

ARTICLE VI. ENVIRONMENTAL REGULATIONS

SECTION 1 GENERAL PROVISIONS

1.1 STATEMENT OF INTENT

The purpose of these standards is to provide for the proper stewardship of the County's natural resources. Specifically, it is the overall goal of the County to maintain the quality of the County's *ecosystem* in the face of continuing activity, growth, and change. In general, the regulations in Article VI are requirements set forth by the State of Maryland in the Maryland Code (State law) and regulations adopted by various State agencies in the Code of Maryland Regulations (COMAR). In some cases, there are formal processes by which exceptions may be granted, but in most cases these regulations are requirements, and the County is charged by the State with enforcing them.

1.2 MARYLAND CRITICAL AREA AND NON-CRITICAL AREA REGULATIONS

The 12 zoning districts in this Land Use Ordinance comprise two categories. The first category is the zoning districts for land located in the State of Maryland's Critical Area for the Chesapeake and Atlantic Coastal Bays. These are the RCD, CAR, CCA, M, and ECCA. State of Maryland Critical Area regulations apply in these zoning districts. The remaining districts are outside the Critical Area. Critical Area regulations do not apply; Forest Conservation regulations apply. Blue highlighted Sections apply only to Critical Area zoning districts. Green highlighted Sections apply only to non-Critical Area zoning districts. Sections with no highlighting apply to all zoning districts.

Article VI Environmental Regulations Applicability	AZD	RCD	RC	CAR	CR	V	IV	C	CCA	M	EC	ECCA
Section 1. General Provisions	X	X	X	X	X	X	X	X	X	X	X	X
Section 2. Critical Area Program		X		X					X	X		X
Section 3. Forest Conservation Act	X		X		X	X	X	X			X	
Section 4. Erosion & Sediment Control	X	X	X	X	X	X	X	X	X	X	X	X
Section 5. Stormwater Management	X	X	X	X	X	X	X	X	X	X	X	X
Section 6. Floodplain Management*	X	X	X	X	X	X	X	X	X	X	X	X

* For properties located in a floodplain

1.3 GENERAL ENVIRONMENTAL STANDARDS

These regulations apply to all properties in all zoning districts and for all processes in Article IV. Additional standards, as found in Section 2, may also apply to properties within the Critical Area. Applicants are required to identify the subject matter listed below and address all relevant issues.

1. **Agriculture.** Whenever possible, agricultural operations will follow agricultural *best management practices*, and property owners are encouraged to develop and implement soil conservation and water quality plans, nutrient, and pest management plans.
2. **Anadromous fish.**
 - (A) Concrete riprap or other artificial surfaces will not be installed on the bottom of natural streams unless it can be demonstrated that water quality and fishery habitat will be improved.
 - (B) Physical *alteration* of a stream, including but not limited to channelization, that interferes with the movement of fish will be prohibited.
 - (C) The construction or placement of dams or other structures that would interfere with or prevent the movement of spawning fish or larval forms in streams will be prohibited.
 - (D) Where practical, the removal of existing barriers is encouraged. Construction, repair, or maintenance activities associated with bridges or other stream crossings or with utilities and roads which require disturbance to the buffer or stream protection corridor, or which occur in stream will be prohibited between March 1 and May 15.
3. **Forest Interior Dwelling Birds.** New *development* will minimize impact on forest interior dwelling birds. Whenever possible, riparian forest will be expanded.
4. **Natural heritage areas** and locations considered for Areas of Critical State Concern will be preserved whenever possible. These areas are identified in Section 3.
5. **Non-tidal wetlands.** *Non-tidal wetlands* will be protected according to the *regulations* of the State of Maryland, Army Corps of *Engineers*, United States Fish and Wildlife Service, Environmental Protection Agency, and all other applicable State and Federal *Regulations*.
6. **Poorly drained and flood-prone property.** When possible, land subject to poor drainage or periodic flooding will not be developed for any use that might involve danger to health, life, or property or aggravate floods. If developed, the property owner will agree to make any improvements necessary to render the property safe for *development*.
7. **Threatened and endangered species** and *species in need of conservation* will be checked and noted by the *applicant* before any approvals are granted by the Planning Director, or Planning Director's designee, or *Planning Commission*. The Federal or State guidelines (whichever is stricter) for habitat protection will be followed during *development*. Plans will also include provisions for continuance of the habitat protection after *development*. This can include *conservation easements*, cooperative agreements, special provisions in *forest management plans*, and donation or sale to a third party.
8. **Tributary Streams.** New *development* or *redevelopment* will provide a **100-foot** naturally vegetated *stream protection corridor* along all *tributary streams* to protect such streams and the natural course and *riparian habitat* of these streams, habitat protection areas, or any other significant habitat identified by the Department. New *development activities*,

including *structures*, parking areas, septic systems, and similar *impervious surfaces* will not be permitted in the *stream protection corridor*. Roads that cross the *stream protection corridor* will be minimized.

The *Planning Commission* may modify the *stream protection corridor* when the following can be demonstrated that: (a) a reduced corridor achieves significant water quality and habitat improvements equal to the required corridor; (b) more than 50% of the corridor on the site is impervious or more than 75% of the corridor on the site is disturbed with stone, septic systems, decks, or other obvious human impacts; and, (c) the site will include all contiguous parcels under single ownership.

9. **Vegetation.** *Development* will minimize the removal of vegetation, protect remaining vegetation, replace removed vegetation onsite, and plant permeable areas, if practicable. *Native plants* are preferred and, in some cases, required by State law.
10. **Wildlife corridors** will be created whenever feasible. Fragmentation of natural habitat areas is prohibited in any residential zoning district, and fragmentation of natural habitat areas will be minimized in all other zoning districts. *Hedgerows* are desirable as buffers.

SECTION 2 CRITICAL AREA PROGRAM**2.1 PURPOSE AND GOALS**

1. The General Assembly enacted the Critical Area Act for the following purposes.
 - (A) To establish a resource protection program for the Chesapeake Bay and Atlantic Coastal Bays and their tributaries by fostering more sensitive development activity for certain shoreline areas so as to minimize impacts to water quality and natural habitats; and
 - (B) To implement a resource protection program on a cooperative basis between the State and affected local governments, with local governments establishing and implementing their programs in a consistent and uniform manner subject to State Criteria and oversight.
2. The goals of the Kent County Critical Area Program are to accomplish the following:
 - (A) Minimize adverse impacts on water quality that result from pollutants that are discharged from structures or run off from surrounding lands;
 - (B) Conserve fish, wildlife, and plant habitat; and
 - (C) Establish land use policies for development in the Critical Area which accommodate growth as well as address the environmental impacts that the number, movement, and activities of people may have on the area.

2.2 IMPLEMENTATION

1. Notwithstanding any provision in this ordinance, or the lack of a provision in this ordinance, all of the requirements of Natural Resources Article 8-1801 through 8-1817 and COMAR Title 27 shall apply to, and be applied by, Kent County as minimum standards.
2. In the case of conflicting provisions, the more restrictive provision applies.

2.3 CRITICAL AREA DESIGNATIONS

1. The extent of the Critical Area shall include:
 - (A) All waters of and lands under the Chesapeake Bay and its tributaries to the head of tide, and all state and private wetlands designated under Title 16 of the Environment Article of the Annotated Code of Maryland; and
 - (B) All land and water areas within 1,000 feet beyond the landward boundaries of state or private wetlands and the heads of tides designated under Title 16 of the Environment Article of the Annotated Code of Maryland.
2. Within the designated Critical Area, all land is assigned one of the following land classifications, based on land uses and development in existence on December 1, 1985.

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- (A) Resource Conservation Area (RCA).
- i. Resource Conservation Areas are those areas characterized by *nature-dominated* environments (that is, *wetlands, forest* and abandoned fields) and resource-utilization activities (that is, *agriculture, forestry, fisheries' activities or aquaculture*). As of December 1, 1985, these areas had at least one of the following features:
 - 1. *Density* was less than one *dwelling unit* per 5 acres; or
 - 2. Dominant land use was in *agriculture, wetland, forest, barren land, surface water, or open space*.
 - ii. Zoning districts within the Resource Conservation Area of the *Critical Area*
 - 1. Resource Conservation (RCD)
- (B) Limited Development Area (LDA).
- i. Limited *Development* Areas are those areas which are currently developed in low or moderate intensity uses. They also contain areas of plant and animal habitats, and the quality of runoff from these areas has not been substantially altered or impaired. As of December 1, 1985, these areas had at least one of the following features:
 - 1. Housing *density* ranging from one *dwelling unit* per 5 acres up to four *dwelling units* per acre;
 - 2. Areas not dominated by *agriculture, wetland, forest, barren land, surface water or open space*;
 - 3. Areas meeting the conditions of an intense *development* area but not concentrated in an area of at least 20 acres; or
 - 4. Areas having public sewer or public water or both.
 - ii. Zoning districts within the Limited Development Area:
 - 1. *Critical Area* Residential (CAR)
 - 2. Commercial *Critical Area* (CCA)
 - 3. Employment Center *Critical Area* (ECCA)
- (C) Intensely Developed Area (IDA).
- i. Intense *Development* Areas are those areas where residential, commercial, institutional and/or industrial *developed land* uses predominate and where relatively little natural habitat occurs. As of December 1, 1985, these areas had at least one of the following features:
 - 1. Housing density equal to or greater than four dwelling units per acre;

2. Industrial, institutional, or commercial uses concentrated in the area;
or
3. Public sewer and water collection and distribution systems were currently serving the area and housing density was greater than three dwelling units per acre; and
4. These areas are concentrated in an area of at least 20 acres.
- ii. Zoning districts within the Intense *Development Area* of the *Critical Area*:
 1. Marine (M)
 2. Mixed Use District – Critical Area
- iii. Uses or parcels that have received growth allocation:
 1. *Conference centers, resorts, retreats, campgrounds*, and other uses that have received growth allocation.
 2. Commercial *Critical Area* parcels that have received growth allocation.

2.4 DEVELOPMENT STANDARDS

1. Lot Coverage in an LDA or RCA

Except as otherwise stated below, lot coverage shall not exceed 15% of a lot or parcel, or that portion of a lot or parcel that is designated LDA or RCA.

- (A) Additional lot coverage in the LDA or RCA is permitted if official documentation (plats, deed records) demonstrates that the lot existed on December 1, 1985. Lot coverage for such lots shall be limited as shown below.

Lot Size (square feet)	Maximum Lot Coverage
0 to 8,000	25% of parcel plus 500 square feet
8,001 to 21,780	31.25% of parcel
21,781 to 36,300	5,445 square feet
36,301 to 43,560	No increase over 15%

- (B) If an individual lot one acre or less in size is part of a subdivision approved after December 1, 1985, the total lot coverage for the entire subdivision may not exceed 15%, and the lot coverage of an individual lot may not exceed 25%.
- (C) Lots impacted by 2008 revisions to impervious surface limits. A lot or parcel not in compliance with the lot coverage requirements, but legally developed as of July 1, 2008, in accordance with the impervious surface requirements in effect at the time of construction, is legally nonconforming for purposes of lot coverage requirements.

