

CITY OF RIVERVIEW, WAYNE COUNTY, MICHIGAN,
HELD ON MONDAY, DECEMBER 15, 2008 A.D.,
IN THE COUNCIL CHAMBERS OF
THE PETER ROTTEVEEL MUNICIPAL BUILDING
14100 CIVIC PARK DRIVE, RIVERVIEW, MICHIGAN 48193-7689

The meeting was called to order at 7:30 p.m.

Presiding: Mayor Durand

Present: Councilmembers Blanchette, Coffey, Rudicil, Swift, Elmer Trombley, James Trombley

Also Present: City Manager Workman, City Clerk Bratcher, Human Resources Director Hajkus, Police Chief Ginestet, Fire Chief Bosman, Finance Director D. Drysdale, Acting Community Development Director M. Drysdale, Public Works Director Hunter, Director of Solid Waste Bobeck, Assessor/Purchasing Director Kuch, Recreation Director Dickman, IT Director Harper, Cornerstone Environmental Group Project Director Larky, Charles E. Raines Engineer Sabak, Attorney Pentiuik

The **Pledge of Allegiance** was led by Elmer Trombley.

The **Invocation** was given by Councilmember Rudicil.

AWARDS, PROCLAMATIONS AND PRESENTATIONS:

Acknowledged Mr. **Peter Phillips** with a Certificate of Recognition for his service on the **Local Officers Compensation Commission** from November 7, 2005 to June 2, 2008.

The Mayor and Beautification Commission presented Certificates of Recognition to the following winners of the 2008 Christmas **Holiday Home Decorating** Contest:

Delores and Kenneth Barns
Mary and Nicola Lonigro
Kimberly and John Pruitt
William McGovern
Linda and Bryan Eoff

MINUTES:

Motion by Councilmember Coffey, seconded by Councilmember Swift, that the **Minutes** of the regular meeting of **December 1, 2008** along with the condensed version for publication be approved as presented.

Carried unanimously.

PUBLIC HEARINGS:

None.

PUBLIC COMMENTS:

At this time, Mayor Durand asked if anyone wished to address the City Council.

ORGANIZATIONAL BUSINESS:

Motion by Councilmember Swift, seconded by Councilmember James Trombley, that Ms. **Kimberly Canan** and Ms. **Rebecca McKinney** be appointed to the Parks and **Recreation Commission** for a two-year term set to expire July 31, 2010.

Carried unanimously.

Motion by Councilmember Rudicil, seconded by Councilmember Blanchette, that Ms. **Cornish Gayle Albano** be reappointed to the **Historical Commission** for a three-year term set to expire December 1, 2011.

Carried unanimously.

CONSENT AGENDA:

At the request of Councilmember Rudicil, the following item was removed from the Consent Agenda:

- Bid Award for a **Police Motorcycle**.

Motion by Councilmember Coffey, seconded by Councilmember Blanchette, that the following items on the **Consent Agenda** be authorized:

- **Wade Trim Associates** to implement and administer the City's Wayne County **Neighborhood Stabilization Program** (NSP) in the amount of \$5,000.00 and seven percent of grant allowance.
- Annual Financial **Audit Report** for the City of Riverview for Fiscal Year Ending June 30, 2008.
- **Budget Amendments** as follows:

A.

Description	Account Number	Current Appropriation	Amended Appropriation	Amendment or Change
<u>2008/09 Law Enforcement Fund:</u>				
Capital Outlay	265-302-970.999	\$ 0.00	\$ 15,455.00	\$ 15,455.00
Operating Supplies	265-302-740.000	40,000.00	24,545.00	(15,455.00)
Net decrease (increase) to Fund Balance				\$ 0.00

JUSTIFICATION: To transfer funds for the purchase of a motorcycle for the police department.

B.

Description	Account Number	Current Appropriation	Amended Appropriation	Amendment or Change
<u>2008/09 Land Preserve Fund:</u>				
Northeast Leachate Syst Upgrades	596-526-994.096	\$ 269,875.00	\$ 343,167.00	\$ 73,292.00
Net decrease (increase) to Fund Balance				\$ 73,292.00

JUSTIFICATION: To appropriate additional funds for the construction, contingency and engineering fees associated with upgrades to the northeast leachate system. This project is eligible for reimbursement from the environmental escrow trust.

C.

Description	Account Number	Current Appropriation	Amended Appropriation	Amendment or Change
<u>2008/09 General Fund -- City Attorney:</u>				
General Litigation	101-210-818.012	\$ 73,600.00	\$ 187,985.00	\$ 114,385.00
Net decrease (increase) to Fund Balance				\$ 114,385.00

JUSTIFICATION: To appropriate additional funds for the general litigation fees. This amendment is necessary due to the increase in property tax assessment cases, the number of lawsuits against the City, and bankruptcy filings.

D.

Description	Account Number	Current Appropriation	Amended Appropriation	Amendment or Change
<u>2008/09 General Fund -- Recreation:</u>				
Recreation Contractual Programs	101-751-818.060	\$ 20,000.00	\$ 30,000.00	\$ 10,000.00
Net decrease (increase) to Fund Balance				\$ 10,000.00

JUSTIFICATION: To carry forwards funds to pay contractors for recreation programs. The revenue for these programs was included in the prior fiscal year.

E.

Description	Account Number	Current Appropriation	Amended Appropriation	Amendment or Change
<u>2008/09 Comm Dev Block Grant Fund -- Revenues:</u>				
CDBG 2006 Program Revenues	275-000-665.006	\$ 0.00	\$ 57,501.00	\$ 57,501.00
CDBG 2007 Program Revenues	275-000-665.007	0.00	60,352.48	60,352.48
Housing Rehab -- Grant Reimb	275-000-635.000	30,000.00	110,000.00	80,000.00
<u>2008/09 Comm Dev Block Grant Fund -- Projects:</u>				
Housing Rehab Expenditures	275-713-981.210	24,000.00	104,000.00	\$ 80,000.00
Net decrease (increase) to Fund Balance				\$ (117,853.48)

JUSTIFICATION: To carry forward funds related to CDBG projects and housing rehab that were unspent and available as of the prior fiscal year-end. In addition, the related reimbursements are also being carried forward that are expected to be received in this fiscal year.

F.

Description	Account Number	Current Appropriation	Amended Appropriation	Amendment or Change
<u>2008/09 CIEF Fund -- Debt Service:</u>				
Debt Payment -- Sun Trust Leasing	402-300-998.100	\$ 0.00	\$ 99,000.00	\$ 99,000.00
<u>2008/09 Water & Sewer Fund -- Debt Service:</u>				
Debt Payment -- Sun Trust Leasing	592-300-998.100	0.00	24,365.00	\$ 24,365.00
<u>2008/09 Land Preserve Fund -- Debt Service:</u>				
Debt Payment -- Sun Trust Leasing	596-300-998.100	0.00	125,255.00	\$ 125,255.00

JUSTIFICATION: To appropriate funds for debt payments on vehicles and equipment purchased in fiscal year 2007/08. These items were originally budgeted as purchases in last year’s budget, but instead financed through an equipment leasing company.

Carried unanimously.

Motion by Councilmember Coffey, seconded by Councilmember Blanchette, that the Bid for a **Police Motorcycle** be awarded to **Gilbert's Harley-Davidson** in the amount of **\$15,454.54**.

Yeas: Mayor Durand, Councilmembers Blanchette, Coffey, Swift, Elmer Trombley

Nays: Councilmember Rudicil, James Trombley

Motion carried.

RESOLUTIONS :

None.

ADMINISTRATION:

Motion by Councilmember James Trombley, seconded by Councilmember Coffey, to award Bid and authorize Execution of Agreement for the **Leachate System Upgrade Project to Stante Construction, Inc.**, in the amount of **\$291,486.00**, with a ten percent project contingency of **\$29,150.00**. Further authorize project work for **Engineering Services with Cornerstone Environmental Group** in the amount of **\$22,531.00** for a total bid award of **\$343,167.00**.

Carried unanimously.

Motion by Councilmember Elmer Trombley, seconded by Councilmember Swift, to authorize an Execution of **Addendum** extending Agreement for **Garbage and Rubbish Collection Services with Capital Waste, Inc.**

Carried unanimously.

Motion by Councilmember Coffey, seconded by Councilmember Rudicil, that Section XIII: "**Ethics**" of the Purchasing Manual be **waived** to allow Council, the Retirement Board and staff to attend a dinner meeting hosted by **National City/Allegiant Asset Management** on **January 22, 2009**.

Carried unanimously.

ORDINANCES:

Motion by Councilmember Elmer Trombley, seconded by Councilmember Swift, that the City Clerk be authorized to give the **Second Reading**, by title only, of Proposed **Ordinance No. 618** - the repeal and re-adoption of Section 66-1 regarding the **Michigan Vehicle Code**.

Carried unanimously.

The City Clerk gave the Second Reading, by title only:

PROPOSED ORDINANCE NO. 618

AN ORDINANCE TO AMEND THE CODE OF ORDINANCES FOR THE CITY OF RIVERVIEW BY THE REPEAL AND RE-ADOPTION OF SECTION 66-1 OF ARTICLE I “IN GENERAL” IN CHAPTER 66 “TRAFFIC AND VEHICLES” TO ALLOW FOR THE MICHIGAN VEHICLE CODE TO BE ADOPTED BY REFERENCE AND UPDATED AUTOMATICALLY BY FUTURE AMENDMENT.

THE CITY OF RIVERVIEW ORDAINS:

ARTICLE I: AMENDMENT: That Section 66-1, Michigan Vehicle Code, under Chapter 66, Traffic and Vehicles, Article I, In General, is hereby repealed and re-adopted to hereafter read as follows:

TRAFFIC AND VEHICLES
ARTICLE I., IN GENERAL

Sec. 66-1. Michigan Vehicle Code.

- (a) The Michigan Vehicle Code, as amended, (MCL 257.1 et seq.) is adopted by reference and as subsequently amended.
- (b) References in the Michigan Vehicle Code to “local authorities” shall mean the city.
- (c) The penalties provided by the Michigan Vehicle Code are adopted by reference; provided, however, that the city may not enforce any provision of the Michigan Vehicle Code for which the maximum period of imprisonment is greater than 93 days.

ARTICLE II PENALTY: A person violating this ordinance shall be punished in accordance with Section 1-8 of the Code of Ordinances of the City of Riverview, unless a different penalty is expressly provided in this ordinance.

ARTICLE III SEVERABILITY: Should any word, sentence, phrase or any portion of this Ordinance be held in a manner invalid by any Court of competent jurisdiction or by any agency having authority to do so for any reason whatsoever; such holding shall be construed and limited to such word, sentence, phrase, or any portion of the Ordinance held to be invalid and shall not be construed as affecting the validity of any remaining words, sentences, phrases or portions of the Ordinance.

ARTICLE IV CONFLICTING ORDINANCES: All prior existing ordinances adopted by the City of Riverview inconsistent or in conflict with the provisions of the Ordinance are, to the extent of such conflict or inconsistency, hereby expressly repealed.

