RUSH COUNTY STORM DRAINAGE POLICY
As required by IC 36-9-27-69.5

Section 1 – INFORMATION REQUIREMENTS

The following information shall either accompany or be presented on the plans of all development projects that, by statute, must go before the Area Planning Commission board, requires an improvement location permit, changes the contour of the land in any way or increases the impervious surface. This includes any development of land, either new development, or further development of any kind. If an improvement location permit is requested in a subdivision that was approved prior to the enactment of this ordinance, all of the requirements of this Ordinance must be met prior to the improvement location permit being issued. No improvement location permit will be issued for construction or renovation until the requirements of this drainage policy have been complied with.

1. A dwelling that was destroyed be accidental fire or an act of God and is being replaced within 2 years of said destruction with a dwelling that is not more than twenty percent (20%) larger than the previous dwelling and is being placed in substantially the same location on the parcel as the previous dwelling does not require a drainage plan.
2. An addition to a dwelling that has not had any other additions since 2003, and that will not increase the square footage more than twenty percent (20%) does not require a drainage plan.
3. The addition of temporary buildings under seven hundred twenty (720) square feet e.g. mini barns, etc., does not need a drainage plan provided the runoff water from said building does not flow directly on to an adjacent parcel. If it is discovered that runoff water from said building is flowing directly on to adjacent property, the owner of said building shall be required to move said building to a location that remedies the situation.
4. Single lot subdivisions with pre-existing buildings and no proposed development, that is being divided from the parent tract: i.e. separating a dwelling and out buildings from a farm, need not follow this policy.
5. Communities With Storm Sewers
    - Houses and garages that are built in a community that is serviced by storm sewers, and the area is not prone to drainage and/or flooding problems, are not required to provide a drainage plan.
    - All commercial developments and multi lot subdivisions will be required to have an impact study done on the project site to determine the need for a drainage plan. The results of this study will be made available to the County Surveyor. Should said study not require a drainage plan and the Surveyor does not concur, the Drainage Board will decide whether a drainage plan will be required.
    - If the construction were to be done on an undeveloped lot or in an area that is prone to drainage and/or flooding problems, a drainage plan will be required.

All plan sheets, and other information and data prepared, shall be stamped by a licensed professional engineer or land surveyor, engaged in storm drainage design.

A. Existing Conditions Information (to be shown on submitted plans):

1. A title sheet shall be included with the following information: project name and location map, name, address, telephone number and seal of the registered professional engineer or licensed/registered land surveyor preparing the plans.
2. Legal description of site.
3. A topographic map of the land to be developed and such adjoining land whose topography may affect, or may be affected by, the layout or drainage of the development. The contour intervals shall be one (1) foot when slopes are less than, or equal to, two percent (2%) and shall be two

(2) feet when slopes exceed two percent (2%). All elevations shall be given in either National Geodetic Vertical Datum of 1929 (NGVD) or North American Vertical Datum of 1988 (NAVD).

a. If the project site is one (1) or two (2) lots and less than three (3) acres in total land area, the topographic map shall include all topography of land surrounding the site to a distance of at least fifty (50) feet.
b. If the project site is three (3) or more lots and greater than three (3) acres in total land area, the topographic map shall include all topography of the immediate watershed the project site is in.

