

SUBDIVISION REGULATIONS

CITY OF FLINT HILL

ARTICLE I. GENERALLY

SECTION 1.1 ADOPTION - CONSTRUCTION

1. These "Subdivision Regulations" (herein "Regulations") are duly adopted at the Regular meeting of the Board of the City held on September 23, 2020, and effective, as of September 23, 2020. Amendments are contained in the City's Ordinances adopted after that date.
2. It is not intended by these Regulations to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where these Regulations impose greater restrictions, the provisions of these Regulations shall prevail. All other ordinances of the City inconsistent with these Regulations are hereby repealed to the extent of the inconsistency only.
3. In case of conflict between these Regulations or any part thereof and the whole or part of any other existing or future ordinance, the most restrictive in each case shall apply.
4. The City hereby declares that it would have passed these Regulations and each Section, Subsection, sentence, clause and phrase thereof, irrespective of the fact that any one (1) or more other Sections, Subsections, clauses or phrases be declared invalid or unconstitutional.
5. In their interpretation and application, the provisions of these Regulations shall be held to be minimum requirements, shall be liberally construed in favor of the City and shall not be deemed a limitation or repeal of any other powers granted by State Statutes.
6. The provisions of these Regulations relating to width and size of yards, courts and other open spaces, and relating to height of buildings, number of stories, percentages of lots required to be left unoccupied and relating to standards, are adopted pursuant to § 89.010 to 89.140, R.S.Mo.

SECTION 1.2 DEFINITIONS

For the purposes of these Regulations, the following words and phrases shall have the meanings respectively ascribed to them by this Section:

BEST MANAGEMENT PRACTICES (BMP): A schedule of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollution of waters of the State of Missouri. BMPs also include treatment requirements,

operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage. Both structural and non-structural measures to control, treat or prevent stormwater runoff pollution within waters of the State. Structural BMPs are engineered devices. Non-structural BMPs include, but are not limited to, alternative site design, ordinance and zoning, education and good housekeeping measures.

BOARD: The Board of Aldermen of the City of Flint Hill, Missouri.

BUILDING CODE: Refers to the currently adopted Building Code of the City, as amended from time to time. Please note these Regulations are designed to be used with the adopted codes Building Code as a reference for minimum performance standards.

CITY: The City of Flint Hill, Missouri.

DEBRIS OR SEDIMENT BASIN: A barrier or dam built across a waterway or at other suitable locations to retain rock, sand, gravel, silt or other materials.

DESIGN MANUAL: Current edition of St. Charles County's design criteria for the preparation of Improvement Plans.

DIVERSION: A channel with or without a supporting ridge on the lower side constructed across or at the bottom of a slope.

EROSION: The wearing away of the land surface by the action of wind, water or gravity.

EXCAVATION OR CUT: The removal, stripping or disturbance of soil, earth, sand, rock, gravel or other similar substances from the ground.

EXISTING GRADE: The vertical location of the existing ground surface prior to excavations or filling.

FEMA: Federal Emergency Management Agency.

FILL OR FILLING: The placing of any soil, earth, sand, rock, gravel or other substance on the ground.

FINISHED GRADE: The final grade or elevations of the ground surface conforming to a proposed design.

GRADING: Any excavation, filling or combination thereof.

NATURAL WATERCOURSE: A channel formed in the existing surface topography of the earth prior to changes made by unnatural conditions.

OPEN CHANNEL: A constructed ditch or channel designed for water flow.

ORDINANCE: The Ordinance adopting these Regulations unless otherwise noted.

RSMo.: The Revised Statutes of Missouri; currently in force and amended from time to time.

RUNOFF: That part of rainfall that flows off the land into streams or other surface waters.

SEDIMENT: Solid material, mineral or organic, that has been moved by erosion and deposited in a location other than the point of origin.

SILT TRAPS OR FILTERS: Staked bales or silt fencing systems that function as a filter and a velocity check to trap fine-grained sediment while allowing satisfactory passage for stormwater runoff.

SITE: A lot or parcel of land or a contiguous combination thereof where grading work is performed as a single unified operation.

SITE DEVELOPMENTS: Altering terrain and/or vegetation and constructing improvements.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP): A SWPPP will identify the sources of pollution that affect the quality of storm water discharges from a site and describe and ensure the implementation of practices to reduce pollutants in storm water discharges. A SWPPP is required to be approved by the City Engineer prior to the issuance of a land disturbance permit as set forth in these Regulations.

STREAMBANK, TOP OF EXISTING: The usual boundaries, not the flood boundaries, of a stream channel; the top of the natural incline bordering a stream.

SUBDIVISION: The division of a parcel of land into two or more lots, or other divisions of land, it includes re-subdivision and, when appropriate to the context, relates to the process of subdividing or to the land or territory subdivided.

SUBSTANTIAL RAIN EVENT: A rain event which has a rainfall intensity that causes erosion or a rain event that exceeds one (1.00) inch in a twenty-four (24) hour period.

SECTION 1.3 FINAL PLAT / RECORD PLAT - APPROVAL REQUIRED - WHEN

Approval By Board of Aldermen. No tract of land in the City may be divided, nor shall any tract of land situated in the City be recorded in the Office of the St. Charles County Recorder of Deeds, until a Final Plat (a.k.a. Record Plat) (hereinafter "Final Plat") thereof is first approved by the Board by ordinance, duly passed and approved by the Mayor, and such approval endorsed upon such Final Plat under the hand of the City Clerk and the seal of the City; nor until all taxes against the same shall have been paid. The requirements of these Regulations are in addition to the requirements of the zoning ordinances of the City and no land use nor any construction, alterations

or destruction of any structure shall be allowed that is not in compliance with these Regulations and the zoning ordinances of the City. Approval of any Final Plat shall be granted upon the Ordinance duly adopted by the Board pursuant to Missouri Law and upon findings recited in the Ordinances that the Final Plat meets the requirements in these Regulations. Before voting to approve or disapprove any proposed Final Plat, the Board shall receive the report and recommendation of P&Z on such proposed Final Plat. In the event P&Z has disapproved a proposed Final Plat, the Board may only approve such proposed Final Plat by the affirmative vote of at least four (4) of its members.

SECTION 1.4 FINAL PLAT APPROVAL – EXCEPTION

The requirements of Section 1.3 of the Subdivision Regulations do not apply to the following types of land division:

1. The conveyance of parcels of land or interests therein for use as a right-of-way for railroads or other public utility facilities or other pipelines which do not involve any new streets or easements of access.
2. The conveyance of land for highway or other public purposes or grants or conveyance relating to the vacation of land impressed with a public use.
3. Conveyances made to correct description of prior conveyances.
4. The subdivision of land into lots of three (3) acres or more in size which does not establish any new public streets, private streets, or easements of access, provided no lot is created that violates a provision of the Zoning Ordinance or Subdivision Regulations.
5. The purchase, sale or exchange of land between owners of adjoining properties for the purpose of adjustments in boundaries, provided that additional lots are not thereby created, the original lots are not reduced below the minimum lot sizes required by the Subdivision Regulations or the Zoning Ordinance.
6. The division of a single parcel of land into two (2), but no more, parcels, provided that the new lots created comply with the minimum lot size requirements of the Subdivision Regulations and the Zoning Ordinance, and provided that a plat of the resulting two (2) parcels is approved by the City Engineer and recorded with the Recorder of Deeds of St. Charles County. Further provided that no further or subsequent division of the resulting properties occurs within one (1) year after recording of the plat.

SECTION 1.5 PLANNING & ZONING REVIEW AND APPROVAL.

All proposed Preliminary Plats, Final Plat, Area Plan and Final Plan required by these Regulations shall be submitted to the Planning & Zoning Commission for review. The Planning & Zoning Commission shall approve or disapprove any proposed Preliminary

Plat, Final Plat, Area Plan and Final Plan within sixty (60) days after submission to the Planning & Zoning Commission. The Planning & Zoning Commission may extend such sixty (60) day period with the consent of the applicant. If the proposed plat or plan is not approved or disapproved with such sixty (60) day period as extended, it shall be deemed approved by the Planning & Zoning Commission. The Planning & Zoning Commission shall state the reasons for any disapproval of any plat or plan in a written resolution, duly adopted.

SECTION 1.6 FILING FEES

1. Fees are contained in the City zoning ordinance (Article 31 of the Zoning Ordinance) and are to be paid by all entities prior to submission for consideration by the Planning & Zoning Commission and Board.
2. *Construction Inspection.* The City shall charge the applicant for inspection of all constructed improvements to verify compliance with plans approved by the City.

SECTION 1.7 PRELIMINARY PLAT REQUIREMENTS

Eight (8) copies of any Preliminary Plat, unless more copies are required by the City Engineer, together with a completed application, shall be submitted to the City Clerk who, upon payment of the required fee, shall transmit the same to the City Engineer.

The City Engineer shall review the application and Plat for compliance with this Ordinance and other Ordinances of the City, and provide comment. If the City Engineer fails to provide comment within fourteen (14) days of the submission to the City Engineer, the application shall be deemed submitted to the Planning & Zoning Commission for review as of the fifteenth (15th) day after submission. When comments are provided by the City Engineer, the application shall be deemed submitted to the Planning & Zoning Commission on the earlier of (a) when the City Engineer, in his or her sole discretion, finds the application and Plat approved (in sufficient form for review by the Planning & Zoning Commission), or (b) sixty (60) days from the last re-submission to the City Engineer. At the discretion of the City Engineer, an aerial photo of suitable scale may be required. The photo shall have superimposed upon it the boundary of the property in question and any other information as may be deemed necessary by the Planning & Zoning Commission. The Preliminary Plat shall include the following identification and information:

1. Identification.
 - A. Proposed name of the subdivision.
 - B. Names of the owner, applicant and the engineer, surveyor or landscape architect responsible for survey and design.
 - C. North point, a scale of one (1) inch equals two hundred (200) feet or larger and date.

- D. Approximate acreage in tract.
 - E. A statement that "THIS PLAT IS NOT FOR RECORD" shall be stamped or printed on all copies of the Preliminary Plat.
2. Plat Information.
- A. Location of boundary lines and their relation to established section lines, fractional section lines or survey lines.
 - B. Physical features of property including watercourses, ravines, bridges, culverts, present structures and other features important to lot and street layout, including off-street parking if applicable.
 - C. Topography of tract with contour interval of one (1), two (2) or five (5) feet.
 - D. Names of adjacent subdivisions and/or property lines around perimeter within one hundred (100) feet and showing any existing streets, highways, etc.
 - E. Location and width of existing and proposed streets, roads, lots (approximate dimensions), alleys, building lines, easements, parks, school sites and other features of the proposed subdivision.
 - F. Approximate gradients of streets will be shown.
 - G. Designation of land use, whether for residential, commercial, industrial or public use, and present zoning district.
 - H. Designation of utilities to serve proposed subdivision.
 - I. Record owner, party preparing plat and party for whom plat is prepared.
 - J. Depict flood hazard boundaries as shown on FEMA maps.
 - K. Off-site topography within three hundred (300) feet of the perimeter of all natural drainage ways to which site stormwater discharges occur including all areas within twenty-five (25) feet from the top of the existing stream bank or 100-year, twenty (20) minute water surface elevation, where no defined bank exists.

SECTION 1.8 PRELIMINARY PLAT APPROVAL

Preliminary Plat approval shall confer upon the applicant the following rights and privileges:

1. The Preliminary Plat will remain in effect for a one (1) year period. The applicant may, during this period, submit all or parts of said Preliminary Plat for Final Plat approval. Submittal of a Final Plat that is part of a Preliminary Plat will extend the approval of the Preliminary Plat for an additional year. Any part of a subdivision which is being developed in stages shall contain a tract of land of at least three (3) lots.
2. The general terms and conditions under which the Preliminary Plat approval was granted will not be changed.
3. The applicant may also proceed with detailed Improvement Plans required for all facilities or utilities intended to be provided.

SECTION 1.9 DISPLAY HOUSE PLAT

1. The purpose of this Section is to provide a procedure whereby the construction of a display house can begin prior to the recording of the Final Plat.
2. The applicant may, after receiving approval of a Preliminary Plat of a proposed subdivision from the Planning & Zoning Commission, submit one (1) display house plat for approval. The applicant shall complete an application and Display House Plat and submit to the City Clerk who, after payment of the fee, shall transmit the same to the City Engineer. A Display House Plat may request approval for construction of no more than ten (10) lots. Each Display House Plat shall be on sheets not greater than twenty-four (24) by thirty-six (36) inches and include a complete outboundary survey of the proposed subdivision and the location of each proposed lot in relation to proposed lots of the Preliminary Plat. The script of said Display House Plat shall contain terms and conditions as required by the City Engineer including, but not limited, to the following:
 - A. The approved Display House Plat shall be filed with the City prior to issuance of a building permit for any display house or building on the lot;
 - B. The Display House Plat shall become null and void upon the recording of a Final Plat;
 - C. No part of the proposed subdivision may be conveyed for until the Display House Plat has been approved or a Final Plat recorded.
 - D. If construction of a display house has not commenced within ninety (90) days of approval, the City Engineer's approval shall lapse and the Display House Plat shall be null and void;
 - E. The fees shall be per the fee schedule for services, permit applications, plan reviews, inspections, rezonings and conditional uses, which is on file in the office of the City Clerk;

- F. All permanent structures shall be located on an approved subdivided lot by means of a Final Plat within one (1) year of the Display House Plat approval or such longer period as may be permitted by the City Engineer. If a Final Plat is not approved and recorded at the St. Charles County Recorder of Deeds office within the one (1) year of approval of the Display House Plat approval or such longer period as may be permitted by the City Engineer, the City Engineer will issue a STOP WORK ORDER and no further activity, including but not limited to construction, shall be undertaken until such time as the applicant or successor shall record a Final Plat in accordance with the procedures and, in addition, such failure, upon the date of issuance of the STOP WORK ORDER, shall cause a default of deposits guaranteeing improvements and maintenance deposits.

The STOP WORK ORDER for purposes of this Section shall be a writing signed by the City Engineer and dated which shall be mailed to the applicant's and owner's addresses as stated on the most recent applications of the applicant and which shall be effective when mailed or, if earlier, when posted on a conspicuous place on the property affected.

SECTION 1.10 GRADING PERMIT PROCESS

1. Any development greater than ten thousand (10,000) square feet and any development requiring the preparation of complete Improvement Plans in accordance with these Regulations as determined by the City Engineer shall be required to obtain a grading permit from the City.

After the Preliminary Plat has been approved by Planning & Zoning Commission, a grading permit may be applied for. Such permit may be applied for as part of the Improvement Plans or separately prior to the submission of Improvement Plans; however, a grading permit shall be submitted and processed independently in either case.

2. Filing Procedures. The applicant shall submit two (2) copies of the proposed grading plan and a completed application form to the City Clerk who, upon payment of the fee, shall transmit the same to the City Engineer. Additional copies may be requested upon review by the City Engineer. The grading plan shall be on sheets not greater than twenty-four (24) by thirty-six (36) inches.
3. Information Required. The following information is required for all grading plans submittals for permit. The required information may be combined for presentation on one (1) or more drawings or maps. In the interests of clarity, speed and efficiency in the review process, the City Engineer may request that information in addition to the grading plan be presented on drawings or maps. In all cases, the grading plan submission must, at a minimum, include the following:

- A. The grading plan shall be of a scale not to be greater than one (1) inch equals twenty (20) feet nor less than one (1) inch equals two hundred (200) feet and of such accuracy that the City Engineer can readily interpret the plan and shall include more than one (1) drawing where required for clarity.
- B. The property is identified by lot lines and location, including dimensions, angles and size, correlated with the legal description of said property. The grading plan shall be designed and prepared by a qualified land planner, registered professional architect and engineer or land surveyor. It shall also include the name and address of the property owner(s), applicant(s) and designer(s).
- C. It shall show the scale, north point, boundary dimensions, natural features such as woodlots, streams, rivers, lakes, drains, topography (showing at least five (5) foot contours intervals, and when terrain is irregular or drainage critical, contour interval shall be shown at least two (2) foot) and similar features. All topographic data shall directly relate to U.S.G.S. datum.
- D. It shall show existing manmade features such as buildings, structures, easements, high tension towers, pipelines, existing utilities such as water and sewer lines, etc., excavations, bridges, culverts and drains and shall identify adjacent properties within three hundred (300) feet and their existing uses.
- E. Any proposed alterations to the topography or other natural features are indicated.
- F. All filled places under proposed storm and sanitary sewer lines, building areas and/or paved areas and stormwater detention basin berms shall be compacted to ninety percent (90%) of maximum density as determined by the Modified AASHTO T -180 Compaction Test or ninety-five percent (95%) of maximum density as determined by the Standard Proctor Test AASHTO T -99.
- G. All fill placed in proposed roads areas shall be compacted from the bottom of the fill up to ninety percent (90%) of maximum density as determined by the Modified AASHTO T-180 Compaction Test or ninety-five percent (95%) of maximum density as determined by the Standard Proctor Test AASHTO T-99. All tests shall be verified by a soils engineer concurrent with grading and backfilling operations.
- H. *A sediment and erosion control plan.* A sediment control plan must be submitted with the grading plans and implemented in accordance with the land disturbance permit issued for the proposed grading activities pursuant to Article III, herein.