ARTICLE V. READING, AND PUBLICATION: This Ordinance shall be given a first reading on December 1, 2008, shall be given a second reading on December 15, 2008, shall be adopted December 15, 2008, shall be published and become effective upon publication. The Clerk shall publish a summary of this Ordinance and include in the publication notice that a true copy of the Ordinance can be inspected or obtained at the Clerk’s office.

ADOPTED, APPROVED AND PASSED by the City Council of the City of Riverview this 15th day of December, 2008.

The undersigned hereby certifies that the foregoing is a true and accurate copy of the ordinance adopted by the City Council of the City of Riverview at a regular meeting held on December 15, 2008.

Judith A. Bratcher, City Clerk

Motion by Councilmember James Trombey, seconded by Councilmember Rudicil, that **Proposed Ordinance No. 618** be adopted.

Carried unanimously.

Motion by Councilmember Swift, seconded by Councilmember Blanchette, that the City Clerk be authorized to give the **Second Reading**, by title only, of Proposed **Ordinance No. 619** regarding **Storm Water Management System** to prevent pollution from storm water runoff and protection of the quality of waterways in the city.

Carried unanimously.

The City Clerk gave the Second Reading, by title only:

PROPOSED ORDINANCE NO. 619

AN ORDINANCE TO AMEND THE CODE OF ORDINANCES FOR THE CITY OF RIVERVIEW BY THE ADDITION OF ARTICLE V. “STORM WATER MANAGEMENT” IN CHAPTER 70 “UTILITIES” TO PROVIDE FOR THE PROTECTION OF THE ENVIRONMENT AGAINST POLLUTION FROM STORM WATER RUNOFF; TO PROVIDE FLOOD CONTROL AND ADEQUATE DRAINAGE WITHIN AND AROUND THE CITY OF RIVERVIEW; TO PREVENT POLLUTION WITHIN AND AROUND THE CITY OF RIVERVIEW; TO PROVIDE FOR THE IMPLEMENTATION OF A STORM WATER MANAGEMENT PROGRAM IN THE CITY OF RIVERVIEW; TO PROVIDE FOR THE ISSUANCE OF STORM WATER CONSTRUCTION APPROVALS FOR CERTAIN

CONSTRUCTION ACTIVITIES WITHIN THE CITY OF RIVERVIEW’S JURISDICTION; TO PROVIDE DESIGN AND CONSTRUCTION CRITERIA FOR STORM WATER MANAGEMENT SYSTEMS; TO PROVIDE FOR ADMINISTRATION AND ENFORCEMENT OF THE ORDINANCE; TO REQUIRE LONG-TERM MAINTENANCE AND FINANCIAL ASSURANCE TO AUTHORIZE INSPECTIONS OF CONSTRUCTION ACTIVITIES GOVERNED BY THIS ORDINANCE; TO PROVIDE FOR THE CONTINUATION OF ALL PRE-EXISTING LEGAL REQUIREMENTS TO PRESERVE AND PROTECT THE ENVIRONMENT; TO PROVIDE FOR THE SEVERABILITY OF THIS ORDINANCE; TO PROVIDE FOR THE EFFECTIVE DATE HEREOF; AND TO ESTABLISH PENALTIES FOR VIOLATIONS HEREOF.

THE CITY OF RIVERVIEW ORDAINS:

ARTICLE I. AMENDMENT: That Article V. “Storm Water Management” under Chapter 70 “Utilities” is hereby added to read as follows:

Article V. Storm Water Management

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RESOLUTION
No. 619

RESOLVED, by the Riverview City Council this 15th day of December, 2008 that approval be, and hereby is granted authorizing the adoption and subsequent amendments to the Administrative Rules for the City of Riverview Storm Water Management Ordinance, as recommended by the City Engineer.

[Administrative Rules Attached]

DIVISION 1 GENERAL PROVISIONS

SECTION 70-400 AUTHORITY

This Ordinance is enacted pursuant to the Federal Water Pollution Control Act of 1972, 33 U.S.C. 1251 *et seq.*, as amended; Part 31 of the Natural Resources and Environmental Protection Act of 1994 (“Part 31”), MCL 324.3101 *et seq.*, as amended; the General Permit “Storm Water Discharges from Municipal Separate Storm Sewer Systems (MS4s) Subject to Watershed Plan Requirements” (General Permit No. MIG619000) issued by the Michigan Department of Environmental Quality Pursuant to Part 31; Act 288 of 1967 (Subdivision Control Act), MCL 560.101 *et seq.*, as amended by the Land Division Act, MCL 560.101 *et seq.*; Act 283 of 1909 (County Road Law), MCL 224.1 *et seq.*, as amended; Act 40 of 1056 (Drain Code, MCL 280.1 *et seq.*, as amended; and Act 96 of 1987 (Mobile Home Commission Act), MCL 125.2301 *et seq.*, as amended; the Charter County Law, MCL 45.515 *et seq.*, and the Home Rule Charter of Wayne County, Michigan (1981), as amended.

SECTION 70-401 PURPOSE

Prevention of pollution from storm water runoff and the protection of the quality of the waters of the state of Michigan are of utmost importance to the people of the City of Riverview. It is the purpose of this Ordinance and any rules promulgated pursuant to this Ordinance:

- A. To protect the environment against pollution and other effects from storm water runoff, and to protect the public health and safety;
- B. To provide for the implementation of a storm water management program in the City of Riverview and administrative rules to manage and prevent flooding, streambank erosion, pollution, and other effects from the storm water runoff;
- C. To establish standards and criteria for the design and construction of storm water management systems subject to the requirements of this Ordinance;
- D. To establish best management practices for the design, construction, maintenance, and operation of storm water management systems subject to the requirements of this Ordinance;
- E. To provide for the issuance of storm water construction approvals for construction activities subject to the requirements of this Ordinance.
- F. To provide for the long-term preservation and maintenance of storm water management systems subject to the requirements of the Ordinance;
- G. To authorize the inspection of storm water management systems subject to the requirements of this Ordinance; and
- H. To provide for the administration, implementation, and enforcement of this Ordinance.

SECTION 70-402 TITLE

This Ordinance shall be known and may be cited as the “City of Riverview Storm Water Management Ordinance.”

SECTION 70-403 ADMINISTRATION

This Ordinance shall be administered jointly by the City of Riverview Department of Public Works and the Department of Engineering.

SECTION 70-404 EFFECTIVE DATE

The Storm Water Management Ordinance shall become effective upon approval of the City Council. Any project that was assigned an active review number by the Permit Section as of the Effective Date shall be exempt from the requirements of this Ordinance.

SECTION 70-405 STATE AND ADMINISTRATIVE RULES

Unless otherwise specifically provided in this Ordinance, the provisions of this Ordinance shall control over less stringent rules of the Michigan Department of Environmental Quality, unless contrary to law.

The City Council may adopt by resolution Administrative Rules promulgated (by any City department) pursuant to this ordinance for the implementation and management of this ordinance.

SECTION 70-406 NO WAIVER OF OTHER OBLIGATIONS

Nothing in this Ordinance or any rule promulgated pursuant to this Ordinance shall be construed to reduce, abate, alter, modify, amend, or affect any duty or obligation to preserve and protect environment, including the Combined Downriver Watershed or other waters of the state; to control soil erosion and sedimentation; to protect wetlands; or to prevent air, water, or other pollution.

SECTION 70-407 INCORPORATION BY REFERENCE

Rules, regulations, other regulatory standards or statutory provisions incorporated or adopted by reference in this Ordinance or any rules promulgated pursuant to this Ordinance shall have the same force and effect given to any provision of this Ordinance.

SECTION 70-408 SEVERABILITY

The provisions of this Ordinance shall be severable. If any provision of this Ordinance is declared by a Court of competent jurisdiction to be unconstitutional or otherwise invalid, the remaining provisions of this Ordinance shall remain valid and enforceable.

DIVISION 2: DEFINITIONS

SECTION 70-410 As used in this Ordinance, the following terms have the following meanings:

(A) **Applicant** means a person responsible for regulated construction activity on a development site who is seeking to obtain storm water construction approval.

(B) **Construction activity** means a human-made activity, including without limitation, clearing, grading, excavating, construction and paving, that results in an earth change or disturbance in the existing cover or topography of land, including any modification or alteration of a site or the "footprint" of a building that results in an earth change or disturbance in the existing cover or topography of land.

(C) **Conveyance** means any structure or other means of safely conveying storm water and storm water runoff within a storm water management system, including without limitation a watercourse, closed conduit, culvert, or a bridge.

(D) **City** means the City of Riverview.

(E) **County Drains** are open or closed drains within the jurisdiction of Wayne County established pursuant to the Michigan Drain Code of 1956, MCL 280.1 et seq., as amended.

(F) **Development site** means the property on which regulated construction activity will occur or is occurring or has occurred.

(G) **Director** means the Director of the City of Riverview Department of Public Works.

(H) **Permit Section** means the Permit Section of the City of Riverview Department of Public Services, and the City Engineer.

(I) **Person** means a natural person, trustee, court-appointed representative, syndicate, association, partnership, firm, club, company, corporation, business trust, institution, agency, government corporation, municipal corporation, city, county, municipality, district, or other political subdivision, department, bureau, agency or instrumentality of federal, state, or local government, or other entity recognized by law as the subject of rights and duties.

(J) **Regulated Construction Activity** means construction activity that is subject to the provisions of this Ordinance or a rule promulgated pursuant to this Ordinance.

(K) **Storm Water** means water resulting from precipitation, including without limitation rain, snow, and snowmelt.

(L) **Storm Water Construction Approval** means an approval issued pursuant to this Ordinance and rules promulgated pursuant to this Ordinance.

(M) **Storm Water Management Program** consists of ordinances, orders, rules, regulations, and other mechanisms that provide for the management of storm water and storm water runoff to prevent flooding and to ensure the restoration and /or protection of surface waters in the City of Riverview. The Storm water management program consists of the requirements of this Ordinance and any rules or regulations promulgated under this Ordinance, and activities mandated by the Certificate of Coverage issued by the Michigan Department of Environmental Quality to the City pursuant to the General Permit "Storm water Discharges from Municipal Separate Storm Sewer Systems (MS4s) Subject to Watershed Plan Requirements" (General Permit No. MIG619000).

(N) **Storm Water Management System** means any structure, feature or appurtenance subject to this Ordinance or a rule promulgated pursuant to this Ordinance that is designed to collect, detain, retain, treat, or convey storm water or storm water runoff, including without limitation buffer strips, swales, gutters, catch basins, closed conduits, detention systems, pretreatment systems, wetlands, pavement, unpaved surfaces, structures, watercourses, or surface waters.

(O) **Storm Water Runoff** means the excess portion of precipitation that does not infiltrate the ground, but "runs off" and reaches a conveyance, surface water, or watercourse.

(P) **Surface Water** means a body of water, including without limitation seasonal and intermittent waters, in which the surface of the water is exposed to the atmosphere, including without limitation lakes, open detention basins, forebays, watercourses, bioretention areas, retention basins, wetlands, and impoundments.

(Q) **Watercourse** means an open conduit, either naturally or artificially created, that periodically or continuously conveys water, including without limitation, rivers, streams, vegetated swales, open channels, and open Drains.