2. Steep Slopes
 - (A) Development on slopes 15 percent or greater, as measured before development, shall be prohibited unless the project is the only effective way to maintain or improve the stability of the slope.
 - (B) Development on slopes 15 percent or greater that are over six feet vertically as measured before development shall require a variance from the Board of Appeals.
3. Clearing in an LDA or RCA
 - (A) Forest clearing for lots created before December 1, 1985.
 - i. **Lots one-half acre or less.** Forest clearing on lots that are one-half acre or less in size and that were in existence on or before December 1, 1985, shall be limited to the minimum necessary to accommodate a house or other structure, initial septic system, driveway, and reasonable amount of yard or required parking, but the clearing may not exceed 6,534 square feet. Clearing above 6,534 square feet requires a variance.
 - ii. **Lots greater than one-half acre.** Forest clearing on lots that are greater than one-half acre in size that were in existence on or before December 1, 1985, shall be limited to the minimum necessary to accommodate a house or other structure, initial septic system, driveway, and reasonable amount of yard or required parking and may not exceed 20% of the forest, except that the Department of Planning, Housing, and Zoning may approve clearing up to 30% for the installation of a required septic system. Clearing above 30% requires a variance.
 - (B) Developed woodland clearing for lots created before December 1, 1985.
 - i. **Lots one-half acre or less.** Developed woodland clearing on lots that are one-half acre or less in size and that were in existence on or before December 1, 1985, shall be limited to the minimum necessary to accommodate a house or other structure, initial septic system, driveway, and reasonable amount of yard or required parking.
 - ii. **Lots greater than one-half acre up to one acre.** Developed woodland clearing on lots that are greater than one-half acre and up to one acre in size that were in existence on or before December 1, 1985, shall be limited to the minimum necessary to accommodate a house or other structure, initial septic system, driveway, and reasonable amount of yard or required parking, and may not exceed 30% without an administrative variance.
 - iii. **Lots greater than one acre.** Developed woodland clearing on lots that are greater than one acre in size that were in existence on or before December 1, 1985, shall be limited to the minimum necessary to accommodate a house or other structure, initial septic system, driveway, and reasonable

amount of yard or required parking, and may not exceed 30% without a variance.

- (C) **Clearing for subdivisions created after December 1, 1985.** Clearing of subdivisions created after December 1, 1985, may not exceed 30% of the forest or developed woodland without a variance.

4. Clearing mitigation and afforestation.

- (A) **Applicability.** This section applies to afforestation and mitigation for clearing of forest or developed woodland for development on all lots located in the LDA and RCA. This section also applies to any property zoned Mixed Use Development Critical Area District (MXDCA) that was granted growth allocation by the Critical Area Commission on April 23, 2025, under the County's comprehensive rezoning process.
- (B) **Forest mitigation for lots created before December 1, 1985.** Forest clearing on lots in the critical area that were in existence before December 1, 1985 is subject to forest mitigation as follows.
- i. **Lots one-half acre or less.** Forest mitigation on lots that are one-half acre or less in size shall equal the area to be cleared.
 - ii. **Lots greater than one-half acre.** Forest mitigation on lots that are greater than one-half acre in size for clearing less than 20% shall equal the area to be cleared. Mitigation for clearing between 20% and 30% shall be calculated at a rate of 1.5 times the area to be cleared.
- (C) **Developed woodland mitigation for lots created before December 1, 1985.** Developed woodland clearing on lots in the critical area that were in existence before December 1, 1985 is subject to developed woodland mitigation as follows.
- i. **Lots one-half acre or less.** Developed woodland mitigation on lots one-half acre or less in size shall equal the area to be cleared.
 - ii. **Lots greater than one-half acre and up to one acre.** Developed woodland mitigation on lots that are greater than one-half acre and up to one acre in size shall equal the area to be cleared.
 - iii. **Lots greater than one acre.** Developed woodland mitigation greater than one acre in size with less than 30% clearing shall equal the area to be cleared.
- (D) **Mitigation for subdivisions created after December 1, 1985.** Mitigation for subdivisions created after December 1, 1985 for clearing less than 20% shall equal the area to be cleared. Mitigation for clearing between 20% and 30% shall be calculated at a rate of 1.5 times the area to be cleared.

- (E) **Mitigation for variances to clearing limitations.** Mitigation for variances to the required clearing limitations shall be calculated at a rate of three times the additional area to be cleared granted by the variance decision.
- (F) If an applicant is authorized to clear any percentage of forest or developed woodland, the remaining percentage shall be maintained through recorded, restrictive covenants or similar instruments approved by the County.
- (G) Replacement of trees shall be of a species similar to that which was removed or a species appropriate to the replanting site.
- (H) If the acreage of the *site* limits the application of *reforestation* requirements, *forest* may be created on other lands in the *Critical Area* including County lands or a fee in an amount determined by the Maryland Department of Natural Resources to be the equivalent to the value of the required *forest* may be paid to the County Commissioners of Kent County. These funds shall be placed in a dedicated fund used to ensure the restoration or establishment of an equivalent *forest* area in the *Critical Area* or riparian areas.
- (I) **Afforestation on a site with less than 20% forest or developed woodland.** For a site with less than 20% forest or developed woodland, afforestation shall occur to the extent required in the following table and be maintained through protective easements.

New subdivision or new development on a vacant lot	Afforestation equal to 20% of the site, except as specified in Article VI, Section 2.16.4(E) for renewable energy generating stations.
Substantial alteration, new lot with an existing dwelling unit or the conversion of a land use on a parcel or lot to another land use	Afforestation based on total lot coverage, not to exceed 20% of the site
Addition or accessory structure	Afforestation based on net increase in lot coverage, not to exceed 20% of the site

- (J) **Reforestation and afforestation planting.** Reforestation and afforestation planting shall be established first within the 100-foot buffer, if feasible, and shall include a combination of native species of trees, shrubs, and ground cover approved by the Department of Planning, Housing, and Zoning, or, for land within the buffer, in accordance with COMAR, Title 27.
- (K) **Clearing in violation of the law.** Forests, woodlands, woody vegetation, or individual non-hazardous trees cleared without a grading permit or other required approval, or in excess of allowed clearing limits, shall be replanted at three times the area of the cleared forest, woodlands or woody vegetation, and

for individual trees cleared, three times the number of individual trees cleared, or a fee in an amount determined by the Maryland Department of Natural Resources to be the equivalent to the value of the required *forest* may be paid to the County Commissioners of Kent County. These funds shall be placed in a dedicated fund used to ensure the restoration or establishment of an equivalent *forest* area in the *Critical Area* or riparian areas.

- (L) In addition, all proposed development shall meet the following standards applicable to forest or developed woodland clearing:
- i. Sediment, erosion and grading permits shall be issued before forest or developed woodland is cleared. Forest cleared prior to obtaining permits or that exceeds the maximum area allowed shall be replanted at three times the acreage of the cleared forest.
 - ii. Subject to the approval of the County, owners or developers shall provide surety suitable to ensure that any plantings that die within twenty-four (24) months of installation shall be replaced.

2.5 TIMBER HARVEST

1. Forest management plans shall be required for all timber harvest occurring within any one-year interval and which affect one or more acres in forest and developed woodlands in the Critical Area. The plans shall be prepared by a registered professional forester and be reviewed and approved by the Maryland Forest, Park and Wildlife Service through the District Forestry Boards and the project forester. Plans shall be filed with the Department of Planning and Zoning.
2. Plans shall include measures to protect surface and ground water quality and identify whether the activities will disturb or affect Habitat Protection Areas as set forth in the Land Use Ordinance or identified on the Habitat Protection Areas Map.
3. The plans shall include protective measures for Habitat Protection Areas and shall provide for the continuity of habitat. The plans shall address mitigation through forest management techniques which include scheduling size, timing, and intensity of harvest cuts, afforestation, and reforestation.
4. The cutting and clearing of trees within the minimum 100-foot buffer are permitted provided that:
 - i. Existing riparian forests of 300 x 300 feet or more and forest areas used by forest interior dwelling birds and other wildlife species shall be managed according to the guidelines developed by the Maryland Department of Natural Resources.
 - ii. When timber harvesting is being considered, a site survey for forest interior dwelling birds shall be done. The Planning Director may waive a site survey for forest interior dwelling birds provided the site is managed for all for all forest interior dwelling bird species. Cutting and building shall be restricted to safe times.

The date range is from April 1 through August 31 for properties where specific species have not been identified.

- iii. During timber harvest, corridors of existing forest or woodland vegetation shall be maintained to provide effective connections between wildlife habitat areas.
- iv. Commercial harvesting by selection or by clear-cutting of Loblolly Pine and Tulip Poplar may be permitted to within 50 feet of the landward edge of the mean high water line of tidal water and perennial tributary streams or the edge of the tidal wetlands provided that the cutting does not occur in the Habitat Protection Areas and that cutting is conducted pursuant to the requirements of the sediment control and non-tidal wetlands requirements of this Ordinance and in conformance with a buffer management plan prepared by a registered forester and approved by the Department of Natural Resources. The plan shall be required for all commercial harvests within the minimum 100-foot buffer regardless of the size of the area to be cut and shall contain the following minimum requirements:
 - 1. That disturbance to the stream banks and shorelines shall be avoided.
 - 2. That the area disturbed or cut shall be replanted, or allowed to regenerate in a manner that assures the availability of cover and breeding sites for wildlife, and reestablishes the wildlife corridor function of the buffer; and
 - 3. That the cutting does not involve the creation of logging roads and skid trails within the minimum 100-foot buffer.
- 5. Commercial harvesting of trees by any method may be permitted to the edge of intermittent streams if the cutting and removal is done in accordance with a Buffer Management Plan approved by the Department of Natural Resources Forester.

2.6 AGRICULTURE

1. Agriculture

No new agricultural land shall be created by:

- (A) Draining, filling, or diking any palustrine wetlands that have a seasonally flooded or wetter water regime unless the impact is mitigated.
- (B) Clearing of forest or woodland on soils with a slope greater than 15% or on soils with a K Value greater than 0.35 and slope greater than 5%.
- (C) Clearing of existing natural vegetation within the buffer.
- (D) Clearing of forest if the clearing will affect water quality or habitat protection areas as designated in this Ordinance.

2. Current Plans

- (A) In accordance with COMAR 27.01.06, each agricultural operation shall have in place and be implementing a current:

- i. Soil conservation and water quality plan and
 - ii. Nutrient management plan prepared by a certified nutrient management consultant or certified farm operator in accordance with COMAR 15.20.04.07 and .08.
- (B) In the absence of (A) above, any development must comply with general critical area development standards as specified in Section 2.4 of this Article.

2.7 THE BUFFER

1. Purpose. The Buffer is a habitat protection area that shall be established and managed to achieve or enhance the following functions:
 - i. Remove or reduce the sediments, nutrients, and potentially harmful or toxic substances in runoff entering the Chesapeake Bay and its tributary streams;
 - ii. Minimize the adverse effects of human activities on wetlands, shorelines, stream banks, tidal waters, and aquatic resources;
 - iii. Maintain an area of transitional habitat between aquatic and upland ecological communities;
 - iv. Maintain the natural environment of streams;
 - v. Protect riparian wildlife habitat; and
 - vi. Maintain natural vegetation.
2. Applicability and Delineation

An applicant for a development activity or a change in land use shall apply all the required standards as described below. The Buffer shall be delineated in the field and shall be shown on all applications as follows:

 - (A) A Buffer of at least 100 feet is delineated, and expanded as described in 2.7.2(C), based on existing field conditions landward from:
 - i. The mean high-water line of a tidal water;
 - ii. The edge of each bank of a tributary stream; and
 - iii. The upland boundary of a tidal wetland.
 - (B) Applications for subdivision or site plan approval located on land located within the RCA shall include a minimum Buffer of at least 200 feet from tidal waters or tidal wetlands, and 100 feet from a tributary stream, excluding for subdivisions only, one parent parcel, where the buffer may be 100 feet wide.
 - i. The 200-foot Buffer may be reduced if strict application of the 200-foot Buffer would preclude the creation of a new lot either by subdivision at a density of one dwelling unit per 20 acres, or through an intrafamily transfer subdivision.

