

STORM WATER SERVICE CREDIT APPLICATION AND APPEAL OF ERU CALCULATION INSTRUCTION MANUAL TOWN OF DYER

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SECTION 1: Introduction to Storm Water Credit Program

Dyer's Department of Storm Water Management has responsibility for maintaining the Town's Municipal storm water drainage system, which consists of more than 100 miles of storm sewers, creeks and ditches and serves over 6 square miles. One of the problems facing the Town has been the lack of funding necessary to repair and maintain such a system. Parts of the storm water sewer system are over 50 years old.

The Town of Dyer will be required to apply for a National Pollution Discharge Elimination System (NYPDES) permit and implement storm water Best Management Practices (BMPs) to effectively reduce or prevent the discharge of pollutants into receiving streams, as mandated by the United States Environmental Protection Agency's (EPA) Storm Water Phase II Rule. EPA reports that polluted storm water runoff is often transported to municipal separate storm sewer systems (MS4s) and ultimately discharge into local rivers and streams without treatment. EPA's Storm Water Phase II Rule establishes an MS4 Storm Water Management Program that is intended to improve the Nation's waterways by reducing the quantity of pollutants that storm water picks up and carries into the storm sewer systems during storm events.

A statistical sampling of residential properties was evaluated to develop a base unit, which is referred to as an equivalent residential unit (ERU). Each single-family residential property is assigned a flat rate bill of one ERU (or one base unit). The current unit billing rate applied to each base unit is \$6.00 per month. The fee for non-residential properties is computed based on the total number of ERUs for that parcel.

Multi-tenant facilities such as shopping centers, apartment complexes, or office parks may be consolidated into a single account with a single bill being sent to the owner or manager of the property, who can allocate the costs among the tenants according to terms of their lease agreements. This method is used because the variety in tenant sizes in commercial areas makes it procedurally difficult and cost-prohibitive to attempt to allocate the total facility's equivalent impervious area among all the service units.

The Dyer Storm Water Management Board in partnership with the Town Council of Dyer have developed a system of credits for storm water service customers who (1) discharge a portion of their storm water directly into rivers or specifically designated drains without sending it through the municipal drainage system, or (2) who have abatements or controls in place to temporarily store runoff, reducing the impact on the municipal system, or (3) a combination of (1) and (2) above. This manual details the policies and procedures applicable to the storm water service charge credit program.

Applications should be submitted to: Storm Water Credits
One Town Square
Dyer, IN 46311

CUSTOMERS WITH QUESTIONS CONCERNING THE GENERAL CALCULATIONS & ASSIGNMENTS OR ERU'S FOR THEIR PROPERTY ARE ENCOURAGED TO CALL:

Director Dyer Storm Water Management Credit Procedures
(219) 865-6108

SECTION 2: Definitions

Abatement: Any action taken to remedy, correct or eliminate a condition within, associated with, or impacting a storm water drainage system.

Agricultural Property A parcel of land or lot having an area in excess of five (5) acres and upon which crops have been grown for harvest within the past twelve (12) months.

Apartment/ Condominium Property A lot or parcel of land on which is situated a building containing five (5) or more dwelling units, or on which two (2) or more buildings each containing multiple single-family dwelling units are situated.

Approved Plans: Plans approved by the Department of Storm Water management according to a plan review which will govern all improvements made within the Town that required storm water facilities or changes or alterations to existing storm water facilities.

Best Management Practices (BMP's): Structural and/or non-structural controls that temporarily store storm water runoff to reduce flooding and provide other amenities.

Board: Board of Directors of the Town of Dyer Department of Storm Water Management established under Section 9-80, et seq., of the Dyer Town Code.

Code: Dyer Town Code.

County-Regulated Drain: Part of the storm water conveyance system under the jurisdiction of the Lake County Drainage Board, including certain ditches, tiles and sewers.

Design Storm: A rainfall event of specified size and return frequency that is used to calculate the runoff volume and peak discharge rate of a BMP.

Detention: The temporary storage of storm runoff in a basin, pond or other BMP to control the peak discharge rate by holding the storm water for a lengthened period of time.

Direct Discharge Storm water runoff from a lot or parcel of real property contiguous to Plum Creek, Hart Ditch or Dyer Ditch, or any laterals to either Plum Creek, Hart Ditch or Dyer Ditch that are regulated by the Lake County Drainage Board and enters either such ditch or lateral without crossing other properties or entering the Public Storm Water Facilities or Storm Water System.

Director: A person appointed by the Dyer Town Council to undertake the tasks and responsibilities set forth by this Ordinance, who shall serve at the discretion of the Dyer Town Council

Drain: Any sewer, tile, ditch, stream or other storm water conveyance channel or conduit.

DSM Dyer Department of Storm Water Management.

Equivalent Impervious Area by The square foot sum of all land cover types multiplied by the corresponding runoff coefficient for each land cover type, as identified as follows:

<u>Land Cover</u>	<u>Runoff Coefficient</u>
Asphalt and concrete drives, walks, and parking	0.90
Rooftops	0.90
Grass, lawns, parks, golf courses, cemeteries	0.15
Unimproved land, woods, Agricultural	0.20
Gravel drives and parking	0.55
Ponds and lakes	0.90

Equivalent Residential Unit (ERU): A unit value equal to the average amount of impervious area of a residential property within the Town of Dyer and established at 4,343 square feet. It is also the base-billing unit for calculating the proper assessment of storm water charges to all users of the Dyer Storm Water System.

