ORDINANCE NO. 1028-2000

AN ORDINANCE ESTABLISHING A STORMWATER MANAGEMENT POLICY FOR THE CITY OF ANGOLA, INDIANA

WHEREAS, the City of Angola, Indiana is concerned about the adverse effects of stormwater run-off to adjoining property owners and, indeed, to all property owners in the watershed including but not limited to flooding, erosion, and other damages.

WHEREAS, IC 36-9-28.5 requires all cities and towns to have a stormwater management policy;

NOW THEREFORE BE IT HEREBY ORDAINED by the Common Council of the City of Angola, Indiana that:

Section 1. Purpose.

(A) It is recognized that storm sewers and their respective receiving drainage ditches, tiles, streams, channels, wetlands, lakes, and other drainage ways serving the City of Angola may not have sufficient capacity to receive and convey stormwater run-off resulting when land use changes from agricultural or other open uses to a more urbanized use covering previous uncovered or undeveloped land. It is further recognized that deposits of sediment from developments during and after construction can reduce capacities of storm sewers and drainage systems and result in damages to receiving streams and lakes.

(B) Therefore, it shall be the policy of the City of Angola adopted by the Common Council and administered by the Board of Public Works and Safety (The Board) that the storage and controlled release of stormwater run-off shall be required of all new development, any re-development, and other new construction in the City of Angola, including residential subdivisions and Planned Unit Developments. Because topography and the availability and adequacy of outlets for storm run-off vary with almost every site, the requirements for storm drainage tend to be an individual matter for any project. It is recommended that each project be discussed with the Angola City Engineer's Office at the earliest practical time in the planning stage.

Section 2. Conflicting ordinances.

The provisions of this ordinance shall be deemed as additional requirements to minimum standards required by other ordinances of the City. In the case of conflicting requirements, the most restrictive shall apply. When stormwater run-off from proposed developments, re-developments, and other new construction will outlet directly to a Steuben County Legal Drain, the proposed development, re-development, and other new construction shall fall under jurisdiction of the Steuben County Ordinance for Storm Drainage and Erosion Control.

Section 3. Compliance with other ordinances.

In addition to the requirements of this ordinance, compliance with the requirements set forth in other applicable ordinances with respect to submission and approval of preliminary and final subdivision plats, improvements plans, building and zoning permits, construction inspections, appeals and similar matters, and compliance with applicable State of Indiana statues and regulations shall be required. No Building Permit shall be issued for the construction, extension, remodeling, alteration or repair of any proposed or existing Building in the City of Angola or within the City of Angola's Jurisdictional area, until the plans for such construction, extension, remodeling, alteration or repair have been determined by the Board, or by the City Planner, City Building Commissioner, and City Engineer acting jointly on behalf of the Board, to meet the requirements of this ordinance.

Section 4. Exceptions.

The Central Business District is exempt from the stormwater provisions of this Ordinance. Single family (R-1) and two-family or duplex (R-2) construction or development that is not included within a platted subdivision is exempt from the stormwater provisions of this Ordinance unless the maximum ground coverage for the proposed construction exceeds the maximum ground coverage specified in the Angola Zoning Ordinance for the respective R-1 or R-2 Zoning. In that case the stormwater run-off from the area exceeding the maximum ground coverage specified is subject to the provisions of this Ordinance. The Central Business District and R-1 and R-2 constructions are not exempt from the erosion control provisions of this Ordinance.

Section 5. Stormwater control information & design requirements.

(A) Site plan required. All applications for building permits within the City of Angola shall submit a detailed scaled site plan prepared by an Indiana licensed Professional Engineer, Land Surveyor, Architect, or Designer Certified by the American Institute of Building Design, for the proposed construction. Note: R-1 and R-2 construction exempt from this requirement unless the maximum ground coverage is exceeded as stated above.

(B) Site plan requirements. The site plan must accurately show all of the following items: Note: The designer may elect to use more than one sheet.