- ii. The reduced Buffer shall be the minimum necessary to accommodate a dwelling and a sewage reserve area, as determined by the Planning Director, but no less than 100 feet.
- (C) For properties zoned RCD prior to receiving growth allocation for rezoning as MXDCA, there shall be a 300-foot setback from the landward edge of tidal wetland and tidal waters. This setback may be reduced if:
- i. The property is owned by the County;
 - ii. The development is for an essential County or municipal wastewater treatment facility that requires access to surface waters;
 - iii. Mitigation is provided for:
 - 1. All forest clearing within the 300-foot setback at a 3:1 ratio
 - 2. Any new lot coverage at a 1:1 ratio; or
 - 3. An equivalent offset for forest clearing and new lot coverage.
- (D) The Buffer shall be expanded beyond 100 feet as described in 2.7.2(A) above, and beyond 200 feet as described in 2.7.2(B) above, to include and extend beyond contiguous sensitive areas, such as soils with slopes 15% or greater, hydric soils, or highly erodible soils.
- i. The Buffer shall be expanded for slopes of 15% or greater (steep slopes) in accordance with the following. Also see "Buffer Expansion" as defined in Article VII.
 - 1. If a steep slope is contained completely within the Buffer, Buffer expansion is required only to provide a Buffer of at least 25 feet from the top of the slope.
 - 2. If a steep slope is partially within or contiguous to the Buffer, the Buffer shall be expanded four feet for every 1% of slope beyond the required Buffer, or 25 feet from the top of the slope, whichever is greater in extent, except as provided in Subsection 3 below.
 - 3. The Planning Commission may approve a Buffer expansion limited to 25 feet from the top of the slope, even if greater expansion would be required based on the Subsection 2 above, if the Planning Commission determines that the slope has one or more of the following characteristics:
 - a. Steep slopes less than 6 feet vertically as measured before development, such as agricultural ditches;
 - b. Steep slopes that are isolated and less than 10,000 square feet in area, irrespective of property lines;
 - c. Steep slopes with width of less than 25 feet where the slope crosses the 100-foot Buffer boundary; or

- d. Similar characteristics exist that result in a narrow and/or isolated area of steep slopes.
 - ii. The following criteria shall be used to measure the expanded Buffer for highly erodible soils or hydric soils contiguous to the Buffer:
 - 1. For a nontidal wetland of special state concern, expand the Buffer to include the upland boundary of the wetland and its regulated 100-foot Buffer;
 - 2. For other nontidal wetlands, expand the Buffer to include the upland boundary of the nontidal wetland;
 - 3. For highly erodible soils or hydric soils with a slope of 5% or greater, expand the Buffer to the lesser of the landward edge or 300 feet, including the Buffer width required under Subsection 2(B) above.
 - iii. If the Buffer is contiguous to hydric or highly erodible soils on a slope less than 15%, and the Buffer is on a lot created before January 1, 2010, development activity may be approved in the expanded Buffer if:
 - 1. The development activity is in the expanded portion of the Buffer, but not in the Buffer required under Subsection 2(B) above;
 - 2. The Buffer occupies at least 75% of the lot or parcel; and
 - 3. Mitigation occurs at a 2:1 ratio, based on the lot coverage of the proposed development activity that is in the expanded Buffer.
 - (E) In Modified Buffer Areas, under certain conditions, Buffer setbacks may vary in accordance with provisions set forth in this Ordinance.
3. Maintaining the Buffer
- (A) The Buffer shall be maintained in natural vegetation and managed to achieve or enhance the functions stated in Subsection 1 above.
 - (B) New development activities, including structures, fences with footers, roads, parking areas and other impervious surfaces, mining and related facilities, or septic systems, are not permitted in the Buffer, except for those necessarily associated with water-dependent facilities or individual private piers.
 - (C) Lot coverage in the Buffer may not exceed the minimum amount necessary for water-dependent facilities, regardless of the Critical Area classification or the size of the parcel or lot, except:
 - i. In Modified Buffer Areas;
 - ii. If a variance is granted in accordance with this Ordinance.
 - (D) Cutting, clearing, and removal of existing vegetation, including understory trees, shrubs and ground cover within the Buffer is prohibited except as authorized by a Buffer Management Plan.

- (E) Existing areas of public access to the shoreline, such as footpaths, scenic drives, and other public recreational facilities, shall be maintained, with new facilities encouraged in the IDA.
 - (F) Vegetation may be removed for one pathway to the shore or piers, subject to the approval of a Buffer Management Plan.
 - i. The pathways shall be:
 - 1. Direct and no longer than necessary;
 - 2. No wider than six feet; and
 - 3. Constructed to maintain as much canopy as possible.
 - ii. Pathway surfaces shall be:
 - 1. Grass or similar low vegetation, stabilized only with pervious wood chips or,
 - 2. Materials such as boards, asphalt, or gravel, provided that mitigation is provided, in accordance with a buffer management plan, that covers two times the area of the hard surfaced pathway.
 - iii. In areas of steep slopes, wooden stairways may be constructed as approved by the Planning Director.
 - 7. Normal and customary maintenance of lawns located in the Buffer may continue until approval of a development activity requiring a buffer management plan.
4. Buffer establishment.
- (A) The requirements of this regulation are applicable to:
 - i. A development or redevelopment activity that occurs on a lot or parcel that includes a Buffer to tidal waters, a tidal wetland, or a tributary stream if that development or redevelopment activity is located outside the Buffer; and
 - ii. The approval of a subdivision that includes a Buffer to tidal waters, a tidal wetland, or a tributary stream.
 - (B) If an applicant for a subdivision of a lot uses or leases the lot for an agricultural purpose, the applicant:
 - i. Shall submit a Buffer Management Plan under Section G of this Part which must be approved prior to recordation of the subdivision plat.
 - ii. If authorized by the local jurisdiction, may delay implementation of the buffer management plan until the use of the lot is converted to a nonagricultural purpose.
 - (C) The requirements of this regulation are not applicable to an in-kind replacement of a structure.

- (D) An applicant shall establish the Buffer in vegetation in accordance with the table below and Section E of this Part; and to provide a Buffer Management Plan under Section G of this Part for the following types of applications:
- i. A subdivision;
 - ii. Conversion from one land use to another land use on a lot or a parcel; or
 - iii. Development on a lot or a parcel created before January 1, 2010.
- (E) When the Buffer is not fully forested or is not fully established in existing, naturally occurring woody or wetland vegetation, an applicant shall establish the buffer to the extent required in the following table:

BUFFER ESTABLISHMENT REQUIREMENTS	
Development Category	Extent of buffer establishment required
New development on a vacant lot created prior to April 12, 1988	Establish the buffer based on total lot coverage outside the buffer
New development on vacant lot created after April 12, 1988	Fully establish the buffer
New subdivision or new lot	Fully establish the buffer
New lot with an existing dwelling unit	Establish the buffer based on total lot coverage outside the buffer
Conversion of a land use on a parcel or lot to another land use	Fully establish the buffer
Addition or accessory structure	Establish the buffer based on net increase in lot coverage outside the buffer
Substantial alteration (total footprint is increased by 50% or more)	Establish the buffer based on total lot coverage outside the buffer

- (F) Any lot coverage removed from the Buffer may be deducted from the total cumulative amount of establishment required if:
- i. The lot coverage existed before the date of local program adoption or was allowed by local procedures; and
 - ii. The total area is stabilized.
5. Mitigation for impacts to the Buffer.
- An applicant for a development activity that includes disturbance to the Buffer shall mitigate for impacts to the Buffer and shall provide a Buffer Management Plan in accordance with the standards set forth in this Part.
- (A) All authorized development activities shall be mitigated based on the ratios noted in the table below, in addition to the area of canopy coverage removed for an individual tree, developed woodland or forest:

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BUFFER MITIGATION RATIOS		
Activity	Minimum Mitigation Ratio	
	<i>Permanent Disturbance</i>	<i>Temporary Disturbance</i>
Septic on a lot created before April 12, 1988, if located in existing grass or if clearing is not required	Not applicable	0
Septic system in a forest or developed woodland on a lot created before April 12, 1988, if clearing is required	1:1	Not applicable
Shore erosion control	1:1	1:1
Riparian water access	2:1	1:1
Development of a water-dependent facility or activity under COMAR 27.01.03	2:1	1:1
Variance	3:1	1:1
Violation	4:1	Not applicable

- (B) For the removal of a dead tree, the affected area shall be stabilized with native groundcover or other native vegetation as necessary.
 - (C) The removal of a diseased, dying, invasive, or hazardous tree shall be mitigated with one tree of at least ¾-inch caliper for each tree removed or the affected area shall be stabilized in native woody vegetation if a tree cannot be replanted due to space constraints.
 - (D) Any lot coverage removed from the Buffer may be deducted from the total cumulative amount of mitigation required if:
 - i. The lot coverage existed before the date of local program adoption or was allowed by local procedures; and
 - ii. The total area is stabilized.
 - (E) Planting for mitigation shall be planted onsite within the Buffer. If mitigation planting cannot be located within the Buffer, then plantings may be allowed in the following order of priority:
 - i. On-site and adjacent to the Buffer; and
 - ii. On-site elsewhere in the Critical Area.
 - (F) The installation or cultivation of new lawn or turf in the Buffer is prohibited.
 - (G) As applicable to a site, an applicant shall restore any area in the Buffer that is temporarily disturbed by a development activity to pre-disturbance conditions.
6. Buffer planting standards.

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An applicant that is required to plant the Buffer to meet establishment or mitigation requirements shall apply the following planting credits and standards:

- (A) If planting to meet a mitigation requirement, the following combination of plantings may be used:
 - i. If required to plant less than 1 acre, the entire requirement must be met using landscape stock as noted in the Planting Credits table below.
 - ii. If required to plant 1 acre or more, at least 50% of the planting requirement may be met in landscape stock per the table below and the remainder may be met in flexible stock per the Planting Credits table.
- (B) If planting to meet an establishment requirement, the following combination of plantings may be used:
 - i. If required to plant less than $\frac{1}{4}$ acre, the entire requirement must be met using landscape stock per the Planting Credits table.
 - ii. If required to plant at least $\frac{1}{4}$ acre and up to 1 acre, at least 25% of the requirement must be met using landscape stock per the Planting Credits table and the remainder may be met in flexible stock per the Planting Credits table.
 - iii. If required to plant more than 1 acre, at least 10% of the requirement must be met using landscape stock per the table below and the remainder may be met in flexible stock per the Planting Credits table.
- (C) Per COMAR 27.01.09.01-2, a variance to the planting and mitigation standards of this Ordinance is not permitted.

7. Planting credits.

- (A) If required to plant using landscape stock, the following planting sizes and credit shall be used and shall be 100 percent guaranteed for at least 2 years after planting is completed:

LANDSCAPE STOCK CREDIT			
Vegetation Type	Minimum Size Eligible for Credit	Maximum Credit Allowed (Square Feet)	Maximum Percentage of Landscape Stock Credit
Canopy Tree	2-inch caliper	200	Not Applicable
Canopy Tree	$\frac{3}{4}$ -inch caliper	100	Not applicable
Understory Tree	$\frac{3}{4}$ -inch caliper	75	Not applicable
Large Shrub	3 feet high	50	30%
Small Shrub	18 inches high	25	20%

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Herbaceous perennial	1 quart or based on the area covered by plugs or seed mix	2	10%
Planting Cluster A (For less than ½ acre of planting)	1 canopy tree; and 3 large shrubs or 6 small shrubs of size listed above	300	Not applicable
Planting Cluster B (For less than ½ acre of planting)	2 understory trees; and large shrubs or 6 small shrubs of size listed above	350	Not applicable

- (B) The County may authorize an applicant to increase the percentage of large shrubs, small shrubs, or herbaceous perennials if:
- i. The Buffer has existing canopy coverage of at least 50 percent; or
 - ii. There are verified site constraints that preclude canopy plantings, including severely eroding slopes, saltwater intrusion, predominately sandy soils, or unconsolidated fill.
- (C) The following flexible planting stock may be used if authorized under other sections of this Part:

FLEXIBLE PLANTING STOCK			
Stock Size of Trees Only	Required # of Stems/Acre	Survivability Requirement	Minimum Financial Assurance Period After Planting
Bare-root seedlings or whip	700	50 percent	5 years
½-inch to 1-inch container grown trees	450	75 percent	2 years
More than 1-inch container grown trees	350	90 percent	2 years

8. Required Submittal of Buffer Management Plans.

An applicant that is required to plant the Buffer to meet establishment or mitigation requirements shall submit a Buffer Management Plan in accordance with COMAR 27.01.09.01-3. The provisions of this Part do not apply to maintaining an existing grass lawn or an existing garden in the Buffer.

