DEVELOPMENT

D R A I N A G E R U L E S

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KENT COUNTY DRAIN COMMISSIONER

Michigan Law, including but not limited to, the Subdivision Control Act, the Michigan Constitution, the Michigan Environmental Protection Act, and the Michigan Drain Code, requires or permits the County Drain Commissioner to publish rules governing the storm water drainage of proposed Platted subdivisions. The rules are intended to assist land developers by providing uniform procedures to be followed in the processing of preliminary and final Plats and construction plans.

While the Drain Commissioner is not directly responsible for developments other than Plats, these rules are also applicable for site condominiums, mobile home parks, commercial, industrial and residential parcels and all other types of real estate development.

IT IS HEREBY ORDERED that the "Development Drainage Rules" promulgated pursuant to Section 105 of Act 288 of the Public Acts of Michigan of 1967, the Michigan Environmental Protection Act, M.C.L.A. 324.101 et seq., the Michigan Constitution, and the Michigan Drain Code, MC.G.A. 280.1 et seq., are hereby adopted and shall be followed in the processing of all Platted development.

IN ADDITION, all non-Platted developments (including but not limited to, mobile home parks, site condominiums, commercial, industrial, and residential parcels, and all other types of real estate development, for the improvement(s) of all storm water drainage) to be reviewed and approved by the Drain Commission will adhere to the “Development Drainage Rules”.

IT IS HEREBY FURTHER ORDERED that the effective dates of the following rules shall be the 1st day of January 2013.

William R Byl
Kent County Drain Commissioner

DEVELOPMENT DRAINAGE RULES

I. PURPOSE

A. Act 288 of the Public Acts of 1967 (Section 560) is known as the Subdivision Control Act of 1967. All plats to be recorded with the Register of Deeds shall be in conformity with this act. The following rules are issued to guide land developers interested in subdividing land and to provide for a uniform method of preparing plats submitted to the Office of the Drain Commissioner for processing in accordance with said act.

B. The Drain Commissioner, through legislative enactment, has jurisdiction over established county drains, and may, under the terms of this act, acquire jurisdiction of drainage systems within subdivided lands and drains external to the proposed subdivision. In accordance with the provisions of the Subdivision Control Act, the Michigan Constitution, the Michigan Environmental Protection Act and the Michigan Drain Code, the Drain Commissioner has the right to require that county drains and natural watercourses, both within and without the plat, be improved to the standards established by the Drain Commissioner.

C. Whereas the conservation and development of the natural resources of the County are of paramount and public concern in the interest of health, safety and general welfare of the people, the Drain Commissioner shall provide for the protection of the natural resources from pollution, impairment and destruction resulting from storm water.

D. The Drain Commissioner may, at the request of individual agencies, review the following developments and make recommendations concerning stormwater drainage. Site Condominiums, Commercial Sites, Industrial Sites, Mobile Home Parks, Residential Sites, and all other real estate developments. The Drain Commissioner will review these developments, however, the ultimate approval on all developments, with the exception of platted developments, remains with the referring agency.

II. APPLICABILITY TO ALL REAL ESTATE DEVELOPMENT

The DEVELOPMENT DRAINAGE RULES are applicable to the processing of subdivision plats and to all other types of real estate development, including but not limited to, mobile home parks, site condominiums, commercial, industrial and residential development, and all other types of real estate development.

III. DEFINITIONS

A. Commissioner: The Drain Commissioner of the County of Kent, State of Michigan.

B. Proprietor: Any person, entity, firm, association, partnership, corporation, or combination of any of them, who submits a plat for processing under the Subdivision Control Act or plans and drawings otherwise subject to these Rules for processing by the Drain Commissioner.

C. Plat: Where the term "plat" is used in the following Rules, it shall be deemed to mean the corresponding map, plan, or drawing applicable to the project development, be it a subdivision plat or document related to other types of real estate development.

IV. PRELIMINARY PLAT REQUIREMENTS

A. Submission of Preliminary Plat Layout

1. **General Information:** In order that subdivision plats may be prepared in conformity with the Subdivision Control Act of 1967 and all projects are in conformity with these rules; the Proprietor shall have prepared a preliminary plat showing the layout of the area intended to be developed. This plat shall be prepared under the direction of a registered engineer or registered land surveyor, and shall be drawn to a scale not smaller than 1 inch to 200 feet.