4. If any or all of the project property is in a flood plane, adequate number of benchmarks shown with elevations referenced to NGVD or NAGD to facilitate checking of elevations without more than one setup of a surveyor's level, except for large development sites where additional setups may be warranted.
5. Location of existing streams and other storm water runoff channels.
6. One or more typical cross sections of all existing channels or other open drainage facilities. Cross section must be represented perpendicular to the expected flow path and the location indicated on the map.
7. Spot elevations shown at drainage break points.
8. Normal shoreline of lakes, ponds, swamps and detention/retention facilities, their floodplains, and direction of inflow and outflow.
9. The size and location of regulated drains, farm drains, inlets and outfalls, if any, on record. Include the elevation of tile outlet inverts.
10. Storm, sanitary and combined sewers and outfalls, if any on record.
11. Septic tank systems, disposal field and outlet, if any on record.
12. Seeps, springs, flowing and other wells that are visible or on record.
13. Roads, right-of-ways, building setbacks, drainage, Regulated Drains and overhead or underground utility easements.
14. The extent of the floodplains for any stream or channel (draining more than 640 acres or 1 square mile) at the established 100-year flood elevation per FEMA maps, IDNR recommendation letter, or engineer's calculations, and the limits of the regulatory floodway, all properly identified and sources noted.
15. Each plan sheet shall be twenty-four inches (24") by thirty-six inches (36") in size and include the following:
    a. A title block located in the lower right hand corner of each sheet that includes the project name, job number, sheet title (Geometric, Grading, etc.), sheet number, date of preparation and latest revision date and description.
    b. Map scale (preferably with a scale between 1 inch=20 ft. and 1 inch=100 ft.)
    c. A legend clearly identifying all symbols indicated on each sheet.
    d. North arrow.

    *Where the changes of the drainage are insignificant to the total watershed or the adjoining property, e.g. single lot developments with no existing building closer than five hundred feet (500') to the subject property line, the Drainage Board may waive the following requirements in section one, except subsection D, number 1.

B. Existing Condition Information (To be included within a Report or as a separate Exhibit):

1. Soil names and their hydrologic classification for the proposed development when hydrologic methods requiring soils information are used.
2. Each upstream, off site drainage area tributary to the subject site on USGS Quadrangle Maps or other detailed topographic maps.
3. Watershed boundary delineation for each storm water facility (storm sewer, culvert, swale, detention basin, etc.) on the subject property.

4. Copy of the effective FEMA map annotated to show the project location and property boundaries in relation to the regulatory floodplain and floodway.

C. Proposed Condition Information to be Shown on Submitted Plans (In Addition to Previous Plan Requirements):

1. Plan to convey upstream, offsite runoff through, or around, the subject property.
2. Proposed contours and where they tie into existing contours.
3. Location and percentage of impervious surfaces expected when the development is completed.
4. Depth and amount of storage required by design of the new facilities.
5. Proposed layout and design of storm sewers, other storm drains including the outfall and outlet locations and (approximate) invert elevations, the receiving stream or channel and its 100-year return period water elevation.
6. Layout of swales which collect runoff from on-site and/or offsite watersheds.
7. Existing detention/retention facilities to be maintained, enlarged, or otherwise altered and new ponds or basins to be built.
8. Proposed culverts and bridges – include elevations, waterway openings.
9. Identification of overland flow routes to detention/retention facilities.
10. New channels or other open drainage facilities to be constructed, their locations, cross-sections and profiles. Cross sections should be represented perpendicular to the expected flow path.
11. Interim drainage which is to be incorporated into the development pending completion of the development and the final drainage plan.
12. All proposed underground and overhead utility and drainage easements.
13. Parts of the proposed street system where pavements are planned to be depressed sufficiently to convey, or temporarily store, overflow from storm sewers and over the curb runoff resulting from heavier rainstorms, and the outlets for such overflow.
14. Slope, type and size of all sewers and other waterways. Plan and profile of all storm sewers and culverts must also be submitted.
15. Erosion Control Plan.

D. Proposed Condition Information (to be included within a Report or as a separate
Exhibit):

The report should be comprehensive and detail all the steps which the designer took during the design process and how the design satisfies the requirements of this ordinance. The report should include:

1. A description of the present land use as well as proposed land use including location of proposed buildings, wells, septic fields, etc.
2. Hydrologic and hydraulic information detailing existing and proposed drainage patterns on the subject site, along with any offsite drainage entering the site including discharge in pipes, open channels and sheet flow.
3. Watershed boundary delineation for each proposed storm water facility (storm sewer, culvert, swale, detention basin, etc.)
4. For all detention/retention a plot, or tabulation, of storage volumes with corresponding water surface elevations and a plot, or tabulation, of the facility outflow rates for those water surface elevations.
5. Copies of all computer model runs used in the drainage analysis. These computer runs should include both the model inputs and the outputs. A floppy diskette with input files may expedite the review process.
6. Discussion of significant drainage problems associated with the project and assumptions associated with procedures used to evaluate and proposed solutions to these problems.

