

The following is an audit created to assess the watershed protection capability of a community. The audit should be modified to fit the conditions in your watershed.

WATERSHED PROTECTION AUDIT

Background Information

Your Name: _____

Jurisdiction: _____

Department: _____

Address: _____

Phone: _____ Fax: _____

Email: _____

Jurisdiction Population: _____

Jurisdiction Area (square miles): _____

Questions regarding the worksheet may be directed to:

Tool 1. Watershed Planning

Definition: The application of regulatory measures and/or planning techniques that are designed to maintain or limit future impervious cover, redirect development where appropriate, and protect sensitive areas.

Local Authority: _____

1.1 Does your community have a **comprehensive plan**?

- Yes
- No
- Don't Know

1.2 Is the comprehensive plan based on political jurisdictions or watersheds?

- Political jurisdictions
- Watersheds
- Other, please explain _____
- Don't Know
- Not Applicable

1.3 Does your community have zoning?

- Yes
- No
- Don't Know

1.4 Please list the different districts that are included in your **zoning**.

1.5 Is your zoning tied to the comprehensive plan?

- Yes
- No
- Don't Know
- Not Applicable

- 1.6 How often do you typically update your comprehensive plan?
- Every 5 years
 - Every 10 years
 - We don't
 - Other, please explain _____
 - Not Applicable
- 1.7 Does your plan evaluate and take into account impacts of future land use on water resources?
- Yes
 - No
 - Don't Know
 - Not Applicable
- 1.8 Does your plan identify and address the most important water resource goals for your community?
- Yes
 - No
 - Don't Know
 - Not Applicable
- 1.9 Does your community permit or encourage any of the following techniques to manage land use and impervious cover?
- Conservation easements** (*voluntary agreement to legal transfer of development and land use rights to a piece of property to a conservation trust; easements may be temporary or permanent*)
 - Land acquisition programs
 - Transfer of development rights (TDRs)** (*transfers potential development from a designated "sending area" to a designated "receiving area"*)
 - Limiting infrastructure extension (*a conscious decision is made to limit or deny extending infrastructure, such as public sewer, water, or roads, to designated areas to avoid increased development in these areas*)
 - Infill / community redevelopment (*encourage new development and redevelopment within existing developed areas*)

Tool 2. Land Conservation

Definition: Programs or efforts to conserve undeveloped, sensitive areas or areas of particular historical or cultural value.

Local Authority: _____

2.1 Does your community participate in the National Flood Insurance Program (NFIP)?

- Yes
- No
- Don't Know

2.2 If yes, what type of **floodplain** regulations do you have?

- NFIP minimum standards
- Other, please describe key components and attach a copy of your regulations
- Don't Know
- Not Applicable

2.3 Are your floodplains mapped?

- Yes
- No
- Don't Know

2.4 Other than what is required by state and federal laws, is the preservation of cultural or historical areas (e.g., historic or archaeological sites, scenic views, and recreational areas):

- Required
- Encouraged
- Neither
- Don't Know
- Other, please describe _____

If cultural or historical preservation is required or encouraged, please provide key components of your methods along with supporting guidance, regulations, etc.

2.5 Is the preservation of agricultural areas:

- Required
- Encouraged
- Neither
- Don't Know
- Other, please describe _____

If agriculture preservation is required or encouraged, please provide key components of your methods along with supporting guidance, regulations, etc.

2.6 Are you aware of any critical habitat areas for plant and animal species in your community?

- Yes
- No
- Don't Know
- Not Applicable

2.7 Other than what is required by state and federal laws, is the preservation of critical habitat areas for plant and animal species:

- Required
- Encouraged
- Neither
- Don't Know
- Other, please describe _____

If critical habitat preservation is required or encouraged, please provide key components of your methods along with supporting guidance, regulations, etc.

2.8 Does your community have regulations or requirements, other than what is required by state and federal laws, governing the preservation of wetlands during development?