(1) Boundary, dimensions, and bearings of the subject tract or parcel.
(2) North arrow and scale, (scale between 1 inch = 20 feet and 1 inch = 100 feet), title block, legend, and location and elevations of benchmark(s).
(3) Adjacent streets, roads, highways, railroads, streams, lakes, ditches, tiles, storm sewers, manholes, catch basins, inlets, culverts, wetlands, flood hazard areas, and other notable features.
(4) All existing buildings, drives, parking areas, loading docks, concrete pads, and all other developed features. Gravel or stone parking areas or drives shall be distinguished from paved parking areas and drives.
(5) All undeveloped areas shall be shown and depicted as grass, crops, woodland, wetland, or other undeveloped use.
(6) All proposed demolition.
(7) All proposed building construction.
(8) All proposed parking area and driveway construction.
(9) All proposed storm drainage features, including details of the detention system and outlet control or release structure(s).
(10) All proposed seeding, sodding, and landscaping.
(11) Existing spot elevations or contours. Note: The Board may require all contours.
(12) Proposed spot elevations or contours. Note: The Board may require all contours.
(13) Proposed erosion control features.
(14) The Board reserves the right to require additional data not listed above in order to evaluate specific sites.

(C) Existing impervious area.

(1) The designer shall show on the site plan, in tabular form, the total existing or pre-construction impervious area, in square feet or acres (43,560 square feet/acre), that exists on the site in its present or pre-construction or pre-development condition.
(2) For the purpose of this Ordinance, any building, bituminous or concrete paved area, and other hard surface areas are assumed impervious.
(3) For the purpose of this Ordinance, areas comprised of stone, gravel, cinder, brick, compacted aggregate, or other ornamental, natural or unnatural aggregates, will be reduced by 25%, or calculated to be 75% impervious. For example, one hundred (100) square foot area of gravel parking area will be considered to consist of seventy-five (75) square feet of impervious area.

(4) When other areas and other materials exist that are less than 100% impervious, the designer may propose other reductions to the impervious area based upon values for 3, from the Rational Method, as presented in the HERPICC Stormwater Drainage Manual, July 1994. The Board will make the final determination in all matters regarding calculations of the impervious area.

(D) Proposed impervious area.

The designer shall show on the site plan, in tabular form, the proposed post construction impervious area in square feet or acres (43,560 square feet/acre), for the site in its proposed post-construction or post development condition.

(E) Required stormwater storage area.

The Proposed Impervious Area minus the Existing Impervious Area equals the Required Stormwater Storage Area.

(F) Required stormwater storage volume.

(1) The Required Stormwater Storage Area (in square feet) times 0.125 feet (1 ½") equals the Required Stormwater Storage Volume in cubic feet.
(2) The Board reserves the right to require Additional Stormwater Storage Volume if the capacity of the receiving downstream channel or storm sewer system is limited or inadequate.
(3) Required Stormwater Storage Volume in cubic feet divided by 43,560 equals Required Stormwater Volume in acre-feet.

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(G) Stormwater storage methods.

(1) The Required Stormwater Storage Volume must be detained on-site by the provisions of appropriate wet or dry bottom reservoirs, by underground tanks or pipes, by storage on flat roofs, parking areas, lawns or other acceptable techniques.
(2) Measures, which retard the rate of overland flow and the velocity in run-off channels, shall also be used to partially control run-off rates.

(H) Stormwater release rate.

(1) The allowable release rate varies for each site because the allowable release rate is dependent upon the capacity of the receiving downstream channel or storm sewer system.
(2) If the Required Stormwater Storage Volume is being detained in an area used by the public, for example in a parking lot, it will generally be the policy of the Board to allow a release rate which empties a full detention area in four (4) hours.
(3) If the Required Stormwater Storage Volume is being detained in an area not critical to public use, for example a dry bottom reservoir, it will generally be the policy of the Board to allow a release rate, which empties a full detention area in eight (8) hours.
(4) The Stormwater Release Rate shall not result in storage duration in excess of 48 hours unless additional storms occur within the period.
(5) The Board will make the final determination in all matters regarding allowable release rates.

(I) General detention basin design requirements.

(1) The maximum planned depth of stormwater stored (without a permanent pool) shall not exceed four (4) feet unless a six-foot (6') high fence protects the basin.
(2) All stormwater detention facilities shall be separated by not less than twenty-five (25) feet from any occupied building or structure.