DIVISION 3: APPLICABILITY

SECTION 70-411 GENERAL

This Ordinance and rules promulgated pursuant to this Ordinance shall apply to all of the following:

(A) construction activity that impacts storm water runoff into or around new or existing road rights-of-way within the jurisdiction of the City;

(B) construction activity that impacts storm water runoff into or around City drains;

(C) construction activity that impacts storm water runoff in projects that are subject to the requirements of Act 288 of 1967 (Subdivision Control Act), MCL 560.101 et seq., as amended;

(D) construction activity that impacts storm water runoff from projects that are subject to Act 96 of 1987 (Mobile Home Commission Act), MCL 125.2301 et seq., as amended;

(E) construction activity that impacts storm water runoff into, on or through property owned by the City;

(F) construction activity that impacts new or existing storm sewer systems owned, operated, or controlled by the City; and

(G) construction activity that occurs within and impacts or may impact water quality or water resources in watersheds or sub-watersheds included in the Certificate of Coverage issued by the Michigan Department of Environmental Quality to the County pursuant to the General Permit "Storm Water Discharges from Municipal Separate Storm Sewer Systems (MS4s) Subject to Watershed Plan Requirements" (General Permit No. MIG619000).

SECTION 70-412 LOCAL REQUIREMENTS

(A) Nothing in this Ordinance, or in any rule promulgated pursuant to this Ordinance, invalidates any rule, regulation, or ordinance enacted by the City prior to the Effective Date of this Ordinance, or prevents the City from adopting or enacting a storm water management program applicable to activities within its jurisdiction.

(B) Nothing in this Ordinance or in any rule promulgated pursuant to this Ordinance shall apply to construction activity that is subject to a storm water management program enacted by the City that imposes requirements equal to or more stringent than the minimum applicable requirements of this Ordinance.

(C) The City, in its sole discretion, and to the extent permitted by law, may enter into an agreement with any local unit of government for the purpose of implementing, in whole or in part, this Ordinance and/or any rule promulgated pursuant to this Ordinance, with respect to construction activity within the jurisdiction of the local unit of government.

DIVISION 4: STORM WATER CONSTRUCTION APPROVALS

SECTION 70-413 GENERAL REQUIREMENTS

It shall be a violation of this Ordinance to engage in regulated construction activity except in accordance with this Ordinance and rules promulgated pursuant to this Ordinance, and pursuant to a valid storm water construction approval issued by the City. A storm water construction approval shall be issued in a form and manner approved by the City, and may be incorporated into a construction permit or other approval issued under or required by another ordinance, statute or regulation.

SECTION 70-414 APPLICATION FOR STORM WATER CONSTRUCTION APPROVAL

(A) Applicants shall submit a written application for a storm water construction approval to the City. The application shall be made in a form and manner approved by the City, and shall include all information and documentation required by the City pursuant to this Ordinance or rules promulgated pursuant to this Ordinance.

(B) All proposed modifications to a storm water management system that has received a storm water construction approval issued by the City shall be submitted to the City in writing, together with all information and all supporting documentation required by the City pursuant to this Ordinance or rules promulgated pursuant to this Ordinance to support the proposed modification. A person shall not commence regulated construction activity associated with a proposed modification without the approval of the City.

SECTION 70-415 FINANCIAL ASSURANCE FOR REGULATED CONSTRUCTION ACTIVITY

(A) The City may require an Applicant to provide financial assurance for regulated construction activity.

(B) Financial assurance provided pursuant to this section shall be in the form of a performance bond, cash deposit, or unconditional irrevocable letter of credit. The City may accept, with prior approval, an equivalent instrument as financial assurance for regulated construction activity.

(C) The City may establish the form and amount of financial assurance to be provided; the events, circumstances, or occurrences that will cause the City to release the financial assurance mechanism; and other requirements for financial assurance to satisfy the purposes of this Ordinance.

DIVISION 5: DESIGN AND CONSTRUCTION REQUIREMENTSSECTION 70-500 GENERAL

(A) Except as provided below, storm water management systems shall be designed in accordance with the minimum requirements for performance and design that are set forth in this Ordinance and in rules promulgated pursuant to this Ordinance.

(B) The City encourages the development and use of innovative storm water management system designs and construction techniques, including without limitation the use of non-structural practices to reduce storm water runoff and/or its water quality impacts, to achieve the flood control and water quality objectives of the Ordinance and the rules promulgated hereunder.

(C) Notwithstanding any provision in this Ordinance or a rule promulgated pursuant to this Ordinance, the City may require storm water management systems to satisfy performance and/or design standards more stringent than the minimum requirements for performance and design set forth in this Ordinance and in rules promulgated pursuant to this Ordinance when necessary to address unique flood control or water resources protection issues at a development site, on adjacent properties, or downstream of a development site.

SECTION 70-501 REQUIREMENTS FOR DESIGN OF STORM WATER MANAGEMENT SYSTEMS

(A) Selecting and designing storm water management systems to meet the requirements of this Ordinance and the rules promulgated pursuant to this Ordinance shall be the responsibility of the applicant or its designee, subject to the approval of the City pursuant to this Ordinance and rules promulgated pursuant to this Ordinance. The City may deny a storm water construction approval for a system design that is not in compliance with these requirements.

(B) In designing a storm water management system, the applicant shall consider all relevant and appropriate factors, including without limitation the following:

- (1) the public health, safety, welfare, and the environment;
- (2) the inconvenience caused by storm water runoff on the subject property;
- (3) the long-term impact of regulated construction activity on storm water runoff on, from and beyond the property;
- (4) the natural drainage pattern of the land;

- (5) the impact of the regulated construction activity on the affected watershed(s); and
- (6) the effect of complete upstream development on the subject property as determined by applicable master plans and/or storm water plans; and
- (7) the extent of downstream improvements necessary for proper storm water drainage.

DIVISION 6: FEES FOR STORM WATER CONSTRUCTION APPROVALS

SECTION 70-502 FEES

A City agency may recommend to the City Council a written schedule to be adopted by the City to establish a fee system for administering and implementing the storm water management program. The fee system may include fees for application submittal and review, project overview, compliance inspections, and any other task or service performed by the City to administer or implement the requirements of this Ordinance or rules promulgated hereunder. Fees may be refundable or nonrefundable, as determined appropriate by the City, and may include charges for time and materials utilized by the City in implementing and administering the requirements of this Ordinance or rules promulgated pursuant to this Ordinance. The schedule of fees may be adopted by Resolution of the City Council and adjusted from time to time.

DIVISION 7: LONG-TERM MAINTENANCE

SECTION 70-505 DEMONSTRATION OF LONG-TERM MAINTENANCE

The applicant for a storm water construction approval shall demonstrate to the City in the application or during the application review process, as determined appropriate by the City, that the storm water management system shall be maintained in perpetuity. This demonstration shall be made in the manner specified in rules promulgated pursuant to this Ordinance.

SECTION 70-506 SCOPE OF LONG-TERM MAINTENANCE

For purposes of this Ordinance and rules promulgated pursuant to this Ordinance, long-term maintenance shall include site monitoring and preventative maintenance activities necessary to ensure that a storm water management system functions properly as designed; remedial actions necessary to repair, modify, or reconstruct the system in the event the system does not function properly as designed at any time; notification to subsequent owners of limitations or restrictions on the property; actions necessary to enforce the terms of restrictive covenants or other instruments applicable to the property pursuant to this Ordinance and rules promulgated pursuant to this Ordinance; and such other actions as may be set forth in rules promulgated hereto.

DIVISION 8: AUTHORITY AND DUTIES OF INSPECTORS

SECTION 70-510 AUTHORITY

Upon presentation of proper credentials and identification, and after stating the authority and purpose of the inspection, City inspectors shall be promptly permitted to enter and inspect a development site. The inspection shall be for the purpose of investigating the development site, storm water management systems, or components of storm water management systems, to determine compliance or non-compliance with this Ordinance, rules or regulations promulgated pursuant to this Ordinance, and/or storm water construction approvals issued pursuant to this Ordinance.

SECTION 70-511 DUTIES OF INSPECTORS

While entering and performing an inspection on private property pursuant to Section 70-510 above, a City inspector shall observe and comply with all safety rules applicable to the premises.

DIVISION 9: COMPLIANCE AND ENFORCEMENT

SECTION 70-520 GENERAL

All persons are encouraged to cooperate with the City to ensure that the requirements of this Ordinance, rules promulgated pursuant to this Ordinance, and storm water construction approvals issued hereunder are satisfied. Whenever possible, the City shall attempt to enter into voluntary agreements to resolve violations of this Ordinance, rules promulgated pursuant to this Ordinance, and storm water construction approvals issued hereunder.

SECTION 70-521 INVESTIGATIONS, INFORMAL CONFERENCES, AND VOLUNTARY AGREEMENTS

(A) If the City believes that a violation of this Ordinance, a rule promulgated pursuant to this Ordinance, or a storm water construction approval issued hereunder may have occurred or exists, the City shall make a prompt investigation. If, after this investigation, the City determines that a violation has occurred or exists, the City shall attempt to enter into a voluntary agreement to resolve or correct the violation. An informal conference may be requested by the City or by any other person to facilitate a voluntary agreement.

(B) If a voluntary agreement cannot be reached, the City shall take appropriate enforcement action pursuant to this Ordinance and other applicable provisions of law.

SECTION 70-522 NOTIFICATION OF VIOLATION

(A) If a voluntary agreement pursuant to Section 70-521 cannot be reached, the City shall issue written notice of a violation to the person or persons alleged to have caused or contributed to a violation of this Ordinance, a rule promulgated pursuant to this Ordinance, and/or an approval issued hereunder. A written notice of violation shall include a statement of facts upon which the violation is based.

(B) Within fourteen (14) days of the receipt of a written notice of violation, the alleged violator shall submit to the City an explanation of the violation and a plan for correcting the violation to comply with this Ordinance, rules promulgated pursuant to this Ordinance, and/or storm water construction approvals issued hereunder. Submission of this plan in no way relieves the alleged violator of liability for any previous violation not addressed by the plan or future violation.

(C) Within fourteen (14) days of the receipt of a written response to a notice of violation, the City shall determine whether the response resolves and/or corrects the alleged violation. If the City determines that the response resolves and/or corrects the violation, then the plan for correcting the violation shall be incorporated into a consent agreement pursuant to Section 70-523.

SECTION 70-523 CONSENT AGREEMENT

(A) A consent agreement may be entered into at any time by and between the City and the person or persons alleged to have caused or contributed to the violation. The consent agreement shall be mutually acceptable to both the City and the recipient(s) and shall reflect the recipient's agreement to assume responsibility for and correct violations of this Ordinance, rules promulgated pursuant to this Ordinance, and approvals issued hereunder.

(B) The consent agreement shall contain a short statement of facts, describe the actions necessary to correct the non-compliance, contain a compliance schedule, and be signed by all parties. The agreement may contain a monetary or other relief as agreed to by the parties for the non-compliance, including without limitation, amounts necessary to compensate the City for costs incurred investigating, administering and/or enforcing this Ordinance or rules promulgated hereto.