Section 2 – SUBMITTED AND CONSIDERATION

Two sets of preliminary, proposed final drainage plans and/or construction plans as detailed in Section 1 shall be submitted to the Rush County Surveyor. All preliminary plans, final plans and construction plans shall be reviewed by the Rush County Surveyor and the Rush County Drainage Board for compliance with the standards of this ordinance.

Upon completion of their review, the Surveyor and the Drainage Board may either approve or deny each project. If the project is approved, then the two copies of the approved project plans will receive the signature and approval stamp of both the Surveyor and the Drainage Board. One copy will be kept on file in the Surveyor's office and the other copy will be returned to the developer.

The Rush County Surveyor is authorized to review engineering summaries of projects or other written explanations for a variance to the requirements of this ordinance and based upon the same, make recommendations to the Rush County Drainage Board concerning variances. The Drainage Board may grant exemptions from any and all requirements of this ordinance and/or waive any requirements of this ordinance. Any applicant, or other party, affected by any approval or denial of the Drainage Permit may appeal the decision to the Rush County Commissioners within thirty (30) days of the decision.

Where the outfall from the storm water drainage system of any developer flows through real estate owned by others prior to reaching a regulated drain or natural waterway, no approval shall be granted for such stormwater drainage system until all impacted owners either consent in writing to such use of their real estate, or are notified of such proposal and their rights to appeal any approval of the design. Proof of this notification must be submitted to the Surveyor's office.

Section 3 – DRAINAGE

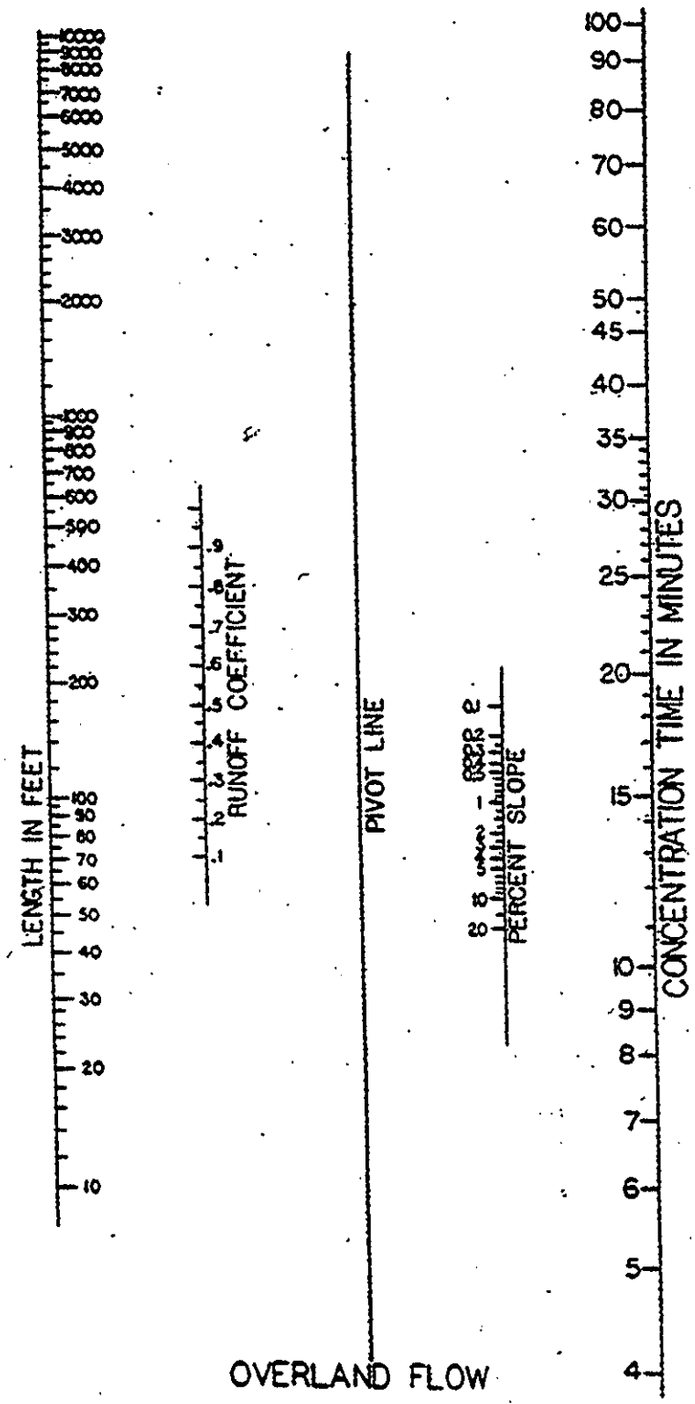
A. A drainage system shall be designed and constructed by the developer to provide for
the proper drainage of surface water from the entire development and the drainage area of which it is a part. The system should be constructed and installed in accordance with the minimum standards set forth in this Ordinance; however, the Rush County Drainage Board and/or the Rush County Surveyor reserves the right to deny a permit even if the system is constructed and installed according to the minimum standards set forth in this Ordinance.