(3) Safety screens having a maximum opening of four (4) inches shall be provided for any pipe or opening to prevent children or large animals from crawling into the structures.
(4) Danger signs shall be mounted at appropriate locations to warn of deep water, possible flood conditions during storm periods and other dangers that exist. Fencing shall be provided if deemed necessary by the Board.
(5) Outlet control structures shall be designed to operate as simply as possible and shall require little or no maintenance and/or attention for proper operation. They shall limit discharges into existing or planned downstream channels or conduits so as not to exceed the Stormwater Release Rate.
(6) Emergency overflow facilities such as a weir or spillway shall be provided in case the normal discharge devices become totally or partially inoperative. The overflow facility shall be of such design that its operation is automatic and does not require manual attention.
(7) Grass or other suitable vegetative cover shall be provided throughout the entire detention storage basin area. Grass shall be cut regularly at approximately monthly intervals during the growing season or as required to maintain the facility.
(8) Debris and trash removal and other necessary maintenance shall be performed on a regular basis to assure continued operation in conformance to design.
(9) No detention facility or other water storage area, permanent or temporary, shall be constructed under or within ten (10) feet of any pole or high voltage electric line. Likewise, poles or high voltage electric lines shall not be placed within ten (10) feet of any detention facility or other water storage facility.
(10) Detention facilities must maintain setbacks from private and public water supply facilities as prescribed by Indiana State Board of Health and the Recommended Standards For Water Works by the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers.

(J) Dry bottom facility design requirements. Detention facilities, which will not contain a permanent pool of water, shall comply with the following requirements:

(1) Provisions shall be incorporated into facilities for complete interior drainage of dry bottom facilities, including the provisions of natural grades to outlet structures, longitudinal and transverse grades to perimeter drainage facility, paved gutters, or the installation of subsurface drains.
(2) The detention facility shall, whenever possible, be designed to serve as a secondary or multipurpose function.
(3) In excavated detention facilities, side slopes of 3:1 or flatter shall be provided for stability. In the event of valley storage, natural slopes may be considered stable.

(K) Wet bottom facility design requirements. Where part of a detention facility will contain a permanent pool of water, all the items required for general and dry-bottom detention storage shall apply except that the system of drains required to maintain a dry bottom facility will not be required. A controlled positive outlet will be required to maintain the design water level in the wet bottom facility and provide required detention storage above the design water level. However, the following additional conditions shall apply.

(1) Facilities designed with permanent pools or containing permanent lakes shall have a water area of at least one-half (0.5) acre. If fish are to be used to keep the pond clean, a minimum depth of approximately ten (10) feet shall be maintained over at least twenty-five percent (25%) of the pond area. The remaining lake area shall have no extensive shallow areas, except as required by subsection (3) below.
(2) In excavated lakes, the underwater side slopes in the lake shall be stable. In the event of valley storage, natural slopes may be considered stable.

(3) A safety ledge four (4) to six (6) feet in width is required and shall be installed in all lakes approximately 30 to 36 inches below the permanent water level. In addition, a similar maintenance ledge 12 to 18 inches above the permanent water line shall be provided. The slope between the two ledges shall be stable and of a material such as stone or riprap which will prevent erosion due to wave action.

(4) A safety ramp exit from the lake will be required in all cases and shall have a minimum width of twenty (20) feet and exit slope of 6 horizontal to 1 vertical (6:1). The ramp shall be of a material that will prevent its deterioration due to vehicle use or wave action.

(5) Periodic maintenance is required in lakes to control weed and larval growth. The facility shall also be designed to provide for the easy removal of sediment, which will accumulate during periods of reservoir operation. A means of maintaining the designed water level of the lake during prolonged periods of dry weather is also required.

(6) For emergency use, facility cleaning or shoreline maintenance, additional facilities may have to be provided or plans prepared for auxiliary equipment to permit emptying and drainage.

(7) Aeration facilities to prevent pond stagnation shall be provided, if required. Design calculations to substantiate the effectiveness of these aeration facilities shall be submitted with final engineering plans. Agreements for the perpetual operation and maintenance of aeration facilities shall be prepared to the satisfaction of the Board.

(L) Roof top storage.