Exempt Drain: A drain that is principally maintained and under the jurisdiction of the U.S. Army Corps of Engineers, the Indiana Department of Natural Resources, and/or the Lake County Drainage Board.

Impervious Area: Areas that have been paved and/or covered with building and materials which include, but are not limited to, concrete, asphalt, rooftop, blacktop, and compacted gravel, such that the infiltration of water into the soil is prevented.

Infiltration: A complex process of allowing runoff to penetrate the ground surface and flow through the upper soil surface.

Non-residential Property: All properties not encompassed by the definition of Residential Property or Vacant Residential Property shall be defined as Non-residential and will include:

- Agricultural Property;
- Apartment and Condominium Property;
- Mobile Home Parks;
- Commercial Property;
- Industrial Property;
- Institutional Property;
- Governmental Property;
- Churches;
- Schools
- Federal, State and Local Governmentally owned Property;
- And any other property not mentioned herein and not specifically defined as either residential property or vacant residential property.

NPDES: National Pollutant Discharge Elimination System. Regulations for storm water discharges as described in The Federal Register, 40 CFR Parts 122, 123 and 124.

NPDES Permit Permit required to be obtained by the Town of Dyer pursuant to Section 402 of the Clean Water Act, as amended.

Peak Discharge: The maximum rate of flow of water passing a given point during or after a rainfall event.

Pervious Real property that has a runoff coefficient of less than 0.90

Private Storm Water Facilities: Various storm water and drainage works not under the control or ownership of the Town, County, State, and/or Federal government which may include inlets, conduits, pipes, pumping stations, manholes, structures, channels, outlets, retention or detention basins, other structural component and equipment designed to transport, move or regulate storm water.

Public Storm Water Facilities: Various storm water and drainage works under the control or ownership of the Town, County, State and/or Federal government which may include inlets, conduits, pipes, pumping stations, manholes, structures, channels, outlets, retention or detention basins, other structural components and equipment designed to transport, move or regulate storm water.

Residential Property for the purpose of this Ordinance, Residential Property refers to a lot or parcel or contiguous lots or parcels of single ownership of real property on which a building or mobile home is situated, which building contains a group of rooms forming a single inhabitable dwelling unit with facilities that are used or are intended to be used primarily for living, sleeping, cooking and eating. This definition also includes a lot containing one (1) individual building containing four (4) or fewer separate or contiguous single-family dwelling units. Each and every residential property shall be assigned one (1) ERU. A Residential Property having a land area in excess of five (5) acres shall be assigned one (1) ERU for the first five (5) acres, and the remaining acres in excess of five (5) acres shall be calculated according to its land cover type and size and additional ERUs shall be billed accordingly.

Retention: The holding of storm water runoff in a constructed basin or pond or in a natural body of water without release except by means of evaporation, infiltration or emergency bypass.

Retrofit To install or improve a Private Storm Water Facility using BMP.

Storm Sewer: A sewer designed or intended to convey only storm water, surface runoff, street wash water and drainage, and not intended for sanitary sewage and industrial wastes. The portion of a sewer intended to carry storm water only, which begins at the grating or opening where water enters said sewer, through the sewer and any other conduits to the outlet structure where water enters a channel, natural watercourse or combined sewer.

Storm Water The chemical compound of hydrogen and oxygen which is produced from atmospheric clouds as rain, snow, sleet, and hail.

Storm Water Utility User Fee A charge imposed on users of the Town's public storm water facilities and storm water system.

Storm Water Utility Customer/User: - The owner of a lot or parcel of residential, vacant residential, or non-residential property.

Storm Water System - All constructed facilities, structures and natural watercourses under the ownership, and/or control of the Town and/or the DSM, used for collecting and conducting storm water to, through and from drainage areas to the point of final outlet, including, but not limited to, any and all of the following: inlets, conduits and appurtenant features, creeks, channels, catch basins, ditches, streams, culverts, retention or detention basins and pumping stations; and excluding there from, any part of the system of drains and watercourses under the jurisdiction of the Lake County Drainage Board.

Vacant Residential Property A lot or parcel of real property on which there does not exist a building or mobile home and which has a residential zoning classification. A vacant residential property in excess of five (5) acres in size shall be assigned a 1/3 ERU for the first five (5) acres, thereafter the remaining acreage shall be calculated according to its land cover type and additional ERUs shall be billed accordingly.

SECTION 3: Credit Policies

It is the Town's intent to encourage sound technical design practices which reduce the negative impact of development on the drainage system through a simple but effective credit system. Certain policies have been developed to help maintain a balance between simplicity and effectiveness.

Properties whose impact on the Utility's storm water drainage system is significantly limited or has been effectively reduced through specific abatement controls may be entitled to a credit adjustment that can be applied to their storm water service charge (proportionate to the percentage of the properties' surface area runoff accommodated by the abatement control).

