

APPENDIX H: SAMPLE STORMWATER ORDINANCE
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Stormwater Management Regulations

Definitions

DETENTION BASIN .A structure or facility, natural or artificial, which stores stormwater on a temporary basis and releases it at a predetermined rate. A detention basin may drain completely after a storm event, or it may be a pond with a fixed minimum water elevation between runoff events.

DISTURBED AREA .An area of land subject to the removal of vegetative cover and/or earthmoving activities. **DRAINAGE SYSTEM** .All facilities, areas, and structures which serve to convey, store, or receive stormwater, either on a temporary or permanent basis.

DRAINAGE WAY .A natural or artificial facility, area, or structure which conveys or transports stormwater runoff from one location to a different location.

EROSION .The removal of soil particles from the land by the action of water, wind, ice, or other geological agents. **PRIMARY DRAINAGE SYSTEM** .Facilities, structures, and areas which convey, store, or receive runoff from storms up to a 10-year frequency.

RECEIVING BODY OF WATER .Any watercourse or wetland into which surface waters are directed, either naturally or artificially.

RETENTION BASIN .A holding area for stormwater, either natural or constructed, which does not have a positive outlet. Water is removed from retention basins through infiltration and/or evaporation processes, and may or may not have a permanent pool of water.

RUNOFF .The water that flows across the land without seeping into the ground following a rain, snowmelt or irrigation. **SECONDARY DRAINAGE SYSTEM** .Facilities, structures, and areas which convey, store or receive runoff from storms up to a 100-year frequency without causing serious damage to adjacent properties.

SEDIMENT .Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by water.

STORM WATER MANAGEMENT PLAN .Maps and written information which describe the way in which stormwater will be controlled, both during and after construction.

WATERCOURSE .Any waterway or other body of water having reasonably well defined banks, including rivers, streams, creeks and brooks, whether continually or intermittently flowing; and lakes and ponds, as shown on the official maps of ____ (*insert name of jurisdiction*).

Ordinance Language

The following language is adapted from a draft Orion Charter Township (Oakland County) Stormwater Management

Ordinance. The draft was substantially expanded to include soil erosion and sedimentation control before it was adopted.

Grand Traverse County has adopted comprehensive stormwater management regulations being administered by the County

Drain Commissioner.

Section ___ Performance Standards

1. Stormwater management areas and facilities, whether on-site or off-site, shall be designed, constructed, and maintained to prevent flooding and protect water quality. The design of any stormwater management system shall be based upon a 25-year frequency 24-hour duration storm event. In order to be approved, all stormwater management plans must meet the following performance standards:
 - a. Runoff leaving the site shall be controlled to a non-erosive velocity, both during and after construction.
 - b. After development, runoff from the site shall approximate the rate of flow, volume, and timing of runoff that would have occurred following the same rainfall under predevelopment conditions. Stormwater management conveyance and storage facilities shall be designed to reduce flood hazards and water pollution related to runoff from the proposed development project.

2. Stormwater storage facilities which protect water quality and prevent adverse flooding on-site and off-site shall be required for all sites of one acre or more. In order to improve the quality of stormwater runoff and reduce the discharge of sediment into ___ (*insert reference to jurisdiction*) wetlands and watercourses, the following techniques (a-f) and standards (g-i) shall be used:
 - a. Infiltration of runoff, provided that soils and groundwater conditions are suitable.
 - b. Retention basins with a fixed minimum water elevation between runoff events (e.g., wet ponds).
 - c. Detention basins which drain completely after a storm event (e.g., dry basins) but which discharge stormwater to wetlands or constructed basins which trap sediment carried by stormwater runoff
 - d. Detention basins which hold stormwater for more than 24 hours before completely draining to become a dry basin
(Extended detention basins).
 - e. Detention basins with a positive outlet shall be designed to hold runoff from a 10-year storm event, as a minimum. Retention basins without a positive outlet shall be designed to hold runoff from a 100-year storm event.
 - f. The banks of detention basins shall not exceed a 1:6 slope unless a fence is constructed.
 - g. Natural watercourses shall not be dredged, cleared of vegetation, deepened, widened, straightened, stabilized or otherwise altered without approval from the Michigan Department of Natural Resources and (*insert name of jurisdiction*).
 - h. Discharge of runoff from commercial and industrial sites which may contain oil, grease, toxic chemicals, or other polluting materials shall be prohibited unless approval has been obtained from the Michigan Department of Natural Resources and ___ (*insert name of jurisdiction*).
 - i. The use of stormwater management areas and vegetated buffer areas as open space, recreation, and conservation areas shall be encouraged.
3. Pipes, conduits, ditches, drains, or other conveyance facilities shall not discharge directly to:
 - a. Any natural watercourses, including lakes, ponds, rivers and streams.
 - b. Wetlands with unique or natural wildlife or habitat characteristics as defined by a professional wetlands delineation specialist, biologist or ecologist.
 - c. Wetlands which are within a 500 foot distance of any natural lake or pond.
 - d. Wetlands which are within a 100 foot distance of any river or stream.
 - e. Discharges from stormwater conveyance facilities shall be routed through swales, vegetated buffer strips, stormwater basins, hydrologically isolated wetlands, and other facilities designed to decrease runoff velocity and volume, allow for natural infiltration, allow suspended solids to settle, and remove pollutants.
 - f. If wetlands are proposed for stormwater detention, runoff must be diffused to non-erosive velocities before it reaches the wetlands.
 - g. Vegetated buffer strips shall be created, or retained in their natural state along the edges of all watercourses and wetlands. The width of the buffer shall be sufficient to prevent erosion, trap the sediment from overland runoff, and buffer structures from periodic flooding.
4. No stormwater management plan shall be approved if the ___ (*insert title of reviewing body*) finds that the action will or is likely to pollute, impair or destroy air, water or other natural resources or the public trust therein, provided that there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety and welfare.