Detention storage requirements may be met in total or in part by detention on flat roofs. Details of such design to be included in the building permit application shall include the depth and volume of storage, details of outlet devices and downdrains, elevations of emergency overflow provisions and certification of the structural portion of the building design plans by a professional engineer or architect.

(M) Parking lot storage.

Paved parking lots may be designed to provide temporary detention storage of storm waters on all or a portion of their surfaces. Outlets will be designed so as to empty the stored waters slowly. Depths of storage shall be limited to a maximum of eight (8) inches in vehicle parking areas so as to limit damage to parked vehicles and so that access to parked vehicles is not impaired.

(N) Underground tanks or pipes.

Detention storage requirements may be met in total or in part by detention in underground tank(s) or in a network of underground pipes. Tanks must be of reinforced concrete construction unless otherwise approved by the Board. Pipes must be reinforced concrete or dual wall (corrugated exterior/smooth interior) high-density polyethylene (HDPE) materials unless otherwise approved by the Board. Details of the underground storage system and the outlet or release structure(s) to be included in the building permit application.

(O) Retention basins.

Retention Basins (no outlet) are considered a last resort system. The Board may require the construction of a suitable outlet to prevent the use of retention basins. A retention basin will not be considered unless infiltration wells, dry wells, or other sub-surface absorption system is proposed in conjunction with the retention well.

(P) Facility financial responsibilities.

The construction cost of stormwater control systems and required facilities shall be accepted as part of the cost of land development.

(Q) Facility maintenance responsibilities.

Maintenance of detention/retention facilities during construction and thereafter, shall be the responsibility of the land developer/owner. Assignment of responsibility for maintaining facilities serving more than one lot or holding shall be documented by appropriate covenants to property deeds, unless responsibility is formally accepted by a public body, and shall be determined before the final drainage plans are approved.

(R) Inspections.

All public and privately owned detention storage facilities may be inspected by representatives of the City of Angola.

(S) Corrective measures.

If deficiencies are found by the inspector, the owner of the detention/retention facility will be required to take the necessary measures to correct such deficiencies. If the owner fails to do so, the City of Angola will undertake the work and collect the cost of maintenance or repair from the owner using lien rights if necessary.

(T) Joint development of control systems.

Stormwater control systems may be planned and constructed jointly by two or more developers as long as compliance with this ordinance is maintained.

(U) Installation of erosion control systems.

Run-off and erosion control systems shall be installed as soon as possible during the course of site development. The City of Angola will require an erosion control plan to be submitted as part of the construction plans and specifications. Detention/retention basins shall be designed with an additional six (6) percent of available capacity to allow for sediment accumulation resulting from development and to permit the pond to function for reasonable periods between cleanings. Basins should be designed to collect sediment and debris in specific locations so that removal costs are kept to a minimum.

(V) Detention facilities in floodplains.

If detention storage is provided within a 100-year floodplain, only the net increase in storage volume above that which naturally existed on the floodplain shall be credited to the development. No credit will be granted for volumes below the elevation of the regulatory flood at the location unless compensatory storage is also provided.

(W) Off-site drainage provisions.

When the allowable run-off is released in an area that is susceptible to flooding, the developer may be required to construct appropriate storm drains through such area to avert increased flood hazard caused by the concentration of allowable run-off at one point instead of the natural overland distribution. The requirement of off-site drains shall be at the discretion of the Board.

(X) As-built plans.

Whenever the Board has agreed to consider accepting facilities constructed by developers, a professionally prepared (by professional engineer or registered land surveyor) and certified “As-Built” set of prints or plans shall be submitted to the Board for review.

Section 6. Erosion and sediment control.