- Yes
- No
- Don't Know
- Other, please describe _____

If wetland preservation is required or encouraged, please provide key components of your methods along with supporting guidance, regulations, etc.

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2.9 Are there development restrictions pertaining to steep slopes?

- Yes
- No
- Don't Know

If yes, please describe key components of restrictions and provide supporting guidance, regulations, etc.

2.10 Is the conservation of forested areas:

- Required
- Encouraged
- Neither
- Don't Know
- Other (please describe)

If forest area conservation is required or encouraged, please provide key components of your methods along with supporting guidance, regulations, etc.

2.11 Are there development restrictions pertaining to stream channel modification?

- Yes
- No
- Don't Know

If yes, please describe key components of restrictions and provide supporting guidance, regulations, etc.

Tool 3. Aquatic Buffers

Definition: The protection, restoration, creation, or reforestation of stream, wetland, and urban lake buffers.

Local Authority: _____

3.1 Are stream buffers required in your community?

- Yes
- No
- Don't Know

If yes, please describe key components of the requirements and provide supporting guidance, regulations, etc.

3.2 What are your stream buffer width requirements?

3.3 Are wetland buffers required in your community?

- Yes
- No
- Don't Know

If yes, please describe key components of the requirements and provide supporting guidance, regulations, etc.

3.4 What are your wetland buffer width requirements?

3.5 Are there reforestation, restoration, or riparian cover requirements or programs for buffers?

- Yes
- No
- Don't Know
- Not Applicable

If yes, please describe key components of the requirements and provide supporting guidance, regulations, etc.

Tool 4. Better Site Design

Definition: Local ordinances and codes incorporate techniques to reduce impervious cover and/or redirect runoff onto pervious surfaces in the design of new development and redevelopment projects.

Local Authority: _____

Street Width

- 4.1 What is the minimum pavement width allowed for streets in low-density residential developments that have less than 500 average daily trips (ADT)?
- 18 - 22 feet
 - 23 - 26 feet
 - Greater than 26 feet
- 4.2 In higher density development are parking lanes allowed to also serve as traffic lanes (i.e., queuing streets)?
- Yes
 - No

Right-of-Way (ROW) Width

- 4.3 What is the minimum right-of-way (**ROW**) width for a residential street?
- Less than 45 feet
 - Greater than 45 feet
- 4.4 Does the code allow utilities to be placed under the paved section of the ROW?
- Yes
 - No
 - Not specified in codes

Cul-de-Sacs

- 4.5 What is the minimum radius allowed for **cul-de-sacs**?
- Less than 35 feet
 - 36 feet to 45 feet
 - Greater than 45 feet

4.6 Can a landscaped island be created within the cul-de-sac?

- Yes
- No
- Not specified in codes

4.7 Are alternative turn-arounds such as “**hammerheads**” allowed on short streets in low-density residential developments?

- Yes
- No
- Not specified in codes

Vegetated Open Channels

4.8 Are curb and gutters required for most residential street sections?

- Yes
- No

Parking Ratios

4.9 What is the minimum parking ratio for a professional office building (per 1000 ft² of gross floor area)?

- Less than or equal to 3.0 spaces per 1,000 ft² of gross floor area
- 3.1 to 5.0 spaces per 1,000 ft² of gross floor area
- Greater than 5.0 spaces per 1,000 ft² of gross floor area

4.10 What is the minimum required parking ratio for shopping centers (per 1,000 ft² gross floor area)?

- Less than or equal to 4.0 spaces per 1,000 ft² of gross floor area
- 4.1 to 5.5 spaces per 1,000 ft² of gross floor area
- Greater than 5.5 spaces per 1,000 ft² of gross floor area