SECTION 70-524 ADMINISTRATIVE COMPLIANCE ORDERS

(A) If the City determines that violation of this Ordinance, a rule promulgated pursuant to this Ordinance, or a storm water construction approval issued hereunder has occurred or exists, the City may issue an administrative compliance order pursuant to this Section 70-524.

(B) Except as provided in Section 70-525, the City may issue an administrative compliance order in the following circumstances:

(1) the City determines that a person has violated a consent agreement entered into with the City; or

(2) (a) the City determines that a person has violated or continues to violate this Ordinance, a rule promulgated pursuant to this Ordinance, or a storm water construction approval issued hereunder, and

(b) the City has attempted to resolve the violation pursuant to Section 70-521 and 70-522 but no voluntary agreement or consent agreement has been entered into.

(C) The administrative compliance order shall contain a statement of facts upon which the order is based, a description of the actions that must be taken to correct the non-compliance, a compliance schedule, and other requirements as might be reasonably necessary to address the non-compliance. Administrative compliance orders also may contain administrative fines and penalties, and such other monetary relief for the non-compliance, including without limitation amounts necessary to compensate the City for costs incurred investigating, administering, and enforcing this Ordinance or rules promulgated hereto.

(D) Within twenty-eight (28) days of being issued an administrative compliance order, the person or persons receiving the order may appeal the issuance of the Order pursuant to Chapter 10 of this Ordinance.

SECTION 70-525 IMMINENT AND SUBSTANTIAL INJURY ORDERS

(A) The City may issue an administrative order without attempting to resolve a violation by using the enforcement procedures described in Section 70-521 and 70-522 if the City finds that a violation of this Ordinance, a rule promulgated pursuant to this Ordinance, or a storm water construction approval issued hereunder constitutes or causes, or will constitute or cause, a substantial injury to the public health, safety, welfare, or the environment, and it is prejudicial to the interests of the people of the City to delay action.

(B) Administrative orders issued pursuant to this Section 70-525 shall contain a statement of facts upon which the order is based, and notification to the person that it must immediately take action to discontinue, abate, correct, or otherwise address the imminent and substantial injury caused or likely to be caused by the non-compliance.

(C) Within seven (7) days, the City shall provide the person an opportunity to be heard and to present any proof that the non-compliance does not or will not constitute imminent and substantial injury to the public health, safety, welfare or the environment.

(D) An order issued pursuant to this Section 70-525 is effective on issuance and shall remain in effect for a period of not more than seven (7) days, unless the City brings an action to restrain the alleged non-compliance pursuant to Section 70-527 or 70-528 before the expiration of that period. If the City brings such an action within the seven day period, the order issued by the City shall remain in effect for an additional seven (7) days or such other period as is authorized by the court in which the action is brought.

SECTION 70-526 MUNICIPAL CIVIL INFRACTIONS

(A) Violation; Municipal Civil Infraction

Except as provided by Section 70-527, a person who violates any provision of this Ordinance or rules promulgated hereunder, including without limitation any notice, order, storm water construction approval, agreement, decision, or determination promulgated, issued, made, or entered by the City under this Ordinance or rules promulgated hereunder, is responsible for a municipal civil infraction, subject to payment of a civil fine of no less than \$1,000 per day and not more than \$27,500 per day for each infraction, plus costs and other sanctions.

(B) Repeat Offenses; Increased Fines.

(1) Increased fines may be imposed for repeat offenses. As used in this section, "repeat offenses" means a second (or any subsequent) municipal or civil infraction violation of the same requirement or provision of this Ordinance or rule promulgated hereunder (a) that is committed by a person within any 12-month period and (b) for which the person admits responsibility or is determined to be responsible.

(2) The increased fine for a repeat offense under this section shall be as follows:

(a) The fine for any offense that is a first repeat offense shall be not less than \$2,500, plus costs.

(b) The fine for any offense that is a second repeat offense or any subsequent repeat offense shall be not less than \$5,000, plus costs.

(C) Amount of Fines.

(1) Municipal Civil Infraction Citations. Subject to the minimum fine amounts specified in Section 70-526(A) and (B), the following factors shall be considered in determining the amount of a municipal civil infraction fine following the issuance of a municipal civil infraction citation for a violation of this Ordinance or rules promulgated pursuant to this Ordinance:

(a) the type, nature, gravity, magnitude, severity, frequency, duration, preventability, potential and actual effect, cause (including whether negligent or intentional) and economic benefit to the violator (such as delayed or avoided costs or competitive advantage) of the violation;

(b) the violator's recalcitrance, cooperation or efforts to comply;

(c) the violator's compliance history (regardless whether prior enforcement proceedings were commenced);

(d) the economic impacts of the fine on the violator; and

(e) such other factors as justice may require.

A violator shall bear the burden of demonstrating the presence and degree of any mitigating factors to be considered in determining the amount of a fine. However, mitigating factors shall not be considered unless it is determined that the violator has made all good faith efforts to correct and terminate all violations.

(2) Municipal Civil Infraction Notices; Schedule of Fines.

Notwithstanding any provision of this Ordinance to the contrary, the amount of a municipal civil infraction fine due in response to the issuance of a municipal civil infraction notice for a violation as provided by Section 70-526(A) shall be according to the following schedule:

First Offense:	\$1,000
Second Offense:	\$2,500
Third Offense:	\$5,000

For any fine not paid in full within 30 days of the time specified for appearance in the municipal civil infraction violation notice, the fine amount due shall automatically be double the amounts listed

immediately above. A copy of this schedule shall be posted at the City of Riverview Department of Public Works.

(D) Authorized City Officials.

The following persons are authorized City Officials for purposes of issuing municipal civil infraction citations (directing alleged violators to appear in district court) or municipal civil infraction violation notices (directing alleged violators to appear at the Wayne County Municipal Ordinance Violations Bureau) for violations under this Ordinance: the Director of the Department of Public Works; the City Engineer, and their respective designees and authorized representatives.

(E) Procedures.

Except as otherwise provided by this section, the procedures for municipal civil infraction actions shall be as set forth in Chapter 2 (Municipal Civil Infractions) of the Code of Ordinances of the City of Riverview.

SECTION 70-527 CIVIL ACTIONS

The City, by and through the City Attorney, may bring a civil action in the name of the City to enforce the provisions of this Ordinance and rules promulgated pursuant to this Ordinance. Nothing in this Ordinance shall preclude the City from instituting an action for appropriate legal and/or equitable relief in Wayne County Circuit Court to restrain, correct, or abate a violation of this Ordinance, a rule or regulation promulgated pursuant to this Ordinance, or a storm water construction approval issued hereunder; or to stop an illegal act; or to abate a nuisance; or to prevent pollution or flooding.

SECTION 70-528 CRIMINAL PENALTIES; IMPRISONMENT

Any person who

(A) At the time of violation knew or should have known that a violation of this Ordinance, or any notice, order, storm water construction approval, or decision or determination promulgated, issued or made by the City under this Ordinance; or

(B) Intentionally makes a false statement, representation, or certification in any application for, or form pertaining to, a storm water construction approval, or any other correspondence or communication, written or oral, with the City regarding matters regulated by this Ordinance; or

(C) Commits any other act that is punishable under state law by imprisonment for more than 90 days; shall, upon conviction, be guilty of a misdemeanor punishable by a fine of \$500 per violation, per day, or imprisonment for up to 90 days, or both in the discretion of the court.

SECTION 70-529 SEPARATE OFFENSES

Each act of violation, and each day or portion of a day that a violation of this Ordinance, rules or regulations promulgated pursuant to this Ordinance, storm water construction approval, order, notice, or determination issued, made or entered into under this Ordinance is permitted to exist or occur, constitutes a separate offense and shall be punishable as provided by this Ordinance.

DIVISION 10: APPEAL

SECTION 70-540 APPEAL

(A) Any person whose legal rights duties, or privileges are determined by the City pursuant to this Ordinance or a rule promulgated pursuant to this Ordinance, and who is aggrieved by the City's determination, may appeal to the Storm Water Appeals Board for relief of that grievance. An appeal shall be made according to the procedure set forth in this Chapter.

(B) The Storm Water Appeals Board shall consist of the Director of the Department of Public Works; the City Administrator; and the City Engineer; or their designees. Meetings of the Storm Water Appeals Board shall be in person and shall be open to all interested parties.

SECTION 70-541 APPEAL PROCEDURE

(A) An appeal shall be in writing, shall be addressed to the Storm Water Appeals Board c/o the Department of Public Works, and shall be received within twenty (20) days of the determination that is the subject of the appeal. The appeal shall be made in triplicate, shall set forth the specific act or matter complained of and in dispute, and shall include all documentation that supports the appellant's position. The appellant may be required to post a deposit at the time of filing to cover the costs of processing the appeal.

(B) Within thirty (30) days of receipt of written appeal, the Department of Public Works shall acknowledge such recipient in writing, and shall set a day and time for an appellant hearing to be

conducted in accordance with subsection (D). If appropriate, the Department of Public Works may schedule a conciliation meeting with the appellant in accordance with subsection (C).

(C) Conciliation Meeting

(1) The purpose of a conciliation meeting is to attempt to resolve the matter before an appeal is forwarded to the Storm Water Appeals Board. If a conciliation meeting is held, it shall occur as soon as practicable, at the mutual convenience of the parties. Conciliation meetings shall be open to all interested parties and their representatives.

(2) After a conciliation meeting, if the appellant or the Department of Public Works determines that an appeal cannot be resolved through a conciliation meeting, the parties shall so inform the Storm Water Appeals Board in writing, and the appellate hearing scheduled pursuant to subsection (B) shall be conducted in accordance with subsection (D). Additional conciliation meetings shall not be necessary.

(3) If the Department of Public Works and the appellant agree that the subject of the appeal has been satisfactorily resolved through the conciliation meeting process or otherwise, the agreement shall be incorporated into a consent agreement pursuant to Section 70-523.

(D) Hearing procedure

(1) A notice shall be sent to the appellant at least ten (10) days prior to the hearing. The notice shall include (a) a statement of the date, time, place, and nature of the hearing; (b) a statement of the legal authority and jurisdiction under which the hearing will be held; (c) a reference to the particular sections of this Ordinance involved in the appeal; (d) brief summary of the specific act or matter complained of and in dispute.

(2) At the hearing, the Storm Water Appeals Board shall receive testimony and evidence provided by the appellant, the City, and/or others as the Storm Water Appeals Board deems necessary. During the hearing, the Storm Water Appeals Board shall not be bound strictly by the rules of evidence that would apply in a court, but shall have the authority to receive such evidence as deemed relevant and material. The Storm Water Appeals Board may give the evidence as is received such weight and probative value as, in the Board's discretion, is deemed proper.

(3) Within thirty (30) days after the hearing, the Storm Water Appeals Board shall render a decision in writing. This thirty (30) day period may be extended for good cause. The decision shall include a brief summary of the specific act or matter complained of, the nature of the testimony and evidence received, and a decision as to whether the Board affirmed, rescinded, or modified the decision or action at issue.

(4) The decision of the Storm Water Appeals Board shall be final and enforceable at law. A person aggrieved by a final decision of the Storm Water Appeals Board may seek judicial review of the Decision by the Wayne County Circuit Court. A petition for judicial review shall be filed not later than sixty (60) days following the receipt of the final decision of the Storm Water Appeals Board. An aggrieved person shall exhaust all administrative remedies provided in this Chapter before seeking judicial review.