- A. **Administrative Costs & Maximum Allowable Credit** – Storm water service charges are made up of capital improvements water quantity, maintenance and administrative components. The fixed costs of capital improvements and maintenance, component (including Federally mandated municipal permit requirements) and an administrative component account for 20% of the overall Utility operation costs. These cannot be readily broken down into measurable and assessable units as can the water quantity component for an individual property. Customers may therefore apply for storm water service credit up to a maximum of 80% of the gross storm water ERUs assigned for that property.
- B. **Application Fee & Determination** – A credit application will not be considered complete and will not be processed unless accompanied by the application fee and all appropriate forms and information as required in this manual. (Standard application forms are available in Section 7. The credit application fee is \$100.00 for properties classified as Non-Residential and \$2.00 per residential lot/tract for subdivision group credits. It is the intent of the Town to process applications within forty-five (45) days of submittal of the complete and correct application package. Billing adjustments required to implement credits (or other such adjustments) shall be applied retroactively to the date of the customer's application. Adjustments shall be made by crediting the customer's utility account (storm water utility fee portion) until any overpayment has been fully repaid. Pending application for credit shall not constitute a valid reason for non-payment of the currently assessed storm water service charge by the customer.
- C. **Direct Discharge Credit (DDC)** – is available to properties whose immediate drainage outfall falls under County, State or Federal jurisdiction rather than that of the Town. Qualification requirements and application procedures for this credit are outlined in Section 4.
- D. **Quantity Reduction Credit (QRC)** – is offered to customers that maintain runoff facilities or controls such as detention that significantly restrict storm water released from their property. Town owned or maintained facilities do not qualify. The QRC will only be allowed for so long as the control is maintained in fully functional condition in accordance with the criteria and requirements set forth in this manual. Voluntary, unwarranted or redundant controls or upgrades will be evaluated according to their degree of impact on the municipal system. Qualification requirements and application procedures for this credit are outlined in Section 5.

- E. **Oversized Facilities** – Reimbursement for costs associated with oversized private storm water improvements – those exceeding standard abatement design criteria and as deemed necessary by the Town of Dyer Subdivision Control Ordinance Book of Standards - will normally be addressed in the development review and permit process through the construction contract and will not be considered for additional credit.
- F. **Pollution Abatements/Water Quality Controls** such as NPDES permit programs are not eligible for credit at this time. Such programs, while generally endorsed and encouraged by the Town, cannot at present be practically assessed as to their impact on, contribution to, or effective compliance with as yet undetermined municipal goals and standards.
- G. **Unique and Special Cases** – Where a property owner or customer can unequivocally document and demonstrate through appropriate engineering studies that his or her property's storm water runoff impact on the Utility's storm water drainage system is significantly less than suggested by its assigned (gross) ERUs, or if appropriate services are provided to offset storm water utility requirements and reduces Town's costs, the Director, upon recommendation of his or her staff, has the authority to make adjustments consistent with the intent of the ordinance establishing charges for storm water services and with the General Rules and Regulations.
- H. **Petition to Appeal ERU Determinations** - If a Storm Water Utility Customer/User determines that the ERU multiple assigned to said user's real property is incorrect for any reason, said Storm Water Utility Customer/User shall have the right to appeal the ERU determination and thus the rate assessed in the following manner:
1. The Storm Water Utility Customer/User shall obtain and complete a Petition to Appeal Storm Water Rate form ("Petition"), which shall be returned to the Town of Dyer Clerk-Treasurer with verifiable documentation supporting the appeal.
 2. The Director shall investigate the appeal and, upon review thereof, shall render a written determination to the DSM and the Storm Water Utility Customer/User that either the original ERU determination and assessed rate should be affirmed or the Storm Water Utility User Fee should be adjusted in accordance with the Petition.
 3. If a Petition to Appeal is denied, said determination shall be forwarded to the Storm Water Utility Customer/User by certified mail, return receipt requested. The Storm Water Utility Customer/User shall then have thirty (30) days from the date of receipt of said determination to request a reconsideration by the Board. Any additional facts concerning the appeal shall be submitted in writing to the DSM, along with a copy of the original Petition and supporting documents, to the Board. The Director shall submit a written report of the determination in the case, along with any documents used in denying the appeal.
 4. Thereafter, the Board shall review all documentation and, if requested in writing by the Storm Water Utility Customer/User, conduct a hearing to determine and resolve the appeal. Such hearing will be scheduled by the DSM and the Storm Water Utility Customer/User will be notified by certified mail of the date of such hearing, which notice shall be received by the Storm Water Utility Customer/User at least seven (7) days prior to the date of such hearing. A written opinion shall be rendered within forty-five (45) days after the hearing or submission of documentation if no hearing is conducted. The written opinion of the Board shall

constitute the final DSM determination. The hearing shall be electronically recorded and if requested by the Storm Water Utility Customer/User, a transcript of the hearing shall be provided to the Storm Water Utility Customer/User. The Storm Water Utility Customer/User will be charged at a cost per page as determined by the Board, in accordance applicable law as amended from time to time.

5. A Storm Water Utility Customer/User aggrieved by the final Board determination shall have the right to judicial review of such determination in accordance with applicable Indiana law.
6. If the Director recommends the Storm Water Utility User Fee be reduced, or reduction is ordered by the Director, the Board or any Court of competent jurisdiction, the Storm Water Utility Customer/User shall be credited accordingly for any overpayment made from the date of the Petition.
7. Dispute or appeal of an ERU determination or storm water service rate shall not be a valid reason for non-payment of the originally assessed storm water utility user fee by the Storm Water Utility Customer/User.

The Petition must include verifiable documentation supporting the appeal including:

- a. Location of the lot/parcel
- b. Survey Layout of the property indicating the layout with appropriate dimensions of all pervious and impervious surfaces
- c. Any written statement of appeal

The Storm Water Utility Customer/User shall file the appeal using the Appeal of Storm Water Rate (ERU Determination) in section 7 of this manual.