4.11 What is the minimum required parking ratio for single-family homes (per home)?

- Less than or equal to 2.0 spaces
- Greater than 2.0 spaces

4.12 Are your parking requirements set as minimum, median, or maximum requirements?

- Minimum requirements
- Median requirements
- Maximum requirements

Parking Codes

4.13 Is the use of shared parking arrangements permitted?

- Yes
- No
- Not specified in codes

4.14 Are model shared parking agreements provided?

- Yes
- No
- Not applicable

4.15 Are parking ratios reduced if shared parking arrangements are in place?

- Yes
- No
- Not specified in codes
- Not applicable

Parking Lots

4.16 What is the minimum stall width for a standard parking space?

- 9 feet or less
- Greater than 9 feet
- Not specified in codes

4.17 What is the minimum stall length for a standard parking space?

- 18 feet or less
- Greater than 18 feet
- Not specified in codes

4.18 Is a percentage of the spaces at commercial parking lots required to have smaller dimensions for compact cars?

- Yes, please specify percentage
- No

4.19 Can pervious materials be used for spillover parking areas?

- Yes
- No

Parking Lot Runoff

4.20 Is a minimum percentage of a parking lot required to be landscaped?

- Yes
- No

Open Space Design

4.21 Are open space or cluster development designs allowed in the community?

- Yes
- No
- Not specified in codes

4.22 Are the submittal or review requirements for open space design greater than those for conventional development?

- Yes
- No
- Not applicable

4.23 Are flexible site design criteria available for developers that utilize open space or cluster design options (e.g., setbacks, road widths, lot sizes)?

- Yes
- No
- Not specified in codes
- Not applicable

Setbacks and Frontages

4.24 Are irregular lot shapes (e.g., pie-shaped, flag lots) allowed in the community?

- Yes
- No
- Not specified in codes

4.25 What is the minimum requirement for front setbacks for the following residential lot sizes?

<u>¼ acre residential lot</u>	<u>½ acre residential lot</u>	<u>1 acre residential lot</u>
<input type="checkbox"/> 20 feet or less	<input type="checkbox"/> 20 feet or less	<input type="checkbox"/> 20 feet or less
<input type="checkbox"/> 21 feet to 30 feet	<input type="checkbox"/> 21 feet to 30 feet	<input type="checkbox"/> 21 feet to 30 feet
<input type="checkbox"/> 31 to 40 feet	<input type="checkbox"/> 31 to 40 feet	<input type="checkbox"/> 31 to 40 feet
<input type="checkbox"/> Greater than 40 feet	<input type="checkbox"/> Greater than 40 feet	<input type="checkbox"/> Greater than 40 feet



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4.26 What is the minimum requirement for rear setbacks for the following residential lot sizes?

- | <u>¼ acre residential lot</u> | <u>½ acre residential lot</u> | <u>1 acre residential lot</u> |
|---|---|---|
| <input type="checkbox"/> 25 feet or less | <input type="checkbox"/> 25 feet or less | <input type="checkbox"/> 25 feet or less |
| <input type="checkbox"/> 26 feet to 40 feet | <input type="checkbox"/> 26 feet to 40 feet | <input type="checkbox"/> 26 feet to 40 feet |
| <input type="checkbox"/> Greater than 40 feet | <input type="checkbox"/> Greater than 40 feet | <input type="checkbox"/> Greater than 40 feet |

4.27 What is the minimum requirement for side setbacks for the following residential lot sizes?

- | <u>¼ acre residential lot</u> | <u>½ acre residential lot</u> | <u>1 acre residential lot</u> |
|--|--|--|
| <input type="checkbox"/> 8 feet or less | <input type="checkbox"/> 8 feet or less | <input type="checkbox"/> 8 feet or less |
| <input type="checkbox"/> Greater than 8 feet | <input type="checkbox"/> Greater than 8 feet | <input type="checkbox"/> Greater than 8 feet |

4.28 What is the minimum **frontage** distance for the following residential lot sizes?

- | <u>¼ acre residential lot</u> | <u>½ acre residential lot</u> | <u>1 acre residential lot</u> |
|---|---|---|
| <input type="checkbox"/> 80 feet or less | <input type="checkbox"/> 80 feet or less | <input type="checkbox"/> 80 feet or less |
| <input type="checkbox"/> Greater than 80 feet | <input type="checkbox"/> Greater than 80 feet | <input type="checkbox"/> Greater than 80 feet |