2. **Plat Location:** The preliminary plat shall give the location of the proposed subdivision with reference to the section and part of the section in which the parcel is situated and the name of the township, city, or village. The plat shall show the proposed street and alley layouts, lot and plat dimensions, and all pertinent factors such as adjoining roads and subdivisions, rivers, railroads, high tension power lines, or underground transmission lines, cemeteries, parks, natural watercourses, county drains, sewers, easements, wetlands, or any other feature, the existence, location or description of which might be of value in determining the overall requirements for the subdivision or project.

3. **Contour Requirements for Existing Facilities:** With the preliminary plat a topographical map must be submitted showing contours no greater than two (2) foot intervals for land area inside the plat, and at no greater than five (5) foot intervals for the entire drainage area affecting the subdivision or project. The map will show the delineation of the drainage boundary and the acres inside the boundary. The map shall be legibly drawn to datum determined by USGS and shall show the north arrow and scale.

4. **Drainage Requirements for Proposed Facilities**

a) The preliminary plat must include the general drainage scheme proposed for the subdivision or project. The general drainage scheme shall indicate how storm drainage will be provided including the description and location of the outlet. The route to the outlet shall be mapped. The effect of proposed additional flow should be calculated and mitigating measures provided.

b) Drainage proposed for a subdivision or a project shall conform to established county drainage districts, or if there are not established drainage districts, then the proposed drainage system shall conform to the natural drainage basin.

c) The preliminary plat shall indicate, in general, any proposed on-site and/or offsite facilities required to convey the drainage to an adequate outlet.

d) The preliminary plat shall indicate any drainage originating outside of the subdivision or project limits which has previously flowed onto or across the subdivision or project, as well as any natural water courses and/or county drains that traverse or abut the subdivision or project.

e) The proposed drainage facilities shall conform to community stormwater master plan, if available. If none is available, the design shall meet the requirements specified herein.

f) In addition to other such requirements, the Drain Commissioner may require additional necessary and beneficial requirements to address unique and specialized circumstances found to affect a drainage district.

5. **Public Utility Easements:** Easements for public utilities shall be shown on the preliminary plat. The Proprietor should consult with the respective utility companies before presenting the preliminary plat for approval.

6. **Staged Development:** In the case where the Proprietor wishes to begin with only a portion of the total area, the original plat shall include the proposed general layout for the entire area. The part, which is to be developed first, shall be superimposed clearly upon the overall plan to show the sequence of development, which the proprietor intends to follow. Each subsequent part of the development shall follow the same procedure until the entire area controlled by the Proprietor is developed. The final acceptance of a subdivision or project, which is a partial development of a larger general layout, does not automatically insure the final acceptance of the overall layout. The intent is to permit some flexibility in the overall layout if future conditions make it desirable or necessary to make any changes.

7. **Information Required on Preliminary Plat:** Two prints of the preliminary plat layout prepared in accordance with the above requirements shall be submitted together with a letter of transmittal requesting that the preliminary plat be reviewed and, if found satisfactory, approved. The names of the Proprietor and

engineering or surveying firm, with mailing addresses and telephone numbers for each, shall be included with the transmittal. See "Appendix A" for the checklist of information, which shall be included on all preliminary plats, submitted for approval by the Drain Commissioner.

8. **Approval of Preliminary Plats:** If the proposed plat, as submitted, meets all the requirements, one approved copy of the preliminary plat will be returned. Approval of the preliminary plat is required before proceeding with the preparation of construction plans. If the preliminary plat is not approved as originally submitted, the Commissioner will notify the Proprietor or the Proprietor's Engineer/Surveyor in writing, setting forth the reasons for withholding approval and requesting that the necessary changes be made and a revised preliminary plat be submitted.

9. **Changes to Approved Preliminary Plats:** Approval of the preliminary plat is not intended to be final approval. If the Proprietor and/or the Drain Commissioner find it advantageous to make changes before the final plat is presented to the Drain Commissioner for signature, such changes can be made, provided that the same procedures outlined above are repeated with each change in the layout.

10. **Approval of Other Governing Bodies:** Approval of the proposed subdivision or project by the local governing body is also required under the Subdivision Control Act. Further, the approval of federal agencies, state agencies and/or the local unit government may also be required. Should the approval of a federal agency, state agency or local unit of government require changes to the proposed plat layout or the proposed drainage facilities, such changes shall be incorporated into a new preliminary plat and shall be resubmitted for review by the Drain Commissioner. The resubmission is required even though the Drain Commissioner may have already approved the original preliminary plat.