SECTION 4: Direct Discharge Credit

A. DIRECT DISCHARGE CREDIT (DDC)

The Direct Discharge Credit is available to properties which either (1) are contiguous to (or contain) an exempt drain and discharge directly into that drain, or (2) are contiguous to and drain directly across the corporate boundary. Runoff that crosses another property or that passes through a public drainageway prior to outfalling to an exempt drain or across the corporate boundary is not considered direct discharge. Proportionate DDC of 30% will be granted only for that portion of the property's surface area that discharges directly into the exempt drain or across the corporate boundary.

Exempt drains, as defined in the General Rules and Regulations of the Dyer Department of Storm Water Management, include:

- The Dyer Ditch
- Plum Creek
- Harts Ditch

Prior to Applying for the Direct Discharge Credit customers are encouraged to contact the Director at (219) 865-6108 for a preliminary determination to verify whether their property abuts or contains an exempt drain or municipal boundary, or for anticipated dates of jurisdictional transfer of county-regulated drains.

County-regulated legal public drains will be identified according to the Lake County Surveyor's Office drain maps.

ERU assignments and credits for a property are rounded to the nearest tenth decimal place ERU on the property's bill. For this reason, no fee adjustment will be made for properties that qualify for less than one tenth ERU of credit.

B. DDC APPLICATION FOR NON-RESIDENTIAL PROPERTY

The Direct Discharge Credit application for Non-Residential property must include a \$100.00 application fee and the following information:

1. The completed application form (provided in Section 7);
2. Non-residential application fee of \$100.00; and
3. Plat of survey of the property indicating the following and certified by an Indiana-Registered Land Surveyor
 - a. the location of the exempt drain or corporate town boundary,
 - b. shed breaks across the property
 - c. layout of impervious and pervious surface areas on the property, and
 - d. sufficient topographic data or elevations to verify general drainage pattern across the property.

Proportionate DDC will be granted for that portion of the property's surface area that discharges directly into the exempt drain or across the town boundary.

Maximum DDC=30% (Gross ERUs)

The owner must submit design plans and calculations and an “Operation and Maintenance Manual” applicable to their BMP as part of the QRC credit application. The owner will also be required to certify annually that maintenance has been performed in accordance with their Operation and Maintenance Manual.

See Section 6 for example calculation for Direct Discharge Credit

C. DDC APPROVAL FOR SUBDIVISION GROUPS

Subdivision Group Credits are available to those properties that are represented by a Homeowners Association and who otherwise qualify for a Direct Discharge or Quantity Reduction Credit or both. A representative of the homeowners association is encouraged to call the Director of the Dyer Storm Water Management Board for a preliminary determination of applicability.

Town staff will conduct an investigation to determine if the Subdivision Group qualifies for credit, and will notify the representative of the group. Upon qualification, each approved residential property within the group will be subject to a \$2.00 application fee. The representative must complete the Group Direct Discharge Credit Storm Water Fee Credit Application form in Section 7, and enter into an agreement with the Town of Dyer Storm Water Management Board, an example of which is shown in Appendix B.

SECTION 5: Quantity Reduction Credit

Quantity Reduction Credit (QRC) will be available to properties whose peak storm water runoff rate is restricted and controlled through onsite BMPs such as detention; that are privately designed, constructed, and maintained according to Town standards and requirements. Credit will also be considered, on a case-by-case basis, for other control devices and BMPs not specifically addressed herein but which significantly restrict and control the impact of a property's storm water runoff on the municipal storm water system, providing sufficient technical justification is submitted in the application package to make such determinations.

A. LIMITATIONS

No credit will be given to properties for drainage into ponds, basins or BMPs maintained or owned by the Town.

No credit will be granted for detention facilities providing less storage capacity than necessary to accommodate a 100-year storm event.

B. LEVELS OF CREDIT

Full Quantity Reduction Credit applied to an entire property may be worth 50% of the property's gross (or initially assigned) ERUs.

QRC's will be based on a Singular Peak Release. Singular Peak Release from an otherwise-qualified facility shall mean that facility discharges at a maximum rate not greater than 0.15 cfs per acre (approximately the 3-year discharge rate from the predeveloped site), but without further significant restriction for smaller, more frequent storm events.

Proportionate credit will be granted only for that portion of the property's equivalent impervious surface area that is directly served by the BMP.

Credit will be granted according to:

Maximum QRC=50% (Gross ERU's)

The owner must submit design plans and calculations and an Operation and Maintenance Manual applicable to their BMP as part of the QRC credit application. The owner will also be required to certify annually that maintenance has been performed in accordance with their Operation and Maintenance Manual.

C. TECHNICAL INFORMATION REQUIREMENTS

Applications for QRCs for new developments can be discussed as part of the normal development plan review procedures. A presubmittal meeting with the Director of the Dyer Storm Water Management Credit Procedures is recommended, at which time an initial sketch plan may be presented. At a minimum, the sketch plan should include:

- conceptual site plan and structural control location diagram;

- locations, dimensions and characteristics of all proposed and existing drainage pattern and facilities; and
- existing and proposed grading and location and dimensions of all pervious and impervious areas.

Detailed engineering calculations, shed maps and supporting documentation shall be submitted with the grading and drainage plan.

Existing structures will be eligible for credit as long as they meet the Town design and maintenance requirements. If so, existing development credit calculations shall be submitted for review. Pre-submittal coordination is advised to ensure all policy requirements have been fulfilled.