Sidewalks

4.29 Are sidewalks always required on both sides of residential streets?

- Yes
- No

4.30 What is the minimum sidewalk width allowed in the community?

- 4 feet or less
- Greater than 4 feet
- Not specified in codes
- Not Applicable

4.31 Can alternate pedestrian networks be substituted for sidewalks (e.g., trails through common areas)?

- Yes
- No
- Not specified in codes
- Not applicable

Driveways

4.32 What is the minimum one-lane driveway width specified in the community?

- 9 feet or less
- Greater than 9 feet
- Not specified in codes

4.33 Can pervious materials be used for single-family home driveways (e.g., grass, gravel, porous pavers, etc)?

- Yes
- No
- Not specified in codes

4.34 Can a “two-track” design be used at single-family driveways (*a driveway with two strips of paving corresponding to wheel tracks with a vegetated area in between*)?

- Yes
- No
- Not specified in codes

4.35 Are shared driveways permitted in residential developments?

- Yes
- No
- Not specified in codes

Open Space Management

Skip to question 4.39 if open space, cluster, or conservation developments are not allowed in your community.

4.36 Are open space areas within subdivisions required to be consolidated into larger units?

- Yes
- No
- Not specified in codes

4.37 Does a minimum percentage of open space in a residential subdivision have to be managed in a natural condition?

- Yes
- No
- Not specified in codes

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4.38 Are allowable and unallowable uses for open space in residential developments defined?

- Yes
- No

Rooftop Runoff

4.39 Can rooftop runoff be discharged to yard areas?

- Yes
- No
- Not specified in codes

Tool 5. Erosion and Sediment Control

Definition: The use of erosion control, sediment control, and dewatering practices at all new development and redevelopment sites.

Local Authority: _____

5.1 During construction, is **erosion and sediment control** required for:

- All sites
- Sites greater than 1 acre
- Sites greater than 2 acres
- Sites greater than 5 acres
- No sites
- Don't know

If erosion and sediment control is required, please provide a copy of your regulations and any additional guidance.

5.2 Does your community provide guidance or set forth requirements on the types of erosion and sediment control practices that may be used?

- Yes, we refer the development community to a state document
- Yes, we have developed our own guidance and/or requirements
- No
- Don't Know
- Not Applicable

If your community has developed guidance and/or requirements, please attach a copy.

5.3 Check all erosion and sediment control practices that your community has required to be implemented in the past three years:

- | | |
|--|---|
| <input type="checkbox"/> Silt fence | <input type="checkbox"/> mulching |
| <input type="checkbox"/> Straw bales | <input type="checkbox"/> Permanent seeding and mulching |
| <input type="checkbox"/> Construction sequencing | <input type="checkbox"/> Dust control |
| <input type="checkbox"/> Construction phasing | <input type="checkbox"/> Erosion blankets and geotextiles |
| <input type="checkbox"/> Preservation and non-disturbance of natural vegetation | <input type="checkbox"/> Fiber rolls |
| <input type="checkbox"/> Preservation and non-disturbance of stream or wetland buffers | <input type="checkbox"/> Temporary stream crossings |
| <input type="checkbox"/> Stair-step grading | <input type="checkbox"/> Stabilized construction entrance |
| <input type="checkbox"/> Temporary seeding and | <input type="checkbox"/> Exit tire wash |
| | <input type="checkbox"/> Energy dissipation at pipe |