- I. Development along natural watercourses shall have residential lot lines, commercial or industrial improvements, parking areas or driveways set back a minimum of fifty (50) feet from the top of the existing stream bank or 100-year, twenty (20) minute water surface elevation where no defined bank exists. The watercourse shall be maintained and made the responsibility of the owner or, as applicable, by subdivision trustees. Permanent vegetation shall be left intact. Variances may be approved and may include designed stream bank erosion control measures and shall be approved by the City Engineer, City, FEMA, and U.S. Army Corps of Engineers regulations and guidelines shall be followed where applicable regarding site development areas designated as floodplains and wetlands.
4. The City Engineer is authorized to promulgate rules and regulations for erosion and sediment management practices not inconsistent with the grading standards herein contained.
5. A grading permit shall be issued and shall remain in force only upon compliance with the following requirements:
 - A. *Surface waters-damage.* Adequate provision shall be made to prevent surface waters from damaging the cut face of an excavation or the sloping surface of a hill.
 - B. *Retaining walls-cribbing.* Retaining walls or cribbing shall be required whenever necessary to prevent the surface of any excavation or fill from exceeding at any point the maximum allowable slopes as set forth herein.
 - C. *Drainage.* All drainage provisions shall be of such design to carry surface waters to the nearest practical storm drain, natural watercourse or street as approved by the City Engineer or his/her designee as a suitable place to deposit and receive such waters.
 - D. *Protection of streets/property.* No excavation shall be made so close to the property line to endanger any adjoining public or private street without supporting and protecting such public or private street or property from settling, cracking or other damage.
 - E. *Fill/location.* No fill shall be made so as to cause or to allow the same to be deposited upon or to roll, flow or wash upon or over the premises so affected; or upon or over any public street, walk, place or way; nor so close to the top of a bank of a channel as to create the possibility of bank failure and sliding. At a minimum, a setback of twenty-five (25) feet shall be provided as a buffer to sensitive areas.
 - F. *Materials.* Materials for fills shall consist of material obtained from

excavation of cut areas, borrow pits or other approved source. Material shall be free of vegetative matter and deleterious material and shall not contain rocks in excess of six (6) inches in diameter, where compacted by rollers or other mechanical equipment.

G. *Minimum standards.* Minimum standards of excavations and fills shall be as follows; however, more stringent standards may be required based on site conditions:

- (1) The adjoining ground to development sites (lots) shall be provided with protection from accelerated and increased surface water, silt from erosion, and any other consequences of erosion. Runoff water from developed areas (parking lots, paved sites and buildings) above the area to be developed shall be directed to diversions, detention basins, concrete gutters and/or underground outlet systems.
- (2) FEMA and U.S. Army Corps of Engineers guidelines shall be followed where applicable regarding site development areas designated as floodplains and wetlands.
- (3) All lots shall be seeded and mulched or sodded before an occupancy permit shall be issued, except that a temporary occupancy permit may be issued by the City Engineer in cases of undue hardship because of unfavorable ground conditions.

H. *Compaction.* All fills intended to support buildings or structures or sewers and conduits shall be compacted to a minimum of ninety percent (90%) compaction as determined by Modified Proctor, ASTM D-1557, unless a lesser percent is recommended to and approved by the City Engineer or his/her designee. Compaction of greater than ninety percent (90%) may be required where special conditions dictate (i.e., large structures, dams). Compaction of fills for buildings or structures must be certified by a registered professional engineer. Compaction of other fills shall be required where necessary as a safety measure to aid in preventing the saturation, slipping or erosion of the fill. The requirements of the City Engineer or his/her designee for the compaction of fills shall include, but shall not be limited to, the following:

- (1) Areas to be graded by cutting or filling shall be rough graded to within two-tenths (2/10) of a foot of accepted elevation after allowance has been made for thickness of topsoil, paved areas and other installations.
- (2) The natural ground surface shall be prepared by removing topsoil and vegetation and by compacting the fill upon a series of terraces. Hillside or slope fills shall require plowing or scarification of

original ground.

- (3) Grading on slopes will require silt control at intermediate levels to slow surface water, prevent rutting and decrease erosion.
 - (4) Grading sites will require silting basins pursuant to erosion and sediment control practices to prevent mud from washing onto adjacent properties.
 - (5) If fill material moisture content is below the requirement for compacting to maximum practical density, water in the proper amount shall be added. If moisture content is too great, fill material shall be aerated by blading or other satisfactory methods to reduce moisture content.
 - (6) Frozen materials or soft, mucky, friable, easily compressible materials shall not be incorporated in fills intended to support buildings, structures, sewers or conduits, or in the embanked ends of fills. Fill material shall not be placed, spread or rolled while the ground is frozen or thawing.
 - (7) The maximum uncompacted thickness of layers of the fill to be compacted shall not exceed eight (8) inches.
 - (8) Compaction shall be by tamping, sheep's foot rollers, multiple wheel pneumatic or other approved methods. Rolling shall be continuous until the desired maximum density is obtained.
 - (9) Density of the proposed fill(s) shall be submitted with the grading permit application for approval by the City Engineer or his/her designee.
 - (10) Topsoil disturbed by grading or building operations if stripped and piled for storage shall be stored only in an amount necessary to complete finished grading.
- I. Removal of timber, rubbish, logs, trees, brush, vegetative matter and rubbish of any description shall be removed and disposed of so as to leave the disturbed area with a neat and finished appearance. Timber, rubbish, logs, trees, brush, vegetative matter and rubbish of any description shall be removed to the following depths:
- | | |
|-----------------|-----------------------------|
| Paved areas | 2 feet below subgrade |
| Non-paved areas | 2 feet below finished grade |
- Solid rock, shale or similar materials shall be removed to a depth of fifteen

(15) inches below subgrade for paved area and two (2) feet below finish grade for lawn area except where it is impractical because of rock outcropping. Burning of material shall fall under compliance of State Department of Natural Resources and local fire protection district regulations.

6. Review Procedures. The City Engineer shall review the grading plan for its conformance to standards and specifications set forth in these Regulations and other applicable ordinances. The City Engineer may request modifications in the grading plan. The City Engineer shall then confer approval, conditional approval or disapproval of the grading plan within forty-five (45) days of submission of the application and, for each re-submission, within two (2) weeks of the re-submission.
7. Effect Of Grading Plan Approval. Grading plan approval shall confer upon the applicant, for a period of one (1) year from date of approval, the conditional right that the general terms and conditions under which the approval was granted will not be changed by the City Engineer. This one (1) year period may be extended by the City Engineer if the applicant has applied in writing for such an extension and the City Engineer determines a longer period should be granted due to unusual circumstances. If an extension is not granted, the grading plan approval is null and void. After approval of the grading plan, the applicant may proceed with the grading operations upon the final direction of the City Engineer.
8. Inspections shall be made by the City Engineer or his/her designate during each stage of fill operations and final approval shall be required upon completion of operations. Applicant shall notify the City of the following:
 - Commencement of grading.
 - Completion of rough grading.
 - Completion of finish grading.
 - Completion of all re-establishment of ground cover and construction work, which disturb ground cover.
 - Street – all phases beginning with initial clearing and to include the state of removal of subgrade, overdig and compaction.

SECTION 1.11 AS-BUILT PLANS

For the following public improvements owned or to be dedicated to the City, the owner or property shall cause, after completion of construction/installation, the “as-built” location to be displayed on “as-built” plans with horizontal location of the pertinent points, reference to the property boundaries, and depths.

Two (2) paper sets and one (1) digital copy in AutoCAD format of the “as-built” plans on sheets not greater than twenty-four (24) by thirty-six (36) inches shall be submitted to the City Engineer before the City shall release the escrow established insuring or guaranteeing the stabilization and revegetation of the site as described below.

SECTION 1.12 IMPROVEMENT PLANS AND INSTALLATION

After the Preliminary Plat or Area Plan, as applicable, is approved, Improvement Plans prepared by an engineer for the subdivision of all or any part of the tract shall be submitted for review and approval and, upon approval, a permit issued by the City Engineer for the improvements. If significant changes are to be made after the Improvement Plans permit has issued, the City Engineer shall require that revised Improvement Plans be submitted. The applicant shall submit two (2) copies of the proposed Improvement Plans and a completed construction permit application form to the City Clerk who, upon receipt of payment of the fee, shall transmit the same to the City Engineer. Additional copies may be requested upon review by the City Engineer. Improvement Plans shall be prepared on an exhibit not to exceed twenty-four (24) inches by thirty-six (36) inches and shall contain the following information:

1. Title page, which shall include key map showing the relationship of the area to be subdivided to the tract and which shall reflect areas of the tract previously subdivided plus adjacent streets.
2. North arrow and graphic scale.
3. Title block showing name and address of applicant and engineering firm, as well as the engineer's seal.
4. One (1) or more bench marks, U.S.G.S. or M.H.T.D. or others in or near the subdivision to which the subdivision is referenced. No assumed elevations will be accepted.
5. List of standards and specifications followed, citing volume, section, page or other references.
6. Paving details conforming to St. Charles County Standard Specifications.
7. Details of streets, existing and proposed sanitary sewers, storm sewers and water mills, drainage channels and swales.
8. Plans and profiles of streets and sewers scaled not less than one (1) inch equals fifty (50) feet horizontal and one (1) inch equals ten (10) feet vertical.
9. Plans for sediment control will be submitted to and approved by the City Engineer. A dollar amount equal to the proposed cost will be included in the performance guarantee.
10. Actual construction of such facilities and improvements may commence prior to Final Plat approval in accordance with Section 1.13 hereof, and if the detailed Improvement Plans have been approved by the City Engineer, provided that such facilities and improvements will be inspected throughout their construction. Final

Plat approval will be contingent, in part, upon acceptable compliance to County improvement and facility standards.

11. After approval of the Improvement Plans, a breakdown of quantities and either estimated costs or actual prices on all public improvements shall be submitted for review and approval if any escrow agreements are required.
12. Approvals need to be received by the City Engineer for sanitary sewer plans and for proposed crossing of pipelines.

SECTION 1.13 PERFORMANCE GUARANTY

A. After the improvement plans have been approved, but before recording the Final Plat or obtaining a building permit, the applicant shall:

1. Complete the improvements in accordance with the approved improvement plans under the observation and inspection of the appropriate public agency, establish a maintenance agreement (as provided in Subparagraph C hereof), and provide a deposit to guarantee maintenance of such improvements as required herein (as provided in Subparagraph C hereof);

or

2. Guaranty the installation of improvements under agreement with the City (as provided in Subparagraph B hereof), establish a maintenance agreement (as provided in Subparagraph C hereof), and provide a deposit to guarantee maintenance of such improvements as required herein (as provided in Subparagraph C hereof), with a completion period approved by the City Engineer, which shall not exceed two (2) years.

B. Guaranty of Improvements Installation

1. No guarantee or deposit is required with the City for public improvements to be accepted by an entity other than the City, including utilities, water, gas, electric or sanitary sewers required by an entity other than the City, provided that the entity confirms that its requirements for assurance of completion are satisfied. This provision shall not affect the intent or enforcement of any existing guarantee, escrow or renewal, extension or replacement thereof.
2. The City Engineer may require any specific improvement to be installed prior to approval of the final plat where failure to install such improvement prior to further development could result in damage to the site or surrounding properties.
3. *Deposit Options.* Deposits required shall be in conjunction with a deposit agreement and may be in the form of cash or letter of credit as follows:

- (a) Cash deposited with the City Clerk to be held in an interest-bearing account dedicated for that purpose, with all interest accruing to the City to offset administrative and other costs of maintaining the cash deposits;
- (b) An irrevocable letter of credit drawn on a local financial institution acceptable to and in a form approved by the City Attorney and the City Engineer. The instrument may not be drawn on any financial institution with whom the developer or a related entity has any ownership interest or with whom there is any joint financial connection that creates any actual or potential lack of independence between the institution and the developer. The letter of credit shall provide that the issuing institution will pay on demand to the City such amounts as the City may require to fulfill the obligations herein and may be reduced from time to time by a writing of the City Engineer. The letter of credit shall be irrevocable for the same period of time as provided in the Guaranty and shall state that any balance remaining at the expiration of the period shall, without further action by the City, automatically be deposited in cash with the City Clerk, unless a new letter of credit is issued and agreed to by the City or the City issues to the institution a written release of the obligations for which the letter of credit was deposited. The developer shall pay a non-refundable fee of two hundred dollars (\$200.00) to the City with submission of a letter of credit and one hundred dollars (\$100.00) for any amendment or extension thereto to partially reimburse the City's administration and review costs in accepting and maintaining such letter of credit.
- (c) Due to the costs of administering deposit agreements and the compliance with changing State regulations relating thereto, any developer that elects to use a deposit agreement in lieu of completing the improvements, as otherwise provided for in this Chapter and Section 89.410, RSMo., shall deposit an additional fee of five hundred dollars (\$500.00) that shall be used by the City to defray costs of administration, legal costs, procedural changes, and other costs not otherwise reimbursed to the City resulting from the City's acceptance of such deposit agreement. The developer shall be obligated to reimburse the City for any additional costs, including, but not limited to, reasonable attorney's fees, above such deposit amount arising in any way from the City's acceptance of a deposit agreement in lieu of completion of improvements. The developer may request a refund of any principal amounts, if any, of any initial or supplemented deposit above the costs attributable to the development during the period of the deposit agreement by written request made within thirty (30) days after the developer has received City approval of all categories of improvements subject to such deposit agreement.

4 *Amount Of Deposit.* The amount of the deposit required of a developer guaranteeing construction improvements shall be in the amount of one hundred ten percent (110%) of the City Engineer' estimate of the cost of the construction,

completion and installation of the required improvements. The City Engineer shall adopt, to the extent practical, schedules reflecting current cost estimates of typically required improvements.

Where certain improvements are required to be installed prior to approval of the final plat pursuant to Subsection (B)(2), the gross deposit amount for the construction deposit shall be reduced by the estimated cost of such improvements.

5. The deposit agreement shall require the developer to agree to fulfill the obligations imposed by this Section and shall have such other terms as the City Attorney may require consistent with this Section. Among other provisions, if a letter of credit is used, such letter shall (a) contain an "auto-pay" provision which provides that the amount secured by the letter of credit shall, on the day before the letter of credit expires the amount secured shall be paid to the City, and (b) be provided by a financial institution located in the County of St. Charles, Missouri, at which offices, without delay, draws on the letter of credit, including payment in full, can be accomplished by the City.
6. The agreement shall authorize the City Engineer to release the cash or reduce the obligation secured under the letter of credit as permitted herein.
 - (a) Partial releases or reductions may occur only upon completion, inspection and approval by the City Engineer of all required improvements within a category of improvements or may occur from time to time as work on specific improvements is completed, inspected and approved, provided however, that:
 - (1) The developer shall submit a written request for approval of release of the cash or the letter of credit as to all or any part of the developer's obligation only after construction, completion and installation of some phase of work on the improvements indicated on the approved improvement plans, receipt of requisite written notification from the appropriate inspecting public authority and approval by the City Engineer and only in the amounts permitted herein.
 - (2) After an inspection of any specific improvements, the City Engineer may, at the City Engineer' discretion, release up to ninety-five percent (95%) of the requested amount.
 - (3) The City Engineer shall establish the improvement categories, which may consist of improvement components or line items, to be utilized for calculation of deposit amounts, but such categories, components and line items shall in no way modify or reduce the developer's guarantee as to all required improvements, irrespective

of any release or completion of any category or underlying component or line item.

- (4) Irrespective of any discretionary prior releases that may be authorized by the City Engineer after completion of any component of the guaranteed improvements (i.e., less than all of the improvements in a given category), the remaining amount held for any category of improvements for the entire subdivision shall be released within thirty (30) days of completion of all of the improvements in such category of improvement, minus a retention of five percent (5%) which shall be released only upon completion of all improvements for the subdivision.
 - (5) The Board of Alderman shall approve the release.
- (b) All improvements in a category shall be deemed complete only when:
- (1) Each and every component and line item within a category for the entire subdivision has been constructed and completed as required,
 - (2) The developer has notified the City Engineer in writing of the completion of all components of the category, provided all necessary or requested documentation and requests an inspection,
 - (3) The developer is not in default or in breach of any obligation to the City under this Section including, but not limited to, the City Engineer's demand for maintenance or for deposit of additional sums for the subdivision,
 - (4) The inspection has been completed and the results of the inspection have been approved in writing by the City Engineer.
 - (5) The Board of Alderman approve.
- (c) *Effect of release--continuing obligations.* The developer shall continue to be responsible for defects, deficiencies and damage to public streets and other required improvements during development of the subdivision. No inspection approval or release of funds from the construction deposit as to any component or category shall be deemed to be City approval of improvement or otherwise release the developer of its obligation relating to the completion of the improvements until the final subdivision release on all improvements and maintenance is issued declaring that all improvements have in fact been constructed as required. Inspection and approval of any or all required improvements shall not constitute acceptance of the improvement by the City as a public improvement for which the City shall bear any responsibility.

- (d) *Deficient improvements.* No approval of required improvements shall be granted for improvements that fail to meet the specifications established herein or otherwise adopted by the City Engineer.

7. *Extension of completion period.* If, at the end of the improvement completion period, all the improvements shown on the approved improvement plans have not been completed, the developer may request and the City Engineer may grant an extension to the improvement completion period for a period of up to two (2) years if after review by the City Engineer such longer period is deemed necessary to facilitate adequate and coordinated provisions for transportation, water, sewerage, schools, parks, playgrounds or other public improvements, facilities or requirements so long as all guarantees are extended and approved by the City Attorney; provided, that the City Engineer may require as a condition of the extension execution of a new agreement, recalculation of deposit amounts or satisfaction of new code requirements or other reasonable conditions as may be needed to ensure that the extended agreement fully complies with the terms of this Section. In addition, prior to any request, the developer shall, in the case of a letter of credit agreement, submit the letter of credit for the period for which the extension is sought with its request for extension. No extension shall be granted without approval of the Board of Alderman.