B. In designing a drainage system, the developer shall be guided by the following minimum standards:

1. Storm street inlets placed in a low point shall be sized to accept a ten (10) year
storm volume with fifty percent (50%) of the inlet clogged and no more than 0.5 feet of water pooling above the inlet.
2. Storm swale inlets shall be sized to accept a ten (10) year storm volume with fifty
percent (50%) of the inlet clogged and no more than 0.8 feet of water pooling above the inlet.
3. The 100-year post developed storm shall be limited to the ten- (10) year pre-developed outlet rate.
4. Storm pipes shall be reinforced concrete, Class III, with type B wall thickness or HDPE tubing.
The minimum pipe size shall be fifteen-inch (15") diameter. The minimum pipe flow velocity shall be 2.5 feet per second.
5. Drainage swales with longitudinal slopes flatter than one percent (1%) shall have a six-inch (6") thick rebar reinforced concrete swale, with a minimum width of three-foot (3') and shape as approved by the Project

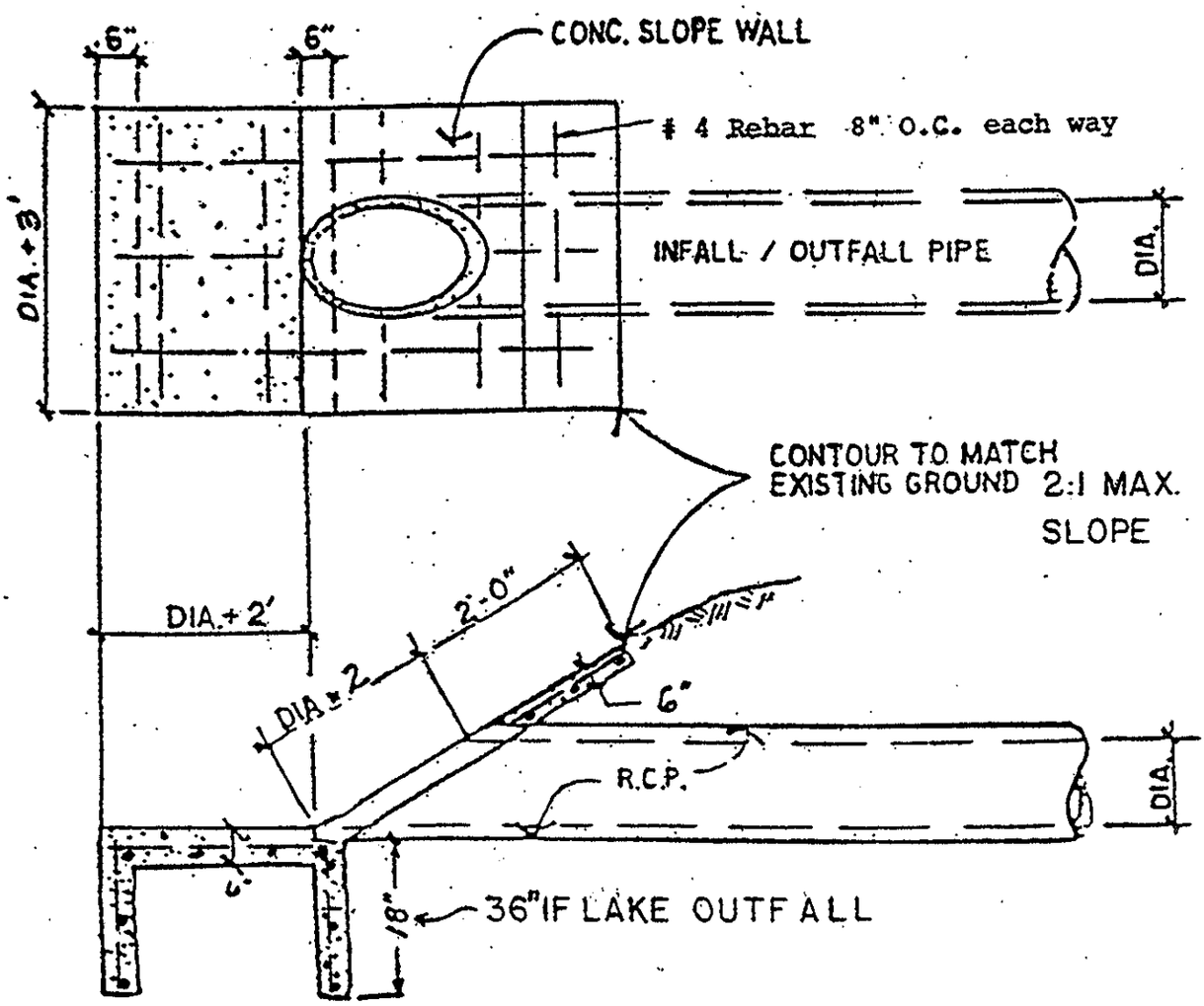
OVERLAND FLOW AND RUN-OFF COEFFICIENT

DETAIL 2.1



CONCRETE SLOPE WALL

DETAIL 2.2



Engineer. Alternative types of swale treatment shall be subject to approval of the Project Engineer.

6. All overland flow time of concentration values shall be based on the attached Detail 2.1 or SCS TR55 Methodology.
7. Exposed ends of storm pipes shall have six-inch (6") thick reinforced concrete slope walls placed as directed by the Project Engineer. See Detail 2.2.
8. All streets shall be provided with an adequate storm drainage system consisting of curbs, gutters and storm sewers, or side ditches and culverts as determined by the Project Engineer. A six-inch (6") perforated tile shall be placed on each side of all streets and:
   a. be two feet (2') below the soil subgrade and parallel with the longitudinal pavement grade;