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- | | |
|--|--|
| <input type="checkbox"/> outlets | <input type="checkbox"/> operations |
| <input type="checkbox"/> Check dams in natural or man-made channels | <input type="checkbox"/> Secondary filtration (mechanical or sand filtration devices to filter fine sediments from runoff) |
| <input type="checkbox"/> Sand / gravel bag barrier | <input type="checkbox"/> Dikes / berms as conveyance to ESC structures |
| <input type="checkbox"/> Brush or rock filter | <input type="checkbox"/> Pipe slope drains to bypass erodible soils |
| <input type="checkbox"/> Storm drain inlet protection | <input type="checkbox"/> Stockpile stabilization |
| <input type="checkbox"/> Catch basin inlet filters | |
| <input type="checkbox"/> Sedimentation basins | |
| <input type="checkbox"/> Sediment traps | |
| <input type="checkbox"/> Filtration of dewatering | |
- 5.4 Is an erosion and sediment control plan required during the site plan review process?
- Yes
 No
 Don't Know
 Not Applicable
- 5.5 Are construction sites inspected for compliance with erosion and sediment control requirements?
- Yes
 No
 Don't Know
 Not Applicable
- 5.6 Who conducts inspections of construction sites for compliance with erosion and sediment control requirements?
- County / municipal inspector
 Third-party inspector (e.g. private engineer)
 Other, please describe _____
 Not Applicable
- 5.7 How frequently does an erosion and sediment control inspector visit a construction site?
- Daily
 Weekly
 Monthly
 Annually
 Other, please describe _____
 Not Applicable

5.8 Please describe the training or background required for erosion and sediment control inspectors.

5.9 Does your community sponsor erosion and sediment control training for:

- Developers
- Contractors
- Engineers
- Inspectors
- None of the above
- Not Applicable

5.10 Are there erosion and sediment control enforcement mechanisms (e.g. fines, stop work orders, etc.)?

- Yes
- No
- Don't Know
- Not Applicable

If yes, please describe enforcement mechanisms.

Tool 6. Stormwater Management Practices

Definition: The incorporation of structural practices into new development, redevelopment, or the existing landscape to help mitigate the impacts of urbanization and stormwater runoff on receiving waters.

Local Authority: _____

6.1 Does your community require stormwater practices on new development sites?

- Yes
- No
- Don't Know

If yes, please provide a copy of your regulations and any additional guidance.

6.2 What type of exemptions do you have for these requirements?

6.3 If yes, what are the design criteria for stormwater practices?

- Control **peak discharge rate** (flood control)
Design storm(s): _____
- Treat **stormwater runoff** for water quality
Design storm(s): _____
- Control / reduce total volume of runoff (by means of infiltration practices, etc.)
Design storm(s): _____
- Protect downstream channels
Design storm(s): _____
- Other: _____
- Not Applicable

6.4 Does your community provide guidance or set forth requirements on the types of stormwater practices that may be constructed?

- Yes, we refer the development community to a state document
- Yes, we have developed our own guidance and/or requirements
- No
- Don't Know
- Not Applicable

If your community has developed guidance and/or requirements, please attach a copy.

6.5 What are the top three stormwater practices typically installed in your community?

6.6 Is a stormwater plan or other documentation required during the site plan review process?

- Yes
- No
- Don't Know
- Not Applicable

6.7 Does your community inspect stormwater practices during construction?

- Yes
- No
- Don't Know
- Not Applicable

6.8 Is an as-built or record drawing of the stormwater practice required after construction?

- Yes
- No
- Don't Know
- Not Applicable

6.9 Who is typically responsible for maintenance of stormwater practices over the life of the stormwater practice?

- Private owner
- Builder
- Homeowner's association
- Permitting agency
- Other, please explain _____
- Don't Know
- Not Applicable

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6.10 Is there a maintenance agreement or covenant between the permitting agency and the private owner, builder, or homeowner's association in charge of maintenance?

- Yes
- No
- Don't Know
- Not Applicable

6.11 Are privately maintained stormwater practices inspected by a public agency for maintenance upkeep or structural integrity over the life of the facility?