8. *Appeals.* If the developer believes that a release or certificate of completion has been improperly denied, an appeal shall be filed with the City Clerk, and heard by the Board of Aldermen, and no such denial shall be deemed final until the Board of Aldermen has ruled on the appeal, which ruling shall be no later than thirty (30) days after the date of receipt of the appeal by the City Clerk.

9. The City Engineer shall inspect each category of improvement or utility work within twenty (20) business days after a request for such inspection has been filed with the City Engineer by the developer and no inspection shall be required until such request is received by the City Engineer. For purposes of this Section, an "inspection request" shall constitute and occur only on a completed written request on a form that shall include:

- (a) The category of improvement reflected in the deposit agreement that is requested to be inspected; and
- (b) A verified statement from the representative officer of the developer attesting that the information in the inspection request is true and accurate.
- (c) Nothing herein shall preclude the City Engineer from completing additional inspections at its discretion or as a courtesy to the developer.

C. *Maintenance Guarantee.* The maintenance agreement shall require the developer to agree to fulfill the obligations imposed by this Section and shall have such other terms as the City

Attorney may require consistent with this Section. Among other provisions, if a letter of credit is used, such letter shall (a) contain an "auto-pay" provision which provides that the amount secured by the letter of credit shall, on the day before the letter of credit expires the amount secured shall be paid to the City, and (b) be provided by a financial institution located in the County of St. Charles, Missouri, at which offices, without delay, draws on the letter of credit, including payment in full, can be accomplished by the City.

1. *Scope and duration.* Upon commencement of installation of the required improvements within the subject subdivision, the developer shall be responsible for maintenance of the improvements, including undeveloped lots, streets, sidewalks, common areas and storm and drainage facilities, until the later of the (1) expiration of eighteen (18) months after acceptance for public dedication of the specific improvement by the City or (2) after occupancy permits have been issued on ninety-five percent (95%) of all of the lots in the subdivision plat(s).

Maintenance includes repair or replacement of all defects, deficiencies and damage to the improvements that may exist or arise, abatement of nuisances caused by such improvements, removal of mud and debris from construction, erosion control, grass cutting, removal of construction materials (except materials to be used for construction on the lot or as permitted by site plan) and street de-icing and snow removal. All repairs and replacement shall comply with City specifications and standards. Any maintenance on improvements accepted by the City for public dedication shall be completed under the supervision of and with the prior written approval of the City Engineer. The maintenance obligation for required improvements to existing public roads or other existing public infrastructure already maintained by a public governmental entity shall terminate on and after the date such improvements have been inspected, deposit released and accepted by the governing body of the governmental entity for dedication. Irrespective of other continuing obligations, the developer's street de-icing and snow removal obligations shall terminate on the date a street is accepted by the City for public maintenance.

2. *Maintenance deposit--amount--use.*

- (a) The maintenance deposit shall be retained by the City to guarantee maintenance of the required improvements and, in addition to being subject to the remedies of Subsection D hereof and other remedies of this Code, shall be subject to the immediate order of the City Engineer to defray or reimburse any cost to the City of maintenance or repair of improvements related to the subdivision which the developer fails or refuses to perform. Such costs shall include off-site damage caused by deficiencies in the improvements or failure of maintenance. Except in emergency circumstances or where action is otherwise required before written notice can be provided, the City Engineer shall provide the developer with a written demand and opportunity to perform the maintenance before having such maintenance performed by the City. The City Engineer shall have the

authority to require the maintenance deposit to be placed or replenished by the developer in any form permitted for an original deposit where the amount remaining is determined to be insufficient or where the maintenance deposit was drawn upon by the City for maintenance.

- (b) The deposit required of a developer for maintenance obligations shall be in the amount of ten percent (10%) of the City Engineer' estimate of the cost of the construction, completion and installation of the required improvements. The maintenance deposit shall be established by cash sum or submission of a separate letter of credit. In determining the amount of maintenance deposit that shall continue to be held, portions of the deposit amount that were attributable to improvements that have been accepted by any third party governmental entity or utility legally responsible for the maintenance of the improvement may be released upon such acceptance of the improvement by the entity. The City Engineer may approve such further releases if it is determined in his/her discretion, after inspection of the improvements, that the total maintenance amount retained is clearly in excess of the amount necessary for completion of the maintenance obligation, after all reasonable contingencies are considered.

- 3. *Final maintenance deposit release.* Upon expiration of the maintenance obligations established herein, the City Engineer shall cause a final inspection to be made of the required improvements. Funds shall then be released if there are no defects or deficiencies found and all other obligations are shown to be satisfied on inspection thereof or at such time thereafter as any defects or deficiencies are cured with the permission of and within the time allowed by the City Engineer. This release shall in no way be construed to indemnify or release any person from any civil liability that may exist for defects or damages caused by any construction, improvement or development for which any deposit has been released.

D. *Failure To Complete Improvements.* The obligation and rights of the developer to construct, complete, install and maintain the improvements indicated on the approved improvement plans and provide for street maintenance shall not cease until the developer shall be finally released by the City Engineer, nor shall any deposit agreements or obligations hereunder be assignable or transferable by developer. Furthermore, in the event of default, abandonment, or failure of the developer to complete the improvements, no other person, firm, entity shall acquire (whether by contract, judicial foreclosure or other means) any rights to the remaining deposit funds as a developer without entering into a separate deposit agreement with the City. If, after the initial improvement completion period or after a later period as extended pursuant to this Section, the improvements indicated on the approved improvement plans are not constructed, completed, installed, accepted and maintained as required or if the developer shall violate any provision of the deposit agreement, the City Engineer may notify the developer to show cause within not less than ten (10) days why the developer should not be declared in default. Unless good cause is shown, no building or other permit shall be issued to the developer in the subdivision during any period in which the developer is in violation of the deposit agreement or this Chapter relating to the subdivision. If the developer fails to cure any default or present compelling reason why no default

should be declared, the City Engineer shall declare the developer in default and may take any one (1) or more of the following acts:

1. Deem the balance under the deposit agreement not theretofore released as forfeited to the City, to be then placed in an appropriate trust and agency account subject to the order of the City Engineer for such purposes as letting contracts to bring about the completion or maintenance of the improvements indicated on the approved improvement plans or other appropriate purposes in the interest of the public safety, health and welfare; or
2. Require the developer or surety to pay to the City the balance of the surety not theretofore released; or
3. Require the developer to submit an additional cash sum sufficient to guarantee the completion or maintenance of the improvements indicated on the approved improvement plans after recalculation in order to allow for any inflated or increased costs of constructing or maintaining the improvements.

The failure of a developer to complete the improvement obligations within the time provided by the deposit agreement (or any extension granted by the City), shall be deemed an automatic act of default entitling the City to all remedies provided in this Section without further or prior notice. It shall be the sole responsibility of the developer to timely request an extension of any deposit agreement if the improvements are not completed in the original time period provided by the deposit agreement and no right to any extension shall exist or be assumed.

E. *Other Remedies For Default.* If the developer or surety fails to comply with the City Engineer's requirements for payment as described above or fails to complete the improvements as required or otherwise violates the deposit agreement provisions and there is a risk that development will continue in the subdivision without the timely prior completion of improvements or compliance with deposit agreement provisions, the City Engineer may in addition or alternatively to other remedies:

1. Suspend the right of anyone to build or construct on the undeveloped portion of the subdivision. For the purpose of this Subsection, the "*undeveloped portion*" of the subdivision means all lots other than lots which have been sold for personal use and occupancy or are under bona fide contract for sale to any person for personal use or occupancy. The City Engineer shall give the developer ten (10) days' written notice of an order under this Subsection with copies to all sureties, as appropriate, which have outstanding obligations for any undeveloped portion of the subdivision and shall record an affidavit of such notice with the Recorder of Deeds. If, within the ten (10) day period after notice is given, the City Engineer is not convinced by compelling evidence that completion and maintenance of the improvements is adequately assured as provided herein, the City Engineer shall order construction suspended on the undeveloped portion of the subdivision. The order shall be served upon the developer with a copy to the issuer of the surety, as appropriate, and a copy recorded with the Recorder of Deeds. Public notice of said order shall be

conspicuously and prominently posted by the City Engineer at the subdivisions or lots subject to said order. The notice shall contain the following minimum language which may be supplemented at the discretion of the City Engineer.

(a) If said notice is for a subdivision:

THIS SUBDIVISION, (name of subdivision), HAS BEEN DECLARED IN DEFAULT BY THE CITY ENGINEER FOR THE CITY OF FLINT HILL. NO DEVELOPMENT, CONSTRUCTION, BUILDING OR DEMOLITION IN ANY MANNER SHALL TAKE PLACE WITHIN THE LIMITS OF THIS SUBDIVISION UNTIL SUCH TIME AS THE CITY ENGINEER FOR THE CITY OF FLINT HILL REMOVES THIS PROHIBITION. ANY DEVELOPMENT, CONSTRUCTION, BUILDING OR DEMOLITION IN ANY MANNER WHILE THIS PROHIBITION IS IN EFFECT IS ILLEGAL AND SHALL BE ENFORCED PURSUANT TO THE SUBDIVISION REGULATIONS OF THE CITY OF FLINT HILL.

(b) If said notice is for a lot:

THIS LOT, (lot number), HAS BEEN DECLARED IN DEFAULT BY THE CITY ENGINEER FOR THE CITY OF FLINT HILL. NO DEVELOPMENT, CONSTRUCTION, BUILDING OR DEMOLITION IN ANY MANNER SHALL TAKE PLACE WITHIN THE LIMITS OF THIS LOT UNTIL SUCH TIME AS THE CITY ENGINEER FOR THE CITY OF FLINT HILL REMOVES THIS PROHIBITION. ANY DEVELOPMENT, CONSTRUCTION, BUILDING OR DEMOLITION IN ANY MANNER WHILE THIS PROHIBITION IS IN EFFECT IS ILLEGAL AND SHALL BE ENFORCED PURSUANT TO THE SUBDIVISION REGULATIONS OF THE CITY OF FLINT HILL, MISSOURI.

The City Engineer shall not thereafter authorize construction to take place contrary to the order. The suspension shall be rescinded in whole or in part only when the City Engineer is convinced that completion of the improvements is adequately assured in all or an appropriate part of the subdivision and a guarantee of maintenance of the improvements has been provided; or

2. Suspend the rights of the developer or any related entity to construct structures in any development platted after the effective date of such suspension throughout the City of Flint Hill and such incorporated areas as are under City of Flint Hill jurisdiction. The City Engineer shall give the developer ten (10) days' written notice of an order under this clause with a copy to sureties known to the City Engineer to have obligations outstanding on behalf of the developer or related entities and shall record an affidavit of such notice with the Recorder of Deeds. If, within the ten (10) day period after notice is given, the City Engineer is not convinced by compelling evidence that completion and maintenance of the improvements is adequately assured, the City Engineer shall order construction suspended. The order shall be served upon the developer with a copy to the surety, as appropriate, and a copy recorded with the Recorder of Deeds. The City Engineer shall not thereafter authorize construction to take place contrary to the City Engineer' order. The suspension shall be rescinded only when the City Engineer

is convinced that completion and maintenance of the improvements is adequately assured.

F. *Suspension Of Development Rights.* From and after the effective date of this Section, if a developer or any related entity has a subdivision development improvement guarantee that is in default, as determined by the City Engineer, including any escrow or bond under any prior version of this Section:

1. The City Engineer shall be authorized, but not be limited, to thereafter pursue the remedies of Subsection E of this Section; and
2. The rights of the developer or any related entity to receive development approval, which approval shall include, but not be limited to, approval of any plat or deposit agreement for new or further development in the City, shall be suspended. The suspension shall be rescinded only when the City Engineer is convinced that completion and maintenance of the improvements is adequately assured.

G. *Additional Remedies.* If any developer fails to comply with any obligation of this Section, the City Engineer may recommend that the City Attorney take appropriate legal action and may also withhold any building or occupancy permits from the developer or related entities until such compliance is cured. The City shall also have the right to partially or wholly remedy a developer's deficiencies or breached obligations under this Chapter by set-off of any funds or assets otherwise held by the City of the developer to the maximum extent permitted by law. Such set-off shall occur upon written notice of such event by the City Engineer to the developer after the developer has failed to timely cure the deficiencies. It shall be deemed a provision of every deposit agreement authorized under this Section that the developer shall pay the City's costs, including reasonable attorneys' fees, of enforcing such agreement in the event that the developer is judicially determined to have violated any provision herein or in such agreement. The developer may appeal any decision taken pursuant to this Section by filing an appeal to the Board of Aldermen whose decision shall be final.

H. *Related Entities.* For purposes of this Section, "related entity" has the following meaning: a developer is a "related entity" of another person (a) If either has a principal or controlling interest in the other; or (b) If any person, firm, corporation, association, partnership or other entity with a controlling interest in one has a principal or controlling interest in the other. The identification of related entities shall be supported by documentation from the Secretary of State's office, Jefferson City, Missouri.

SECTION 1.14 RECORDING-APPROVAL OF CLERK

No Final Plat shall be filed for record or recorded in the office of the Recorder of Deeds for St. Charles County, Missouri, unless and until the approval of the Planning & Zoning Commission, the approval of City Clerk, the approval of the City Engineer and the Mayor are are endorsed thereon. No lot shall be sold until the Final Plat has been filed for record in the office of the Recorder of Deeds of St. Charles County, Missouri. No building permit will be issued until the Final Plat is recorded. Further, no dwelling unit may be occupied until the public or private

improvements are completed, unless money is in escrow for the completion of said improvements.

SECTION 1.15 FINAL PLAT

After the Preliminary Plat has been approved by the Planning & Zoning Commission, a Final Plat (also known as a Record Plat) (herein "Final Plat") shall be prepared and submitted to the Planning & Zoning Commission for approval by that body and by the Board. Before approving the Final Plat of all or part of a proposed subdivision, the improvements will be satisfactorily completed or an escrowed sum or lender's agreement shall be placed for the completion of the improvements. The approval of the Planning & Zoning Commission shall be shown on the plat with the date of such approval and over the signature of the Chairman or Secretary. Eight (8) copies of the Final Plat, a completed application, and all required supporting materials, unless more copies are required by the City Engineer, shall be submitted to the City Clerk who, upon receipt of the required fee, shall transmit the same to the City Engineer. The City Engineer shall review the application for compliance with this Ordinance and other Ordinances of the City, and provide comment. If the City Engineer fails to provide comments within fourteen (14) days of the submission to the City Engineer, the application shall be deemed submitted to the Planning and Zoning Commission for review as of the fifteenth (15th) day after submission. When comments are provided by the City Engineer, the application shall be deemed submitted to the Planning and Zoning Commission on the earlier of (a) when the City Engineer, in his or her sole discretion, finds the application in sufficient form for review by the Planning and Zoning Commission, or (b) sixty (60) days from submission to the City Engineer. The original plat shall show or be accompanied by the following information whether for residential, commercial, industrial or public use, such as parks, schools, churches, etc. The Final Plat shall be prepared on tracing cloth, its equal or better, and shall contain the following information:

1. *Identification.* Sheet size maximum twenty-four (24) inches by thirty-six (36) inches, minimum twelve (12) inches by eighteen (18) inches.
 - A. Name of subdivision, plat, etc., and names(s) of those who prepared the plat.
 - B. North point, date and indication of scale used.
 - C. Acreage in plat.
 - D. Location map and key map on first (1st) page if more than one (1) sheet.
2. *Plat.*
 - A. Accurate boundary survey with bearings and distances tied to surveyed identification points (monuments).
 - B. Locations of lots, streets, public highways, alleys, parks and other features with accurate dimensions to decimals of feet, length and radius of all curves.
 - C. Building lines on front and side streets; location and dimension of utility

easements.

- D. Names of streets and lots numbered in logical order. Streets and names of adjacent subdivision (if applicable) and/or adjacent property owners within one hundred (100) feet in dashed lines.
- E. Depict flood hazard boundaries as shown on FEMA maps.

3. *Written Statements.*

- A. Dedication of all streets, public highways, alleys and land intended for public use together with lot restrictions signed by all owners and all parties who have mortgage or lien interests.
 - B. Certification as to boundaries, monuments made by a registered land surveyor testifying that the above were made by him/her.
- 4. In the event a subdivision is to have privately maintained streets, evidence of the methods for controlling and maintaining each private facility shall be submitted with the Final Plat. Such restrictions must be approved by P&Z and the Board before they may be recorded.
 - 5. In cases where the applicant proposes to include other regulations i.e., architectural control, covenants and deed restrictions shall be submitted to P&Z indicating the additional regulations and how they are going to be administered.
 - 6. Subdivisions containing twenty-five (25) or more lots and using individual sewage treatment must receive approval from the Missouri Department of Natural Resources on a report prepared by an engineer outlining the plans for the disposal of water within the proposed subdivision.

Above to have corporate seal(s) affixed or embossed and to be notarized by a notary public. All figures and letters on the Final Plat must be in ink and shall be plain, distinct and of sufficient size to be easily read and must be of sufficient density to make a lasting and permanent record.