ARTICLE II. Penalty: A person violating this ordinance shall be punished in accordance with Section 1-8 of the Code of Ordinances of the City of Riverview, unless a different penalty is expressly provided in this ordinance.

ARTICLE III. Severability: Should any word, sentence, phrase or any portion of this Ordinance be held in a manner invalid by any Court of competent jurisdiction or by any agency having authority to do so for any reason whatsoever, such holding shall be construed and limited to such word, sentence, phrase or any portion of the Ordinance held to be invalid and shall not be construed as affecting the validity of any remaining words, sentences, phrases or portions of the Ordinance.

ARTICLE IV. Conflicting Ordinances: All prior existing ordinances adopted by the City of Riverview inconsistent or in conflict with the provisions of this Ordinance are, to the extent of such conflict or inconsistency, hereby expressly repealed.

ARTICLE V. Reading and Publication: This Ordinance shall be given a first reading on December 1, 2008, shall be given a second reading on December 15, 2008, shall be adopted on December 15, 2008 and shall be published and become effective upon publication. The Clerk shall publish a summary of this ordinance and include in the publication notice that a true copy of the Ordinance can be inspected or obtained at the Clerk's office.

ADOPTED, APPROVED AND PASSED by the City Council of the City of Riverview this 15th day of December, 2008.

The undersigned hereby certifies that the foregoing is a true and accurate copy of the ordinance adopted by the City Council of the City of Riverview at a regular meeting held on December 15, 2008.

Judith A. Bratcher, City Clerk

City of Riverview Storm Water Administrative Rules

CITY OF RIVERVIEW STORM WATER MANAGEMENT ADMINISTRATIVE RULES

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Chapter 1 GENERAL PROVISIONS

Rule 101 Purpose

These administrative rules are declared necessary for the protection of the health, safety, and welfare of the citizens of the City of Riverview and to protect the environment against pollution and other adverse effects from storm water runoff. The purpose of these rules is to provide for the administration and implementation of a storm water management program in Riverview; and to provide performance and design standards for storm water management systems.

Rule 102 Title

These administrative rules shall be known and may be cited as the “City of Riverview Storm Water Management Administrative Rules.”

Rule 103 Effective Date

These administrative rules shall become effective upon approval of the Riverview City Council.

Chapter 2 DEFINITIONS

Rule 201General

All terms in these administrative rules shall have the meaning ascribed to them in the City of Riverview Storm Water Management Ordinance, unless otherwise specified herein.

Rule 202 Terms

As used in these rules:

Bank full flood means the storm water generated by the 1.5-year storm.

Best management practice, or BMP, means a practice or combination of practices that have been determined by the City to be the preferred method of preventing, minimizing, or reducing pollution and other effects of storm water and storm water runoff.

Bioretention area means a component of a storm water management system that is comprised of a depressed land area that contains specific soil, plant materials, and other features and is used as a pretreatment system.

Bridge means a structure, including supports, but to carry a feature over a surface water or watercourse, with a clear span of more than 20 feet measured along the center of feature being carried.

Buffer strip means a zone that is used for filtering direct storm water and storm water runoff into a storm water management system and for providing maintenance access to a storm water management system.

Catch basin means a belowground structure designed to collect and convey water into a storm sewer system.

CFS means cubic feet per second.

City means the City of Riverview.

Closed conduit means an enclosed conveyance designed to carry storm water runoff such that the surface of the water is not exposed to the atmosphere, including without limitation storm sewers, culverts, closed drains, and pipes.

Constructed wetland means an open detention basin that uses a variety of water depths and wetland plants to provide pollutant removal.

Culvert means a structure, including supports, built to carry a feature over a surface water or watercourse, with a clear span of less than 20 feet measured along the center of the feature being carried.

Design storm means a rainfall event of specified size and return interval that is used to calculate the water volume and peak flow rate that must be handled by a storm water management system.

Design water level means the water surface elevation in a detention system at which the storage volume in the system (above the permanent pool water level, if any) equals the required flood control storage volume.

Detention or detain means the temporary storage of storm water and storm water runoff to control peak flow rates and/or provide pollutant removal before discharging the water to a surface water or closed conduit.

Detention system means a component of storm water management system, either aboveground or below ground, that detains storm water and storm water runoff. Detention systems may include, without limitation, open detention basins and underground detention systems.

Detention time means the amount of time that a volume of water will be detained in a detention system.

Drainage area means the entire upstream land area from which storm water runoff drains to a particular location, including any off-site drainage area.

Emergency spillway means a depression in the embankment of an open detention basin or retention basin that is used to pass flows in excess of the overflow structure capacity.

First flush means storm water runoff that occurs during the early stages of a storm as a result of the washing effect of storm water runoff on pollutants that have accumulated on the surface of the drainage area. For purposes of these rules, the first flush at a particular location within a storm water management system consists of runoff from the first 0.5 inch of precipitation over the entire drainage area upstream of that location.

Floodplain means for a given flood event, that area of land adjoining a continuous watercourse that has been covered temporarily by water.

Flow restrictor means a structure, feature, or device in a detention system or pretreatment system that is used to restrict the discharge from the system for specified design storm(s).

Forebay means a component of a storm water management system that is comprised of a surface water that is used as a pretreatment system.

Freeboard means the vertical distance from the design water level to the top of the embankment of an open detention basin or retention basin.

Manhole means a structure that allows access into a closed conduit.

Manning's Formula means a technique for estimating the hydraulic capacity of a closed conduit, watercourse, or other means of conveyance of storm water and storm water runoff.

Manning's Roughness Coefficient ("n") means a coefficient used in Manning's Formula to describe the resistance to flow due to the roughness of a conveyance.

Manufactured treatment system means a component of a storm water management system that is comprised of a surface of water that is used as a detention system.

Open detention basin means a component of a storm water management system that is comprised of a surface water that is used as a detention system.

Ordinance means the City of Riverview Storm Water Management Ordinance.

Outflow rate means the rate of discharge in volume per unit time.

Overflow structure means a structure designed to allow unrestricted discharge from a component of a storm water management system when the water level exceeds the design water level.

Peak flow rate means the maximum instantaneous rate of flow at a particular location within a storm water management system, usually in reference to a specific design storm event.

Permanent pool means a pool in an open detention system or forebay that provides additional removal of pollutants through settling and biological uptake.

Pollutant means any substance introduced into the environment that may adversely affect the public health, safety, welfare, or the environment, or the usefulness of a resource.

Pretreatment system means a structure, feature, or appurtenance, or combination thereof, either above ground or below ground, that is used as a component of a storm water management system to remove incoming pollutants from storm water and storm water runoff. Pretreatment systems may include, without limitation, forebays, manufactured treatment systems, and bioretention areas.

Regulated wetlands mean any wetland protected by federal, state, or local laws or regulations.

Rational Method Formula means a technique for estimating peak flow rates at a particular location within a storm water management system, based on the rainfall intensity, watershed time of concentration, and a runoff coefficient.

Retention or retain means the temporary storage of storm water a storm water runoff to provide gravity settling of pollutants and to promote infiltration into the soil, rather than to discharge the storm water or storm water runoff to a surface water or closed conduit.

Retention basin means a component of storm water management system that is comprised of a surface water that retains storm water and storm water runoff.

Return Interval means the average expected time interval between events of some kind.

Riprap means a combination of large stone, cobbles, and boulders used to line watercourses, stabilize banks, reduce runoff velocities, or filter out sediment.

Runoff coefficient means the ratio of the volume of storm water runoff from a given drainage area over a given time period, to the total volume of precipitation that falls on the same drainage area over the same time period.

Time of concentration means the time duration (typically in minutes) that is required for storm water runoff from the most remote area of the watershed to reach a given location in a storm water management system.

Total suspended solids means particles or other solid material suspended in storm water or storm water runoff. "Total suspended solids" is commonly expressed in concentration (mg/l).

Underground detention system means one or more underground pipes and/or other structures that are utilized as a detention system.

Watershed means the complete area or region draining into a watercourse, surface water, or closed conduit.

Weir means a structure that extends across the width of a surface water, watercourse or closed conduit and is used to impound or restrict the flow of water.

Wetted perimeter means the length of the perimeter of a watercourse or closed conduit cross-section that is submerged and thereby causes resistance to flow.

Chapter 3 GENERAL REQUIREMENTS FOR STORM WATER MANAGEMENT SYSTEMS

Rule 301 General

Except as provided in Rule 302, a person who applies for a storm water construction approval shall

- (A) Incorporate the minimum performance and design standards prescribed by Chapters 5, 6 and 7 of these rules into the selection and design of storm water management system;
- (B) Demonstrate that the storm water management system shall be maintained in perpetuity pursuant to chapter 10 of these rules; and
- (C) Incorporate such other requirements as may be deemed necessary by the City to satisfy the requirements of the Ordinance.

Rule 302 Alternative Performance and Design Standards

(A) Notwithstanding any other provision in these rules, the City may approve a storm water management system that does not satisfy the performance or design standards set forth in Chapters 5,6 and 7 of these rules if the following conditions are met:

- (1) request for approval of a storm water management system that incorporates alternative performance or design standards is submitted to the City in conjunction with an application for storm water construction approval;
- (2) the applicant demonstrates to the satisfaction of the City that the alternative performance or design standards are adequate to control and prevent flooding, erosion, pollution, and other effects of storm water runoff, consistent with the Ordinance; and

(3) the alternative performance or design standards are sufficiently described and documented to enable the City to assess their effectiveness.

(B) Notwithstanding any other provision in these rules, when necessary to address unique flood control or water resources protection issues at a development site, on adjacent properties, or downstream of a development site, the City may require additional or more stringent performance or design standards than set forth in these rules as a condition of granting a storm water construction approval. Such additional or more stringent requirements may be required when necessary to satisfy the requirements of the Ordinance or to ensure that storm water runoff from the development site does not create excessive adverse impacts to downstream property owners or water resources.

(C) Approval of a storm water management system that incorporates alternative performance or design standards pursuant to this rule is within the sole reasonable discretion of the City.

(D) The approval by the City of a storm water management system that meets alternative performance or design standards according to the requirements of this rule shall not reduce, abate, alter, modify, amend, or affect the applicant's responsibility to comply with other provisions of the Ordinance, these rules, or an approval issued hereunder.

(E) The City shall approve alternative performance or design standards pursuant to this rule only if the alternative performance or design standards meet or exceed applicable requirements for storm water management systems that are imposed by the state or Wayne County.

Rule 303 Best management Practices and Design Standards

The City may establish best management practices for controlling storm water runoff and detailed design criteria for storm water management systems. These practices and criteria shall be established in writing and made available to interested persons. Applicants for storm water construction approvals shall consider these practices and design criteria when designing storm water management systems.

Chapter 4 STORM WATER CONSTRUCTION APPROVALS

Rule 401 Application Requirements

(A) Applications for storm water construction approval, with supporting documentation and all required fees, shall be submitted to the Permit Office. Applications for storm water construction approval shall be made in a form and manner approved by the City. The City may establish requirements, guidelines, and forms for submitting such applications.