(A) Erosion and sediment control systems are required for all new construction and whenever lots and other parcels of land are being cleared and graded. Erosion and sediment control shall follow the guidelines and specifications outlined in the *"Indiana Handbook for Erosion Control in Developing Areas, Guidelines for Protecting Water Quality Through the Control of Soil Erosion and Sedimentation on Construction Sites"*, (HANDBOOK), published by the Division of Soil Conservation, Indiana Department of Natural Resources (October 1992). Plans for erosion and sediment control for all developments subject to this ordinance shall be submitted as part of the construction plans and specifications and shall include the following:

(1) Temporary erosion control measures, necessary during the initial construction and establishment phases up to final site grading and seeding.
(2) A permanent erosion control plan of all the graded and non-hard surface areas within the proposed development, as planned for completion, up to and including seeding of the final lot on which business or residential dwellings are to be placed.
(3) Details concerning removal of temporary erosion control devices after the initial establishment of adequate vegetative cover.
(4) Maintenance procedures and responsible parties, as part of the continuing plan to keep all of the land under adequate cover and erosion at an acceptable minimum. Upon receipt of the erosion and sediment control plan, the Board or its assignee, may at its discretion, submit a copy to the local Soil and Water Conservation District (SWCD) for review and concurrence.

(B) Sites over five (5) acres or sites subject to "Rule 5" (327 IAC 15-5). No building permits will be issued unless the applicant presents an Erosion and Sediment Control Plan and proof that such Erosion and Sediment Control Plan has been submitted to the local Soil and Water Conservation District and that the Notice of Intent letter has been submitted to the Office of Water Management at the Indiana Department of Environmental Management.

(C) Minimum practices are expected at all sites. The following practices, alone or in combination with other practices and dependent upon existing conditions at the site, are practices that the Board expects to be implemented in order to comply with this Ordinance.

(1) Temporary gravel construction entrance/exit pad, e.g. #2 limestone.
(2) Perimeter barriers e.g. silt fence or straw bales.
(3) Protection of existing facilities, e.g. protecting inlets to culverts, or storm drains with straw bales, fabrics, slotted barrels, aggregates, or other accepted practices outlined in the HANDBOOK.
(4) Slope protection, e.g. protecting slopes with temporary seeding or sodding, permanent seeding or sodding, aggregates, fabrics, or erosion control blankets, or turf reinforcement mats.
(5) Timely application or installation of the permanent seeding or sodding.

(D) Failure to implement minimum expected practices may result in:
(1) Stop Work Order for all work at that site until the minimum expected practices are implemented.
(2) Stop Work Order for all work at that site until clean-up required by failure to implement minimum expected practices is completed. Note: If the City of Angola must perform or contract the clean-up due to the failure of the responsible land owner, or developer, or on-site contractor to do so, or do to the existence of an emergency situation caused by runoff, sediment, or other debris from the site, the responsible land owner, developer or contractor will be billed the actual costs of the clean-up plus $500.00.
(3) Revocation of building permits. The Board reserves the right to revoke the building permits when the actions of the landowner, developer, or contractor are in total disregard for the provisions of this Ordinance.

Section 7. Disclaimer of liability.

The degree of protection required by this Ordinance is considered reasonable for regulatory purposes and is based on historical records, engineering, and scientific methods of study. Larger storms may occur or stormwater runoff depths may be increase by man-made or natural causes. This Ordinance does not imply that land uses permitted will be free from stormwater damage. This Ordinance shall not create liability on the part of the City of Angola or any official or employee thereof for any damage which may result from reliance on this Ordinance or any administrative decision lawfully made thereunder.

Section 8. Corrective action.

Nothing herein contained shall prevent the City of Angola from taking such other lawful actin as may be necessary to prevent or remedy any violation. All costs connected therewith shall accrue to the person or persons responsible.

Section 9. Repealer.

All ordinances or parts thereof in conflict with the provisions of this Ordinance are hereby repealed.

Section 10. Effective date.

This ordinance shall become effective after its final passage by the Common Council, approval by the Mayor, and publication by law.

PASSED and ADOPTED by the Common Council of the City of Angola, Steuben County, Indiana, this 18th day of December 2000.

CITY OF ANGOLA COMMON COUNCIL

_____
Edwin W. Selman, Jr., Mayor
Presiding Officer

ATTEST:

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Debra A. Twitchell, CMC
Clerk-Treasurer

PRESENTED by me to the Mayor of the City of Angola, Steuben County, Indiana, upon this 18th day of December 2000.

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Debra A. Twitchell, CMC
Clerk-Treasurer

SIGNED and APPROVED by me upon this 18th day of December 2000.

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Edwin W. Selman, Jr.
Mayor