of the surface in groundwater recharge areas remains open space, or is limited to low density development. If so, how?			
5. Discourage or prohibit land grading in groundwater recharge areas to maintain the water-holding characteristics of the land			
6. Require site development plans to include an assessment of, and preventative measures for, potential sources of contamination to the recharge area during the construction process			
7. Prohibit the connection of downspouts to the stormwater system			
8. Outline an approach for identifying and correcting failing septic systems			
9. Outline an approach for identifying, mapping, and eliminating illicit discharges to the drainage system			
10. Establish a mechanism to periodically assess application rates of salt and/ or sand applied to community roads in the winter, and outline proper application and storage proceeedures to prevent sand and salt from entering the stormwater system			
11. For communities with municipal well fields: Establish and enforce a State-Approved Wellhead Protection Plan			

VIII. LAND DEVELOPMENT

[back to top](#)

The Development Review Process, Smart Growth/ Green Development Design

Master Plan Goals and Policies	YES/NO	Document	Comments/ Examples
Does your Master Plan....?			
1. Include goals, policies, and objectives to encourage development that adheres to green development design standards such as Low Impact Development			
2. Include goals, policies, and objectives that encourage a minimum percentage of open space to be preserved in new developments			
3. Advocate the protection of natural features in areas that are undergoing development and redevelopment			
4. (If Applicable) Outline goals, objectives, and policies that encourage infill and/ or brownfield redevelopment projects in areas that already have significant development			
Development Regulations, Standards, & Procedures			
Does your community....?			
1. Encourage developers to preserve natural features to the fullest extent possible			
2. Require a pre-application meeting or site analysis before engineered drawings are submitted			
3. Require site plan proposals to include a map of all natural features such as surface water, floodplains, wetlands, woodlands, steep slopes, and natural drainage pattern			
4. Require site plan proposals to include sufficient detail of stormwater and erosion-control BMPs so that they can be reviewed for effectiveness during the site plan review process			
5. Strongly encourage or require developers to incorporate green development design into site plans			
6. Encourage developers to minimize impervious surface by using minimum widths for streets, ROWs, sidewalks, driveways, parking spaces and cul-de-sacs, and efficient street layouts and parking ratios			
7. Require a portion of all parking facilities to be dedicated to enhancing filtration (plant vegetation within the parking area, provide pervious spillover areas using porous pavement, and use islands as detention areas)			
8. Relax side yard setbacks and narrow frontages to reduce total road length, driveway length, and overall site imperviousness			
9. Provide site plan review criteria/ standards, including information requirements and environmental performance standards designed to protect natural features and resources			
10. Offer developers incentives to meet <u>regulatory</u> restrictions (density compensation, buffer averaging, transferable development rights, etc.)			
11. Provide developers with incentives and flexibility in the form of density compensation, buffer averaging, property tax reduction, stormwater credits, to conserve (<u>unregulated</u>) areas of environmental value			
12. Have a mechanism in place for monitoring the progress of all construction projects to ensure tha they are in compliance with the approved site plan			
13. Outline a clearly defined process for inspections and correction of violations during the construction process			

IX. FUNDING & OUTREACH

[back to top](#)

Environmental Education and Outreach, Funding Mechanisms for Environmental Stewardship

Master Plan Goals and Policies	YES/NO	Document	Comments/ Examples
<i>Does your Master Plan....?</i>			
1. Outline a prioritized list of conservation projects/ areas to receive funding in the Master Plan Implementation Schedule			
2. Include a line item in the Capital Improvement Plan for funding community trails or greenways			
3. Include a line item in the Capital Improvement Plan for funding the community's natural area/ green infrastructure program			
4. Include guidance on how future infrastructure, repairs, and maintenance of the community's sanitary sewer system will be financed			
5. Advocate the use of donation/ tax incentives, conservation easements, millages, bond referendums, and/ or utility fees to fund the conservation and management of natural areas, open space, and water resources within the community			
6. Identify environmental education and outreach as an important community goal or policy			
7. Outline goals, policies, and objectives for educating residents about the health, safety, and economic benefits associated with conserving the community's natural resources			
8. Advocate coordinating environmental education efforts with other organizations, such as local watershed councils, land conservancies, or the county			
Development Regulations, Standards, & Procedures			
	YES/NO	Document	Comments/ Examples
<i>Does your community....?</i>			
1. Use community millages as a funding mechanism for environmental, ecological, or conservation-related projects (if yes, please provide the millage years)			
2. Apply for the M-DNR's Natural Resources Trust Fund Grant to fund the protection of natural resources and open space, and/ or purchase lands for outdoor recreation (if yes, provide a history of application years and awards)			
3. Produce and distribute educational materials discussing the health, safety, and economic benefits of preserving the community's natural resources			
4. Produce and distribute educational materials for residents that describe household/ residential conservation practices (for example, limiting water use outside their homes, such as on lawns and gardens, capturing storm runoff through features such as rain barrels or rain gardens, preserving riparian buffers, using native plants in landscaping, proper car-washing and waste-disposal practices etc.)			
5. Provide a mechanism for educating the community's commercial and industrial business owners/ managers about natural resource conservation practices (stormwater management, use of native vegetation, etc.)			
6. Support signage in local parks, natural areas, riparian corridors and/ or watershed boundaries to educate residents about natural features and their role in protecting vital air, land, and water resources			