In the case of a subdivision of land for which no public or private improvements are intended, the Final Plat shall be reviewed for completeness by the City Engineer and, upon the City's Engineer's communication to the Board and owner(s) that the Final Plat is in good form, then the Board of Alderman shall adopt its Ordinance approving the Final Plat.

SECTION 1.16 VACATION OF SUBDIVISIONS

Whenever any person or corporation may desire to vacate any subdivision or part thereof in which he/she shall be the legal owner of all of the lots or may desire to vacate any lot, such person or corporation may petition the Board giving a distinct description of the property to be vacated and the names of the persons to be affected thereby, which petition shall be filed together with a filing

fee with the Board who shall give notice of the pendency of the petition in a public newspaper. The filing fee for the plat shall be per the fee schedule for services, permit applications, plan reviews, inspections, rezonings and conditional uses, which is on file in the office of the City Clerk. If no opposition be made to said petition, the Board may vacate the same by order with such restriction as they may deem for the public good. If opposition be made, said petition shall be set down for public hearing before the Board. No vacation shall take place unless the advice of the Planning & Zoning Commission be obtained, which advice shall be filed with said petition.

SECTION 1.17 PENALTIES

The Planning & Zoning Commission shall, upon evidence of any violation of these Regulations, serve an order to cease and desist or correct or remove such violations, such order to be made by certified mail to the owner, applicant, general agent, lessee or contractor responsible for or contributing to the violative act. Any owner, applicant, general agent, lessee or contractor who, having been served with an order to cease and desist or correct or remove such violations, fails to comply with such order within the time limit set forth in the order or who shall continue to violate any of the regulations contained herein and orders made in connection herewith shall be guilty of a misdemeanor punishable by fine not to exceed One Thousand Dollars (\$1,000.00) per day of violation.

SECTION 1.18 VARIANCES

1. Whenever the tract to be subdivided is of such unusual size or shape or is surrounded by such development or contains such topographic conditions or characteristics that the strict application of the requirements contained in these Regulations would impose practical difficulties or particular hardship, the Board of Adjustment may vary or modify any of the requirements of this regulation so that substantial justice may be done and the public interest secured and the general intent of this regulation preserved.
2. In granting variances, the Board of Adjustment may require such conditions as will, in its judgment, secure the objectives of these regulations.

1.19 APPLICATION SUBMISSION

Any application for any action to be taken under these Subdivision Regulations shall not be deemed submitted until the application form is completed, the application fee is received, and such other requirements of the applicable provision(s) of these Subdivision Regulations are satisfied.

The City Clerk and City Engineer have no authority to waive or alter the deadlines for submission contained in these Subdivision Regulations.

The Fee Schedule for applications required by the provisions of the Subdivision Regulations is set forth in Exhibit A to Article 31 of the Zoning Ordinance of the City of Flint Hill. The Applications for such permits are kept on file in the office of the City Clerk. A list of such Applications is set forth on Exhibit B to Article 31 of the Zoning Ordinance.

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## **ARTICLE II. DESIGN STANDARD/IMPROVEMENTS**

### **SECTION 2.1**

#### **RESIDENTIAL LOT DESIGN STANDARDS**

The following standards are regarded as guidelines for desirable development. The size, shape and orientation of lots shall be designed to provide desirable building sites and logically related to topography, natural features, streets and adjacent land uses. Due regard shall be given to natural features such as large trees; unusual rock formations; watercourses; and sites which have historical significance, scenic views and similar assets, the preservation of which would add attractiveness and value to the subdivision. The following minimum standards are set forth as guides to these goals.

1. Where additional widening strips are dedicated on existing streets, calculations of the area of a lot should not include the dedicated strips in determining the gross area of the lot. Dedicated widening strips shall be required for all proposed subdivisions which front along a County road. The area of all lots must be calculated exclusive of the street rights-of-way.
2. Where there is a question as to the suitability of a lot or lots for their intended use due to factors such as rock formations, soil conditions, steepness of terrain, flood conditions or other adverse natural physical conditions, P&Z may, after adequate investigation, withhold approval of such lots until engineering studies are presented to P&Z which establish that the method proposed to meet any such condition is adequate to avoid significant danger to health, life or property.
3. Alleys are undesirable except where alleys of adjoining subdivisions would be closed off from access by the failure to provide alleys in new subdivisions.
4. Exhibit "A", which is attached hereto and made a part hereof, summarizes the design standards and improvements to be observed in subdivision development.

### **SECTION 2.2**

#### **BLOCKS**

Blocks shall be designed so as to provide good circulation of traffic.

1. *Lengths.* Refer to Exhibit "A".
2. *Width.* Blocks shall be wide enough to allow two (2) tiers of lots with sufficient depth to provide an adequate building site on each lot, except as consistent with street design standards as set forth.

### **SECTION 2.3**

#### **LOT DIMENSIONS, SHAPES AND POSITIONS**

The size, shape, orientation and dimensions of lots shall be appropriate for the location and physical character of the proposed subdivision and for the type of development contemplated in compliance with the applicable zoning ordinance or regulation. Building lines shall be shown on

all lots intended for residential use and shall not be less than the setback required by the zoning ordinance.

1. *Depth.* Excessive depth in relation to width shall be avoided. (A proportion of one (1) to one (1) or two (2) to one (1) will normally be considered appropriate, unless topography is such that other lot dimensions allow for proper development.)
2. *Street access.* Each proposed lot shall front upon a street improved to the standards and specifications of the St. Charles County Highway Department, unless the lots front on a private roadway.
3. *Width.* Lots for residential purposes shall have sufficient width at the building setback lines to permit compliance with side yard or distance requirements of the applicable zoning ordinance or regulations and still be adequate for a building of practicable width. The minimum lot width required for a lot fronting on a circular turnaround shall be measured along a line tangent to the setback line at a point midway between the side lot lines.
4. *Double frontage.* Lots with double frontage and reversed frontage shall be avoided, except where necessary to provide separation of development from traffic arteries or as otherwise required by topography or similar conditions.
5. *Side lot lines.* Side lot lines shall be at right angles to straight streets and radial to curved streets except when said radial lot lines detract from desirability of the lot, in which event some deviation may be allowed.
6. *Corner lots.* Corner lots for residential use shall be platted to permit compliance with the yard and setback requirements for the applicable zoning order. The right-of-way radius on corner lots shall be a minimum of twenty (20) feet or, in the case of a straight line, the line connecting two (2) points twenty (20) feet distance from the intersection of the projected lot lines.

## **SECTION 2.4                      NON-RESIDENTIAL SUBDIVISION—COMMERCIAL AND INDUSTRIAL**

In addition to the standards of these Regulations which are appropriate to the platting of all subdivisions, the subdivider shall demonstrate to the satisfaction of P&Z that the street, parcel and block pattern proposed is specifically adapted to the uses anticipated. The following standards shall, therefore, be observed.

1. Proposed industrial parcels shall be suitable in area and dimensions to the types of industrial development anticipated.
2. Street right-of-way and pavement shall be adequate to accommodate the type of volume of traffic anticipated.

3. Block length. Refer to Exhibit "A".
4. Every effort shall be made to protect adjacent residential areas from the proposed non-residential subdivision, including the provision of extra depth in parcels adjacent to an existing or potential residential development and provision for a permanently landscaped buffer strip where indicated by P&Z.
5. Streets carrying non-residential traffic, especially truck traffic, shall not be extended to the boundaries of adjacent residential areas and not be connected to streets intended for predominantly residential traffic.

## **SECTION 2.5**

### **RIGHT-OF-WAY AND UTILITY EASEMENT REQUIREMENTS**

1. *General Standards.* All streets shall be designed to meet the street design, right-of-way and utility easement requirements of the City and St. Charles County.
  - A. Streets shall conform to existing topography as nearly as possible. Streets shall intersect, as nearly as possible, at right angles. Street jogs with centerline offsets of less than one hundred twenty-five (125) feet are prohibited.
  - B. Streets will not be approved which are subject to flooding or frequent inundation.
  - C. The system of streets designated for the subdivision, except in unusual cases, must connect with any streets already dedicated in adjacent subdivision; and where no adjacent connections are platted, must in general be the reasonable projection of streets in adjacent tracts and must continue to the boundaries of the tract subdivided so that other subdivisions may connect therewith.
  - D. The Board may require a street to be dedicated to public use in order to provide circulation.
2. *Street Right-Of-Way And Utility Easement Requirements.*
  - A. *Highway and major thoroughfares.* Highways and major thoroughfares shall have widths as specified by the St. Charles County Highway Department
  - B. *Collector streets.* Eighty (80) feet
  - C. *Minor stub and cul-de-sac streets.* Fifty (50) feet. The Right-of-Way at a circular turn-around shall extend ten (10) feet from the back of the curb or edge of pavement.

- D. *Utility easements.* Utility easements, where required, shall be at least ten (10) feet wide (five (5) feet on each side of the lot line) along rear, front and side lot lines. Easements of adequate width shall be provided for open drainage channels, where required. Easements five (5) feet in width may be allowed for underground cable installations. Telephone and electric power lines shall be located underground, except in subdivisions where all of the lots are twenty thousand (20,000) square feet or larger in size and then the applicant will have the option of underground or overhead utility lines.

3. *Minimum Pavement Widths.*

- A. *Highways, major thoroughfares and collector streets.* Thirty-eight (38) foot minimum. In the case of a major thoroughfare requiring an improvement different than a thirty-eight (38) foot pavement, the matter of financial and other arrangements for installing wide pavements at the time shall be taken up by the applicant with the officials having jurisdiction.
- B. *Minor, stub and cul-de-sac streets.* Thirty (30) feet. Refer to Exhibit "A". The pavement of a turning circle at the end of a cul-de-sac street shall have a minimum outside diameter of eighty (80) feet.

A "T" or "Y" shaped paved space, when approved by P&Z in place of a turning circle, shall extend entirely across the width of the street right-of-way, except for sidewalk space, and shall be at least ten (10) feet wide with the flared portion rounded by a minimum radii of twenty (20) feet.

All cul-de-sac and stub streets shall have a turnaround radius of fifty (50) feet. Turnarounds may not be required on stub streets which are less than two hundred fifty (250) feet in length and are planned to be extended in the future. All stub streets in excess of two hundred fifty (250) feet in length must provide a temporary turnaround with three (3) standard specification, "Manual on Uniform Traffic Control Devices", end of roadway markers mounted on two (2) pound "U" channel sign post. Each marker shall consist of an eighteen (18) inch diamond reflectorized red panel. The bottom of each panel shall be mounted a minimum of four (4) feet above the elevation of the pavement surface and installed at terminus of pavement. Refer to Exhibit "A" for general street standards.

- C. *Alleys and service drives.* Twenty (20) feet minimum.
- (1) *Sidewalks.* Sidewalks shall be installed on both sides of all major streets, collector streets, minor, dead-end and cul-de-sac streets. Sidewalks shall have a minimum width of four (4) feet in residential areas. In commercial and industrial areas sidewalks may be required as deemed appropriate by P&Z. The City by these requirements does



not accept dedication of sidewalks.

## **SECTION 2.6**

### **STREET GRADES AND CURVES**

Grades shall not exceed six percent on highways and major thoroughfares, eight percent on collector streets, or 12 percent on other streets. Center line radii of curves shall not be less than 300 feet on major arterials, 200 feet on secondary arterials, or 100 feet on other streets, and shall be to an even ten feet. Where existing conditions, particularly the topography, make it otherwise impractical to provide buildable sites, the Commission may accept steeper grades and sharper curves. In flat areas, allowance shall be made to finish street grades having a minimum slope, preferably, of at least one-half percent. Grades for pedestrian ways or crosswalks should not exceed five percent (5%), unless steps of an acceptable design are to be constructed.

## **SECTION 2.7**

### **STREET NAME SIGNS AND STREET NAMES**

1. Street signs shall be erected by the subdivider at all intersections. Street name signs shall meet the requirements of St. Charles County Highway Department except that the sign legend shall be six (6) inch Series C black lettering for street name and four (4) inch Series B letters for the suffix on white reflective background. A proof of the proposed street identification sign shall be approved by the City Engineer prior to the manufacture or installation of any street identification sign.
2. Stop signs, yield signs, etc., non-illuminated, non-electric, reflectorized shall conform to the current "Manual on Uniform Traffic Control Devices" and be provided by the applicant.
3. Whenever a new street is constructed along the approximate alignment or extension of an existing street, its name shall be the same as that of the existing one.
4. Whenever a cul-de-sac street serves not more than three (3) lots, the names of intersecting street shall apply to the cul-de-sac.
5. To avoid duplication and confusion the proposed names of all streets shall be approved by the County Department of Community Development Planning Division prior to both Preliminary Plat approval and such names being assigned or used.

## **SECTION 2.8**

### **PUBLIC STREET CONSTRUCTION**

1. All streets shall be designed to meet the street design, right-of-way and utility easement requirements of the City and St. Charles County. Street shall be graded to full width of the right-of-way and fully constructed of asphalted concrete or Portland cement concrete pavements in accordance with the standard specifications of the County Highway Department. Refer to Exhibit "A" and Exhibit "C" for applicable construction standards. Before streets are constructed, soil tests on the

sub grade shall be submitted and approved by the City Engineer. In all fill areas in the roadways, soil tests shall be submitted and approved by the City Engineer for every two (2) feet of fill. No traffic will be allowed on new concrete pavement for a minimum of fourteen (14) days and until the concrete reaches a compressive strength of four thousand (4,000) psi. The streets shall not be approved unless it reaches a compressive strength of four thousand (4,000) psi.

2. *Improvement Of Existing Streets.* For any development fronting on an existing road or street, it shall be the responsibility of the applicant to bring the road or street up to County specifications to the centerline of the road or street plus an additional eight (8) feet of width as per County specifications.
3. *Designation Of Private Streets.* For any subdivision having private streets, the applicant must construct a sign at all entrances of the subdivision, within fifty (50) feet of the centerline of the road, which shall state: Private Streets Maintained by Property Owners. These signs shall be installed where they are easily visible to anyone entering the subdivision and maintained in good order by the applicant until the last lot is sold in the subdivision. The minimum size for each sign shall be twelve (12) inches high by eighteen (18) inches wide with two (2) inch high letters. There shall also be a sufficient contrast in the coloring of the sign background as compared to the message lettering. When private streets are built, they are to be built to public street standards.
4. *Approval Of Subgrade.* The City Engineer shall approve the subgrade before any base course or surface is placed thereon. The subgrade shall be so constructed that it will be uniform in density throughout. The entire width and length will conform to line, grade and cross section shown on the plans or as established by the engineer. If any settling or washing occurs or where hauling results in ruts or other objectionable irregularities, the contractor shall reshape and reroll the subgrade before the base or surfacing is placed. Tolerance allowed on all lines, grades and cross sections shall be plus or minus four-hundredths (0.04) feet.
5. *Utility Work Prior To Base Construction.* No base course work may proceed on any street until all utility excavations (storm and sanitary sewers, water, gas, electric, etc.) have been properly backfilled with granular material, crushed stone or gravel mechanically tamped in ten (10) inch lifts or jetted with water and allowed to set for a length of time satisfactorily to the City Engineer.

## **SECTION 2.9**

### **MONUMENTS REQUIRED**

Sufficient permanent and distinguished monuments shall be accurately placed throughout the subdivision so that street alignment may be traced with accuracy. Such monuments shall be in the form of iron pins or of something equal, not less than one-half (1/2) inch in diameter and three (3) feet long driven into the earth or spikes not less than six (6) inches long driven into the pavement. Such monuments shall be installed by the subdivider as soon as reasonably possible. The location of such monuments shall be indicated on the Final Plat and shall be placed in accordance with the

following requirements:

1. *Street points.* Monuments shall be set at the intersection of all streets and the beginning and end of all curves along the street centerlines.
2. *Curb marks.* Curbs shall be permanently marked at the beginning and end of all curves and at the prolongation of all lot sidelines.

## **SECTION 2.10**

### **PUBLIC STORM SEWERS AND OTHER DRAINAGE APPURTENANCES**

1. The standard construction specifications and regulations for engineering design requirements for storm water drainage facilities shall be as set out in the latest version of the St. Charles County requirements for public storm sewers and other drain appurtenances.
2. *Amendments.*
  - A. For all sites, regardless of size, the post-developed release rate shall not exceed the existing peak flow for the 100-year, 24-hour event.
  - B. Wherever the word "site" appears in the St. Charles County requirements, the word shall be construed as signifying any individual site drainage area.
  - C. *Detention basin outlet requirements.* All detention basin outlets not directly connected to existing offsite storm sewer systems or directly discharging into natural off-site watercourses shall be located a minimum of fifty (50) feet from development property lines as measured along the drainage way. No land disturbance shall occur which shall cause a nuisance to any adjoining property owner or which shall violate any Federal, State or local law or regulation. All construction activities shall be completed with minimum erosion, aesthetic degradation or other negative impact on the site or surrounding areas.
  - D. *Roof drain requirements in commercial and industrial zoning districts.* All roof downspouts on buildings located in "C-1", "C-2" or "I-1" zoning districts shall be connected to the storm sewer system via underground piping unless determined unnecessary by the City Engineer.
  - E. *Changing City-approved drainage patterns.* Stormwater drainage patterns that have been approved by the City shall not be changed without approval of the City Engineer.
3. All storm sewer management techniques shall be pursuant to requirements of the City Engineer.