- (A) Any permit for a development activity that requires Buffer establishment or Buffer mitigation will not be issued until a Buffer Management Plan is approved by the Department of Planning, Housing, and Zoning.

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- (B) An applicant may not obtain final approval of a subdivision application until the Buffer Management Plan has been reviewed and approved by the Department of Planning, Housing and Zoning pursuant to the provisions in Article IV.
 - (C) The Department of Planning, Housing and Zoning may not approve a Buffer Management Plan unless:
 - i. The plan clearly indicates that all planting standards under Section 2.7.6 of this Part will be met; and
 - ii. Appropriate measures are in place for the long-term protection and maintenance of all Buffer areas.
 - (D) For a Buffer Management Plan that is the result of an authorized disturbance to the Buffer, a permit authorizing final use and occupancy will not be issued until the applicant:
 - i. Completes the implementation of a Buffer Management Plan; or
 - ii. Provides financial assurance to cover the costs for:
 - 1. Materials and installation; and
 - 2. If the mitigation or establishment requirement is at least 5,000 square feet, long-term survivability requirements as set forth in COMAR 27.01.09.01-2.
 - (E) Concurrent with recordation of a subdivision plat, an applicant shall record a protective easement for the Buffer.
 - (F) If an applicant fails to implement a Buffer Management Plan, that failure shall constitute a violation of this Ordinance. A permit for any development activity will not be issued for a property that has the violation.
 - (G) An applicant of a subdivision or of a site plan for a multifamily, commercial, industrial, or institutional use shall post permanent signs prior to final recordation in accordance with COMAR 27.01.09.01-2.
 - (H) Buffer management plans that include natural regeneration shall follow the provisions of COMAR 27.01.09.01-4.
9. Fee-in-lieu of Buffer mitigation.
- A fee in-lieu for mitigation will be collected if the planting requirements of 2.7.5 of this Part cannot be fully met onsite, in accordance with the following standards:
- (A) Fee-in-lieu monies shall be collected and held in a special fund, which may not revert to the County's general fund;
 - (B) Fee-in-lieu shall be assessed at \$1.50 per square foot of required Buffer mitigation;

- (C) A portion of fee-in-lieu money can be used for management and administrative costs; however, this cannot exceed 20% of the fees collected; and
- (D) Fee-in-lieu monies shall be used for the following projects:
 - i. To establish the Buffer on sites where planting is not a condition of development or redevelopment;
 - ii. For water quality and habitat enhancement projects as approved by the Critical Area Commission or by agreement between Kent County and the Critical Area Commission.

2.8 MODIFIED BUFFER AREA PROVISIONS

1. Applicability

- (A) Modified Buffer Areas (MBAs) are areas of the 100-foot Buffer that have been mapped by Kent County and approved by the Critical Area Commission.
- (B) The purpose of MBAs is to accommodate limited use of the Buffer under the provisions of this Section, while protecting water quality and wildlife habitat to the greatest extent possible.

2. Mapping Standards

The following standards shall apply for the mapping of new Modified Buffer Areas:

- (A) Only lots of record as of December 1, 1985, are eligible for mapping as Modified Buffer Areas (MBAs).
- (B) The parcel or lot being considered for MBA status shall contain a Buffer that was significantly impacted by development at the time of program adoption and that prevents the Buffer from fulfilling its functions.
- (C) Developed parcels or lots shall contain a Buffer intrusion by the principal structures (excluding utilities or septic systems).
- (D) Undeveloped or vacant parcels or lots (i.e., infill) may be designated as a MBA if development within the Buffer cannot be avoided based on the size of the parcel or lot, area of the parcel or lot within the Buffer, or the surrounding pattern of development.
- (E) If only part of a parcel or lot meets the criteria for designation as a Modified Buffer Area, then only portions of the parcel or lot shall be designated as a Modified Buffer Area. The portion of the parcel designated as a Modified Buffer Area will be subject to the Modified Buffer Area requirements. Portions of the property that are not designated as a Modified Buffer Area shall comply fully with the 100-foot Buffer restrictions.
- (F) Any proposal by the County for designation of an area as a MBA shall include, at a minimum, a written evaluation and supporting reasons which demonstrate

the degree to which the proposed MBA does not perform each of the following Buffer functions:

- i. Provide for the removal or reduction of sediments, nutrients, and potentially harmful or toxic substances in runoff entering the Bay and its tributaries;
- ii. Minimize the adverse effects of human activities on wetlands, shorelines, stream banks, and aquatic resources;
- iii. Maintain an area of transitional habitat between aquatic and upland communities;
- iv. Maintain the natural environment of streams; and
- v. Protect riparian wildlife habitat.

3. Development standards in Modified Buffer Areas (MBA)

The following development standards apply to all applications for development activity in a MBA:

- (A) New development or redevelopment activities, including structures, roads, parking areas and other lot coverage or septic systems are not permitted in the Buffer unless the applicant can demonstrate that there is no feasible alternative and the **Planning Director** finds that efforts have been made to minimize Buffer impacts.
- (B) Development and redevelopment activities shall be located as far as possible from mean high tide, the landward edge of tidal wetlands, or the edge of tributary streams.
- (C) Variances to other local setback requirements have been considered before additional intrusion into the Buffer.
- (D) Convenience or expense are not factors to consider when evaluating the extent of allowable impacts to the Buffer.
- (E) Development may be located in the Buffer and shall meet the setback lines as described below. Structures on adjacent properties shall not be used to determine the setback line.
- (F) Development and redevelopment may not impact any Habitat Protection Area (HPA) other than the Buffer, including nontidal wetlands, other State or federal permits notwithstanding.
- (G) Modified Buffer Area designation shall not be used to facilitate the filling of tidal wetlands that are contiguous to the Buffer or to create additional buildable land for new development or redevelopment.
- (H) No natural vegetation may be removed in the Buffer except that required by the proposed construction.

- (I) Mitigation shall be provided as follows:
 - i. Natural forest vegetation of an area twice the extent of the footprint of the development activity within the 100-foot Buffer shall be planted on site in the Buffer or at another location, preferably on-site, approved by the Planning Director.
 - ii. Applicants who cannot fully comply with the planting requirement in (i) above, may use offsets to meet the mitigation requirement. Offsets include the removal of an equivalent area of existing impervious surfaces in the Buffer, the construction of Best Management Practices for stormwater, wetland creation or restoration, or other measures that improve water quality or habitat.
 - iii. Applicants who cannot comply with either the planting or offset requirements in (a) or (b) above shall pay a fee-in-lieu at a rate of \$1.50 per square foot.
 - iv. Any fees-in-lieu collected under these provisions shall be placed in an account that will assure their use only for projects within the Critical Area to enhance wildlife habitat, improve water quality, or otherwise promote the goals of the County's Critical Area Program.
 - v. Any required mitigation or offset areas shall be protected from future development through an easement, development agreement, plat notes or other instrument and recorded among the land records of the County.
- 4. In the case of commercial, industrial, institutional, recreational, and multi-family residential development or redevelopment, the following additional standards apply:
 - (A) New development shall not be located closer to the water (or edge of tidal wetlands) than the local setback for the zoning district or 50 feet, whichever is greater. The 50-foot setback shall be maintained for all subsequent development or redevelopment of the property.
 - (B) Redevelopment shall not be located closer to the water (or edge of tidal wetlands) than the local setback for the zoning district or 25 feet, whichever is greater.
 - i. Existing structures located within the setback may remain or a new structure may be constructed on the footprint of an existing structure or lot coverage.
 - ii. Opportunities to establish a 25-foot setback should be maximized.
 - (C) In addition to any required mitigation, a forested or landscaped buffer yard, 25 feet wide, shall be established on the project site between the development and the distance to the water. This buffer yard shall be densely planted with trees and shrubs in accordance with the Required Buffer Yard Planting table.

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- (D) In the case of redevelopment, the County may approve appropriate modifications to the width of the planted buffer yard on a case-by-case basis where existing structures or those rebuilt on an existing footprint limit the area available for planting.

REQUIRED BUFFER YARD PLANTING		
Area	Quantity and Stocking	Suggested Species
For every 100 linear feet of buffer yard	5 Trees and	White or Red Oak, Pin Oak, Willow Oak, Red Maple, American Holly, Eastern Red Cedar
	10 Understory Trees/Large Shrubs, and	Dogwood, Mountain Laurel, Bayberry, Shadbush, Winterberry
	30 Small Shrubs and	Pepperbush, Chokeberry, Strawberry Bush, Sweetspire
	40 Herbaceous Plants, Grasses, etc.	Wild Columbine, Butterflyweed, Common Milkweed, Asters

5. In the case of single-family residential development or redevelopment, the following additional standards apply:
- (A) New development and redevelopment shall not be located closer to the water (or the edge of tidal wetlands) than principal structures on adjacent properties or the local setback for the zoning district, whichever is greater. Except as described below, new development or redevelopment shall be located no less than 50 feet from the water (or the edge of tidal wetlands).
 - (B) Existing principal or accessory structures in the Buffer may be replaced in-kind in the same footprint. If a replacement structure is expanded, the development shall comply with the setback requirement.
 - (C) New accessory structures may be permitted in the Buffer in accordance with the following setback requirements:
 - i. New accessory structures may be located closer to the water or edge of tidal wetlands than the principal dwelling only if it has been determined by the Planning Director or the Director's designee that there are no other locations for the accessory structures.
 - ii. The area of the accessory structures within the Buffer shall be minimized and the cumulative total area of all new and existing accessory structures

on the property shall not exceed 500 square feet within 50 feet of the water and 1,000 square feet total.

- iii. In no case shall new accessory structures be located less than 25 feet from the water (or edge of tidal wetlands).

2.9 FOREST INTERIOR BIRDS

1. No outdoor construction activities are permitted during safe dates in areas with *forest interior dwelling bird* species identified by the State of Maryland. Areas are identified online by Maryland's Environmental Resources and Land Information Network (MERLIN). Safe dates or nesting times for breeding species of forest interior dwelling birds are set forth in the guidance found in the Critical Area Commission publication entitled, A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area, dated June 2000, and as may be subsequently amended.
2. The Planning Director may set aside a site survey for forest interior dwelling birds provided the forest is managed for all forest interior dwelling bird species. In such cases, the date range for no construction is from April 1 through August 31 for properties where specific species have not been identified.
3. Existing riparian forest of 300-feet by 300-feet or more, and forest areas used by forest interior dwelling birds and other wildlife species will be managed according to the guidelines developed by the Maryland Department of Natural Resources and the Critical Area Commission. Whenever possible, riparian forest will be expanded.