(B) All proposed modifications to the approved storm water management systems shall be submitted to and approved by the City. All supporting documentation shall be submitted with any proposal to modify the storm water management system. A person shall not commence regulated construction activity associated with a proposed modification without the approval of the City.

Rule 402 Review Procedures

(A) The Permit Section shall approve, deny, or require modification of a storm water management system proposed in an application for storm water construction approval. The Permit Section shall notify the applicant of the approval, denial, or request for modification by first class mail. If the application is denied, then the Permit Section shall advise the applicant in writing of its reasons for denial and conditions required for approval.

(B) The Permit Section shall issue a storm water construction approval only if it determines that an applicant has satisfied the requirements of the Ordinance and these rules. An approval given to the applicant either in person or by first-class mail constitutes approval of an application for storm water construction approval.

Chapter 5 PERFORMANCE STANDARDS FOR STORM WATER MANAGEMENT SYSTEMS

Rule 501 Flood Control

(A) Except as otherwise provided in these rules, storm water management systems shall be designed and constructed to meet the minimum performance standards for flood control set forth in this Rule 501. Designing a storm water management system to meet these minimum performance standards shall be the responsibility of the applicant or its design, subject to the City's approval.

Flood Control Performance Standards

(1) For storm water management systems that have drainage areas of greater than five (5) acres, the peak flow rate of storm water runoff leaving the development site shall not exceed 0.15 cfs/acre for a 100-year storm.

(2) For storm water management systems that have drainage areas of five (5) acres or less, the peak flow rate of storm water runoff leaving the development site shall not exceed 0.15 cfs/acre for a 10-year storm.

Rule 502 Water Resources Protection

(A) Except as otherwise provided in these rules, storm water management systems shall be designed and constructed to meet the minimum performance standard for water resources protection set forth in this Rule 502. Designing a storm water management system to meet these minimum performance standards shall be the responsibility of the applicant or its designee, subject to the City’s approval.

(B) Standard for Water Resources Protection. Storm water management systems shall be designed and constructed to remove eighty percent (80%) or more of the total suspended solids load from the development site, as determined on an annual average basis.

Chapter 6 GENERAL DESIGN STANDARDS

Rule 601 Determination of Peak Flow Rate

(A) Except as provided in Rule 601(B), the peak flow rate at a particular location within storm water management systems shall be calculated in accordance with the Rational Method Formula. The Rational Method Formula shall be expressed as follows:

$$Q = C \times I \times A$$

Where Q = peak flow rate

C = runoff coefficient

I = rainfall intensity (in/hr)

A = drainage area (acres)

(1) For purposes of calculating peak flow rate at a particular location using the Rational Method Formula, the runoff coefficient (C) shall be a weighted average that is based on the percentage of different surface types within the drainage area. Runoff coefficients for various surface types are shown in Table 1.

Table 1: MINIMUM ACCEPTABLE RUNOFF COEFFICIENTS			
Type of Surface	Runoff Coefficients (C)		
Water surfaces	1.00		
Roofs	0.95		
Asphalt or concrete pavements	0.95		
Gravel, brick or macadam surfaces	0.85		
Semi-pervious surfaces (e.g. lawns, playgrounds)	slope < 4%	slope 4%-8%	Slope > 8%
Hydrologic Soil Group A	0.15	0.2	0.25
Hydrologic Soil Group B	0.25	0.3	0.35
Hydrologic Soil Group C	0.3	0.35	0.4
Hydrologic Soil Group D	0.45	0.5	0.55

(2) For purposes of calculating peak flow rate at a particular location using the Rational Method Formula, rainfall intensity (I) shall be calculated in accordance with the formulae in Table 2.

Table 2: DESIGN RAINFALL INTENSITIES		
Design Storm	Rainfall Intensity (in/hr)	
	t Less than 60 Minutes	t Greater than 60 Minutes
10-year	151.8/(t+19.9)	162.3/(t+25.4)
50-year	212.5/(t+23.3)	230.3/(t+30.3)
100-year	233.7/(t+23.5)	294.0/(t+45.0)
where t = time of concentration (See Rule 601(A)(3))		

(3) For purposes of determining rainfall intensity at a given location in accordance with Rule 601 (A)(2), the time of concentration (t) for the most upstream end of the storm water management system shall be determined in accordance with Table 3, and shall be referred to as the

initial time of concentration. For downstream locations in the storm water management system, the time of concentration (t) shall be the sum of the initial time of concentration, plus the travel time from the upstream end to the location for which the peak flow rate calculation applies.

(B) The City, in its sole discretion, may require the peak flow rate to be calculated in accordance with an alternative runoff hydrograph prediction method when necessary to satisfy the requirements of the ordinance and these rules. The alternative hydrograph prediction method shall be based on the SCS Type II 24-hour rainfall distribution with conservative wet weather antecedent conditions.

(C) For purposes of calculating peak flow rate for a given development site, it shall be assumed that off-site drainage areas are developed consistent with any applicable master land use plan, storm water standards and storm water master plan enacted by the City of Riverview, and Wayne County's storm water management program.

Rule 602 General Design Standards for Flood Control

(A) Except as otherwise provided in these rules, storm water management systems designed and constructed to satisfy the general design standards for flood control set forth in this Rule 602 satisfy the applicable flood control performance standard Rule 501(B).

(B) The storm water management system shall include a detention system and/or retention basin that is designed and constructed in accordance with this Rule 602(B).

(1) Detention System

(a) Flood Control Storage Volume. The variables in the relationships in this Rule 602(B)(1) shall have the following values:

Q_a	=	maximum allowable rate from the detention system (cfs)
Q_0	=	maximum allowable outflow rate per acre imperviousness (cfs/acre imperviousness)
T	=	storage time defined as the instant storage begins until peak storage is attained (minutes)
V_s	=	maximum volume of water stored in the detention system per acre imperviousness (ft ³ /acre imperviousness)
V_t	=	maximum volume of water stored in the detention system (ft ³)
A	=	drainage area (acres)
C	=	runoff coefficient

(i) The flood control storage volume (V_{t100}) of detention systems that have a drainage area greater than five (5) acres shall be determined based on the following relationships for the 100-year storm:

Q_a	=	0.15 cfs/acre x A
Q_0	=	$Q_a / (A \times C)$
T_{100}	=	$(-45) + \sqrt{19845 / Q_0}$
V_{s100}	=	$[(17649 \times T_{100}) / (T_{100} + 45)] - (40 \times Q_0 \times T_{100})$
V_{t100}	=	$V_{s100} \times A \times C$

(ii) The flood control storage volume (V_{t10}) of detention systems that have a drainage area of five (5) acres or less shall be determined based on the following relationships for the 10-year storm:

Q_a	=	0.15 cfs/acre x A
Q_0	=	$Q_a / (A \times C)$
T_{10}	=	$(-19.9) + \sqrt{4530 / Q_0}$
V_{s10}	=	$[(9108 \times T_{10}) / (T_{10} + 19.9)] - 40 \times Q_0 \times T_{10}$
V_{t10}	=	$V_{s10} \times A \times C$

(b) Detention systems shall include a flow restrictor that restricts outflow from the system such that the maximum outflow rate at the design water level will not exceed the maximum allowable outflow rate (Q_a).

(2) Flood Control Storage Volume for Retention Basins. Retention basins shall be designed to retain the volume of storm water equal to the runoff from two consecutive 100-year storm events (V_r), as determined in accordance with the following relationship:

$$V_r = 2 \times 16500 \times A \times C$$

Where V_r = flood control storage volume of retention basin (ft³)
 A = drainage area tributary to inlet (acres)
 C = runoff coefficient

(C) Adequate Outlet. Except as provided below, the storm water management system shall include an adequate storm water outlet.

(1) At a minimum, a storm water outlet shall be deemed inadequate if its capacity exceeds its reasonable share of the maximum capacity of the downstream watercourse or closed conduit, as determined by the City in its sole reasonable discretion.

(2) If the City determines that a proposed detention system does not include an adequate storm water outlet, the applicant may be required to design and construct improvements to the downstream drain, watercourse or closed conduit. The City shall determine the extent to which downstream improvements may be required.

(3) Storm water management systems that include only retention basins for flood control shall not be required to satisfy this Rule 602 (C).

(D) Flood Plain Restrictions. Storm water management systems shall not be constructed within a 100-year floodplain unless the storm water management system satisfies the additional requirements of this Rule 602(D).

(1) The storm water management systems shall not diminish the net storage capacity of the floodplain. Compensatory storage shall be required for any reduction in floodplain storage capacity.

(2) The storm water management system shall not negatively alter the conveyance of the watercourse.

(3) During a design storm event, the storage capacity of the storm water management system shall remain available for detention of storm water and storm water runoff from the development site.

(4) The storm water management system shall minimize disruption to the riparian habitat of the floodplain by developing and implementing a plan for minimizing disturbance that is acceptable to the City.

(E) Additional Requirements

(1) To the fullest extent possible, storm water management systems shall follow the natural drainage pattern of the land within the development site and within the watershed in which the site is located.

(2) Storm water management systems that include surface water components shall not be located within pre-existing surface water.

Rule 603 General Design Standards for Water Resources Protection

(A) Except as otherwise provided in these rules, storm water management systems designed and constructed to satisfy the general design standards for water resources protection set forth in this Rule 603 satisfy the water resources protection performance standard of Rule 502(B).

(B) Pretreatment System. Storm water management systems shall include a pretreatment system at each inlet to each detention system and/or retention basin. The pretreatment system shall satisfy either or both of the following requirements:

(1) Removal Rate. The pretreatment system(s) shall be designed and constructed such that the storm water management system achieves the pollutant removal rate required by Rule 502(B).

(2) First Flush

(a) The pretreatment system(s) shall be designed and constructed to capture the first flush and release the first flush to the detention system or retention basin gradually over a period of twenty-four hours.

(i) The pretreatment system storage volume necessary to capture the first flush shall be determined based on the following relationship:

$$V_{tff} = 1815 \times A \times C$$

Where V_{tff} = first flush storage volume (ft³)

A = drainage area tributary to inlet (acres)

C = runoff coefficient

(ii) The pretreatment system(s) shall include a flow restrictor that restricts outflow to gradually release the first flush storage volume over a period of twenty-four (24) hours. The 24-hour average allowable outflow rate shall be determined in accordance with the following relationship:

$$Q_{\text{avg ff}} = V_{\text{t ff}} / 86400$$

Where $Q_{\text{avg ff}}$ = 24-hour average allowable outflow rate (cfs)

$V_{\text{t ff}}$ = first flush storage volume (ft³)

(C) **Bank Full Flood.** Except as provided below, the storm water management system shall capture the runoff from the bank full flood and release the runoff gradually over a period of forty (40) hours.

(1) The storage volume necessary to capture runoff from the bank full flood to satisfy the requirement of this Rule 603(C) shall be determined in accordance with the following relationship:

$$V_{\text{t bf}} = 5160 \times A \times C$$

Where $V_{\text{t bf}}$ = bank full flood storage volume (ft³)

A = drainage area (acres)

C = runoff coefficient

(2) The bank full flood storage volume (above the permanent pool, if any) may be used to satisfy a portion of the flood control storage volume required by Rule 602 (B).