## **SECTION 2.11**

### **SANITARY SEWERS**

All buildings, structures and use of land in the incorporated area of the City shall hereafter be required to have an adequate, safe and sanitary disposal system for all human, disposal of sewage or other liquidated wastes, shall conform to the methods outlined herein:

1. Where a public sanitary sewer main is reasonably accessible, in the opinion of the City Engineer, the subdivision shall be provided with a complete sanitary sewer system connected with such sewer main, including a lateral connection for each lot. Such systems and connections shall comply with the regulations of the Missouri State Board of Health and Missouri Department of Natural Resources and the applicable local sanitary sewer district.
2. It shall be the responsibility of the applicant/applicant to comply with all requirements of the applicable local sanitary sewer district. Verification of the service shall be provided at the time of submission of the Preliminary Plat or Site Plan.
3. Where no sewers are accessible and no plans for a sewer system have been prepared and approved, the applicant shall either install a sewage collection and disposal system in accordance with the requirements of the preceding paragraph or individual disposal devices may be installed on each lot within the subdivision; provided that no individual disposal device should be permitted unless the lots to be served have sufficient area to allow adequate soil absorption for on-site sewage disposal. The City Engineer may modify lot area requirements in relations to soil conditions and other pertinent facts and findings in any particular subdivision. All such individual devices and systems shall be constructed and maintained in accordance with the regulations and requirements of the Missouri Department of Natural Resources. In no case shall individual sanitary sewage disposal systems exist on lots of less than three (3) acres in an area.

## **SECTION 2.12**

### **WATER SUPPLY**

Where a public water supply main is reasonably accessible, in the judgment of the City Engineer and in accordance with the City's Building Codes, the subdivision shall be provided with a complete water distribution system adequate to serve the area being platted, including a connection for each lot and appropriately spaced fire hydrants. In no case shall there exist on lots of less than three (3) acres in area, individual water systems unless a public water system is not reasonably accessible in the judgment of the City Engineer. The water system shall be designed and approved by the approved water company serving the area of the proposed development.

## **SECTION 2.13**

### **ELECTRIC, TELEPHONE AND FIBER OPTIC CABLE CONNECTIONS**

All transformers, junction boxes, markers and other visual indications of electric, telephone or fiber optic cable connections shall be along the side or behind the rear building lines, so as not to



be visible from the street. In corner lots, where a side building line is visible from the street, all transformers, junction boxes, markers or other visual indications of utility connections shall be behind the rear building line.

#### **SECTION 2.14                      INSPECTION**

1. Prior to starting any of the work covered by the above plans, after approval thereof, the applicant shall make arrangements to provide for inspection of the work sufficient, in the opinion of the City Engineer, to assure compliance with the plans and specifications as approved.
2. The City Engineer or his/her duly authorized representative shall make all necessary inspections of all pavement construction, along with all roadway related storm sewer construction.
3. Forty-eight (48) hours notice shall be given to the City Engineer's office regarding any requested inspection.

#### **SECTION 2.15                      COMPLETION OF CONSTRUCTION**

1. The construction of all improvements required by these rules and regulations shall be completed within two (2) years from the date of approval of the Final Plat by the Board, unless good cause can be shown for the granting of an extension of time by authority of the Board upon recommendation by the City Engineer.
2. The final release of five percent (5%) of the escrow on all public improvements shall be made within thirty (30) days after a final inspection is made and all corrected items are completed.

#### **SECTION 2.16                      MAINTENANCE AND SUPERVISION**

Where the subdivision contains sewers, sewage treatment plants, water supply systems or other physical facilities that are necessary or desirable for the welfare of the area or that are of common use or benefit and which are not or cannot be satisfactorily maintained by an existing public agency, provision shall be made which is acceptable to the agency having jurisdiction over the location and maintenance of such facilities and for the proper and continuous operations, maintenance and supervision of such facilities.

#### **SECTION 2.17                      TRUST INDENTURES**

Trust indentures or covenants and restrictions are required to be approved by the City Attorney and filed with the Office of the St. Charles County Recorder of Deeds prior to submission of the application for approval of a Final Plat in any subdivision where there exists common ground or privately-maintained improvements or monuments.

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ARTICLE III. EROSION AND SEDIMENT CONTROL

SECTION 3.1

PURPOSE

1. The purpose of these Articles is to control soil erosion on land that is undergoing development for nonagricultural uses and to preserve the natural terrain and waterways of land within the City. Soil erosion may result in the loss of valuable top soil, the degradation of water quality, and obstruct stormwater flows in storm sewers road ditches and natural watercourses.
2. The provisions in this regulation are intended to promote land preservation and the public welfare by guiding, regulating and controlling the design, construction, use and maintenance of any development or other activity that disturbs or breaks the topsoil or results in the movement of earth. Application of the regulations in this document is intended to control soil erosion and sedimentation.
3. Damages due to conduct in violation of this Article shall be the sole liability of the party or parties in violation and not of the City.

SECTION 3.2

SCOPE OF AUTHORITY

Any person, firm, corporation or business proposing to remove any ground vegetation, to disturb or fill the land or to store soil affecting five thousand (5,000) square feet or more of land within the City shall apply to the City Engineer for approval and issuance of a land disturbance permit. State and Federal permit conditions that are more stringent than the requirements set forth herein shall govern.

SECTION 3.3

LAND DISTURBANCE PERMIT REQUIRED

It shall be unlawful for the owner of a property and/or that owner's agent to perform land disturbance activities affecting five thousand (5,000) square feet or more without obtaining a land disturbance permit.

SECTION 3.4

EXEMPTIONS

Notwithstanding Section 3.3, a land disturbance permit will not be required for the activities listed below, provided that no change in drainage patterns or sedimentation onto adjacent properties will occur.

1. Land disturbance activities in public rights-of-way covered by a special use permit.
2. Land disturbance activities for or by any public utility for the installation, inspection, repair or replacement of any of its facilities.
3. Land disturbance activities in quarries and permitted sanitary landfills that do not drain off the property.

4. Land disturbance activity of land for farming, nurseries, landscaping or gardening or similar agricultural or horticultural use whenever there is substantial compliance with recommendations or standards of the local soil conservation authority.
5. Removal of existing or dying grass or similar vegetation by disturbing not more than a maximum area of ten thousand (10,000) square feet and resodding or reseeding with new landscaping to include preparation of the seed bed; provided erosion and sediment control measures are provided until the grass or other vegetation is established.
6. Gardening and similar activities on property occupied by one- or two-family dwellings.
7. Any emergency activity that is immediately necessary for the protection of life, property or natural resources.

SECTION 3.5

PLAN SUBMITTAL REQUIREMENTS

Two (2) sets of plans (SWPPP) shall be submitted to the City Engineer for initial review along with the plan review fee. Additional copies of the plan shall be requested upon review by the City Engineer for review and approval. The review fee for the plans shall be per the fee schedule for services, permit applications, plan reviews, inspections, rezonings and conditional uses, which is on file in the office of the City Clerk. Initially submitted plans must include all items in Subsections (1) and (2) of this Section and must be supplemented by all items in Subsection (3) of this Section prior to issuance of any permit, unless an item is waived pursuant to Section 3.6.

- Existing and proposed contours.
- Drainage facilities and methods for preserving the natural watercourse and patterns of drainage.
- Identify limits of any areas to be disturbed by the proposed construction.
- Amount of current impervious coverage and proposed impervious coverage.
- Methods to mitigate additional impervious coverage and/or address drainage issues on the site.
- Connection to storm sewer and/or method of controlling storm water run-off on-site.
- Best Management Practices (BMPs) to reduce sediments and other pollutants associated with construction activities.
- Location of siltation fences, hay bales and other runoff prevention methods (as well as other items as required by the site plan review process) and plans for maintenance of these installations during construction.
- Schedule of street and sidewalk cleaning to alleviate mud and dirt on public right-of way.
- Seal of a registered Professional Engineer in the State of Missouri.
- Benchmark information from the site survey.
- Other information as required by the City Engineer or the Planning & Zoning Commission.

I. *General Information.*

- A. Name, address and telephone number of property owner or permittee.
- B. Property address and location map of land disturbance property.
- C. Property boundaries and adjacent property owners.
- D. A site map showing the outlines of the total project area and land disturbance areas.
- E. Total acreage of site or property.
- F. Total acreage of land disturbance.
- G. Name and address of engineering firm or engineer.
- H. Existing land use and zoning.
- I. U.S.G.S. bench mark source and site bench mark on U.S.G.S. datum.
- J. Plotted no larger than on twenty-four (24) inch by thirty-six (36) inch paper at an appropriate horizontal scale between one (1) inch equals two hundred (200) feet and one (1) inch equals ten (10) feet.
- K. Topographic survey of physical features to at least twenty-five (25) feet beyond the land disturbance activity area.
- L. Existing surface contours at interval no greater than two (2) feet to at least twenty-five (25) feet beyond the land disturbance activity area.
- M. FEMA flood panel number and delineation of 100-year floodplain and floodway.
- N. Location of soil types, wooded areas, watercourses, wetlands, surface water bodies and soil borings.
- O. Location of all underground and above ground utilities, including pipelines operated at a service pressure in excess of two hundred (200) psig.
- P. Delineation of the trees to be preserved.
- Q. Delineation of the vegetative buffer plan.
- R. Field surveyed natural watercourses showing top and toe of banks.

- S. Proposed access to the site either from public right-of-way under a permit issued by the governing agency or through private property under an easement or license. (Attach copy of permit, easement or license.)
- T. All proposed permanent improvements to be constructed as part of the land disturbance activity.
- U. Proposed surface contours at intervals no greater than two (2) feet to at least twenty-five (25) feet beyond the land disturbance activity area.
- V. Land disturbance activity notes, which include a note stating that "The contractor shall contact the City Engineer to request inspection of the site at least two (2) days in advance of construction startup".
- W. Construction details.
- X. Signature, seal and date of a licensed professional engineer or registered land surveyor and his (her) statement identifying sources of topographical information.
- Y. A signed statement by the permittee assuming full responsibility for the performance of the land disturbance activities and that all State, County, City and private property or roads will be adequately protected.
- Z. Other items as required by the City Engineer.

2. *Specific design information.*

- A. A geotechnical report identifying the United States Department of Agriculture soil textures throughout the site; slope stabilization analysis for cut and fill slopes; and other pertinent data related to erosion or sediment concerns during land disturbance activities.
- B. The sequence of all land disturbance activities including those listed below, and all installations of erosion and sediment controls listed below, shall be shown on construction plans:
 - (1) Stripping and clearing;
 - (2) After changes in drainage courses;
 - (3) Construction of underground infrastructure;
 - (4) Construction of structures, such as buildings, pavement, retaining walls;

(5) Final grading; and

(6) Landscaping.

The City Engineer may require that separate construction plans be submitted for separate phases of the project.

C. Stabilization of any stream bank erosion problems existing in natural watercourses that are to be left undisturbed, that may jeopardize private lots, public utilities or detention facilities.

D. Details of any temporary drainage system proposed to be installed in connection with any and all phases of land disturbance activity.

E. Details of proposed water impoundment structures, embankments, sediment or debris basins, grass or lined waterways and diversions with the details and locations of proposed stable outlets and the location of any downstream impoundments which could be affected by the proposed land disturbance activities.

F. Location of construction traffic entrance and wash-off pad.

G. Description of erosion and sediment controls that will be installed prior to and during land disturbance activity to control pollutants in stormwater discharges, along with drainage area map with appropriate pre-development, appropriate interim and post runoff calculations for each proposed stormwater conveyance system and erosion and sediment control. Calculations shall conform to Section 3.15 to 3.20, herein.

H. Drawing depicting the runoff travel paths, which are the route taken by a drop of effective rainfall falling at the most hydraulically remote point to the outlet of a drainage basin to determine the time of concentration used in Subsection 2.G., above. Provide calculations for time of concentration and composite curve number (CN) for pre-developed watersheds.

I. Description and location of permanent erosion and sediment controls after land disturbance activities have ended.

J. Calculations required by Section 3.15 to 3.20.

3. *Other required submittals.* Other items, if applicable, must be submitted prior to issuance of a land disturbance permit.

A. Alternative material and vendor specifications for erosion and sediment control devices.

- B. Other City permits, such as floodplain development permit, special use permit, demolition permit and building permit for retaining walls.
- C. Permits from other governmental agencies, such as United States Army Corps of Engineers Section 404 permit and Missouri Department of Natural Resources Section 401 permit.
- D. Missouri Department of Natural Resources land disturbance permit.
- E. Performance guarantee pursuant to Section 3.7.
- F. Executed easements needed for land disturbance activities or access.

SECTION 3.6

WAIVER OF REQUIREMENTS

The applicant may request a waiver of specific plan submittal requirements to the City Engineer. The City Engineer, upon recommendation from the City Engineer, may grant the request for a waiver upon the determining that the item to be waived is not applicable to the project under review or that the request for a waiver is justified and that the remaining information on the submitted plans is sufficient to show that the work will comply with the objectives and principles of these Regulations.

SECTION 3.7

PERFORMANCE GUARANTY

In order to obtain a land disturbance permit, the applicant must insure or guarantee the stabilization of the site upon completion or stoppage of the land disturbance activity.

1. *Instruments of performance guarantee.* The applicant shall post an escrow agreement, lender's agreement or (for amounts of five thousand dollars (\$5,000.00) or less) a certified check with the City Clerk in the amount established in this Section.
2. *Amount of performance guarantee.*
 - A. Except as provided hereafter in this Section, the amount of the performance guarantee shall be determined from the estimated land disturbance acreage rounded up to the nearest tenth (0.1) of an acre times the cost per acre according to the following schedule:

| Land Disturbance Acreage | Cost per Acre |
|--------------------------|---------------|
| <5.0 | \$3,000.00 |
| 5.1-20.0 | \$2,500.00 |
| >20.0 | \$2,000.00 |

- B. However, additional amounts will be required equal to the costs of other proposed construction items referenced in Section 412.060(1)(t) and/or

(2)(b)

- C. Alternatively, the applicant may post a performance guarantee in an amount determined by a line item cost estimate for all erosion and sediment controls and other proposed construction items referenced in Section 412.060(1)(t) and/or (2)(b).

3. *Release of performance guarantee funds.*

- A. The Board may authorize release up to fifty percent (50%) of any performance guarantee funds upon confirming by inspection that all erosion and sediment controls and other proposed construction items are in place and functioning properly, including establishment of vegetation.
- B. The Board may authorize release up to ninety percent (90%) of any performance guarantee funds subject to an escrow or lender's agreement upon confirming by inspection that vegetation has been established and ongoing maintenance has been provided for all installed erosion and sediment controls. However, the amount retained shall not be reduced to less than the cost of maintaining the erosion and sediment controls.
- C. The Board shall authorize release of all remaining performance guarantee funds only when the City Engineer certifies that all land disturbance work has been completed and all soil subject to the land disturbance permit is stabilized, including permanent vegetation.

SECTION 3.8

ISSUANCE OF A LAND DISTURBANCE PERMIT

A land disturbance permit shall be issued by the City Engineer only if:

- 1. The application for that permit is complete and includes all submittals required by these Regulations and not waived; and
- 2. The design submitted for approval with the permit is consistent with the design standards established or authorized by these Regulations.

SECTION 3.9

TRANSFER OF LAND DISTURBANCE REQUEST

- 1. Unless a permittee transfers a land disturbance permit as provided herein, that permittee remains bound by the terms of that permit even after transfer of ownership of land subject to it. A land disturbance permit may be transferred only if all of the following conditions are met. The permittee must file a request for transfer with the City Engineer cosigned by the transferee, which must include: (a) Legal description of the area to be transferred; and (b) A map or plan showing the area to be transferred.

2. The City Engineer must determine from the request and supporting documentation that the area to be transferred includes substantially all of any drainage basin or basins wholly or partly within the area subject to the originally issued permit and give permittee and transferee written mail notice of that determination.
3. The transferee must submit to the City Engineer:
 - A. An executed escrow or lender's agreement or certified check; and
 - B. A copy of the Missouri Department of Natural Resources land disturbance permit ownership transfer documentation per 10 CSR 20-6.200 for the same transfer (no City permit may be transferred without this document).

SECTION 3.10 STARTUP

REQUIREMENTS BEFORE CONSTRUCTION

It is the responsibility of the permittee to ensure that the following items are performed prior to construction startup, unless deemed non-applicable to the project by the City Engineer.

1. Schedule a pre-construction conference with the City Engineer prior to the start of each construction phase of land disturbance activity including installation of the temporary construction entrance. The permittee will be responsible for notifying all contractors and other entities, including utility crews that will perform work at the site, to be in attendance.
2. Supply in writing to the City Engineer the name and telephone number of all contractors and subcontractors and a twenty-four (24) hour telephone number of the permittee's designated agent supervising and directing all land disturbance activities on site.
3. Mark tree preservation areas per the approved land disturbance plan and/or grading plan for the site and vegetated buffer areas per the approved land disturbance plan and/or grading plan for the site.
4. Identify in writing each erosion and sediment control product that is not a specification authorized by these Regulations and submit manufacturer specifications and installation techniques for approval by the City Engineer for performance equivalency with City specifications.
5. Identify proposed good housekeeping practices to control general site pollutants, such as construction wastes, site litter, construction debris, dust and sanitary wastes.
6. Identify toxic or hazardous substances, petroleum products, pesticides, herbicides and other pollutants that will be used on site. Identify pollution control method for each substance and submit an emergency management plan for responding to any

loss of toxic materials due to a containment failure. This plan must include documentation of actions and mandatory reporting to the Saint Charles County Division of Environmental Services, Solid Waste Enforcement.