- Yes
- No
- Don't Know
- Not Applicable

6.12 How frequently are privately owned stormwater practices inspected?

- More than once a year
- Once a year
- Every two years
- In response to complaints
- Never
- Other, please describe _____
- Don't Know
- Not Applicable

6.13 Are there penalties for not complying with the maintenance agreement or other applicable regulations applying to maintenance?

- Yes
- No
- Don't Know
- Not Applicable

If yes, please describe penalties.

Tool 7. Non-Stormwater Discharges

Definition: Locating, quantifying, and controlling non-stormwater pollutant sources in the watershed. Operation and maintenance practices that prevent or reduce pollutants entering the municipal or natural drainage system.

Local Authority: _____

Sanitary and Stormwater Sewer System

7.1 The best description of my community's stormwater management system is:

- Storm sewers (usually pipes leading to a receiving stream)
- Open channels**
- Combination, please provide relative percentage of each
- Other, please describe _____
- Don't Know

7.2 How does your community manage sanitary wastes (check all that apply)?

- Septic systems**
- Aeration systems
- Package treatment plants
- Centralized wastewater treatment plants
- Other, please describe _____
- Don't Know

7.3 Do the sanitary sewer trunk mains follow (check all that apply):

- Shortest distance
- Stream valley
- Other, please describe _____
- Don't Know
- Not Applicable

7.4 Is there a program for illicit connection detection?

- Yes
- No
- Don't Know
- Not Applicable

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7.5 Does your illicit connection detection program include provisions for removal of illicit discharges?

- Yes
- No
- Don't Know
- Not Applicable

7.6 Does your community have regulations pertaining to septic system maintenance?

- Yes
- No
- Don't Know
- Not Applicable

If yes, please explain.

7.7 Does your community conduct inspections of privately owned septic systems?

- Yes
- No
- Don't Know
- Not Applicable

Confined Animal Feeding Lots

7.8 Are there regulations regarding stormwater runoff from confined animal feeding lots?

- Yes
- No
- Don't Know

If yes, please attach a copy of the regulations.

Spill Response, Prevention and Cleanup

7.9 Does your community have a spill response plan?

- Yes
- No
- Don't Know



Snow Management

7.10 What deicing compounds are applied to public roads?

- Sand
- Road salt (Sodium Chloride, NaCl)
- Calcium Chloride (CaCl₂)
- Magnesium Chloride (MgCl₂)
- Other, please describe _____

7.11 How are the deicing compounds stored?

- Within structure
- Covered, but not in structure
- Not covered
- Other, please explain _____

Household Hazardous Waste

7.12 Is there a local household hazardous waste collection program?

- Yes
- No
- Don't Know

Tool 8. Watershed Stewardship Programs

Definition: Stormwater and watershed education or outreach programs targeted towards fostering human behavior that prevents or reduces pollution over a range of land uses and activities.

Local Authority: _____

8.1 Does your community administer or support education or outreach programs targeted towards:

- Residents
- Commercial sector
- Industrial sector
- Municipal employees
- Other, please describe _____
- None of the above

8.2 Are there any stream stewardship or volunteer monitoring programs within your community?

- Yes
- No
- Don't Know

8.3 Are there any stream restoration programs or projects within your community?

- Yes
- No
- Don't Know

Pet Waste Management

8.4 Does your community have any restrictions on pet waste management?

- Yes
- No
- Don't Know

If yes, please describe regulations or restrictions.

Street Sweeping

8.5 Does your community sweep public streets?

- Yes
- No
- Don't Know

8.6 What types of machines are used?

8.7 How often does street sweeping occur?

- Weekly
- Monthly
- Annually
- Other, please explain _____
- Not Applicable

8.8 Does street sweeping vary seasonally (e.g., streets are not swept in winter)?

- Yes, please explain _____
- No
- Don't Know
- Not Applicable

Lawn Care

8.9 Are fertilizers used on public lands?

- Yes
- No
- Don't Know

8.10 Are pesticides (insecticides, herbicides) used on p ublic lands?

- Yes
- No
- Don't Know