   b. flow to the low point into the storm drainage systems;
   c. be placed below pavement at the inside face of the curbing;
   d. be constructed according to the specifications set forth in the Rush County Constructions Standards.
9. Inlets in the streets shall be spaced a maximum of five hundred feet (500') apart,
   or five hundred feet (500') from the high point in the street.
10. Down spouts and sump pump outlets shall discharge onto grass surfaces no closer
    to the road than the building setback line.
11. The onsite drainage system shall be designed and sized to handle flowing full a
    minimum of a ten- (10) year rainfall event. The developer is responsible for analyzing the ponding and result of a one hundred (100) year rainfall event and establishing flood protection grade for all structures and verifying an adequate outlet for the one hundred (100) year storm with the storm pipe system completely plugged.
12. Detention design shall adhere to current Indiana LTAP (Indiana Local Technical Assistance Program) methods for drainage. The rational method is acceptable for pipe design only.
13. Wet detention ponds shall have a minimum six feet (6') wide safety ledge placed
    below water level at a maximum depth of thirty inches (30"). Also, wet detention ponds shall have at least twenty-five percent (25%) of the pond surface with a minimum water depth of eight feet (8').
14. Predeveloped run-off rates shall be based on either pasture, meadow, brush, or
    woods ground cover type. Any existing farm ground will be based on the pasture condition.
15. Any dry detention facilities must be designed with sub-surface drainage.
16. Whenever evidence available to the Rush County Surveyor indicates natural surface drainage to be inadequate, the developer shall provide an adequate storm water sewer system. The developer shall provide as built plans when completed.