7. Provide a location map depicting any proposed borrow or fill sites in the City and the proposed truck haul routes through the City.

SECTION 3.11

PLAN MODIFICATIONS DURING CONSTRUCTION

1. *Field Modifications.* The permittee shall modify already approved plans or modify descriptions of pollution prevention methods in any of the following circumstances.
 - A. Inspections by the City Engineer or by the Missouri Department of Natural Resources indicate deficiencies.
 - B. Inspections by the permittee indicate deficiencies.
 - C. Either the permittee or the City Engineer determines that the current installations are ineffective in significantly minimizing or controlling erosion of land or sedimentation in streams or lakes.
 - D. Either the City Engineer or the Missouri Department of Natural Resources determines that total settleable solids from a stormwater outfall exceeds two and one-half (2.5) milliliters per liter per hour (ml/L/hr) or one-half (0.5) ml/L/hr in the event the land disturbance activity is within a valuable water resource area as determined by the Missouri Department of Natural Resources.
 - E. Either the City Engineer or the Missouri Department of Natural Resources determines that violations of Water Quality Standards 10 CSR 20-7.031(3) may occur or have occurred.
 - F. Either the City Engineer or the Missouri Department of Natural Resources determines that the pollution prevention methods submitted to the City Engineer as required herein, are ineffective in preventing pollution of waterways from construction wastes, chemicals, fueling facilities, concrete truck washouts, toxic or hazardous materials, site litter or other substances or wastes likely to have an adverse impact on water quality.
2. *Submittal Of Amended Plans.* The permittee shall submit for the City Engineer's approval amended plans and descriptions of pollution prevention methods in any of the following circumstances.
 - A. The permittee seeks to modify the originally approved plans for the design, operation or maintenance of erosion and sediment controls.

- B. The permittee modifies the design for the construction project for which the permittee submitted those originally approved plans, so as to significantly affect the quality of stormwater discharges.
- C. The City Engineer determines that the temporary facilities or erosion and sediment controls installed according to approved plans fail to meet performance standards imposed by these regulations and that those failures require amendment of those plans and supporting documentation or calculations.

SECTION 3.12

INSPECTIONS AND REPORTS

I. *City Inspections.*

- A. The permittee consents to the City inspecting the proposed development site and all work in progress and to payment of additional administration and inspection fees. In order to recoup the actual costs for administration and field inspection of land disturbance and erosion control at the development site, the costs associated with administration of the land disturbance permit and associated field inspections shall be reimbursed to the City based on periodic billings to the permittee.
- B. The City Engineer or his designee shall make inspections and notify the permittee in writing when the work fails to comply with the conditions of the land disturbance permit.
- C. The permittee shall notify the City Engineer or his designee at least two (2) working days before the following activities to obtain timely inspection:
 - (1) Establishment of tree preservation and stream buffer boundaries;
 - (2) Start of land disturbance or construction;
 - (3) Installation of erosion and sediment controls;
 - (4) Completion of site clearing;
 - (5) Completion of rough grading;
 - (6) Completion or suspension of final land disturbance activity;
 - (7) Close of the construction season; and
 - (8) Completion of final landscaping.
- D. The City Engineer or his designee shall inspect the property periodically for

compliance with these regulations and after any notice to correct issued pursuant to Subsection 1., B., of Section 3.12. The City Engineer or his designee may inspect the property upon receipt of a citizen complaint concerning erosion or sediment control issues.

2. *Permittee Inspections And Reporting.*

- A. The permittee shall make regular inspections of the permitted site, observing all erosion and sediment control and other pollutant control measures, outfalls and off-site receiving waters. The inspections must be conducted by a person knowledgeable in the principles and practice of erosion and sediment controls, who possess the skills to assess conditions at the construction site that could impact stormwater quality and to assess the effectiveness of the erosion and sediment controls used.
- B. Inspections must be made by the permittee at least once per week and no later than seventy two hours (72) days after a substantial rain event. A reduction in the weekly inspections may be waived by the City Engineer upon recommendation of the City Engineer for the following reasons:
 - (1) The entire site is temporarily stabilized;
 - (2) Runoffs unlikely due to winter conditions, such as snow cover or frozen ground; and
 - (3) Construction is during arid periods when no erosion or sediment has occurred.
- C. All inspections by the permittee shall be documented in written form on reports with copies submitted to the City Engineer at the time interval specified in the permit. A report of each inspection shall be kept on site by the permittee if possible. Otherwise, the inspection form will be retained by the permittee at its business office. Falsification of reports is in violation of the permit and cause of immediate suspension or revocation of the permit. The inspection reports are to include the following minimum information:
 - (1) Inspector's name and signature;
 - (2) Date of inspection;
 - (3) Observations relative to the effectiveness and deficiencies of the erosion and sediment controls and other pollution prevention controls;
 - (4) Actions taken or necessary to correct deficiencies, including the log of field changes to the approved plan during the period covered by

the report;

- (5) A listing of areas where land disturbance activities have permanently or temporarily stopped; and
 - (6) Stormwater sampling information and analytical results, when applicable.
- D. The permittee shall be responsible for correcting any deficiencies identified within seven (7) calendar days of the date of inspection required by this Subsection identifying these deficiencies.
- E. The City Engineer shall make additional inspections as necessary to ensure the validity of the reports filed and, where applicable, to confirm the correction of reported deficiencies.

SECTION 3.13 VIOLATIONS, CORRECTIONS AND ENFORCEMENT

1. *Violations*

- A. It shall be a violation of these Regulations to construct, enlarge, alter, repair or maintain any land disturbance activity, excavation or fill, or cause the same to be done, contrary to any provision of these Regulations.
- B. It shall be a violation of these Regulations to fail to install and maintain any erosion and sediment control measures and systems authorized and required by a duly issued land disturbance permit.
- C. It shall be a violation of these Regulations to fail to comply timely with any notice to correct issued or correct timely any deficiencies identified.
- D. The need to halt or reduce the permitted construction or grading activity in order to maintain compliance with the permit conditions shall not be a defense to the permittee in an enforcement action.

2. *Notice To Correct, Notice of Violation And Service of Notices.*

- A. Upon confirming any violation or deficiency, the City Engineer shall issue a written notice to correct directing abatement of those violations and/or correction of that deficiency within seven (7) calendar days. The notice shall state that failure to comply with its terms shall constitute an additional violation of these Regulations.
- B. Upon confirming failure to comply timely with any notice to correct, the City Engineer shall issue a written notice of violation, including a stop work order and notice of fines as authorized herein.

- C. Notwithstanding the foregoing provisions of this Subsection, when the City Engineer finds that any person has undertaken land disturbance activity without a land disturbance permit required by these Regulations, the City Engineer shall issue a notice of violation including a stop work order and notice of fines and such fines shall accrue from the day on which such unauthorized land disturbance commenced.
- D. The City Engineer shall serve any written notice authorized by this Subsection by posting one (1) copy at the work site and by hand-delivering or mailing other copies to any and all persons responsible for the violation or deficiency.

3. *Enforcement*

- A. *Stop work order.* The City Engineer shall also have the right to stop all or any part of the construction activities and development until all corrections set out in such notice have been satisfactorily made. To that end, the City Engineer shall issue and post on the site a written order directing that such construction activities and development be stopped immediately and shall serve that written order upon any person, firm, corporation or business engaged in such construction activities and development at the site that is the subject of the violation. Every day that such work continues shall constitute a separate violation. These Regulations do not preclude other remedies available under Federal, State or common law.
- B. *Forfeiture of performance guarantee.* In the event of a violation or deficiency that is not resolved in a reasonable time, the performance guarantee proceeds may be used by the City to install pollution prevention controls to stabilize the site subject to the land disturbance permit. Prior to resumption of work, permittee must post a new performance guarantee in an amount determined pursuant to Section 3.7.
- C. *Fines.* Any person responsible for a violation of these Regulations shall be guilty of a misdemeanor and liable for a fine not to exceed one thousand dollars (\$1,000.00) a day. Every day that such violation is ongoing shall constitute a separate violation.
- D. *Enforcement.* It shall be the duty of the City Engineer to enforce these Regulations. In discharging that duty the City Engineer may request and shall receive, so far as may be necessary in the discharge of that duty, the assistance and cooperation of other City Officials.
- E. *Actions for fines and injunctive relief* In the event of a violation, the City Engineer may request the City Attorney to institute an appropriate action for fines and injunctive relief against the person or persons responsible for

that violation.

SECTION 3.14 CLOSING OF LAND DISTURBANCE PERMITS

The City Engineer shall close land disturbance permits upon permittee's stabilization of all soil at the site subject to the permit and release the entire performance guarantee as authorized in Section 3.7.

SECTION 3.15 PERFORMANCE STANDARDS

Designs for erosion and sediment controls shall meet the following performance standards:

1. Compliance with all standards imposed by Missouri Department of Natural Resources Missouri State Operating Permit MO-RIOOA or, if the land disturbance area is within a valuable water resource area as determined by the Missouri Department of Natural Resources, a Missouri State Operating Permit MaR109 issued in compliance with the Missouri Clean Water Law (Chapter 644, RSMo., as amended), the Federal Water Control Act (Public Law 95-500, 92d Congress, as amended) and Missouri and Federal regulations pursuant thereto.
2. Compliance with the following additional standards stated herein:
 - A. No land disturbance activity shall result in the impounding of surface water on property other than the permittee's unless the permittee obtains easements or licenses for that purpose.
 - B. Runoff into receiving streams from any area undergoing land disturbance activities that is greater than three (3) acres shall not exceed the six (6) month peak runoff rate for that area in its predeveloped state.
 - C. Temporary discharges into receiving streams from any area undergoing land disturbance activities shall not result in the accelerated erosion of those streams' channels at the point of discharge.
3. If temporary facilities and erosion and sediment controls installed pursuant to approved plans fail to meet the performance standards set out herein, the City Engineer may require the permittee to submit modified plans as provided in Section 3.11.

SECTION 3.16 DESIGN CRITERIA

1. The erosion and sediment controls and temporary facilities identified herein shall be designed to accommodate at a minimum the runoff for the design storm specified, using the runoff coefficients specified in Subsection 4., and calculated according to the methods defined in this Section.

2. If installed erosion and sediment controls, designed according to this Article, fail to meet its performance standards above, the permittee shall be required to correct the deficiency in question.
3. *Design storm.* Designs for erosion and sediment controls and temporary facilities constructed during land disturbance activities shall be based on the design storms shown in Table 1.

| Table I-Design Storm | |
|--|---------------------|
| Erosion and Sediment Control and Temporary Facilities | Design Storm |
| Stormwater conveyance Systems: | |
| On-site drainage ditches and diversions | 6 month |
| By-pass storm sewers and channels | 2 year |
| Entrance road culvert | 2 year |
| Storm Inlet Sediment Protection | 6 month |
| Stream Crossing Structures: | |
| Duration of use: 4 months or less | 2 year |
| Duration of use: longer than 4 months | 10 year |
| Sediment Basin: | |
| Basin size | 6 month |
| Basin overflow | 10 year |

4. *Runoff coefficient.* The runoff coefficient (C) corresponds to the effective runoff based on ground cover, ground slope and that portion of rainfall that is lost to surface runoff by processes such as depression storage, infiltration, interception and evaporation. The runoff coefficients in Table 2 shall be used in calculating peak runoff rates and stormwater volumes.

| Table 2-Runoff Coefficient Table | |
|---|-------------------------------|
| Ground Cover | Runoff Coefficient (C) |
| Pasture and unimproved areas | 15% |
| Woods | 10% |
| Lawns <6% slope | 15% |
| Lawns >6% slope | 30% |
| Graded/no vegetation <6% slope | 50% |
| Graded/no vegetation >6% slope | 60% |
| Gravel parking lot | 75% |
| Gravel road | 80% |
| Pavement, walks, buildings | 95% |

The runoff coefficients shall be determined for each drainage area to proposed erosion and sediment control and temporary facilities based on the following criteria.

- A. Land disturbance areas shall be considered stripped of all vegetation in determining runoff for erosion and sediment controls placed prior to land

disturbance activities.

- B. After cut and fill operations are completed, land disturbance areas shall be considered stripped of all vegetation and pavement installed in determining sediment controls, runoff conveyance systems and erosion prevention devices.

5. *Peak runoff rate calculation method.* The Rational Method, as developed by Mulvaney in 1851, shall be used to determine the peak (maximum) runoff rate.

The Rational Method (also known as the Rational Formula) is:

$$Q = C i A$$

Where Q = peak runoff rate in cubic feet per second (cfs)

C = runoff coefficient (dimensionless)

I = rainfall intensity rate in inches per hour

A = drainage area in acres

- A. The runoff coefficients (C) to be used are set out in tabular form in Table 2, above.
- B. The rainfall intensity rates (I) were derived for St. Charles County from the Rainfall Frequency Atlas for the Midwest, Bulletin 71 by Huff and Angel, 1992 for a ten (10) minute rain event. The rainfall intensity rates in Table 3 shall be used.

| Table 3 Rainfall Intensity Rates | |
|----------------------------------|---------------------------------------|
| Design Storm | Rainfall Intensity Rate (inches/hour) |
| 6 month | 2.86 |
| 1 year | 3.54 |
| 2 year | 4.38 |
| 5 year | 5.53 |
| 10 year | 6.62 |

6. *Total runoff volume calculation.* The total volume of runoff for calculating sediment basin size shall be based on the runoff coefficient times the total rainfall in a twenty-four (24) hour period, which is:

$$V = P \times C \times A \times 3630$$

Where V = total runoff volume in cubic feet

P = inches of rainfall in a twenty-four (24) hour period

C = runoff coefficient (dimensionless)

A = drainage area in acres

- A. The runoff coefficients (C) to be used are set out in tabular form in Table 2,

above.

- B. The total inches of rainfall in a twenty-four (24) hour period was derived for St. Charles County from the Rainfall Frequency Atlas for the Midwest, Bulletin 71 by Huff and Angel, 1992. The following Table 4 shall be used:

| Table 4- Total Inches of Rainfall in a 24-Hour Period | |
|--|--|
| Design Storm | Rainfall Intensity Rate (inches/hour) |
| 6 month | 2.03 |
| 1 year | 2.50 |
| 2 year | 3.25 |
| 5 year | 4.10 |
| 10 year | 5.00 |

7. *Design Manual Authorized.* The City Engineer is hereby authorized to develop design criteria for erosion and sediment controls that may be employed to comply with these regulations and to meet the performance standards set out above. The design criteria may include specific requirements or conditions for the use of any particular erosion and sediment control.
8. *Use Of Guidelines.* Plans required by these regulations may include erosion and sediment controls included in a Design Manual, but any Design Manual is not intended to preclude use of other erosion and sediment control methods not included in it. Engineering professionals are encouraged to design innovative ways to address site specific conditions. In all cases, erosion and sediment control products shall be used and installed according to the manufacturer's specifications. In all cases, designs must be approved by the City Engineer and must be in compliance with these regulations and the terms and conditions of applicable Federal and State permits.

SECTION 3.17

SURFACE STABILIZATION REQUIREMENTS

1. *Surface Stabilization Techniques.* Bare ground must be stabilized by vegetation, rock surfacing, erosion control blankets and netting, soil binders, structural topping, like concreting or other techniques authorized by the Design Manual or approved pursuant to these Regulations. With respect to vegetation, the following provisions shall also apply.
- A. Temporary seeding shall be used if the area will be disturbed later in the development. The area must be vegetated by permanent seeding or sodding, when no further land disturbance will occur.
- B. Seeding, fertilizing and mulching shall be applied at the rates and times specified by the City Engineer.
- C. Mulch can be used as temporary cover in unseeded areas to protect against erosion over the winter or until final grading and shaping can be

accomplished. Application rates are shown in the Design Manual.

- D. Temporary seeding and mulching shall be placed on seventy percent (70%) of the total disturbed site area according to the stabilization schedule.
 - E. Temporary seeding may be suspended in portions of the project area which have an active building permit. Upon completion of the building activity, the site must be permanently stabilized.
 - F. Seeded areas shall be refertilized four (4) weeks after initial seeding. The seeded area shall be inspected at that time for uniform cover and adequate density. All areas which are bare and sparse (less than thirty percent (30%) ground cover) shall be reseeded and mulched.
 - G. Non-degradable mats shall be used only as a permanent installation and in areas that will not be mowed.
2. *Surface Stabilization Schedule.* Land disturbance activities shall be scheduled as provide in the table below:

| Soil Stabilization Table | |
|--|------------------------------------|
| Soil Disturbance Activity or Condition | Required Stabilization Time |
| Soil disturbance has ceased in areas greater than 2,000 | 14 days |
| After construction of dikes, swales, diversions and other | 5 days |
| When slopes are steeper than 3 horizontal to 1 vertical | 7 days |
| When slopes are greater than 3% and longer than 150 | 14 days |
| Perimeter controls around soil stockpiles | End of workday |
| Stabilization or covering of inactive stockpiles | 30 days |
| When land disturbance is completed, permanent soil installed | 30 days |

3. *Land Disturbance Phasing.* Land disturbance activities should be scheduled in stages of development, so that only the areas that are actively being developed are exposed. Land disturbance areas exceeding ten (10) acres may require phasing, if the City Engineer determines that runoff from the land disturbance area may adversely affect other property.