2.10 HABITAT PROTECTION AREAS

1. All Habitat Protection Areas, *buffers*, and protective zones will be protected by property owners during *development* and at all other times. All property owners and applicants for new *development* are required to identify species and areas as specified below and to protect them. Plans will address protection strategies.
2. The Habitat Protection Areas in Kent County include:
 - (A) Colonial water bird nesting sites, and historic waterfowl staging and concentrations areas in tidal water, tributary streams or tidal and non-tidal wetlands;
 - (B) Riparian *forest*, *forested* areas of 50 acres or more, and *forest* corridors connecting them;
 - (C) Anadromous fish spawning areas, threatened and endangered species, and Species in Need of Conservation with their habitat;
 - (D) *Non-tidal wetlands* and the minimum 100-foot *buffer*;
 - (E) Other areas which, because of their unique *wildlife habitat* types and plant communities, are of local significance. These are managed to protect the unique habitat or community. The maps identifying these areas are maintained

by the Department of Natural Resources, Wildlife and Heritage Service. The inventory was last updated in July 2024.

- i. Big Marsh
- ii. Codjus Cove
- iii. East Betterton
- iv. Fairlee Neck Shore
- v. Howell Point Cliff
- vi. Jacobs Creek
- vii. Lower Mills Branch
- viii. Mitchell Bluff
- ix. Shell Point
- x. Shewsbury Neck Cliff
- xi. Still Pond Neck
- xii. Turner Creek Neck East
- xiii. Turner Creek Neck West
- xiv. Turner Creek Point
- xv. Woodland Creek
- xvi. Worton Point North
- xvii. Worton Point South
- xviii. Locally Significant Habitat: Lloyd Creek Marshes
- xix. Colonial Waterbirds: Great Blue Heron Colony

- (F) Any other *Natural heritage areas*, as may be designated by the State of Maryland, and locations considered for Areas of Critical State Concern.
3. All roads, bridges and utilities that must cross a Habitat Protection Area will be located, designed, constructed, and maintained so as to provide maximum erosion protection and minimize negative impacts to wildlife, aquatic life and their habitats and maintain hydrologic processes and water quality. Roads, bridges, or utilities will not be located in any Habitat Protection Area unless no feasible alternative exists. All development activities that must cross or affect streams shall be designed to:
- (A) Reduce increases in flood frequency and severity that are attributable to development;
 - (B) Retain tree canopy so as to maintain stream water temperature within normal variation;
 - (C) Provide a natural substrate for stream beds; and

- (D) Minimize adverse water quality and quantity impacts of stormwater.
- 4. Natural heritage areas and locations considered for Areas of Critical State Concern will be preserved whenever possible in accordance with the recommendations of the Department of Natural Resources.
- 5. During and after *development* in forested areas, corridors of existing forest, or woodland vegetation will be maintained to provide effective connections between wildlife habitat areas.

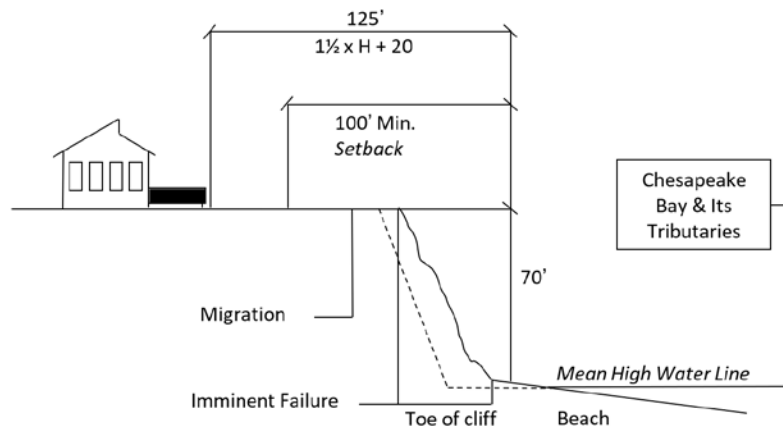
2.11 THREATENED AND ENDANGERED SPECIES AND SPECIES IN NEED OF CONSERVATION

- 1. Any *development* shall include a statement on the type and location of any threatened or endangered species or species in need of conservation on the property, and any recommendation for maintaining and protecting that habitat from the Department of Natural Resources.
- 2. Threatened or endangered species and species in need of conservation shall be checked and noted by the developer before any approvals can be granted by the Planning Director or the *Planning Commission*.
- 3. The Federal or State guidelines (whichever is stricter) for habitat protection shall be followed during development. Plans shall include provisions for the continuance of the habitat protection after development. This can include conservation easements, cooperative agreements, special provisions in forest management and soil conservation plans, and donation to a third party.

2.12 SHORELINE AND CLIFF AREAS

- 1. SPECIAL PURPOSE: The *shoreline cliff setback* is designed to allow *development* in a manner that will protect the property and the lives of residents and protect the scenic integrity of the shoreline.
- 2. NEW SUBDIVISIONS AND EXISTING LOTS OF THREE ACRES OR GREATER
 - (A) All *structures* will be a sufficient distance from the cliff to ensure protection of *structures* and to allow for natural *erosion* and/or cliff failure with enough *setback* to be able to employ the use of conventional *erosion* control measures.
 - (B) The minimum *setback* for a *shoreline cliff* is as follows:
 - i. For each foot of rise above the mean high-water line (MHW), a one and one-half foot setback from the toe of the cliff measured landward plus 20 feet to the house site is required.
 - ii. The elevation measured will be the highest point on the lot fronting the water or measured in a direct line from the house placement to the cliff and water for large lots (one acre or more) with extensive water frontage.

- (C) When these conditions conflict with other *waterfront yard* requirements of this Ordinance, the stricter will apply.



2.13 SHORE EROSION PROTECTION WORKS

The purpose of this Section is to encourage the protection of rapidly eroding portions of the shoreline in the County by public and private landowners. When such measures can effectively and practically reduce or prevent shoreline *erosion*, the use of nonstructural shore protection measures will be encouraged to conserve and protect plant, fish, and *wildlife habitat*. The following criteria will be followed when selecting shore *erosion* protection practices:

1. Nonstructural practices will be used whenever possible.
2. Structural measures will be used only in areas where nonstructural practices are impractical or ineffective.
3. Where structural measures are required, the measure that best provides for the conservation of fish and *plant habitat* and which is practical and effective will be used.
4. If significant *alteration* of the characteristics of a shoreline occurs, the measure that best fits the change may be used for *sites* in that area.
5. All shore erosion control activities or projects shall meet the requirements of COMAR 26.24.02 and COMAR 26.24.04. The following process shall be followed upon identifying a shore erosion protection practice:
 - (A) Kent County shall require any authorized shore erosion control project to submit a Buffer Management Plan.
 - (B) The Buffer Management Plan shall meet the requirements of COMAR 27.01.09 and the Buffer provisions (2.7) within this Ordinance.
 - (C) A copy of the approved Buffer Management Plan shall be forwarded to the Critical Area Commission.

2.14 WATER DEPENDENT FACILITIES

The following *regulations* will apply to *boathouses*, boat docks, *piers*, *marinas*, and wharves. Review by the Department of new water dependent facilities and changes to any existing facilities is required, using the standards at the end of this Section under REQUIRED REVIEW.

1. GENERAL REQUIREMENTS

- (A) Projections of docks, wharves, and *piers* into *waterways* beyond the *waterway line*, *lot lines*, or established *bulkhead* lines will be limited by applicable County ordinances, State laws, and applicable *regulations* of the United States Army Corps of *Engineers*.
- (B) Groins, levees, *bulkheads*, pilings, breakwaters, and other similar *structures* will be erected and maintained in accordance with applicable location and construction standards of the County, State, and the United States Army Corps of *Engineers*.
- (C) New water-dependent facilities will be located so as to prevent disturbance to sites of significance to wildlife such as historic aquatic staging and concentration areas for waterfowl, shellfish beds, finfish nursery areas, and submerged aquatic vegetation beds.

2. PRIVATE BOATHOUSES

- (A) *Boathouses* that extend *channel* ward of mean high tide (*boathouses* over water) are prohibited. *Boathouses* will not be permitted in areas where such would obstruct the view of those using the *waterway* so as to endanger navigation.
- (B) A boathouse may not be used as a dwelling, guest house, or servants' quarters.
- (C) No *boathouse* may be closer to the side property line than the required *side yard* width of the zoning district in which it is located.
- (D) No private *boathouse* will occur within 100 feet of any private *pier* or other *boathouse* on the same side of a body of water, except in the case where this would deny a property owner the right to a *boathouse*.
- (E) It will not be permitted for the owner or owners of a *boathouse* to receive compensation for use of their private *boathouse*.

3. PRIVATE DOCKS, PIERS, and WHARVES

- (A) It will not be permitted for the owner or owners of a private *pier* to receive compensation for use of their private *pier*.
- (B) No private *pier* will occur within 100 feet of any other private *pier* or *boathouse* on the same side of a body of water, except in the case where this would deny a property owner the right to a single *pier*.

- (C) A *pier* may not be closer to the side property line than the required *side yard* width of the district in which it is located. A *pier* will not be closer to the side line or its extension over water than the required *side yard* width of the zoning district in which it is located.
- (D) *Dwellings* and other non-water dependent facilities are prohibited on *piers*.
- (E) It will be permissible for adjacent property owners to construct a single shared *pier*. The right of ownership and access to such *pier* will be set forth in a property document that runs to the benefit of the owners of the *pier*, their heirs and assigns and will be executed by the owners and recorded with the Kent County Clerk of Court and a copy filed with the Department prior to such construction.
- (F) If a shared *pier* or a *community pier* is allowed, then no other *piers* will be permitted on the property of such owners. In the event such *piers* are removed or destroyed beyond use and not rebuilt or re-established within one year, then the agreement for such *piers* will become void. However, the one-year requirement can be extended if extenuating circumstances can be demonstrated to the County by the property owner.
- (G) A *community pier*, for the use of three or more property owners, will be permissible provided the *site plan* demonstrates that such *pier* does not adversely affect neighboring property owners or the public interest. The *site plan* will show all properties in the neighborhood, including the owners of the *community pier* and their access to such *pier*. The ownership and access will further be set forth in a proper document that runs to the benefit of owners of the *pier*, their heirs and assigns, and will be executed by all owners and recorded with the Kent County Clerk of Court and a copy filed with the Department. Sanitary facilities approved by the Kent County Health Department will be provided except where other acceptable facilities are available.
- (H) The following will apply to *community piers*, shared *slips*, and other related non-commercial boat docking and storage facilities:
 - i. New or expanded *community piers*, shared *slips*, *marinas* and other non-commercial boat-docking and storage facilities may be permitted in the minimum 100-foot *buffer* subject to the requirements of this Section; and
 - ii. Provided that:
 - 1. These facilities may not offer food, fuel, or other goods and services for sale and will provide adequate and clean sanitary facilities;
 - 2. The facilities are community-owned and established and operated for the benefit of the residents of a platted and recorded riparian *subdivision*;

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3. The facilities are associated with a residential *development* approved by Kent County for the *Critical Area* and consistent with all criteria and County *regulations* for the *Critical Area*;
 4. Disturbance to the *buffer* is the minimum necessary to provide a single point of access to the facilities;
 5. If *community piers, slips, or moorings* are provided as part of the new *development*, private *piers* in the *development* are not allowed; and
 6. Sanitary Facilities and pump-outs will be provided *on-site*, except where other acceptable facilities are available.
- iii. Provided that adverse effects on water quality, fish, plant, and *wildlife habitat* are minimized; and
 - iv. The number of *slips, piers, or mooring buoys* permitted at the facility will be the lesser of the options below:
 1. One *slip* for each 50 feet of shoreline in a *subdivision* in the Intensely Developed Areas (IDA) or Limited Development Areas (LDA).
 2. One *slip* for 300 feet of shoreline in a *subdivision* in Resource Conservation Areas (RCA).
 3. A *density of slips, shared slips, or piers, to platted lots or dwellings* in a *subdivision* in the *Critical Area* according to the following schedule:

Platted <i>Lots or Dwellings</i> in the <i>Critical Area</i>	<i>Slips</i>
5 to 15	One for each <i>lot</i>
16-40	15 or 75% whichever is greater
Over 40	30 or 50% whichever is less

4. PUBLIC BEACHES

Public beaches or other *public water-oriented recreation* areas including, but not limited to publicly owned boat launching and docking facilities and fishing *piers* may be permitted in the *buffer* provided:

- (A) Adequate sanitary facilities exist;
- (B) Service facilities are to the extent possible, located outside the *buffer*;
- (C) Permeable surfaces are used to the extent practicable, if no degradation of groundwater would result.
- (D) Disturbance to *natural vegetation* is minimized; and

- (E) Areas for passive recreation, such as nature study, hunting and trapping, may be permitted in the *buffer* within Resource Conservation Areas (RCA), if service facilities for these uses are located outside of the *buffer*.