C. When vegetation has been removed from a slope and the possibility of soil erosion
   occurs, the developer and subsequent building contractors shall be required to seed, or otherwise prevent, damage to adjacent property or accumulation on street surfaces.
   These erosion-control measures shall be in accordance with standards and specifications on file with the Natural Resource Conservation Service.

D. Drainage swales or ditches along dedicated roadways and within the right-of-ways, or

on easements dedicated to the County, are not to be altered in any way without written permission from the Rush County Commissioners. Driveways may be constructed over these swales or ditches only when appropriately sized culverts or other approved structures have been permitted by the Drainage Board. Swales on private property shall be regulated by the Covenants or Legal Drainage systems.

E. Prior to obtaining final drainage approval, the developer of a multi-dwelling subdivision that has installed any drainage tiles and/or appurtenances extending to more than one lot in the subdivision shall submit a copy of a petition for establishing the drainage facilities within the subdivision as a legal drain.

   Said petition shall comply with the requirements of IC 36-9-27-54 et. seq. and include any storm sewers, ditches, rear yard swales, manholes, inlets, catch basin risers or any portion thereof as the Drainage Board indicates.

   1. Utilities shall be allowed to be placed within said designated drain easement. All
      drainage structures and/or piping shall have seniority.
   2. Before acceptance of said drainage system into the regulated drain, a mylar copy
      of the record plat shall be made showing all drain tiles, sizes, location, beehives or surface inlets and direction of flow.

F. All drainage systems shall be constructed to meet the Rushville, Rush County Construction Standards and any amendments made thereto.

Section 4 – CHANGE IN PLANS

Any significant change or deviation in the detailed information after receipt of a drainage permit shall be filed with, and approved, in writing by the Rush County Surveyor prior to the land development involving the change.

Copies of the changes, if approved, shall be attached to the final plans and specifications submitted for the Drainage Permit.

Permits can be revoked and/or property transfers can be held if it is found that plans other than those approved by the Rush County Surveyor and the Rush County Drainage Board are being used for construction.

Section 5 – CERTIFICATION REQUIRED FOR AS-BUILT CONDITION

After completion of the project and before the issuance of a certificate of occupancy, and acceptance of the completed construction project from approved plans, a professionally prepared and certified "Record Set" or "As-Built" set of plans shall be submitted to the Rush County Surveyor for review. These plans shall include all pertinent data relevant to the completed storm drainage system and shall include as a minimum:

A. Tile size and tile material
B. Inverted elevations
C. Top rim elevations
D. Lengths of all pipe structures
E. Data and calculations showing constructed detention basin storage volume
F. Certified statement on plans saying the completed storm drainage system substantially complies with the final plans as approved by the Rush County Surveyor and the Rush County Drainage Board.

Within ten (10) days after completion of a land alteration for which a drainage permit was required and relative to which a certified plan was required to be filled, a registered professional engineer or land surveyor engaged in storm drainage design, shall execute and file with the Rush County Surveyor a "Certificate of Completion and Compliance." Such certificate shall be on a form that can be provided from the Surveyor's Office.