11. **Expiration Date of Preliminary Approvals:** If the Proprietor does not present his final plat to the Drain Commissioner for approval within a period of two (2) years after receiving approval of the preliminary plat, the approval will have expired. The preliminary plat is no longer valid and a new submittal is required.

B. Right-of-Way Requirements

1. The following minimum rights-of-ways are required for established county drains and natural watercourses that will be utilized and lie within the confines of the proposed subdivision or project.

   a) **R.O.W. for Open Drains:** Open drains and watercourses shall have a minimum right-of-way equal to the extreme top width of channel, plus maintenance path(s). The maintenance path shall be 30 feet wide and continuous across the property from one roadway to another. If the property

lines are not contiguous with road right-of-ways then a maintenance path shall be provided on both sides of the drain. A permanent crossing of the drain may be used in lieu of a second maintenance path.

b) **R.O.W. for Enclosed Drains:** Enclosed drains shall have a minimum right-or-way of 30 feet centered on the centerline of the enclosure, without exception. No structures shall be constructed or placed over enclosed drains. This includes swimming pools, sheds, garages, patios, decks, shrubs, or any other permanent structure or landscaping feature that may interfere with the structural integrity of the enclosed drain.

c) **Private Easement for Surface Drainage:** Private easements for drainage are for the benefit of upland lots within the subdivision or project. A minimum easement width of 20 feet shall be provided centered on the center of the swale. Any improper construction, development, or grading that occurs within these easements will interfere with the drainage rights of those upland lots. Private easements for drainage are for the continuous passage of surface drainage and each lot owner will be responsible for maintaining the surface drainage system across his property. No construction is permitted within a Private Easement for Drainage. This includes swimming pools, sheds, garages, patios, decks, shrubs, or any other permanent structure or landscaping feature that may interfere with surface drainage.

d) **R.O.W. for Floodways:** Floodway easements for surface drainage are for the benefit of upland lots within the subdivision. A minimum easement width of 20 feet is required. The floodway elevations shall be shown on construction plans and must be maintained during construction of the plat. No construction is permitted within a Floodway Easement for surface drainage. This includes swimming pools, sheds, garages, patios, decks, shrubs, or any other permanent structure or landscaping feature that may interfere with surface drainage.

e) Other facilities (e.g. detention basins) shall have sufficient easements for the access and maintenance of the facility.

f) **Easement Forms:** Easements for enclosed drains and overland floodways shall be granted to a Drainage District. A sample Drainage Easement is provided in Appendix D. If the easements are to be recorded before the final plat, the instrument number of the recorded easement shall be shown on the final plat.

2. **Additional R.O.W. Required:** The above widths generally govern, however, if the Drain Commissioner determines that additional right-of-way is required for proper construction, or because of special circumstances, such facts shall be made known to the Proprietor after a review of the preliminary layout by the Drain Commissioner. Reductions of the above right-of-way requirements may be made

only at the discretion of the Drain Commissioner

3. **Work within Drainage R.O.W.:** All work performed in the rights-of-ways of county drains shall be in accordance with the Drain Commissioner's approval and/or direction.

   a) All trees, stumps, and brush shall be removed from the proposed rights-of-way of the drains within the limits of the subdivisions, unless otherwise permitted by the Commissioner.

   b) If any utilities are to be located within the drainage rights-of-way of the proposed subdivision or project, the Proprietor and his/her engineer shall present plans of such utilities to the Commissioner for his approval as to the location. Such plans shall be presented at the same time as drainage plans so that all details of construction and location may be checked and properly oriented with each other. In order to avoid conflict, it is important that a careful investigation be made where underground utilities are in close proximity to proposed storm sewers, or where they cross each other.

C. Storm Water Detention Basins

1. **General Requirements:** All new land developments within Kent County are required to be equipped with detention facilities for stormwater. This requirement may be waived if it can be demonstrated to the Drain Commissioner's satisfaction that the off-site drainage facilities exist and area adequate. This is provided that easements and water quality issues have been addressed.

2. **Acceptance By Drain Commissioner:** The Kent County Drain Commissioner will consider, for acceptance only, those detention basins, which serve a minimum drainage area of five (5) acres. Effort should be made to limit the number of detention basins within a development. A large number of small detention basins serving a development may be cause for the Commissioner's refusal to accept the drainage system for operation and maintenance.