(3) The storm water management system shall include a flow restrictor that restricts outflow from the system to gradually release the bank full flood over a period of forty (40) hours. The 40-hour average allowable outflow rate shall be determined in accordance with the following relationship:

$$Q_{\text{avg bf}} = V_{\text{t bf}} / 144000$$

Where $Q_{\text{avg bf}}$ = 40-hour average allowable outflow rate (cfs)

$V_{\text{t bf}}$ = bank full flood storage volume (ft³)

(4) Storm water management systems that include only retention basins for flood control shall not be required to satisfy the requirements of this Rule 603(C).

(D) **Additional requirements.** Storm water management systems that include surface waters as components of the system shall satisfy the following additional requirements.

(1) A buffer strip shall be established and/or preserved around each surface water on the development site.

(a) The minimum width of a buffer strip shall be 25 feet. Along watercourses, the width of a buffer strip shall be measured from the top of bank of the watercourse. Around other surface waters, the width of the buffer shall be measured from the minimum freeboard elevation of the surface water.

(b) Construction activities, paving, and chemical application, except for construction activities needed to create or establish the buffer strip, are prohibited in the buffer strip.

(c) The ground slope of a buffer strip shall not be steeper than 1:6.

(d) A buffer strip shall not be required around bioretention areas or vegetated swales.

(2) An applicant for storm water construction approval shall submit a landscape plan with the application for storm water construction approval. The plan shall depict landscaping elements that function as part of the storm water management system, including the buffer strip.

(a) The landscape plan shall include, at a minimum, specifications for the soils and plant materials that the applicant proposes to include in the landscape; and a description of the methods and planting techniques that the applicant proposes to utilize during landscape installation.

(b) The installation and maintenance of the landscaping described in the landscape plan shall be included as regulated construction activity for which the City may require financial assurance.

Chapter 7 SPECIFIC DESIGN STANDARDS

Rule 701 Design Standards for Open Detention Basins

Open detention basins used as components of storm water management systems shall satisfy the additional requirements of this Rule 701.

(A) Outlets

(1) Flow restrictors in open detention basins shall be placed near or within the embankment of the system to provide ready maintenance access. Flow restrictors shall be constructed of materials that minimize future maintenance requirements.

(2) Open detention basins shall include an overflow structure to allow discharge when the water level in the basin exceeds the design water level. The overflow structure and its outlet pipe shall be designed to convey the peak flow rate tributary to the basin for the 10-year design storm.

(3) Open detention basins shall include an emergency spillway with a defined downstream drainage path to allow discharge when flows exceed the capacity of the overflow structure. The emergency spillway elevation shall be 6 inches below the top of freeboard elevation. The spillway shall be armored to prevent erosion.

(B) Other Requirements

(1) The design water level of an open detention basin shall not exceed five (5) feet above the permanent pool water level.

(2) The open detention basin shall have a minimum four (4) foot deep permanent pool. Permanent pools shall not be required for constructed wetlands except when the County determines that a permanent pool is necessary to satisfy the performance standards of Chapter 5 of these rules. The volume of the permanent pool shall not satisfy any portion of the flood control storage volume required by Rule 602(B).

(3) Side slopes for open detention basins shall not be steeper than 1:6.

(4) A minimum of one (1) foot of freeboard is required above the design water level of an open detention basin.

Rule 702 Design Standards for Retention Basins

Retention basins used as components of storm water management systems shall satisfy the additional requirements of this Rule 702.

(A) Percolation Rate. Soils beneath the proposed location of retention basin shall be sufficiently permeable to allow the infiltration of storm water and storm water runoff. Calculations and soil boring results showing the percolation rate of soil shall be submitted to the City with an application for storm water construction approval and shall be certified by a licensed professional engineer.

(B) Emergency Spillway. Retention basins shall include an emergency spillway with a defined downstream drainage path to allow discharge when flows exceed the design water level. The emergency spillway elevation shall be 6 inches below the top of freeboard elevation. The spillway shall be armored to prevent erosion.

(C) Other Requirements

(1) Side slopes for retention basins shall not be steeper than 1:6.

(2) A minimum of one (1) foot of freeboard is required above the design water level of a retention basin.

(3) The storage volume of the retention basin shall be measured above the existing groundwater elevation.

Rule 703 Design Standards for Underground Detention Systems

Underground detention systems used as components of storm water management systems shall satisfy the additional requirements of this Rule 703.

(A) Underground detention systems shall confine storm water and storm water runoff to the interior of the detention system, and shall not release the water except through an approved outlet.

(B) The City may restrict the types of materials and methods of construction for underground detention systems. At a minimum, an applicant must demonstrate that materials and construction methods for underground detention systems conform to applicable ASTM standards, AASHTO standards, and local standards adopted by the City.

Rule 704 [Reserved]

Rule 705 [Reserved]

Rule 706 Design Standards for Forebays

Forebays used as a component of a storm water management system shall satisfy the additional requirements of this Rule 706.

(A) Flow restrictors. Flow restrictors in forebays shall be placed near or within the embankment of the forebay to provide ready maintenance access and shall be constructed of materials that minimize future maintenance requirements.

(B) Weir. The forebay shall include a weir to allow discharge from the forebay into the detention system or retention basin when the forebay water level exceeds the top of the forebay storage volume. The weir shall be designed to convey the peak flow rate tributary to the forebay for the 10-year design storm.

(C) The total forebay storage volume (above the permanent pool, if any) may be used to satisfy both a portion of the flood control storage volume required by Rule 602(B) and the bank full flood storage volume required by Rule 602(C).

Rule 707 Design Standards for Bioretention Areas

Bioretention areas used as components of storm water management systems shall satisfy the additional requirements of this Rule 707.

(A) Underdrain. The bioretention area design shall include an underdrain system to prevent excess pooling of water. Underdrains shall not be required where the applicant demonstrates that the infiltration rate of soil within the bioretention area is sufficient to prevent excess pooling.

(1) The underdrain shall be installed over a gravel layer that consists of at least six (6) inches of gravel.

(2) The underdrain shall include an adequate outlet into a detention system, retention basin, storm sewer, or watercourse.

(3) The hydraulic capacity of the underdrain shall be greater than the infiltration rate of the soil within the bioretention area.

(4) The underdrain shall be perforated along its entire length, except that no perforations shall be permitted within five (5) feet of a connection between the underdrain system and a storm sewer structure.

(5) The underdrain shall include a cleanout well to provide access for cleaning the underdrain system.

(B) Other requirements

(1) The pooling water depth for bioretention areas shall not exceed six (6) inches.

(2) Applicants that propose to include a bioretention area as a component of a storm water management system shall submit a grading plan for the development site that identifies the location of the bioretention area and the routes for construction and other vehicular traffic to demonstrate that soils and other subsurface media in or around the basin will not be compacted during construction.

Rule 708 Design Standards for manufactured Treatment Systems

Manufactured treatments systems used as components of storm water management systems shall satisfy the additional requirements of this Rule 708.

(A) Manufactured treatment systems shall accumulate and store incoming solids so as to prevent re-suspension of captured solids.

(B) The removal efficiency of manufactured treatment systems shall be based on the documented performance of the system in full-scale independent studies over a range of storm sizes.

(C) Manufactured treatment systems shall incorporate a water-lock feature to prevent the release of trapped oil and floatable contaminants during storm events.

(D) The City may restrict the types of materials and methods of construction for manufactured treatment systems. At a minimum, an applicant must demonstrate that materials and construction methods for manufactured treatment systems conform to applicable ASTM standards, AASHTO standards, and local standards adopted by the County.

Rule 709 [Reserved]

Rule 710 [Reserved]

Rule 711 Design Standards for Storm Water Conveyances

Conveyances used as components of storm water management systems shall satisfy the minimum requirements of this Rule 711.

(A) Watercourses

(1) Natural watercourses shall be preserved whenever possible. The City shall not approve modifications to natural watercourses unless the modification is required to protect the public health, safety, or welfare, or the environment.

(2) The flow capacity of each reach of a watercourse that is a component of a storm water management system shall be equal to or greater than the peak flow rate for a 10-year storm, as determined using the method described in Rule 601.

(3) The flow capacity of a watercourse shall be calculated in accordance with the following relationship (the "Manning Formula").

$$Q = (1.486 \times A \times R^{2/3} \times S^{1/2}) / n$$

Where	Q	=	flow capacity (cfs)
	A	=	cross-sectional flow area (ft ²)
	n	=	Manning's coefficient of roughness
	P	=	wetted perimeter (feet)
	R	=	hydraulic radius (A/P in feet)
	S	=	hydraulic gradient (ft/ft)

(B) Closed Conduits

(1) The flow capacity of each reach of a closed conduit that is a component of a storm water management system shall be equal to or greater than the peak flow rate for a 10-year storm, as determined using the method described in Rule 601.

(2) The flow capacity of a closed conduit shall be calculated using the Manning Formula described in Rule 711(A)(3).

- (3) The invert elevation of each closed conduit entering a forebay with a permanent pool shall be equal to or greater than the permanent pool elevation.
- (4) Hydraulic gradients for closed conduits shall meet both of the following requirements:
 - (a) The hydraulic gradient shall be calculated based on 10-year storm flows, starting with the crown elevation at the outlet, and shall be at least 2.5 feet below the rim elevation at any upstream manhole location.
 - (b) The rim elevation at any manhole location along a closed conduit upstream of a detention system shall be at least one (1) foot above the design water level of the detention system.
- (5) The minimum allowable storm water velocity in a closed conduit shall be 2.5 feet per second. The maximum allowable storm water velocity in a closed conduit shall be 8.0 feet per second. The applicant may design a closed conduit that exceeds the maximum allowable storm water velocity only if the applicant demonstrates that special provisions in the design dissipate energy.
- (6) The maximum distance between manholes, catch basins, and inlets in a closed conduit shall be in accordance with Table 4.

Table 4: MAXIMUM DISTANCES BETWEEN MANHOLES, CATCH BASINS, AND INLETS	
Diameter of closed conduit (inches)	Maximum distance (feet)
36 and smaller	300
Greater than 36	300 plus 100 feet for each additional 12 inches in diameter greater than 36 inches

- (7) Manholes or junction chambers shall be constructed at all junctions and angle points within closed conduits and at all changes in conduit size or slope.
- (8) Closed conduit inlets and outlets shall have an end treatment and soil erosion protection, and may be required to have a grate over the inlet/outlet.
- (C) Bridges and Culverts: The following requirements apply to bridges and culverts:
 - (1) General
 - (a) The hydraulic capacities of culverts and bridges shall be calculated using a method approved by the County.
 - (b) All bridges and culverts shall be designed and constructed with adequate soil erosion protection.
 - (2) Bridges
 - (a) Bridges that convey a watercourse under a City Road shall be designed and constructed to pass the peak flow rate for a 100-year storm with no harmful increase in backwater elevations.
 - (b) The 100-year storm elevation upstream of a bridge shall be at least one (1) foot below the lowest elevation of either the bridge deck or the approach pavements to the structure.
 - (3) Culverts
 - (a) Culverts that convey a watercourse under a City Road shall be designed and constructed to convey at least the peak flow rate for a 10-year storm, as determined using the methods described in Rule 601.
 - (b) Culverts that will be inundated by storms larger than the design storm established by the Michigan Department of Transportation or the Michigan Department of Environmental Quality shall be designed and constructed with soil erosion protection that is adequate for the inundated condition.