Section 6 – SUBDIVISION COVENANTS FOR MULTI-DWELLING SUBDIVISIONS

The following statements shall become part of the Restrictive Covenants of **every** platted subdivision/development:

A. "Open channel and tile drains within all drain easements shall be regulated drains
subject to Indiana Code 36-9-27 and its amendments."
B. "It shall be the responsibility of the owner of any lot or parcel of land within the area
of this plat to comply at all times with the provisions of the drainage plan as approved for this plat by the Rush County Drainage Board through its agents, the Rush County Surveyor and the requirements of all drainage permits for this plat by said Rush County Drainage Board."
C. "The property shall be graded pursuant to the final construction plan and may not
thereafter be changed without the written approval of the Rush County Surveyor, whose decision may be appealed to the Rush County Drainage Board."
D. "No trees or shrubs shall be planted, nor any structure erected in any drainage right-of-way.
E. "Drainage swales (ditches) along dedicated roadways and within the right-of-way, or
on dedicated drainage easements, are not to be altered, dug out, filled in, tiled, or otherwise changed without the written permission of the Rush County Drainage Board. Property owners must maintain these swales as sodded grassways, or other non-eroding surfaces. Water from roofs or parking areas must be contained on the property long enough so that said drainage swales or ditches will not be damaged by such water. Driveways may be constructed over these swales or ditches only when appropriate sized culverts are installed."

F. "Any property owner altering, changing, or damaging these swales or ditches will be
held responsible for such action and will be given ten (10) days notice by registered mail to repair said damage, after which time, if no action is taken, the Rush County Drainage Board will cause said repairs to be accomplished, and the bill for such repairs will be sent to the affected property owner for immediate payment."

Section 7 – INSPECTIONS AND CORRECTION MEASURES

Nothing herein contained shall prevent Rush County from taking such other lawful action as may be necessary to prevent, or remedy, any violation. All cost connected therewith shall accrue to the person, or persons, responsible.

A. Inspections
All public and privately owned stormwater conveyance systems and detention storage facilities may be inspected by the Surveyor or his representative.

B. Corrective Measures

If deficiencies are found by the inspector, written notice of violation shall be sent to the owner by certified mail. A time limit shall be given for the remedy of the violation. If the owner fails to correct the noted deficiencies, Rush County may undertake the work and collect the cost of maintenance, or repair, by adding the amount sufficient to pay for the corrections to the next annual tax assessment made against the landowner.

Section 8 – DISCLAIMER OF LIABILITY

A. The degree of protection required by this ordinance is considered reasonable for regulatory purposes. Larger storms may occur or storm water runoff depth may be increased by man-made or natural causes. This ordinance does not imply that land uses permitted will be free from storm water damage. This ordinance shall not create liability on the part of Rush County, or any officer, employee, agent or representative thereof, for any damage which may result from reliance on this ordinance, or on any administrative decision lawfully made thereunder.

B. When Effective
This ordinance shall become effective after its final passage, approval and publication as required by law.

C. Permit Fees
The following schedule of fees will be assessed for each drain permit: Seventy-five dollars ($75.00) for individual lots plus twenty-five dollars ($25.00) for each additional lot in the subdivision.

D. Detailed Drawings of Design Standards
Technical Standards and Drawings may be added as Appendices to the ordinance by either the Rush County Surveyor or the Rush County Drainage Board as deemed necessary by amending this ordinance. All additions will be approved by the Rush County Surveyor and will conform to standards set forth in IC 36-9-27-29.

E. Penalties
The Rush County Drainage Board may bring suit to enjoin the violation of this ordinance.

This ordinance has been approved this 15th day of November, 2004.

RUSH COUNTY DRAINAGE BOARD

Janet D. Kile

Marvin L. Cole

Dwight A. Sweet

ATTEST

Marvin L. Rees, Rush County Surveyor