3. **Design Criteria:** The stormwater detention facility shall be designed in accordance with criteria established by the County Drain Commissioner and set forth in "Appendix B". The Commissioner may determine the need to incorporate more stringent design requirements into the stormwater drainage system for either water quantity control or water quality control in response to local need.

4. **Culverts:** Culverts are to be designed for a minimum 10-year storm in the developed watershed. Inlet submergence head may be permitted if this does not back water out of the easement. The effect of 100-year storm will be reviewed for acceptable flooding. For a replacement culvert, there shall be no increase or decrease in headwater condition.

V. DRAINAGE DISTRICTS

A. **Establishment of Drainage Districts:** If deemed necessary to insure adequate maintenance of the proposed stormwater facilities, the Commissioner may require the Proprietor to establish, in whole or in part, the proposed storm water facilities as a county drain upon their completion. Under Section 280.433 of the Michigan Drain Code (Act 40 of the Public Acts 1956, as amended) a private drain may be established as a county drain by agreement between the Landowner and the Commissioner. A sample agreement is provided in Appendix C.

B. **Maintenance Fee:** With the establishment of a county drain the Proprietor shall deposit with the Drain Commissioner 5% of the cost of the drain but not more than $2,500.00 which shall be used for future maintenance of the drain. An itemized cost estimation shall be submitted for approval. The cost estimation shall include grading, stabilization, storm sewer, and installation.

C. **Digital Copies:** Provide digital copies of the description of the route and course and of the drainage district.

D. Drain Commissioner shall defer the signing of said plat until all provisions of Section 280.433 of the Michigan Drain Code have been met.

VI. CONSTRUCTION PLANS

A. **Criteria:** The plans which are presented by the Proprietor's engineer shall clearly show how the surface drainage will be collected and conveyed to an adequate outlet. The plans shall be supplemented with hydraulic and hydrologic calculations for each inlet, the cumulative flow calculations for the system and design data for structures and basins, as described in Appendix B.

B. **Partial Development:** In the event the proposed subdivision is a partial development of a larger area, it will be necessary for each subdivision to be self-sufficient from the standpoint of surface drainage and not be dependent upon work planned to be performed in the next subdivision.

C. **Minimum Opening Elevations:** Minimum building opening elevations shall be established for all lots to eliminate the potential of structural damage due to flooding and backyard surface drainage. Minimum building opening elevations shall be incorporated as a part of the restrictive covenants for the plat, including bench mark references.

D. **Culverts:** Culverts shall be designed in accordance with FHWA, HDS No. 5.

VII.REQUIREMENTS FOR FINAL PLAT APPROVAL (see Appendix A for final plat checklist)

A. Prior to signing of the Final Mylar, the Commissioner shall require that one of the

following provisions is met:

1. **AS-Builts:** The county drains, stormwater detention, and watercourses shown on the plat have been improved in accordance with the approved construction plans and is certified with "As-built" drawings with an engineer's certification (See As-built Requirements below); or

2. **Performance Bond/Letter of Credit:** The Proprietor has entered into an agreement with the Commissioner and/or governing body and has posted surety for faithful performance of the agreement.

   a) The surety shall consist of a cash deposit, certified check, performance bond or an irrevocable letter of credit in the amount of 115% of the uncompleted portion of the project. Estimates of costs of the uncompleted portion of the project shall be submitted with this surety.

   b) Valid existing contracts for the construction of drains, watercourses and detention/ retention basins executed between the Proprietor and his contractor shall be the basis for establishing the portion of the contract to be covered by surety.

   c) In the event the owner has not contracted for the construction of the drains, watercourses, and detention/retention basins (e.g. contractor is the owner) then the Proprietor's engineer shall estimate the cost of said construction. The estimate of cost as approved by the Commissioner shall be basis for the amount of surety.

   d) A rebate shall be made to the Proprietor, as the work progresses, of the amounts of any cash deposits equal to the ratio of the work completed to the entire project.

B. **433-Agreement and Drainage Easements:** If and when a drainage district is deemed necessary, present all original documents to be recorded prior to final plat approval. See Section V for Drainage District requirements.