5. WATER-DEPENDENT RESEARCH FACILITIES

Water-dependent research facilities or activities operated by State, federal, or local agencies, or water-dependent educational institutions, may be permitted in the *buffer*.

6. COMMERCIAL WATER-DEPENDENT FISHERIES FACILITIES

Commercial water-dependent fisheries facilities including, but not limited to, *structures* for crab shedding, fish off-loading docks, shellfish culture operations, and shore-based facilities necessary for *aquaculture* operations and *fisheries activities*, may be permitted in the *buffer*. A facility or activity that supports water quality restoration in the Chesapeake Bay or its watershed.

7. COMMERCIAL MARINAS

In this Land Use Ordinance, marinas are facilities operated as businesses and regulated as such.

- (A) New and existing *marinas* will meet the sanitary requirements of the Maryland Department of the Environment.
- (B) New marinas will establish a means of minimizing the discharge of bottom wash waters into tidal waters.
- (C) All new development and redevelopment will reduce pollutant loadings coming off the site by at least 10%. Pollutant loads will be calculated based on the Critical Area 10% Rule Guidance Manual. All sites will comply with the stormwater management qualitative control measures found in Section 9 of this Article VI.
- (D) New and expanding marinas will provide pump-outs for boat holding tanks. Adequate signs will be posted to make boaters aware of the service available.
- (E) New marinas and expanding marinas will provide facilities for recycling or proper disposal of oil, anti-freeze, paint thinner, and other toxic or hazardous substances associated with the type of facility being developed.
- (F) Activities will not significantly alter existing water circulation patterns or salinity regimes.
- (G) The water body upon which these activities are proposed will have adequate flushing characteristics in the area.
- (H) Disturbances to wetlands, submerged aquatic plant beds, or other areas of important aquatic habitats will be minimized and mitigated.
- (I) Shellfish beds will not be disturbed or be made subject to discharge that will render them unsuitable for harvesting.

- (J) Dredging will be conducted in a manner, and using a method which causes the least disturbance to water quality and aquatic and terrestrial habitats in the area immediately surrounding the dredging operation or within the Critical Area, generally.
- (K) Dredged spoil will not be placed within the buffer or elsewhere in that portion of the Critical Area which has been designated as a Habitat Protection Area except as is necessary for:
 - i. A beneficial use approved by the Board of Public Works or the Department of the Environment, such as
 - 1. Backfill for permitted shore erosion protection measures;
 - 2. Use in approved vegetated shore erosion projects;
 - 3. Beach nourishment.
 - 4. Restoration of an island;
 - 5. The creation, restoration, or enhancement of a wetland, or a fish, wildlife, or plant habitat; or
 - 6. Any other approved beneficial use; or
 - ii. Placement in an area that was approved for the disposal of channel maintenance dredged material before June 11, 1988.
- (L) Interference with the natural transport of sand will be minimized.

8. REQUIRED REVIEW

- (A) The Department will review all applications for *water-dependent facilities* in order to determine that:
 - i. The activities will not significantly alter existing water circulation patterns or salinity regimes;
 - ii. The water body upon which these activities are proposed will have adequate flushing characteristics in the area;
 - iii. Disturbances to *wetlands*, submerged aquatic plant beds, or other areas of important aquatic habitats will be minimized and mitigated;
 - iv. *Adverse impacts* to water quality that may occur as a result of these activities, such as non-point source runoff, sewerage discharge from land activities or vessels, or from boat cleaning and maintenance operations will be minimized;
 - v. Shellfish beds will not be disturbed or be made subject to discharge that will render them unsuitable for harvesting;

- vi. Dredging will be conducted in a manner, and using a method, which causes the least disturbance to water quality and aquatic and terrestrial habitats in the area immediately surrounding the dredging operation or within the *Critical Area* generally;
 - vii. Dredged spoil will not be placed within the *buffer* or elsewhere in that portion of the *Critical Area* which has been designated as a Habitat Protection Area unless the Board of Appeals grants a special exception and only as is necessary for:
 - 1. Backfill for permitted shore *erosion* protection measures;
 - 2. Use in approved vegetated shore *erosion* projects;
 - 3. Placement on previously approved *channel* maintenance spoil disposal areas; and
 - 4. Beach nourishment.
 - viii. Interference with the natural transport of sand will be minimized;
 - ix. Information necessary for evaluating dredge spoil applications if not available locally, will be obtained from appropriate State and federal agencies.
- (B) The Department may also require signed and sealed drawings from a professional land surveyor or an engineer certifying that the requirements above have been satisfied. The Department may also engage third-party professionals to review the drawings to ensure compliance with the regulations in this Section, the Land Use Ordinance in general, and any applicable federal, State, or other laws, rules, and regulations. The costs for any third-party professionals will be paid by the applicant or property owner of record.

2.15 LOT CONSOLIDATION AND RECONFIGURATION

1. Applicability.

The provisions of this part apply to a consolidation or a reconfiguration of any nonconforming legal parcel or lot that predates adoption of the local program. These provisions do not apply to the reconfiguration or consolidation of parcels or lots which are conforming or meet all Critical Area requirements. Nonconforming parcels or lots include:

- (A) Those for which a Critical Area variance is sought or has been issued; and
- (B) Those located in the Resource Conservation Area and are less than 20 acres in size.

2. Procedure.

- (A) An applicant seeking a parcel or lot consolidation, or reconfiguration shall provide the required information in Section 3 below to the County.
- (B) The County may not approve a proposed parcel or lot consolidation or reconfiguration without making written findings in accordance with Section 4 below and COMAR 27.01.02.08.F.
- (C) The County shall issue a final written decision or order granting or denying an application for a consolidation or reconfiguration.
- (D) After a final written decision or order is issued, the County shall send a copy of the decision or order and a copy of any approved development plan to the Commission within 10 business days.
- (E) The County may not issue a building permit until the appeal time has expired.

3. Application.

An application for the consolidation or reconfiguration of any nonconforming legal parcel of land or recorded legally buildable lot shall contain at least the following information:

- (A) The date of recordation of each legal parcel of land or legally buildable lot to be consolidated or reconfigured;
- (B) A plan drawn to scale that shows all existing and proposed lot or parcel boundaries;
- (C) Information sufficient for the County to make the findings set forth in Section 4 below, and
- (D) A table that lists the number of all legal parcels of land or recorded, legally buildable lots and the number of proposed lots or parcels or dwelling units to be derived.

4. Standards.

The Planning Director, or designee, shall review a proposed lot consolidation or reconfiguration and will make written findings that each one of the following standards has been met:

- (A) The proposed consolidation or reconfiguration will result in no greater number of lots, parcels, or dwelling units in the Critical Area than the existing configuration would allow;
- (B) In the Limited Development Area or Resource Conservation Area, the proposed lot consolidation or reconfiguration:
 - i. Will result in no greater lot coverage than the existing configuration would allow; and
 - ii. Will result in no greater impact to a steep slope than the existing configuration would allow, if that steep slope is located outside the buffer or expanded buffer.

- (C) The proposed consolidation or reconfiguration does not:
 - i. Create an additional riparian lot or parcel, waterfront lot, or any other lot or parcel deeded with water access; or
 - ii. Intensify or increase impacts associated with riparian access;
- (D) The proposed consolidation or reconfiguration does not create:
 - i. A lot or parcel or portion of a lot or parcel that will serve development activities outside the Critical Area; or
 - ii. A Resource Conservation Area lot or parcel that serves development activities in the Intensely Developed Area or Limited Development Area;
- (E) The proposed consolidation or reconfiguration identifies each Habitat Protection Area and if impacts to a Habitat Protection Area are proposed, the proposal demonstrates that:
 - i. No greater impact to a Habitat Protection Area would result than the impact that would have resulted from the existing lot configuration;
 - ii. Adverse impacts to a Habitat Protection Area are minimized; and
 - iii. Protective measures and restoration measures are included that provide for the least possible impact;
- (F) The proposed consolidation or reconfiguration provides:
 - i. Stormwater management for all proposed development activities; and
 - ii. Benefits to fish, wildlife, and plant habitat that are clearly identified.
- (G) The proposed consolidation or reconfiguration fully complies with the afforestation and reforestation requirements in COMAR 27.01.05 and 27.01.09, unless clearing is necessary to avoid a habitat protection area.

2.16 RENEWABLE ENERGY GENERATING SYSTEMS

- 1. Applicability.
 - (A) The requirements of this Part are applicable to all renewable energy generating systems located in the Critical Area.
 - (B) In accordance with COMAR 27.01.14.02, these provisions may not be construed to limit the authority of the Public Service Commission under Public Utilities Article §7-207, Annotated Code of Maryland.
- 2. Application requirements.
 - (A) An applicant for a utility scale solar energy system producing more than two megawatts of electricity, in a Resource Conservation Area, shall provide a site

plan that addresses the requirements of COMAR 27.02.07 and includes the following:

- i. Calculations of any required reservation of resource conservation area density development rights; and
- ii. The identification and location of property restrictions including the boundary and area of a conservation easement, restrictive covenant, or other protective instrument.

3. General provisions.

(A) On or after April 1, 2021, the County may authorize:

- i. A utility scale solar energy system within the Critical Area in accordance with this Section;
- ii. A utility scale solar energy system producing more than two megawatts of electricity in the resource conservation area without growth allocation in accordance with Article VI, Section 2.16.4; and
- iii. A small residential accessory solar energy generating system in the Buffer or in a Modified Buffer Area if:
 1. There is not an alternative location outside the Buffer;
 2. The lot is 1/4 acre or less in size and created before April 12, 1988; and
 3. Mitigation is required at a 1:1 ratio.

(B) In addition to meeting the requirements of this Section, Kent County may not authorize growth allocation to accommodate a utility scale solar energy system in the limited development area or the resource conservation area.

(C) Except for a regulated activity that is authorized by the Maryland Department of the Environment in accordance with COMAR 26.23.02, Kent County may not authorize utility scale solar energy system:

- i. In a habitat protection area designated under COMAR 27.01.09; or
- ii. On a steep slope or a highly erodible soil.

(D) In accordance with COMAR 27.01.14, a variance, modification, waiver, or other approval that alters the requirements of this Section may not be granted.