SECTION 3.18

EARTHWORK REQUIREMENTS

- 1. Surface water shall be diverted from the face of all cut and fill slopes exceeding eight (8) feet in vertical elevation.
- 2. Slope breaks shall be provided whenever the vertical elevation of any slope exceeds twenty (20) feet.
- 3. Diversion berms shall not exceed eight hundred (800) feet in length.

4. No excavation shall be made so close to the property line to endanger any adjoining public or private street without supporting and protecting such public or private street or property from settling, cracking or other damage.
5. No fill material shall be placed so as to cause or to allow the same to be deposited upon or to flow onto another property without written consent of the owner.
6. No fill material shall be placed so as to cause or to allow the same to be deposited upon or to flow onto any public street, walk, place or way, nor so close to the top of a bank of a channel as to create the possibility of bank failure.
7. Materials for fills shall consist of material obtained from excavation of banks, borrow pits or other approved source. Material shall be free of vegetative matter and deleterious material and shall not contain large rocks or lumps except as certified by a geotechnical engineer to be acceptable fill material.
8. No cut or fill slope shall be made steeper in slope than three (3) horizontal to one (1) vertical without a geotechnical report and approval by the City Engineer.
9. Individual and isolated slopes, rock dikes, undisturbed natural slopes and slopes blending with the natural terrain may be steeper than the requirements as approved by the City Engineer.
10. All fills and trench backfills shall be compacted to the minimums as defined by the City Engineer. Compaction of fills and backfills must be certified by a geotechnical engineer.
11. Solid rock, shale, tree stumps, masonry and other obstructions shall be removed to a depth of two (2) feet below finished grade or pavement subgrade.

SECTION 3.19

STORMWATER CONVEYANCE REQUIREMENTS

Temporary conveyance of stormwater during land disturbance activities depends upon the peak runoff for the design storm and a suitable method to prevent erosion after construction. The requirements listed below shall be used for temporary conveyance of stormwater.

1. All drainage shall be designed to transport surface waters to the nearest practical storm drain, natural watercourse or street as approved by the City Engineer.
2. Diversion channels and ditches are to be designed to a non-erosive velocity as defined by the City Engineer or the geotechnical report required herein. Diversion ditch length shall not exceed eight hundred (800) lineal feet.
3. A rock outfall is required at all pipe and improved channel discharges to open watercourses. The maximum design velocity shall be ten (10) feet per second (fps). If the discharge velocity exceeds ten (10) fps, an engineered energy dissipater may

be required as determined by the City Engineer.

SECTION 3.20

SEDIMENT CONTROL REQUIREMENTS

1. A temporary construction vehicle wash-off pad is required to avoid tracking mud onto public roads and must be located where construction traffic leaves the site. The permittee shall remove any mud, sediment or debris tracked onto public roads by sweeping or other mechanical means.
2. Sediment basins shall be used to meet water quality discharge requirements and predeveloped runoff rates during land disturbance activities. Sediment basins shall be designed for the following criteria.
 - A. Sediment volume shall be determined from the Natural Resources Conservation Service's Revised Universal Soil Loss Equation (RUSLE).
 - B. Wet volume shall contain the total runoff produced from the 6-month 24-hour storm.
 - C. Dewatering time shall be twenty-four (24) hours for the total volume of wet storage of the basin.
 - D. The outlet must be designed to convey the peak 10-year runoff with a minimum one (1) foot freeboard between the water surface of the outlet and the top of the basin embankment.
 - E. Other sizing requirements as determined by the City Engineer.

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## **ARTICLE IV. FLOOD HAZARD PREVENTION**

### **SECTION 4.1 LANDS TO WHICH ARTICLE IV APPLIES**

This Article shall apply to all lands within the jurisdiction of the City, identified as numbered and unnumbered A Zones and AE Zones on the Flood Insurance Rate Maps (FIRMs) for St. Charles County on map panels 29183C0020G, 29183C0040G, 29183C0185G, and 29183C0205G, dated January 20, 2016 as amended, and any future revisions thereto. In all areas covered by this Article no development shall be permitted except through the issuance of a floodplain development permit granted by the Board or its duly designated representative under such safeguards and restrictions as the Board or the designated representative may reasonably impose for the promotion and maintenance of the general welfare, health of the inhabitants of the City, and as specifically noted in Sections 4.7-4.11.

### **SECTION 4.2 INTERPRETATION**

In their interpretation and application, the provisions of this Article shall be held to be minimum requirements, shall be liberally construed in favor of the Board of Aldermen, and shall not be deemed a limitation or repeal of any other powers granted by State statutes.

### **SECTION 4.3 FLOODPLAIN ADMINISTRATOR**

1. The City Engineer is hereby designated as the Floodplain Administrator under this Article.
2. Duties of the Floodplain Administrator shall include, but not be limited to:
  - A. Review of all applications for floodplain development permits to assure that sites are reasonably safe from flooding and that the floodplain development permit requirements of this Article IV have been satisfied;
  - B. Review of all applications for floodplain development permits for proposed development to assure that all necessary permits have been obtained from Federal, State or local governmental agencies from which prior approval is required by Federal, State or local law;
  - C. Review all subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, to determine whether such proposals will be reasonably safe from flooding;
  - D. Issue floodplain development permits for all approved applications;
  - E. Notify adjacent communities and the Missouri State Emergency Management Agency (Mo SEMA) prior to any alteration or relocation of a watercourse and submit evidence of such notification to the Federal Emergency Management Agency (FEMA);
  - F. Assure that the flood-carrying capacity is not diminished and shall be maintained within the altered or relocated portion of any watercourse;

G. Verify and maintain a record of the actual elevation (in relation to mean sea level) of the lowest floor, including basement, of all new or substantially improved structures;

H. Verify and maintain a record of the actual elevation (in relation to mean sea level) that the new or substantially improved non-residential structures have been floodproofed;

I. When floodproofing techniques are utilized for a particular non-residential structure, the Floodplain Administrator shall require certification from a registered professional engineer or architect.

#### **SECTION 4.4 COMPLIANCE**

No development located within the special flood hazard areas of the City shall be located, extended, converted, or structurally altered without full compliance with the terms of this Article and other applicable regulations.

#### **SECTION 4.5 WARNING AND DISCLAIMER OF LIABILITY**

The degree of flood protection required by this Article is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. Larger floods may occur on rare occasions or the flood heights may be increased by manmade or natural causes, such as ice jams and bridge openings restricted by debris. This Article does not imply that areas outside the floodway and flood fringe or land uses permitted within such areas will be free from flooding or flood damage. This Article shall not create a liability on the part of the City, any officer or employee thereof, for any flood damages that may result from reliance on this Article or any administrative decision lawfully made thereunder.

#### **SECTION 4.6 ADMINISTRATION**

1. A floodplain development permit shall be required for all proposed construction or other development, including the placement of manufactured homes, in the areas described in Section 4.1. No person, firm, corporation or unit of government shall initiate any development or substantial improvement or cause the same to be done without first obtaining a separate floodplain development permit for each structure or other development.

2. To obtain a floodplain development permit, the applicant shall first file an application in writing on a form furnished for that purpose. Every floodplain development permit application shall:

A. Describe the land on which the proposed work is to be done by lot, block and tract, house and street address or similar description that will readily identify and specifically locate the proposed structure or work;

B. Identify and describe the work to be covered by the floodplain development permit;



- C. Indicate the use or occupancy for which the proposed work is intended;
- D. Indicate the assessed value of the structure and the fair market value of the improvement;
- E. Specify whether development is located in designated flood fringe or floodway;
- F. Identify the existing base flood elevation and the elevation of the proposed development;
- G. Give such other information as reasonably may be required by the Floodplain Administrator;
- H. Be accompanied by plans and specifications for proposed construction; and
- I. Be signed by the permittee or his authorized agent who may be required to submit evidence to indicate such authority.

#### **SECTION 4.7 GENERAL STANDARDS**

- 1. No permit for floodplain development shall be granted for new construction, substantial improvements and other improvements, including the placement of manufactured homes, within any numbered or unnumbered A Zones and AE Zones, unless the conditions of this Article are satisfied.
- 2. All areas identified as unnumbered A Zones on the FIRM are subject to inundation of the 100-year flood; however, the base flood elevation is not provided. Development within unnumbered A Zones is subject to all provisions of this Article. If Flood Insurance Study data is not available, the City shall obtain, review and reasonably utilize any base flood elevation or floodway data currently available from Federal, State or other sources.
- 3. Until a floodway is designated, no new construction, substantial improvements or other development, including fill, shall be permitted within any numbered A Zone or AE Zone on the FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the City.
- 4. All new construction, subdivision proposals, substantial improvements, prefabricated structures, placement of manufactured homes and other developments shall require:
  - A. Design or adequate anchorage to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
  - B. Construction with materials resistant to flood damage;
  - C. Utilization of methods and practices that minimize flood damages;
  - D. All electrical, heating, ventilation, plumbing, air-conditioning equipment and other service facilities be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

E. New or replacement water supply systems and/or sanitary sewage systems be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters and on-site waste disposal systems be located so as to avoid impairment or contamination; and

F. Subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, located within special flood hazard areas are required to assure that:

- (1) All such proposals are consistent with the need to minimize flood damage;
- (2) All public utilities and facilities, such as sewer, gas, electrical and water systems, are located and constructed to minimize or eliminate flood damage;
- (3) Adequate drainage is provided so as to reduce exposure to flood hazards; and
- (4) All proposals for development, including proposals for manufactured home parks and subdivisions, of five (5) acres or fifty (50) lots, whichever is lesser, include within such proposals base flood elevation data.

5. *Storage, Material And Equipment.*

A. The storage or processing of materials within the special flood hazard area that are in time of flooding buoyant, flammable, explosive or could be injurious to human, animal or plant life is prohibited.

B. Storage of other material or equipment may be allowed if not subject to major damage by floods, if firmly anchored to prevent flotation or if readily removable from the area within the time available after a flood warning.

6. *Accessory Structures.* Structures used solely for parking and limited storage purposes, not attached to any other structure on the site, of limited investment value and not larger than four hundred (400) square feet, may be constructed at-grade and wet-floodproofed provided there is no human habitation or occupancy of the structure; the structure is of single-wall design; a variance has been granted from the standard floodplain management requirements of this Article IV; and a floodplain development permit has been issued.

## **SECTION 4.8                      SPECIFIC STANDARDS**

In all areas identified as numbered and unnumbered A Zones and AE Zones, where base flood elevation data have been provided as set forth in Section 4.7, the following provisions are required:

1. *Residential construction.* New construction or substantial improvement of any residential structures, including manufactured homes, shall have the lowest floor, including basement, elevated to one (1) foot above base flood elevation.

2. *Non-residential construction.* New construction or substantial improvement of any commercial, industrial or other non-residential structures, including manufactured homes, shall have the lowest floor, including basement, elevated to one (1) foot above the base flood elevation or, together with attendant utility and sanitary facilities, be floodproofed so that below the base flood elevation the structure is watertight with walls substantially impermeable to the passage of

water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall certify that the standards of this Subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Section 4.3.

3. Require, for all new construction and substantial improvements, that fully enclosed areas below lowest floor used solely for parking of vehicles, building access or storage in an area other than a basement and that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria.

A. A minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided; and

B. The bottom of all openings shall be no higher than one (1) foot above grade. Openings may be equipped with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

#### **SECTION 4.9**

#### **MANUFACTURED HOMES**

1. All manufactured homes to be placed within all unnumbered and numbered A Zones and AE Zones, on the City's FIRM shall be required to be installed using methods and practices that minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors.

2. Require manufactured homes that are placed or substantially improved within unnumbered or numbered A Zones and AE Zones on the City's FIRM on sites:

A. Outside of a manufactured home park or subdivision;

B. In a new manufactured home park or subdivision;

C. In an expansion to an existing manufactured home park or subdivision; or

D. In an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as the result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to one (1) foot above the base flood elevation and be securely attached to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

3. Require that manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within all unnumbered and numbered A Zones and AE Zones on the City's FIRM, that are not subject to the provisions of Subsection 2., B., be elevated so that either:

A. The lowest floor of the manufactured home is at or one (1) foot above the base flood level; or

B. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than thirty-six (36) inches in height above grade and be securely attached to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

#### **SECTION 4.10 FLOODWAY**

Located within areas of special flood hazard established Section 4.1 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that carry debris and potential projectiles, the following provisions shall apply:

1. The City shall select and adopt a regulatory floodway based on the principle that the area chosen for the regulatory floodway must be designed to carry the waters of the base flood without increasing the water surface elevation of that flood more than one (1) foot at any point.
2. The City shall prohibit any encroachments, including fill, new construction, substantial improvements and other development, within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the City during the occurrence of the base flood discharge.
3. If Subsection 2, above, is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this Article.
4. In unnumbered A Zones, the City shall obtain, review and reasonably utilize any base flood elevation or floodway data currently available from Federal, State or other sources as set forth in this Article.

#### **SECTION 4.11 RECREATIONAL VEHICLES**

Recreational vehicles placed on sites within all unnumbered and numbered A Zones and AE Zones on the City's FIRM shall either:

1. Be on the site for fewer than one hundred eighty (180) consecutive days;
2. Be fully licensed and ready for highway use\*; or
3. Meet the permitting, elevation and the anchoring requirements for manufactured homes of this Article.

\* A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices and has no permanently attached additions.

#### **SECTION 4.12 FLOODPLAIN MANAGEMENT VARIANCE PROCEDURES**

1. The Board of Adjustment, as established by the City, shall hear and decide appeals and requests for variances from the floodplain management requirements of this Article IV.



2. RESPONSIBILITY OF APPEAL BOARD.

A. Where an application for a floodplain development permit is denied by the Floodplain Administrator, the applicant may appeal such denial directly to the Board of Adjustment.

B. An application for a variance from this Article IV shall be made directly to the Board of Adjustment

C. The Board of Adjustment shall hear and decide appeals when it is alleged that there is an error in any requirement, decision or determination made by the Floodplain Administrator in the enforcement or administration of this Article IV.

3. Any person aggrieved by the decision of the Board of Adjustment or any taxpayer may appeal such decision to the Circuit Court of the County of St. Charles as provided in Section 89.110, RSMo.

4. FLOODPLAIN MANAGEMENT VARIANCE CRITERIA. In passing upon such applications for variances, the Board of Adjustment shall consider all technical data and evaluations, all relevant factors, standards specified in other Sections of this Article IV and the following criteria:

A. The danger to life and property due to flood damage;

B. The danger that materials may be swept onto other lands to the injury of others;

C. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

D. The importance of the services provided by the proposed facility to the City;

E. The necessity to the facility of a waterfront location, where applicable;

F. The availability of alternative locations, not subject to flood damage, for the proposed use;

G. The compatibility of the proposed use with existing and anticipated development;

H. The relationship of the proposed use to the Comprehensive Plan and Floodplain Management Program for that area;

I. The safety of access to the property in times of flood for ordinary and emergency vehicles;

J. The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters, if applicable, expected at the site; and

K. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems; streets; and bridges.

5. CONDITIONS FOR APPROVING FLOODPLAIN MANAGEMENT VARIANCES.

A. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half (1/2) acre or less in size contiguous to and surrounded by lots with

existing structures constructed below the base flood level, providing Subsection (B) through (F) below have been fully considered. As the lot size increases beyond the one-half (1/2) acre, the technical justification required for issuing the variance increases.

B. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places, the State Inventory of Historic Places or local inventory of historic places upon determination provided the proposed activity will not preclude the structure's continued historic designation.

C. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

D. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

E. Variances shall only be issued upon:

(1) A showing of good and sufficient cause,

(2) A determination that failure to grant the variance would result in exceptional hardship to the applicant, and

(3) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.

F. A City shall notify the applicant in writing over the signature of the Floodplain Administrator that:

(1) The issuance of a variance to construct a structure below base flood level will result in increased premium rates for flood insurance up to amounts as high as twenty-five dollars (\$25.00) for one hundred dollars (\$100.00) of insurance coverage, and

(2) Such construction below the base flood level increases risks to life and property. Such notification shall be maintained with the record of all variance actions as required by this Article IV.

#### 6. CONDITIONS FOR APPROVING VARIANCES FOR ACCESSORY STRUCTURES

A. Any variance granted for an accessory structure shall be decided individually based on a case-by-case analysis of the building's unique circumstances. Variances granted shall meet the following conditions as well as those criteria and conditions set forth in Subsections 4 and 5 herein.

B. In order to minimize flood damages during the 100-year flood and the threat to public health and safety, the following conditions shall be included for any variance issued for accessory structures that are constructed at grade and wet-floodproofed.

(1) Use of the accessory structures must be solely for parking and limited storage purposes in

zone A only as identified on the City's FIRM.

(2) For any new or substantially damaged accessory structures, the exterior and interior building components and elements (i.e., foundation, wall framing, exterior and interior finishes, flooring, etc.) below the base flood elevation must be built with flood-resistant materials in accordance with this Article.

(3) The accessory structures must be adequately anchored to prevent flotation, collapse or lateral movement of the structure in accordance with this Article. All of the building's structural components must be capable of resisting specific flood-related forces including hydrostatic, buoyancy and hydrodynamic and debris impact forces.

(4) Any mechanical, electrical or other utility equipment must be located above the base flood elevation or floodproofed so that they are contained within a watertight, floodproofed enclosure that is capable of resisting damage during flood conditions in accordance with this Article.

(5) The accessory structures must meet all National Flood Insurance Program (NFIP) opening requirements. The NFIP requires that enclosure or foundation walls, subject to the 100-year flood, contain openings that will permit the automatic entry and exit of floodwaters in accordance with Section 4.8.3.