Retrofitting of existing structures may be required to be eligible for credit. The process for retrofitting existing structures is similar to that for new developments.

1. A pre-submittal meeting may be scheduled to determine the nature of the retrofit and to investigate any condition or extraordinary situation. A brief sketch plan for the retrofit should be prepared for the meeting.
2. A set of plans and specifications along with sizing, calculations, shed area maps and credit forms shall be submitted for review and approval.

The following shall also be provided for all new and existing control structures before an application is considered complete:

1. The Owner of Record shall provide the Town “As-Built Plans”, calculations and shed maps stamped and signed by the Owner’s engineer to verify that the drainage system has adequate capacity to meet the design criteria for which the Owner is requesting a credit. The Owner’s engineer shall prepare and stamp an “Operation and Maintenance Manual” for the Owner to follow in maintaining the control structure. The Town shall be provided a copy of the manual. New calculations, “As-Built Plans”, and a “Maintenance and Operation Manual” shall be prepared and stamped by the Owner’s engineer if the control structure is increased or decreased in size from the original credit request, or for existing structures that do not have plans, calculations and required documents on file or have changed from the original plans either by design or by time and nature.
2. Each Owner of Record shall provide a “hold harmless” statement on a form provided by the Town that indemnifies the Town from any loss incurred arising from the construction, maintenance and operation of the Owner’s drainage facilities for water quantity runoff from the Owner’s property. This statement shall be signed by the Owner and will be recorded with the Lake County Recorder by the Owner of Record. The Owner of Record shall provide the Town a copy of the agreement with the Lake County Recorder’s Office number stamped on it before the application will be deemed complete.
3. Each Owner of Record must enter into an agreement with the Town that allows the Town to enter onto the Owner’s parcel to inspect the drainage facility and verify all information submitted by the owner and his/her engineer. The agreement form will be provided by the Town. This agreement will be recorded with the Lake County

Recorder by the Owner of Record who shall provide the Town a copy of the agreement with the Lake County Recorder's Office number stamped on it before the credit application will be deemed complete.

4. Annually, each Owner of Record shall provide a certified statement by January 31st verifying that all specified maintenance has been performed in accordance with the Operation and Maintenance Manual prepared by the Owner's engineer. Once every five (5) years, the certified statement shall be stamped and signed by the Owner's engineer.

See Section 6 for example calculations for quantity reduction credit.

Section 6: Example Credit Calculations

Overview of Methodology

Basis for equivalent impervious areas:

The method to be used to determine the amount of equivalent impervious area per parcel is based on the Rational Method, a widely accepted method for calculating storm water runoff. For all practical purposes, the Rational Method assumes that runoff is proportional to the permeability of the land. The Rational Method is well suited to this application since it can be used to relate any land cover to an amount of imperviousness per area of the land cover.

Runoff coefficients, denoted as 'C' are incorporated into the Rational Method. Every type of land cover (i.e. lawns, pavement, rooftops, agricultural land, unimproved land, gravel lots, and lakes) has a specific range of runoff coefficients less than one. The specific value within the range is dependent upon a number of variables including actual site, soil and moisture conditions. Proper selection of a coefficient depends on the aforementioned factors and engineering judgment.

Based on several sources (ASCE, 1992 and SEWRPC, 1965) typical runoff coefficients were selected. The dominant soil type in Dyer is a silty clay with high runoff characteristics (SCS, 1992). As a result, the values shown in the following table were selected as standard values.

RUNOFF COEFFICIENTS 'C'

Land Cover	Runoff Coefficient 'C'
Asphalt and concrete drives, walks, and parking	0.90
Rooftops	0.90
Grass, lawns, parks, golf courses, cemeteries	0.15
Unimproved, woods, agricultural	0.20
Gravel drives and parking	0.55
Ponds and lakes	0.90

The runoff coefficients for gravel drives, gravel parking, ponds and lakes were selected based on engineering judgment. Due to its probable variability in compactness, the runoff coefficient for gravel was selected as the midway point between unimproved land and asphalt pavement. On an average, this value is indicative of gravel facilities. The value of 0.90 associated with ponds and lakes assumes that all water that enters the pond or lake becomes runoff or evaporates.

For parcels of land having several land covers, a composite runoff coefficient can be computed. It is a weighted average of the runoff coefficients found on the parcel. The equivalent impervious area for the parcel is computed as the product of the composite runoff coefficient and the total area of the parcel

The Equivalent Residential Unit (ERU), which is the average amount of equivalent impervious area for the average residential parcel is computed as 4,343 square feet and shall be used in all analyses.

The following are example calculations for approved credit adjustment to the storm water service charge. In the first example, the application of Direct Discharge Credit is shown (per section 4). Example #2 illustrates a Quantity Reduction Credit adjustment for a customer owned storm water detention basin (section 5). The third example calculation is for a property that can receive both Direct Discharge Credit and Quantity Reduction Credit.