4. Criteria for a solar energy generating system.

The provisions of this section are applicable to a utility scale solar energy system in an intensely developed area, a limited development area, and a resource conservation area:

(A) The area of a solar panel shall not count as lot coverage and:

- i. For a utility scale solar energy system producing two megawatts or less of electricity, the solar panels shall be:

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1. Located over existing, legally developed lot coverage as described in Natural Resources Article, §8-1808.3, Annotated Code of Maryland; or
 2. Elevated above the ground and the area under the solar panels is maintained as an area of existing grass, established grass, or other natural vegetation, or as an agricultural use; and
- ii. For a utility scale solar energy system producing more than two megawatts of electricity, the solar panels shall be:
 1. Located over existing, legally developed lot coverage; or
 2. Elevated above the ground and the area under the solar panel is maintained in accordance with the planting plan requirements of Section 6 below as:
 - a. Pollinator habitat;
 - b. Native vegetation other than pollinator habitat; or
 - c. An agricultural use.
- (B) The Buffer shall be measured and delineated in accordance with COMAR 27.01.09.01.E(3)-(7) and Article VI, Section 2.7 of this Ordinance and:
- i. Unless there is no feasible alternative, access through the Buffer to the project area is prohibited;
 - ii. When there is no feasible alternative to access through the buffer, one point of access through the buffer to the project area may be authorized. Where a project includes noncontiguous parcels, the number of access points through the buffer shall be minimized;
 - iii. Mitigation for disturbance to the Buffer is required at a 2.5:1 ratio; and
 - iv. A buffer management plan shall be provided in accordance with COMAR 27.01.09.01-3.
- (C) Except when a project area is in an IDA, clearing of forest and developed woodlands shall be minimized and not exceed the following:
- i. In a LDA, clearing of forest and developed woodlands is limited to 20 percent of the entirety of the forest and developed woodlands on the parcel or parcels on which the project area is located; and
 - ii. In a RCA, clearing of forest is limited to 10 acres or 20 percent of the entirety of the forest and developed woodlands on the parcel or parcels on which the project area is located, whichever is less.
- (D) In an IDA, LDA, and RCA, mitigation for cleared forest and developed woodlands shall be provided on at least an equal area basis.
- (E) For a utility scale solar energy system producing more than two megawatts of electricity, on-site or off-site planting shall be in accordance with the following:

- i. 15 percent of the total project area in a limited development area; and
 - ii. 20 percent of the total project area in a resource conservation area.
 - (F) A planting plan shall be provided in accordance with Section 6 below.
 - (G) Stormwater management shall be provided in accordance with Environment Article, §§4-201—4-215, Annotated Code of Maryland, and COMAR 26.17.02.
 - (H) A decommissioning plan shall be required if one is not otherwise required as a result of obtaining a Certificate of Public Convenience and Necessity from the Public Service Commission.
5. Criteria for a utility scale solar energy system producing more than two megawatts of electricity in the resource conservation area.

These provisions apply to a utility scale solar energy system producing more than two megawatts of electricity in the RCA in addition to the requirements under Section 3 above:

- (A) Except for access allowed in accordance with Section 3 above and in accordance with the provisions in COMAR 27.01.06, forest clearing shall be restricted within 300 feet beyond the landward boundary of tidal waters or tidal wetlands, or the edge of each bank of a tributary stream.
- (B) In addition to any applicable local land recordation requirements, a Reservation of Resource Conservation Area Density Rights Agreement shall be recorded in the County land records that reserves RCA density rights associated with the project as follows:
 - i. The number of density rights reserved is equal to:
 - 1. The permitted RCA density associated with the project area of each parcel as calculated under Natural Resources Article, §8- 1808.1(e), Annotated Code of Maryland, and COMAR 27.01.02.05C(4); and
 - 2. The number of density rights that are attributable to the project area, with a minimum of one density right reserved.
- (C) The Reservation of Resource Conservation Area Density Rights Agreement shall remain in effect until:
 - i. The decommissioning plan, as required in Section 4(H), has been implemented and completed; and
 - ii. The termination of the Reservation of Resource Conservation Area Density Rights Agreement is reflected in the land records.
- (D) The remaining land unencumbered by the utility scale solar energy generating system or lands not otherwise restricted by the Reservation of Resource Conservation Area Density Rights Agreement may be developed in accordance with Natural Resources Article, §8-1808.1, Annotated Code of Maryland, and COMAR 27.01.02.05C(4).

- (E) A lot, a parcel, or a portion of a lot or parcel is not eligible for a utility scale solar energy system producing more than two megawatts of electricity if the density rights associated with that lot, parcel, or portion of a lot or parcel have been:
 - i. Utilized for an intrafamily transfer;
 - ii. Transferred through a transfer of development rights program;
 - iii. Preserved or conserved through an easement; or
 - iv. Otherwise reserved in association with an area of land to be utilized for the solar energy generating system.
- 6. Planting plan requirements.
 - (A) The Department of Planning, Housing, and Zoning shall require a planting plan for:
 - i. The area to be vegetated under the solar panels; or
 - ii. Replanting required in Section C (4) and (5).
 - (B) The County may consider the constraints and opportunities presented by a project area and authorize planting or other mitigation to address the requirements of Sections C (4) and (5) from any of the following options:
 - i. Planting on-site in one of the following planting areas:
 - 1. The area within 300 feet beyond the landward boundary of tidal waters or tidal wetlands, or the edge of each bank of a tributary stream;
 - 2. Contiguous to or within a designated forest interior dwelling bird habitat; or
 - 3. A wildlife corridor; or
 - ii. Based on a signed agreement with the Critical Area Commission:
 - 1. Planting off-site in accordance with the options specified in Section 6(B)i above;
 - 2. Create a wetland migration area, nonstructural shoreline erosion control project, or other nature-based practice that naturally adjusts to changing environmental conditions through the lifespan of the practice and is designed to address future sea level rise, precipitation-induced flooding, or other climate change impacts;
 - 3. Create, restore, or enhance a nontidal wetland that results in habitat and water quality benefits provided it is authorized by the Maryland Department of the Environment; or
 - 4. Other alternative mitigation options that include provisions for Commission review; or
 - iii. Collect a fee in lieu in accordance with Section 7 below.

- (C) Any general landscape screening requirements for an energy generating system shall not be included as part of the mitigation planting required in Section C.
- (D) Long-term maintenance of the plantings through financial assurance measures shall be provided.
- (E) All planting shall be in accordance with this ordinance's reforestation and planting plan requirements, including protecting all planted areas through conservation easements, restrictive covenants, or other protective instruments.

7. Fee-in-lieu.

The County may elect to collect a fee-in-lieu based on the following standards:

- (A) The fee shall be set at a \$1.50 per square foot of mitigation as required in Section 6.
- (B) The fee shall cover the cost associated with administration, acquisition, planting, monitoring, and maintenance for the required mitigation or required planting requirements of Section C (4) and (5).
- (C) The fee shall be held in a separate account independent of other Critical Area funds, which may not revert to the general fund.
- (D) The fee shall not be used to meet other landscaping requirements; and
- (E) The County shall use the fees to accomplish:
 - i. Off-site plantings in accordance with the options provided in Section E (2) (a); or
 - ii. Other water quality and habitat enhancement projects provided in Section E (2) (b), and as described in a local Critical Area program approved by the Commission or in an agreement between the local jurisdiction and the Commission.

2.17 DEVELOPMENT RIGHTS THAT PREDATE THE CRITICAL AREA PROGRAM

- 1. Except as otherwise provided, the types of land described in the following subsection may be developed in accordance with the *density* requirements in effect prior to the adoption of the Kent County *Critical Area* Program.
- 2. A single *lot* or parcel of land that was legally of record on the date of the program approval will be permitted to be developed with a *single-family dwelling*, if a *dwelling* is not already placed there, notwithstanding that such *development* may be inconsistent with the *density* provisions of the approved programs:
 - (A) Any land on which *development* activity has progressed to the point of the pouring of foundation/ footings or the installation of structural members;

- (B) Any legal parcel of land, not being part of a recorded or approved *subdivision*, that was recorded as of December 1, 1985, and land that was subdivided into recorded, legally buildable *lots*, where the *subdivision* received the County's final approval prior to December 1, 1985.
- (C) Land that was subdivided into recorded, legally buildable *lots*, where the *subdivision* received the County's final approval after December 1, 1985, provided that either *development* of such land conforms to the *Critical Area* criteria in this Ordinance and the other necessary *regulations*, or the area of the land is counted by the County against the growth increment permitted under COMAR 27.01.02.06.
- (D) Nothing in this section will be interpreted as altering any requirements for *development activities* as set forth in Articles II and V of this Ordinance for habitat protection areas and water-dependent facilities.
- (E) Kent County encourages the consolidation or reconfiguration of these *lots* to bring these lands into conformance with the *critical area* program.

2.18 GROWTH ALLOCATION

Applications for Growth Allocation will be consistent with the County's Growth Allocation policy and the provisions found in COMAR.

2.19 LOCAL DEVELOPMENT PROJECTS

Applications for Local Development Projects will be consistent with provisions found in COMAR.

2.20 CRITICAL AREA COMMISSION REVIEW AND COMMENT REQUIRED

1. As required by the State of Maryland, Kent County will send copies of applications for all *developments*, subdivisions, and *site plans*, wholly or partially within the Critical Area, as specified in COMAR 27.03.01.04 to the Critical Area Commission for review and comment. This includes all applicable projects located in the RCD, CAR, CCA, M, and ECCA-LDA zoning districts.
2. Until Kent County has received notice of receipt from the Critical Area Commission or the appropriate waiting period per the State of Maryland has expired, the County may not process an application that has been sent to the Critical Area Commission for notification.
3. Per the State of Maryland, any action by Kent County in violation of these State-required procedures shall be void.

SECTION 3 FOREST CONSERVATION ACT

3.1 STATEMENT OF INTENT

The purpose of this Section is to conserve the *forests* of Kent County. *Forests* and individual *trees* greatly contribute to the quality of life in Kent County, the health of the natural *ecosystem*, and the health and welfare of the citizens of Kent County. The County's economic health depends heavily on its natural resources of which *forests* are a major component. It is not the intent of the law to place unreasonable restrictions on *development*. Rather it aims to maximize the benefits of *forest* in a cooperative effort with *development*, thereby limiting the loss of *forested* land in Kent County and improving the environment of both developed and undeveloped areas. In this Section, the County adopted standards that are more stringent than the State of Maryland.

3.2 APPLICABILITY

This Section applies in AZD, RC, CR, V, IV, C, and EC, to minor and *major site plans*, *subdivisions*, *public utilities* not otherwise exempt, and all *grading* permits for any disturbed area over 40,000 square feet excluding land in the Critical Area (§§8-1801–1817, Annotated Code of Maryland).

3.3 EXEMPTIONS

This Section also does not apply to the following:

1. Highway construction activities under Natural Resources Article, Section 5-103, Annotated Code of Maryland.
2. *Commercial logging and timber harvesting operations*, including harvesting conducted subject to the *Forest Conservation* and Management Program under Tax Property Article, Section 8-211, Annotated Code of Maryland, that are completed after July 1, 1991 on property which:
 - (A) Has not been the subject of application for a *grading* permit for *development* within five years after the logging or harvesting operation; and
 - (B) Is the subject of a *Declaration of Intent* as provided for in Section 8.3 of this Ordinance.
3. Agricultural activities, not resulting in a change in land use category, including agricultural support *buildings* and other related activities constructed using *best management practices* provided that no more than 40,000 square feet of *forest* is cleared within a one-year period. A *person clearing* 40,000 square feet or greater of *forest* within a one-year period may not receive an *exemption* unless the *person* files a *Declaration of Intent* which includes:
 - (A) A statement that the landowner or the landowner's agent will practice *agriculture* on that portion of the property for five years from the date of the declaration; and
 - (B) A sketch of the property which shows the area to be cleared.