C. **Offsite Drainage Easements:** If drainage improvements are required beyond the limits of the subdivision, easements shall be acquired by the Proprietor, in the name of the drainage district, for the construction and maintenance of said improvements. Should this requirement prove to be an unreasonable hardship to the developer, he may make an appeal to the Drain Commissioner to waive this requirement.

D. **Inspection by Drain Office:** An inspection of the storm sewer system of the proposed plat will be completed by the Drain Commissioner's Office prior to final plat approval or release of the surety bond. Inspections by the Drain Office shall not relieve the Proprietor's engineer to whom will be certifying the project "As-Built"

of his obligation. Spot inspections by the Commissioner's inspector are to verify the proper construction of the drain in their various stages of completion.

E. **Proprietor Responsibility for Improvement:** The Proprietor should take whatever precautions he deems necessary in direct relation with his contractor in order to assure the work performed by the contractor meets the approval of the Commissioner. The Proprietor shall be held totally responsible for the fulfillment of his obligations to the Commissioner.

1. **Cleaning:** The Proprietor shall be responsible for cleaning and removing sediment form all sewers, manholes, catch basins, or other structures affected by the development both on-site and off-site before final release.

2. **Stabilization of Site**: All unpaved areas shall have an established ground cover before final release. Sodding or seeding and mulch shall be done in accordance with current MDOT standard construction specifications.

F. **Floodway Certification**: Prior to final plat approval, all floodways shall be established and certified by a registered engineer.

G. **Temporary Staking of Easement:** After final grading is completed, place temporary stakes along the length on both sides of all dedicated drainage and floodway easements to identify and protect their location (Label stakes as drainage and/or floodway easements). The stakes must be placed on the easement lines and spaced not more than 25 feet apart. The stakes can be removed after the house is constructed and landscaping is in.

H. **Repair Bond and/or Maintenance Agreement:** Upon completion of the project, the Drain Commissioner may request the Proprietor to coming into a maintenance agreement and/or post a nominal bond with the Commissioner to guarantee repairs of any defects that may show as a result of poor workmanship or defective materials within one to five years after completion and approval of the improvements. Should no defects occur within this period of one year and should no adjustments be required, this bond will be returned to the Proprietor in its entirety.

I. **As-Built Plans:** Upon project completion, but pior to the final release of surety money, the Proprietor's engineer shall submit a complete set of "as-built drawings" certified by a registered engineer. The following shall be "As-built":

1. All stormsewer top and invert elevations, length, and slope.
2. Pond grades shall be "as-built", as well as the detention outlet top and invert elevations.
3. All floodway critical elevations

The as-built drawings will be kept on file with the Drain Commissioner for

permanent public record. If work has been done on a county drain or a county drain is established with the construction a Mylar copy of the as built drawings are required.

J. **Engineer's Certification:** At the time the final plat is submitted to the Commissioner for approval, the Proprietor's engineer shall furnish a certificate bearing a clear statement that all the drainage facilities within subject plat have been constructed in accordance with the approved plans and specifications.

K. **24"x36" Drain District Map:** Plats submitted that are to become a County Drain under Section 280.433 of the Michigan Drain Code (Act 40 of the Public Acts 1956, as amended) shall be accompanied by a 24" X 36" Drain District map showing the route and course of the drain as well as the legal description of the route and course.

L. **Restrictive Covenants, Block Grading and Grading Plan:** Place within the plat's restrictive covenants, the Drain Commissioner's restrictions on private drainage easements recorded with the plat. A copy of the approved grading plan and a block grading plan shall be incorporated as a part of the restrictive covenants of the plat to ensure that the designed grading will not be altered. The block grading plan must show the direction of flow of the surface drainage for all lots. A copy of both the approved grading plan and the block grading plan shall be provided to the city/township building inspector.

   It is the property owner's responsibility to ensure that the final grading of the property is in conformance with the approved grading and block grading plan. During the final grading and landscaping, the owner shall ensure that the installation of fences, plantings, trees, and shrubs and any placement of fill do not violate the easement requirements.

VIII. SEVERABILITY CLAUSE

If any part of these regulations is found to be invalid, such invalidity shall not affect the remaining portions of the regulations, which can be given effect without the invalid portion, and to this end the regulations are declared to be severable.

IX. CONFLICT WITH LOCAL STORMWATER OR STORMWATER MANAGEMENT ORDINANCES

If any part of these regulations is found to contradict requirements set forth in local ordinances, than the most stringent requirements shall govern.