EXAMPLE 1: Direct Discharge Credit (DDC)

Total onsite equivalent impervious area.....	110,000 SF
Gross ERU's=(110,000)/(4343 SF/ERU).....	25.3 ERUs
Initial Storm Water Charge = (25.3 ERUs) x (\$6.00/ERU).....	\$151.80
Amount of equivalent impervious area discharging directly To an exempt drain or across corporate boundary.....	78,240 SF
DDC= (78,240 SF)/(4343SF/ERU).....	18.1 ERU (a)
Maximum allowable direct discharge credit =30% of gross ERUs (30%)x(25.3 ERUs).....	7.6 ERU (b)
Applied Credit Adjustment = (7.6 ERU)x(\$6.00/ERU).....	\$ 45.60
Lesser of (a) or (b)	
Initial Storm water service charge.....	\$151.80
Service charge credit adjustment.....	\$ 45.60
Proposed (adjusted) storm water service charge.....	\$106.20

EXAMPLE 2 Quantity Reduction Credit

Total Property Acreage.....24 acres
Total equivalent impervious area on site.....800,000 SF
Gross ERUs=(800,000 SF)/(4343 SF ERU).....184.2 ERU

Initial Storm water charge=(184.2 ERU)x(\$6.00/ERU).....\$1,105.20

Site acreage draining to detention.....15.7 acres
Maximum level of detention provided.....100 yr. Storm

Maximum spillway discharge.....2.33 cfs
Per-acre discharge=(2.33cfs)/(15.7 acres).....0.148cfs/ac
Is this less than or equal to 0.15cfs/ac..... yes

Per Section 5B, this facility has a “singular peak release” with
100 yr event detention capacity, it qualifies for up to a 50% credit.

Equivalent impervious area draining to detention.....644,700 SF
(QRC)=(644,700SF)/4343SF/ERU).....148.4 ERU (a)

Maximum allowable detention credit=50% of gross ERUs
(50%)x(184.2)=..... 92.1 ERU (b)

Applied credit= lesser of (a) or (b)..... 92.1 ERU

Applied credit adjustment = (92.1 ERU)x(\$6.00/ERU).....\$ 552.60

Initial storm water service charge..... \$1,105.20
Service charge credit adjustment.....\$ 552.60

Proposed (adjusted) storm water service charge.....\$ 552.60

EXAMPLE 3 Quantity Reduction and Direct Discharge Credit

Total property acreage.....	10 acres
Total equivalent impervious area.....	335,000 SF
Gross ERUs= (335,000 SF)/4343SF/ERU).....	77.1 ERU
Initial storm water charge= (77.1 ERU)x(\$6.00/ERU).....	\$462.60
Quantity Reduction Credit (Detention)	
Maximum level of detention provided.....	100 yr storm
Maximum design (100 yr) spillway discharge.....	0.148cfs/ac
Is this less than or equal to .15cfs/ac?.....	Yes
Per Section 5B , this basin has a singular peak release with 100 Yr. Detention capacity, it qualifies for up to a 50% QRC	
Onsite equivalent impervious area draining to detention.....	195,312 SF
(QRC)=(195,312 SF)/(4343 Sf/ERU).....	45 ERU (a)
Maximum QRC=(50%)x(77.1 Gross ERU's).....	38.6 (b)
QRC=Lesser of (a) or (b).....	38.6 (b)
Direct Discharge Credit	
Equivalent impervious area directly discharging.....	118,308
(DDC)=(118,308SF)/(4343 SF/ERU).....	27.2 ERU (c)
Maximum DDC=30% of gross ERUs	
(30%)x(77.1 ERU)=.....	23.1 ERU (d)
DDC= the lesser of (c) or (d).....	23.1 ERU (d)
Total computed credits=(QRCs)+(DDCs)	
(38.6 ERU)+(23.1 ERU).....	61.7 ERU (e)
Maximum allowable combined credit=80% of gross ERUs	
(80%)x(77.1 ERU).....	61.7 ERU (f)
Applied credit=lesser of (e) or (f).....	61.7 ERU
Applied credit adjustment=(61.7 ERU)x(\$6.00/ERU).....	\$370.20
Initial storm water service charge.....	\$462.60
Service charge credit adjustment.....	\$370.20
Proposed (adjusted) storm water service charge.....	\$ 92.40

SECTION 7: APPLICATION FORMS AND AGREEMENTS

1. Agreement for the Construction, Maintenance and Repair of a Storm Water Detention/Retention Basin
2. Application for Group Discharge Credits
3. Petition to Appeal Storm Water Rate (calculation of ERUs)
4. Detention/Retention Basin Operations and Maintenance Guidelines
5. Agreement Between DSM and Applicant
6. Application for Storm Water Service Fee Credit

AGREEMENT FOR THE CONSTRUCTION, MAINTENANCE AND REPAIR OF A STORM WATER DETENTION/RETENTION BASIN

The undersigned are the owners of the following described real estate located in Lake County, Indiana, to wit:

Legal Description:

The undersigned plan to construct a storm water detention basin over a portion of said above-described real estate. In order to induce the Town of Dyer, Indiana, to approve the development of said real estate in accordance with plans submitted to the Town, and in order to induce the said Town to issue building permits on said real estate, the undersigned covenant and agree that they will be responsible for the perpetual maintenance and repair of the storm water detention basin to be constructed by the undersigned to serve the above-described real estate. Such construction is to be in accordance with the plans and specifications on file with the Town of Dyer, Indiana. Maintenance shall include, but not limited to any cosmetic maintenance (including structural) to the storm water detention/retention basin, from and after construction, including mowing, weed control, trash pick-up, algae and mosquito control and maintenance. All maintenance will be done so as to assure that all storm water runoff designed to be detained will be so detained and that the designed rate of runoff will not be increased after the improvements have been constructed as contemplated upon the said real estate.