Rule 712 [Reserved]

Chapter 8 ADDITIONAL REQUIREMENTS

Rule 801 Wetlands

The natural drainage pattern of the land within the development site shall not be altered in any way that may cause adverse effects to existing wetland areas. Untreated storm water shall not be permitted to outlet directly into a natural or mitigation wetland. At a minimum, storm water discharged into a natural or mitigation wetland shall pass through a pretreatment system designed to satisfy the water resources protection performance standards set forth in Rule 502(B).

Rule 802 County Park Property

The County may establish additional or alternative requirements for storm water management systems that are located on County park property or that outlet within County park property.

Rule 803 County Roads

- (A) The minimum diameter of closed conduits beneath County Roads shall be 12-inches.

(B) Storm water runoff from improved property abutting a County Road shall not be discharged into the storm water drainage system for the County Road without the County's prior approval.

(C) The County may establish additional or alternative requirements for storm water management systems in County Roads.

Chapter 9 FINANCIAL ASSURANCE

Rule 901 General Requirements

(A) Before commencing construction of a storm water management system, the applicant shall provide financial assurance pursuant to Section 4.3(B) of the Ordinance. The storm water construction approval shall include the form and amount of the financial assurance to be provided and, if appropriate, may define temporal limits on the financial assurance. Storm water construction approval shall not be issued by the City unless and until the applicant provides proof of financial assurance to the City.

(B) If an applicant for storm water construction approval is submitted by more than one person, only one (1) person is required to demonstrate financial assurance; however, both parties are liable in the event of noncompliance.

Rule 902 Amount of Financial Assurance

(A) Financial assurance shall be provided in an amount at least equal to the current estimate of the cost of construction the storm water management system.

(B) When the current estimate of the cost of constructing the storm water management system increases to an amount more than the amount of the financial assurance mechanism, the applicant, within 30 days after the increase, either shall cause the financial assurance mechanism to be increased to an amount at least equal to the current construction cost estimate and submit evidence of such increase to the City, or shall obtain other financial assurance for the difference. When the current estimate of the cost of constructing the storm water management system decreases; the amount of financial assurance may be reduced to the amount of the construction cost estimate following written approval of the City.

Rule 903 Performance Bond

(A) Applicants may satisfy the financial assurance requirements of the Ordinance and these rules by obtaining a performance bond that is executed on a form approved by the City and that conforms to the requirements of this rule.

(B) The bond shall guarantee that the applicant will construct the storm water management system in accordance with the Ordinance, these rules, and the storm water construction approval issued by the City.

(C) Under the terms of the bond, the surety shall become liable on the bond obligation when the applicant fails to perform as guaranteed by the bond when required to do so, and the City provides the applicant (1) seven (7) days notice of the failure, (2) an opportunity to cure the failure, and (3) a reasonable opportunity for a hearing conducted pursuant to the Ordinance.

(D) The penal sum of the bond shall be in an amount at least equal to the current estimate of the cost of constructing the storm water management system.

(E) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation, by certified mail, to the applicant and the City at least forty-five (45) days prior to cancellation. Cancellation shall not occur, however, during the 90 days beginning on the date of receipt of the notice of cancellation by both the applicant and the City, as evidenced by the return receipts. Within 30 days of receipt of a notice of cancellation of the bond from the surety, the applicant shall obtain alternate financial assurance approved by the City.

(F) The applicant may cancel the bond if the City has given prior written consent. The City shall provide such written consent when either of the following occurs: (1) the applicant substitute's alternative financial assurance as specified in these rules; or (2) the City releases the applicant from the financial assurance requirements of these rules pursuant to Rule 905.

Rule 904 Letters of Credit

(A) An applicant may satisfy the financial assurance requirements of these rules by obtaining an irrevocable letter of credit that conforms to the requirements of this rule and that is executed on a form approved by the City. The issuing institution shall be a bank or financial institution that has the authority to issue letters of credit, whose letter of credit operations are regulated and examined by a federal or state agency, and that has an office in Wayne County.

(B) The letter of credit shall be unconditional and irrevocable and shall be issued for a period of at least on (1) year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least on (1) year unless, not less than 90 days before the current expiration date, the issuing institution notifies both the applicant and the City by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 90 days shall

begin on the date when both the applicant and the City have received notice, as evidenced by the return receipts.

(C) If the applicant does not establish alternate financial assurance as specified in these rules and obtain written approval of such alternate assurance from the City within 90 days after receipt by both the applicant and the City of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the City may draw on the letter of credit. The City may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension, the City shall draw on the letter of credit if the applicant has failed to provide alternate financial assurance as specified in these rules and obtain written approval of such assurance from the City.

(D) The Director may draw on the letter of credit to correct violations and complete construction after doing both of the following:

(1) Notifying the applicant that the applicant has failed to construct the storm water management system in accordance with the storm water construction approval and other requirements of this Ordinance and these rules when required to do so; and

(2) Providing the owner or operator with 7 days notice.

Rule 905 Release of the Financial Assurance Mechanism

(A) Except as otherwise provided in these rules, within 60 days after receiving certifications from the applicant and an independent registered professional engineer that the storm water management system has been constructed in accordance with the Ordinance, these rules, and the storm water construction approval issued by the City, the City shall notify the applicant, in writing, that financial assurance for the construction no longer is required.

(B) If the City has reason to believe that the storm water management system has not been constructed in accordance with the Ordinance, these rules, or the storm water construction approval, the City shall provide the applicant with a detailed written statement of any such reason. The City shall not be required to release the financial assurance mechanism provided by the applicant until the City is satisfied, in its reasonable discretion, that the storm water management system has been constructed in accordance with the Ordinance, these rules, and the storm water construction approval.

Rule 906 Recordkeeping

Applicants must maintain evidence of all financial assurance mechanisms used to demonstrate financial responsibility under the Ordinance or these rules until released from the financial responsibility requirements in accordance with Rule 905. Records maintained at any location other than the development site must be made available upon request of the City.

Chapter 10 LONG-TERM MAINTENANCE

Rule 1001 General Requirement

(A) An applicant shall submit a long term maintenance plan as part of an application for storm water construction approval. At a minimum, the long term maintenance plan shall set forth

(1) the preventative maintenance activities necessary to ensure that the storm water management system will function properly as designed;

(2) a schedule describing the frequency with which preventative maintenance activities shall occur;

(3) the manner in which the applicant shall assure, through a legally binding instrument, that the storm water management system shall be maintained in perpetuity.

(B) Long-term maintenance shall include site monitoring to ensure that a storm water management system is functioning properly as designed; remedial actions necessary to repair, modify, or reconstruct the system in the event the system does not function properly as designed at any time; notification to subsequent owners of limitations or restrictions on the property; actions necessary to enforce the terms of restrictive covenants or other instrument applicable to the property pursuant to the Ordinance and these rules and such other actions as may be set forth in the Ordinance or these rules promulgated hereto.

(C) As a condition of final approval of the storm water management system, an applicant for storm water construction approval shall demonstrate to the City that the storm water management system shall be maintained in perpetuity.

Rule 1002 Responsibility for Long-Term Maintenance

Responsibility for long-term maintenance of a storm water management system shall be assumed by the local unit of government(s) in which the storm water management system is located or by another public corporation or entity (e.g. drainage district) approved by the County. Responsibility for long-term maintenance shall be assumed through a legally-binding instrument such as an ordinance, resolution, contract, or equivalent instrument approved by the County. A local unit of government or other public corporation or entity that assumes responsibility for long-term maintenance may designate another entity (including without limitation a homeowner's association, condominium association, or property owner) to undertake this responsibility; however, long-term

maintenance under this rule shall remain the responsibility of the entity identified in the final storm water approval.

Rule 1003 Long-Term Maintenance Agreements

The City may establish requirements for the form and substance of instruments that meet the requirements of this rule.

ADOPTED BY THE CITY OF RIVERVIEW ON DECEMBER 15, 2008.

The undersigned hereby certifies that the foregoing is a true and accurate copy of the ordinance adopted by the City Council of the City of Riverview at a regular meeting held on December 15, 2008.

Judith A. Bratcher, City Clerk

Motion by Councilmember James Trombley, seconded by Councilmember Rudicil, that **Proposed Ordinance No. 619** be **adopted**.

Carried unanimously.

OTHER BUSINESS:

Motion by Councilmember Elmer Trombley, seconded by Councilmember Coffey, to reaffirm the action of the Riverview City Council at their regular meeting on June 16, 2008 in readopting a Resolution in support of allowing **Yard Waste** to be deposited in Land Fills that convert the Methane Gases.

RESOLUTION 08-11

A RESOLUTION SUPPORTING SENATE BILL 864 WHICH WOULD ALLOW YARD WASTE TO BE DEPOSITED IN LANDFILLS THAT CONVERT THE METHANE GASES DERIVED THEREFROM INTO REUSABLE ENERGY.

At a duly convened meeting of the City Council for the City of Riverview held on June 16, 2008, the following resolution was moved by Councilmember James Trombley, supported by Councilmember Coffey and adopted upon the following vote:

Ayes:	5	Nays:	0
Abstentions:	0	Absences:	2

WHEREAS, the State presently bans yard waste from Type II Landfills, and requires such yard waste to be deposited in compost facilities; and,

WHEREAS, depositing yard waste in compost facilities rather than allowing it in Landfills results in additional costs to be borne by municipalities and deprives the Landfills the source of methane gases that would otherwise be available for generation of energy; and,

WHEREAS, the Riverview Land Preserve has long recognized the need and desirability of creating energy from the methane gases generated by the waste deposited therein, and in conjunction with a subsidiary of the Detroit Edison Energy Company, has created electricity therefrom; and,

WHEREAS, Senate Bill 864 would restore the opportunity of allowing yard waste to be deposited in Landfills which have facilities to convert the methane gases into reusable energy;

NOW, THEREFORE, BE IT RESOLVED by the City Council for the City of Riverview to support Senate Bill 864 as a wise measure to convert yard waste into reusable energy, as an environmentally responsible and cost effective means to help protect our natural resources; and as an economic benefit to municipal governments and taxpayers by relieving them of the burden of the cost of separation and disposal of yard waste from their municipal solid waste collections; and,

BE IT FURTHER RESOLVED that the City Clerk is directed to transmit true copies of this Resolution to our State Senator and Representative, the Governor, members of the Senate Committee on Energy Policy and Public Utilities; the bill sponsor, Senator Patricia Birkholz; and the member-municipalities of the Downriver Community Conference.

Attest: _____
Tim Durand, Mayor

Carried unanimously.

ADJOURNMENT:

Motion by Councilmember Elmer Trombley, seconded by Councilmember Swift, that the meeting be **adjourned**.

Carried unanimously.

Meeting **adjourned** at 8:18 p.m.

Tim Durand, Mayor

Judith A. Bratcher, City Clerk