(6) The accessory structures must comply with the floodplain management floodway encroachment provisions of Section 4.12.4.B. No variances may be issued for accessory structures within any designated floodway, if any increase in flood levels would result during the 100-year flood.

(7) Equipment, machinery or other contents must be protected from any flood damage.

(8) No disaster relief assistance under any program administered by any Federal agency shall be paid for any repair or restoration costs of the accessory structures.

(9) The City shall notify the applicant in writing over the signature of the Floodplain Administrator that:

(a) The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as twenty-five dollars (\$25.00) for one hundred dollars (\$100.00) of insurance coverage; and

(b) Such construction below the base flood level increases risks to life and property. Such notification shall be maintained with the record of all variance actions as required by this Article IV.

(10) Wet-floodproofing construction techniques must be reviewed and approved by the City and the Floodplain Administrator prior to the issuance of any floodplain development permit for construction.

## **SECTION 4.13**

## **PENALTIES FOR VIOLATION**

Violation of the provisions of this Article or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with granting of variances) shall constitute a misdemeanor. Any person who violates this Article or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than five hundred dollars (\$500.00) and, in addition, shall pay all costs and expenses involved in the case. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the City, or other appropriate authority, from taking such other lawful action as is necessary to prevent or remedy any violation.

## **SECTION 4.14**

## **AMENDMENTS**

The regulations, restrictions and boundaries set forth in this Article may from time to time be amended, supplemented, changed or appealed to reflect any and all changes in the National Flood Disaster Protection Act of 1973, provided however, that no such action may be taken until after a public hearing in relation thereto, at which parties of interest and citizens shall have an opportunity to be heard. Notice of the time and place of such hearing shall be published in a newspaper of general circulation in the City. At least twenty (20) days shall elapse between the date of this publication and the public hearing. A copy of such amendments will be provided to the Region VII office of the Federal Emergency Management Agency (FEMA). The regulations of this Article IV are in compliance with the National Flood Insurance Program (NFIP) regulations.

## **SECTION 4.15**

## **DEFINITIONS**

Unless specifically defined below, words or phrases used in this Article shall be interpreted so as to give them the same meaning they have in common usage and to give this Article IV the most reasonable application.

*100-YEAR FLOOD:* See "*BASE FLOOD*".

*ACCESSORY STRUCTURE:* The same as "*APPURTENANT STRUCTURE*".

*ACTUARIAL RATES:* See "*RISK PREMIUM RATES*."

*ADMINISTRATOR:* The Federal Insurance Administrator.

*AGENCY:* The Federal Emergency Management Agency (FEMA).

*AGRICULTURAL COMMODITIES:* Agricultural products and livestock.

*AGRICULTURAL STRUCTURE:* Any structure used exclusively in connection with the production, harvesting, storage, drying, or raising of agricultural commodities.

*APPEAL:* A request for review of the Floodplain Administrator's interpretation of any provision of this Article IV or a request for a variance.



*APPURTENANT STRUCTURE:* A structure that is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.

*AREA OF SPECIAL FLOOD HAZARD:* The land in the floodplain within a City subject to a one percent (1 %) or greater chance of flooding in any given year.

*BASE FLOOD:* The flood having a one percent (1 %) chance of being equaled or exceeded in any given year.

*BASEMENT:* Any area of the structure having its floor subgrade (below ground level) on all sides.

*BUILDING:* See "*STRUCTURE*"

*CHIEF EXECUTIVE OFFICER OR CHIEF ELECTED OFFICIAL:* The official of the City who is charged with the authority to implement and administer laws, ordinances and regulations for that City.

*CITY:* The City of Flint Hill, Missouri.

*DEVELOPMENT:* Any manmade change to improved or unimproved real estate including, but not limited to, buildings or other structures, levees, levee systems, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

*ELEVATED BUILDING:* For insurance purposes, a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings or columns.

*ELIGIBLE COMMUNITY OR PARTICIPATING COMMUNITY:* A community for which the Administrator has authorized the sale of flood insurance under the National Flood Insurance Program (NFIP).

*EXISTING CONSTRUCTION:* For the purposes of determining rates, structures for which the "*start of construction*" commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. "*Existing construction*" may also be referred to as "*existing structures*."

*EXISTING MANUFACTURED HOME PARK OR SUBDIVISION:* A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by the City.

*EXPANSION TO AN EXISTING MANUFACTURED HOME PARK OR SUBDIVISION:* The preparation of additional sites by the construction of facilities for servicing the lots on which the

manufactured homes are to be affixed (including the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads).

**FLOOD OR FLOODING:** A general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland, and/or
2. The unusual and rapid accumulation or runoff of surface waters from any source.

**FLOOD BOUNDARY AND FLOODWAY MAP (FBFM):** An official map of the City on which the Administrator has delineated both special flood hazard areas and the designated regulatory floodway.

**FLOOD ELEVATION DETERMINATION:** A determination by the Administrator of the water surface elevations of the base flood, that is, the flood level that has a one percent (1%) or greater chance of occurrence in any given year.

**FLOOD ELEVATION STUDY:** An examination, evaluation and determination of flood hazards.

**FLOOD FRINGE:** The area outside the floodway encroachment lines, but still subject to inundation by the regulatory flood.

**FLOOD HAZARD BOUNDARY MAP (FHBM):** An official map of the City, issued by the Administrator, where the boundaries of the flood areas having special flood hazards have been designated as (unnumbered or numbered) A Zones.

**FLOOD INSURANCE RATE MAP (FIRM):** An official map of the City on which the Administrator has delineated both the special flood hazard areas and the risk premium zones applicable to the City.

**FLOOD INSURANCE STUDY (FIS):** An examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations.

**FLOODPLAIN OR FLOOD-PRONE AREA:** Any land area susceptible to being inundated by water from any source (*see "Flooding"*).

**FLOODPLAIN MANAGEMENT:** The operation of an overall program of corrective and preventive measures for reducing flood damage including, but not limited to, emergency preparedness plans, flood control works and floodplain management regulations.

**FLOODPLAIN REGULATIONS:** Zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain and grading ordinances) and other applications of police power. The term describes such State or local regulations, in any combination thereof, that provide standards for the purpose of flood damage prevention and reduction.

**FLOODPROOFING:** Any combination of structural and non-structural additions, changes or adjustments to structures that reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities or structures and their contents.

**FLOODWAY OR REGULATORY FLOODWAY:** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

**FLOODWAY ENCROACHMENT LINES:** The lines marking the limits of floodways on Federal, State and local floodplain maps.

**FREEBOARD:** A factor of safety usually expressed in feet above a flood level for purposes of floodplain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as bridge openings and the hydrological effect of urbanization of the watershed.

**FUNCTIONALLY DEPENDENT USE:** A use that cannot perform its intended purpose unless it is located or carried out in close proximity to water. This term includes only docking facilities and facilities that are necessary for the loading and unloading of cargo or passengers, but does not include long-term storage or related manufacturing facilities.

**HIGHEST ADJACENT GRADE:** The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

**HISTORIC STRUCTURE:** Any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
3. Individually listed on a State Inventory of Historic Places in States with historic preservation programs which have been approved by the Secretary of the Interior;
4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
  - A. By an approved State program as determined by the Secretary of the Interior; or
  - B. Directly by the Secretary of the Interior in States without approved

programs.

**LOWEST FLOOR:** The lowest floor of the lowest enclosed area, including basement. An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable floodproofing design requirements of this Article IV.

**MANUFACTURED HOME:** A structure, transportable in one (1) or more sections, that is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "*manufactured home*" does not include a "*recreational vehicle*".

**MANUFACTURED HOME PARK OR SUBDIVISION:** A parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

**MAP:** The Flood Hazard Boundary Map (FHBM), Flood Insurance Rate Map (FIRM) or the Flood Boundary and Floodway Map (FBFM) for the City issued by the Federal Emergency Management Agency (FEMA).

**MARKET VALUE OR FAIR MARKET VALUE:** An estimate of what is fair, economic, just and equitable value under normal local market conditions.

**MEAN SEA LEVEL:** For purposes of the National Flood Insurance Program (NFIP), the National Geodetic Vertical Datum (NGVD) of 1929 or other datum to which base flood elevations shown on the City's Flood Insurance Rate Map (FIRM) are referenced.

**NEW CONSTRUCTION:** For the purposes of determining insurance rates, structures for which the "*start of construction*" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "*new construction*" means structures for which the "*start of construction*" commenced on or after the effective date of the floodplain management regulations adopted by the City and includes any subsequent improvements to such structures.

**NEW MANUFACTURED HOME PARK OR SUBDIVISION:** A manufactured home park or subdivision for which the construction of facilities for servicing the lot on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by the City.

**NFIP:** The National Flood Insurance Program (NFIP).

**PARTICIPATING COMMUNITY ALSO KNOWN AS AN ELIGIBLE COMMUNITY:** A community in which the Administrator has authorized the sale of flood insurance.



*PERSON*: Includes any individual or group of individuals, corporation, partnership, association or any other entity, including Federal, State and local governments and agencies.

*PRINCIPALLY ABOVE GROUND*: At least fifty-one percent (51%) of the actual cash value of the structure, less land value, is above ground.

*RECREATIONAL VEHICLE*: A vehicle which is:

1. Built on a single chassis;
2. Four hundred (400) square feet or less when measured at the largest horizontal projections;
3. Designed to be self-propelled or permanently towable by a light-duty truck; and
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

*REMEDY A VIOLATION*: To bring the structure or other development into compliance with Federal, State or local floodplain management regulations or, if this is not possible, to reduce the impacts of its non-compliance.

*REPETITIVE LOSS*: Flood-related damages sustained by a structure on two (2) separate occasions during a ten (10) year period for which the cost of repairs at the time of each such flood event, equals or exceeds twenty-five percent (25%) of the market value of the structure before the damage occurred.

*RISK PREMIUM RATES*: Those rates established by the Administrator pursuant to individual community studies and investigations which are undertaken to provide flood insurance in accordance with Section 1307 of the National Flood Disaster Protection Act of 1973 and the accepted actuarial principles. "Risk premium rates" include provisions for operating costs and allowances.

*SPECIAL FLOOD HAZARD AREA*: See "AREA OF SPECIAL FLOOD HAZARD".

*SPECIAL HAZARD AREA*: An area having special flood hazards and shown on an FHBM, FIRM or FBFM as Zones (unnumbered or numbered) A and AE.

*START OF CONSTRUCTION*: Includes substantial improvements and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement or other improvements were within one hundred eighty (180) days of the permit date. The "actual start" means either the first (1st) placement of permanent construction of a structure on a site, such as the pouring of slabs or footings, the installation of piles, the construction of columns, any work beyond the stage of excavation or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, the installation of streets and/or walkways, excavation for a

basement, footings, piers, foundations, the erection of temporary forms, nor installation on the property of accessory structures, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the "*actual start of construction*" means the first (1st) alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

*STATE COORDINATING AGENCY:* That agency of the state government or other office designated by the Governor of the State or by state statute at the request of the Administrator to assist in the implementation of the National Flood Insurance Program (NFIP) in that State.

*STRUCTURE:* For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home. "*Structure*", for insurance purposes, means a walled and roofed building, other than a gas or liquid storage tank, that is principally above ground and affixed to a permanent site, as well as a manufactured home on a permanent foundation. For the latter purpose, the term includes a building while in the course of construction, alteration or repair, but does not include building materials or supplies intended for use in such construction, alteration or repair, unless such materials or supplies are within an enclosed building on the premises.

*SUBSTANTIAL DAMAGE:* Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed fifty percent (50%) of the market value of the structure before the damage occurred. The term includes Repetitive Loss buildings (see definition).

For the purposes of this definition, "repair" is considered to occur when the first repair or reconstruction of any wall, ceiling, floor, or other structural part of the building commences.

The term does not apply to:

1. Any project for improvement of a building required to comply with existing health, sanitary, or safety code specifications which have been identified by the Code Enforcement Official and which are solely necessary to assure safe living conditions, or
2. Any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure", or
3. Any improvement to a building.

*SUBSTANTIAL IMPROVEMENT:* Any combination of reconstruction, alteration, or improvement to a building, taking place during a ten (10) year period, in which the cumulative percentage of improvement equals or exceeds fifty percent (50%) of the current market value of the building. For the purposes of this definition, an improvement occurs when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. This term includes structures, which have incurred "repetitive loss" or "substantial damage", regardless of the actual repair work done.

The term does not apply to:

1. Any project for improvement of a building required to comply with existing health, sanitary, or safety code specifications which have been identified by the Code Enforcement Official and which are solely necessary to assure safe living conditions, or
2. Any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure;" or
3. Any building that has been damaged from any source or is categorized as repetitive loss.

*SUBSTANTIALLY IMPROVED EXISTING MANUFACTURED HOME PARKS OR SUBDIVISIONS:* Where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds fifty percent (50%) of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

*VARIANCE:* A grant of relief by the City from the terms of a floodplain management regulation. Flood insurance requirements remain in place for any varied use or structure and cannot be varied by the City.

*VIOLATION:* The failure of a structure or other development to be fully compliant with the City's floodplain management regulations. A structure or other development without the elevation certificate, other certifications or other evidence of compliance required by this Article IV is presumed to be in violation until such time as that documentation is provided.

*WATER SURFACE ELEVATION:* The height in relation to the National Geodetic Vertical Datum (NGVD) of 1929 (or other datum where specified) of floods of various magnitudes and frequencies in the floodplain.

## EXHIBIT A

### REQUIRED SUBDIVISION DESIGN AND IMPROVEMENT STANDARDS

#### GUIDE FOR DETERMINING WIDTHS AND TYPE OF NEW ROADWAYS

When the traffic generated reaches a point that it cannot adequately be handled by a minor street, the following general guidelines will be used in determining the pavement width of the street necessary for handling the traffic:

| <i>Type</i>                      | <i>*Pavement</i>                    | <i>Approximate Average Daily Traffic (Ultimate Development)</i> |
|----------------------------------|-------------------------------------|-----------------------------------------------------------------|
| Minor Collector                  | 36 feet                             | 2,500                                                           |
| Major Collector                  | 38 feet                             | 5,000                                                           |
| Highways and Major thoroughfares | Contact St Charles Highway Engineer | 10,000                                                          |

\*Roadways constructed to Federal requirements may require additional width.

The ADTs (average daily traffic) are approximate and the above criteria is intended as a general guideline only. The actual need and widths of collector or arterial type roads will be investigated for each development. Traffic volumes for residential and multi-family developments will generally be based on the number of trips generated per unit. A detailed traffic generation report will normally be required for commercial and industrial developments.

The need for and location of collector and arterial streets will be determined on the basis of traffic generated by the surrounding developments as well as the development itself. Consideration will also be given to the spacing and continuity of collector and arterial streets. New roadways will be required as per the St Charles County Highway Engineer.

#### *Street Standards:*

##### *A.1. Arterial streets.*

A.1.a. *Pavement width (back of curb to back of curb).* Contact St. Charles County Highway Engineer.

A.1.b. *Grades of streets.* (Maximum) six percent (6%), (minimum) one-half of one percent (.5%).

A.1.c. *Radii of curvature (on the centerline).* Three hundred (300) feet (minimum).

A.1.d. *Corner radii (minimum).* Thirty-seven (37) feet at back of curb.

A.1.e. *Sidewalks.* Two (2) sides.

##### *A.2. Collector street.*

A.2.a. *Pavement width (back of curb to back of curb).* Thirty-eight (38) feet.

A.2.b. *Grades of streets.* (Maximum) six percent (6%), (minimum) one-half of



one percent (.5%).

A.2.c. *Radii of curvature (on the centerline)*. Two hundred (200) feet minimum.

A.2.d. *Corner radii (minimum)*. Twenty (20) feet at back of curb.

A.2.e. *Sidewalks*. Two (2) sides.

A.3. *Minor and dead-end streets.*

A.3.a. *Pavement width (back of curb to back of curb)*. Thirty (30) feet.

A.3.b. *Grades of streets*. (Maximum) 12 percent (12%), (minimum) one-half of one percent (.5%).

A.3.c. *Radii of curvature (on the centerline)*. One hundred (100) feet minimum.

A.3.d. *Corner of radii (minimum)*. Ten (10) feet at back of curb.

A.3.e. *Sidewalks*. Two (2) sides

A.3.f. *Temporary turnaround*. All dead-end streets shall terminate in a circular turnaround having a minimum paved radius of fifty (50) feet. Turnarounds may not be required on dead-end streets which are less than two hundred fifty (250) feet in length and are planned to be extended in the future.

B.4.a. *Cul-de-sac street.*

B.4.b. *Pavement width (back of curb to back of curb)*. Thirty (30) feet.

B.4.c. *Grades of streets*. (Maximum) twelve percent (12%), (minimum) one-half of one percent (.5%).

B.4.d. *Radii of curvature (on the centerline)*. One hundred (100) feet minimum.

B.4.e. *Corner radii (minimum)*. Twenty (20) feet at the back of curb.

B.4.f. *Sidewalks*. Two (2) sides

B.4.g. *Radius of court (at back of curb)*. Fifty (50) feet for fully paved cul-de-sac and forty (40) feet minimum for open-center cul-de-sacs. Open-center cul-de-sacs shall have fourteen (14) feet minimum raised island with vertical curbs.

B.4.h. *Alleys*. Alleys, when platted, shall have a minimum width of twenty (20) feet.