The undersigned by execution of this instrument hereby agree that they shall construct the storm water detention/retention basin in accordance with the aforesaid plans and specifications. The undersigned shall maintain the storm water detention/retention basin in a condition acceptable to the Town of Dyer, Indiana, so long as the storm water detention/retention basin exists. In the event the undersigned fails to maintain or to make appropriate repairs to the storm water detention/retention basin in a manner acceptable to the Town of Dyer, Indiana, within thirty (30) days after receiving notification in writing by the said Town of the maintenance or repairs required, then said Town shall have the right of entry over and upon any and all necessary portions of the above described real estate of the undersigned, as shown on the attached Exhibit A for the purpose of repairing and maintain said storm water detention/retention basin.

In the event of an emergency situation as defined by the Town Council or the Dyer Storm Water Management Board of the Town of Dyer, Indiana and in the event the undersigned or their agent are not able to be located readily after reasonable attempts to so locate, then in such event, the Town of Dyer, Indiana, shall have the right to enter and the right to make such emergency repairs.

At any time the Town of Dyer, Indiana, is required to enter and make such repairs, the costs of same shall be the obligation of the undersigned. If the undersigned do not pay said costs within thirty (30) days after receiving written notice of same from the Town, then said Town shall have the right to place a lien upon the above-described real estate for the costs incurred by it for the repair and maintenance of the storm water detention/retention basin, including interest at the rate of (12%) percent per annum, and reasonable attorney fees. The undersigned shall also indemnify and hold harmless the Town of Dyer, Indiana from all claims arising out of the installation, maintenance, or use of the storm water detention/retention basin. The rights and obligations

created by this Agreement shall be binding upon and shall run with the land for the benefit of the heirs, personal representative, successors and assigns of the undersigned.

Date: _____

BY: _____

BY: _____

ACKNOWLEDGEMENT

STATE OF INDIANA)

) SS

COUNTY OF LAKE)

Before me, the undersigned, a Notary Public, in and for said County and State personally appeared _____ as _____ for _____ and acknowledged the execution of the foregoing Document as and for their voluntary act and deed for the uses and purposes therein contained.

WITNESS my hand and notarial seal this _____ day of _____ 20__..

Notary Public
Resident of _____ County

Printed Name of Notary

My Commission Expires

APPLICATION FOR
GROUP DIRECT DISCHARGE STORM WATER FEE CREDITS
IN ACCORDANCE WITH
ORDINANCE NO. 2002-17 (AS AMENDED BY ORD. NO. 2002-20)

In accordance with Ordinance 2002-17 (as amended), Group Direct Discharge credit is available to those properties, which are represented by a Homeowners Association.

It is explicitly understood by the applicant, that, in accordance with amended Ordinance No. 2002-17 (as amended), no maintenance, repair, reconstruction or emergency work shall be provided by the Town of Dyer for the storm water system within the area granted credits via this Ordinance.

Provided an authorized representative of the Homeowners Association provides written notification to file this application prior to May 15, 2003 retroactive credit shall be granted to November 15, 2002.

Direct discharge credit for non-residential properties shall be applied for using "Application for Storm Water Utility User Fee Credit" in the Storm Water Service Credit Application Instruction Manual, date October 15, 2002 as revised, and will be subject to a \$100.00 fee for each non-residential applicant within the District, in accordance with Ordinance No. 2002-17 (as amended).

In accordance with referenced Ordinance, prior to receiving appropriate credit, the following must take place:

1. Payment of \$2.00 per residential property is to be made to the Dyer Storm Water Management Board, with this application
2. The legal entity for the District to be granted credit shall execute a contract with the Board of Storm Water Management, agreeing that no maintenance, repair, reconstruction or emergency work shall be provided by the Town of Dyer for the storm water system within the area granted credits via this Ordinance.
3. Approval of this application by the Board of Storm Water Management
4. Applicant to provide tabulation of subdivision name(s) along with associated list of residents, addresses, lot number ranges and number of lots

Name of exempt drain: _____ Drain # _____ Certification date: _____

Subdivision name(s): _____

Total number of residential lots and/or tracts: ____ X \$2 for total fee of \$ ____ non-refundable

Applicant: _____ Applicant's Representative:

ACKNOWLEDGEMENT

STATE OF INDIANA)
) SS
COUNTY OF LAKE)

Before me, the undersigned, a Notary Public, in and for said County and State personally appeared _____ as _____ for _____ and acknowledged the execution of the foregoing Document as and for their voluntary act and deed for the uses and purposes therein contained.

WITNESS my hand and notarial seal this _____ day of _____ 20__.

Notary Public
Resident of _____ County

Printed Name of Notary

My Commission Expires

**PETITION TO APPEAL STORM WATER RATE
(ERU DETERMINATION)**

Utility Account Number(s): _____, _____, _____

Name on Account: _____

Address on Account _____

Date of Computation: _____

Total area attributed to the account: _____ square feet (1)

Rooftop area	Original area	_____ square feet	(2)
	Change in area (+/-)	_____ square feet	
	New area	_____ square feet	

Paved area	Original area	_____ square feet	(3)
	Change in area (+/-)	_____ square feet	
	New area	_____ square feet	

Gravel Area	Original area	_____ square feet	(4)
	Change in area (+/-)	_____ square feet	
	New area	_____ square feet	

Pond Area	Original area	_____ square feet	(5)
	Change in area (+/-)	_____ square feet	
	New area	_____ square feet	

Other Area	Land Cover Type		(6)
	Coefficient	_____	
	Original area	_____ square feet	
	Change in area (+/-)	_____ square feet	
	New area	_____ square feet	

Grass Area = (1)-(2)-(3)-(4)-(5)-(7)= _____ square feet (8)

Equivalent Impervious Area=(2)x0.90+(3)x0.90+(4)x0.55+(5)x0.90+(8)x0.15
+(7)x(6)= _____ square feet (9)

Number of Accounts = _____ (10)

Proposed number of ERUs=(9) square feet/4343 square feet/ERU= _____ ERUs

DETENTION/RETENTION BASIN OPERATION AND MAINTENANCE MANUAL GUIDELINES

Provide the following information:

1. Name, address, telephone number, and contact person of owner of detention/retention basin.
2. Location of detention/retention basin (street address and general location on property).
3. Name, address, telephone number and contact person of principle party responsible for maintenance of detention/retention basin if other than owner.
4. The Operation and Maintenance Manual must address the following issues:
 - a. Vegetation
 - b. Debris
 - c. Erosion
 - d. Sedimentation
 - e. Repair/replacement

Vegetation

Proper vegetation cover can prevent erosion of the banks and bottoms of detention/retention basins. It is often also used for landscaping, especially if the basin is used as open space or is in a highly visible area. The type of vegetation will vary depending on the aesthetic requirements of the basin. For a basin where low maintenance is more important than appearance, crown vetch may be planted on the sides and bottom. However, crown vetch will allow larger bushes and trees to develop, which in turn may affect the storage capacity and runoff rate of the basin and can lead to blocked outlets.

Mowing should be done periodically to control saplings. Mowing once every four weeks from May through September should be a minimum. An alternative would be to mow whenever grass reaches a maximum of 6 inches.

Debris

Debris and litter can block outlets and is unattractive. At a minimum, debris should be removed when the basin is mowed. In addition, a trash rack will help prevent the low-flow outlet from clogging.

Erosion

Erosion can take place in embankments or along the bottom of basins. The most common erosion occurs in vegetated channels intended for low flows, but where high velocities and large water volumes can erode the low-flow channel into a trench. This can lead to standing water and aquatic vegetation and may provide habitat for mosquitoes. A bottom slope greater than 2% would inhibit the development of low spots. Concrete, rip-rap, or gabion low-flow channels **may** be used if vegetation is unlikely to withstand expected flows. Underdrains may also be needed to facilitate complete interior drainage of dry-bottom basins.

Sedimentation

Sedimentation occurs in all detention/retention basins but the rate can vary widely, Excess sediment should be removed somewhere between every 5 years and every 20 years, with once every 10 years being generally preferred. Sedimentation reduces the effective storage capacity of the basin and increases the potential for local flooding. In addition, runoff from large storm events can resuspend sediment and contribute to pollution downstream. Sedimentation near inlets can create silt bars, causing low spots that will not drain properly.

Repair/Replacement

Repair or replacement of the outlet, emergency spillway, low-flow channel or embankments may occasionally be needed. The frequency of such repairs cannot be easily predicted but will be greatly reduced by good design and maintenance.

AGREEMENT BETWEEN THE TOWN OF DYER
STORM WATER MANAGEMENT BOARD
AND _____

Comes now the Town of Dyer (Town) by and through its Storm Water Management Board (Board) and _____, a neighborhood or subdivision located within the Town of Dyer and agree as follows:

1. On _____, Applicant did file a formal written application requesting storm water credit for all residential and nonresidential properties located within its boundaries, which properties are also located within the Town of Dyer.
2. The Board, having verified information in the application, does hereby grant credit to properties as set out in the attached Exhibit.
3. In return for this credit the Applicant does hereby waive, on behalf of all properties concerned, any and all rights to maintenance, repair, reconstruction or emergency work to the storm water drainage system serving all such properties. Applicant understands and agrees that this waiver of Town services shall be in effect so long as said credit is applicable.
4. The undersigned representative of Applicant swears and confirms he/she is authorized to execute this contract with the Board and is empowered to obligate the owners of all properties affected by this Agreement.
5. Should Applicant or any owner of property granted credit herein pursue legal action against the Town of Dyer and/or the Board in violation of the terms of this Agreement, the Town shall be entitled to recover court costs, attorney fees and expenses of litigation involved in defending the Town

Storm Water Management Board

Applicant

Title

Date _____

STATE OF INDIANA)) SS
COUNTY OF LAKE)

WITNESS my hand and notarial seal this _____ day of _____ 20__.

Printed Name of Notary

APPLICATION FOR STORM WATER UTILITY USER FEE CREDIT

Property Owner(s): _____

 Mailing Address: _____
 Service Address: _____
 Phone: _____

_____ Gross ERUs

Type of credit: (check all that apply)

_____ Direct Discharge (DDC) _____ Quantity Reduction (QRC) _____ Other

Description of other:

Certifying Registered Land Surveyor (for DDC) or Professional Civil Engineer (for QRC)

Company: _____
 Phone: (____) _____

Town Use

Check if attached	Required for Submission by Owner	Submitted	Accepted	Recorded
	Plat or Survey (DDC)			
	Detention Pond Maintenance Agreement (QRC)			
	Operation and Maintenance Manual Stamped by Engineer (QRC)			
	BMP Design Calculations (QRC)			
	As-Built Drawings (QRC)			
	Application Fee (payable to DSM)			

For Quantity Reduction Credit	Town Use
Release type: _____ Singular Peak	_____ Singular

Submit To: Storm Water Credits
 One Town Square
 Dyer, IN 46311