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4. The *cutting* or *clearing* of a public utility *right of way* licensed under Public Utility Companies, §§7-207 and 7-208 or 7-205, Annotated Code of Maryland, or land for electric generating stations licensed under Public Utility Companies, §§7-207 and 7-208 or 7-205 Annotated Code of Maryland, provided:
 - (A) Certificates of public conveniences and necessity have been issued in accordance with Natural Resources Article §5-1603(f), Annotated Code of Maryland; and
 - (B) *Cutting* or *clearing* of the *forest* is conducted to minimize the loss of *forest*.
5. Routine maintenance or emergency repairs of the public utility *right of way* licensed under Public Utility Companies, §§7-207 and 7-208 or 7-205, Annotated Code of Maryland.
6. Routine maintenance or emergency repairs of public utility *right of way* not subject to Section 8.2 (4) of this Ordinance, provided:
 - (A) The *right of way* existed prior to January 5, 1993; or
 - (B) The *right of way's* initial construction was approved after January 5, 1993.
7. Non-coal surfacing mining regulated under Environment Article, Title 15, Subtitle 8, Annotated Code of Maryland.
8. An activity required for the purpose of constructing a *dwelling* intended for the use of the owner or a child of the owner, if the activity:
 - (A) Does not result in the *cutting, clearing, or grading* of more than 20,000 square feet of *forest*; and
 - (B) Is the subject of a *Declaration of Intent* filed in the Department which states that a transfer in ownership may result in the loss of the *exemption*.
9. A real estate transfer to provide a security, leasehold, or other legal or equitable interest, including a transfer of title, of a portion of a *lot* or parcel if:
 - (A) The transfer does not involve a change in land use, or new *development* or *redevelopment* with associated land disturbing activities.
 - (B) Both the grantor and grantee file a *Declaration of Intent*.
10. An activity on a property that has more than 50% of its acreage within the Chesapeake Bay *Critical Area*.
11. A residential construction activity conducted on an existing single *lot* of any size of record at the time of application, or a *linear project* not otherwise exempted under this section, if the activity:
 - (A) Does not result in the cumulative *cutting, clearing, or grading* of more than 20,000 square feet of *forest*; and

- (B) Does not result in the *cutting, clearing, or grading* of a *forest* that is subject to the requirements of a previous *forest conservation plan* approved under this ordinance; and
 - (C) Is the subject of a *Declaration of Intent* filed in the Department which states that a transfer in ownership may result in the loss of the *exemption*.
12. An activity on a previously developed area covered by *impervious surface* and located in a *Priority Funding Area*.
 13. Maintenance or *retrofitting* of a *stormwater management structure* that may include *clearing* of vegetation or removal and trimming of *trees*, if the maintenance or *retrofitting* is within the original limits of disturbance for construction of the existing *structure*, or within any maintenance *easement* for access to the *structure*.
 14. A *stream restoration project* for which the *applicant* for a *grading* or *sediment control permit* has executed a binding maintenance agreement of at least five years with the affected property owner or owners.

3.4 FOREST CONSERVATION STANDARDS

1. In AZD, RC, CR, and C:
 - (A) A parcel with less than 20% of its *net tract area* in *forest cover* will be *afforested* to 20% of its *net tract area*.
 - (B) *Forest* on parcels with less than 20% of its *net tract area* in *forest* may be *cut* or cleared provided: the *afforestation* required to achieve the 20% *afforestation* level is determined prior to any *clearing* of *forest*; and the *afforestation* area consists of two (2) times the total surface area cleared and the area needed to achieve the 20% *afforestation* level before *clearing* occurred. For example, the *afforestation* area for a project with a *net tract area* of one hundred acres with ten (10) acres of existing *forest* of which five (5) acres are to be cleared is twenty (20) acres ten (10) acres to achieve the required *afforestation* level and ten (10) acres to replace the *forest* cleared.
 - (C) A parcel with more than 50% of its *net tract area* in *forest* may be *cut* or cleared provided *reforestation* occurs at a rate of one-quarter (1/4) acre planted for each acre removed above 50% of the *net tract area* or at a rate of two (2) acres planted for every acre removed below 50% of the *net tract area*. *Forest* retained over 50% of the *net tract area* is credited toward the required *reforestation*. For example, a project with a *net tract area* of one hundred (100) acres and an existing *forest* of sixty (60) acres that proposes to clear twenty (20) acres, the *reforestation* area is 22.5 acres.
2. In V, IV, and EC
 - (A) A parcel with less than 15% of its *net tract area* in *forest cover* will be *afforested* to 15% of its *net tract area*.

- (B) *Forest on parcels with less than 15% of its net tract area in forest may be cut or cleared provided: the afforestation required to achieve the 15% afforestation level is determined prior to any clearing of forest; and the afforestation area consists of two (2) times the total surface area cleared and the area needed to achieve the 15% afforestation level before clearing occurred. For example, the afforestation area for a project with a net tract area of one hundred acres with ten (10) acres of existing forest of which five (5) acres are to be cleared is fifteen (15) acres five (5) acres to achieve the required afforestation level and ten (10) acres to replace the forest cleared.*
 - (C) *A parcel with more than 15% of its net tract area in forest may be cut or cleared provided reforestation occurs at a rate of one-quarter (1/4) acre planted for each acre removed above 15% of the net tract area or at a rate of two (2) acres planted for every acre removed below 15% of the net tract area. Forest retained over 15% of the net tract area is credited toward the required reforestation. For example, a project with a net tract area of one hundred (100) acres and an existing forest of thirty (30) acres of which twenty (20) acres will be cleared, requires a reforestation area of 13.75 acres.*
3. In all non-Critical Area zoning districts – AZD, RC, CR, V, IV, C, and EC:
- (A) The following *trees*, shrubs, plants, and specific areas are considered a priority for *retention* and protection and will be left in an undisturbed condition unless the *applicant* demonstrates, to the satisfaction of the Department, that reasonable efforts have been made to protect them and the plan cannot be reasonably altered.
 - i. *Trees, shrubs, and plants in sensitive areas including the non-tidal 100-year floodplain, intermittent and perennial stream protection corridors, steep slopes, non-tidal wetlands, and critical habitats; and*
 - ii. *Contiguous forest that connects the largest undeveloped or most vegetated tracts of land within and adjacent to the site.*
 - (B) The following *trees*, shrubs, plants, and specific areas are considered a priority for *retention* and protection and will be left in an undisturbed condition unless the *applicant* demonstrates, to the satisfaction of the Planning Commission, that the *applicant* qualifies for a *waiver* in accordance with Article IV.
 - i. *Trees, shrubs, and plants that are determined to be rare, threatened, or endangered under:*
 - 1. *The Federal Endangered Species Act of 1973 in 16 U.S.C. §§1531—1544 and in 50 CFR 17;*
 - 2. *The Maryland Nongame and Endangered Species Conservation Act, Natural Resources Article, §§10-2A-01—10-2A-09, Annotated Code of Maryland; and*
 - 3. *COMAR 08.03.08*

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- ii. *Trees* that are associated with an *historic structure* or *site*, or *trees* that have been designated by the state or county as a national, state, or county *champion tree*; and
 - iii. Any *tree* having a diameter, measured at 4.5 feet above the ground, of:
 - 1. Thirty inches or more; or
 - 2. Seventy-five (75%) or more of the diameter, measured at 4.5 feet above the ground, of the current State *Champion tree* of that species as designated by the Department of Natural Resources.
- (C) The required *reforestation* or *afforestation* may be accomplished *on-site*, *off-site*, by contributing to a *forest bank* in the same *watershed* or by contributing to the Kent County *Reforestation Fund*. The preferred method of *afforestation* or *reforestation* is *on-site* or *forest banking*.
- (D) Whenever possible and appropriate, *afforestation* and *reforestation* will include native species.

3.5 ADDITIONAL STANDARDS FOR NON-TIDAL WETLANDS

A *regulated activity* is subject to the following requirements in AZD, RC, CR, V, IV, C, and EC:

- 1. For the purposes of delineation, permitting, and mitigation, areas determined to be *non-tidal wetlands* under COMAR 08.05.04 will be regulated under COMAR 08.05.04 or this ordinance, whichever is more stringent.
- 2. For the purposes of calculating *reforestation* mitigation under this Ordinance, a *forested non-tidal wetland* permitted to be *cut* or cleared and required to be mitigated under COMAR 08.05.04 will be shown on the *Forest Conservation Plan* and subtracted on an acre for acre basis from the total amount of *forest* to be *cut* or cleared as part of a *regulated activity*.
- 3. *Non-tidal wetlands* will be considered priority areas for *retention* and replacement.
- 4. *Forested non-tidal wetland* identification and delineation should be included at the earliest stage of planning to assist the *applicant* in avoidance and reduction of impacts to the *non-tidal wetlands* and to avoid delay in the approval process.

3.6 TYPES OF SUBMITTALS

- 1. *Declaration of Intent*
 - (A) A *person* seeking an *exemption* under this sub-section 7.3 will file a *Declaration of Intent* with the Department.
 - (B) A *Declaration of Intent* is effective for five years.
 - (C) The existence of a *Declaration of Intent* does not preclude:

- i. An exempted activity on a property subject to a *Declaration of Intent* if the activity: (1) Does not conflict with the purpose of any existing *Declaration of Intent*, and (2) Complies with the applicable requirements for an exempted activity.
 - ii. A *regulated activity* on the area covered by the *Declaration of Intent*. However, if the activity occurs within five years of the effective date of the *Declaration of Intent*: (1) There will be an immediate loss of *exemption*, or (2) There may be a non-compliance action take by the Department, as appropriate, under this Ordinance, or
 - iii. A *regulated activity* on that area of the property not covered under the *Declaration of Intent* if the requirements of this Ordinance are satisfied.
- 2. TWO TYPES of *Forest Stand Delineations*
 - (A) *Simplified Forest Stand Delineation*
 - i. A simplified *Forest Stand Delineation* (SFSD) may be submitted when *forest cover* is not disturbed during a construction activity and the area is under a long-term protective agreement.
 - ii. A simplified *Forest Stand Delineation* will be submitted at the time of concept *site plan* and concept *subdivision* review. A SFSD will be used to determine the most suitable and practical areas for conservation.
 - iii. The delineation will be prepared by a registered surveyor, licensed *forester*, licensed landscape *architect*, or other qualified professional who meets the requirements of COMAR 08.19.06.01B. A simplified *Forest Stand Delineation* will meet the requirements found in this Section. The Planning Director may permit the *Forest Stand Delineation* to be combined with the *site* or *subdivision* plan.
 - (B) *Forest Stand Delineation*
 - i. A *Forest Stand Delineation* (FSD) will be submitted at preliminary *site plan* or *subdivision* review, and before application for a *grading* or *sediment control permit* unless sub-section (A) above applies. A FSD will be submitted with the application for *minor site plan* or *minor subdivision* approval unless sub-section (A) above applies.
 - ii. The delineation will be prepared by a licensed *forester*, licensed landscape *architect* or other qualified professional who meets the requirements of COMAR 08.19.06.01B and will meet the requirements for a Forest Stand Delineation found in this Section.
 - iii. The delineation will be used to determine the most suitable and practical areas for *forest conservation*.
 - iv. An approved *Forest Stand Delineation* may remain in effect for a period not longer than 5 years.

3. TWO STAGES of *Forest Conservation Plans*

- (A) At the time of application for preliminary *subdivision* and *site plan* review, the *applicant* will submit a preliminary *Forest Conservation Plan*. The review of the *Forest Conservation Plan* will be concurrent with the review of the preliminary *subdivision* or *site plan*.
- (B) A final conservation plan will be submitted with:
 - i. Minor and final *subdivision* plan
 - ii. *Minor* and final *site plan*
 - iii. Application for a *grading* and *sediment control permit*
- (C) Both preliminary and final *Forest Conservation Plans* will be prepared by a licensed *forester*, licensed landscape *architect* or other qualified professional who meets the requirements of COMAR 08.19.06.01B. If *forest* is not going to be disturbed, a registered surveyor may prepare preliminary and final *Forest Conservation Plans*. Preliminary and final *Forest Conservation Plans* will meet the requirements of this Section.
- (D) The preliminary *Forest Conservation Plan* may be modified during the review process.
- (E) Where deemed appropriate by the Planning Director, the preliminary and final conservation plans may be incorporated into other plans and plats required by this Ordinance.
- (F) If existing *forest* on the *site* subject to a *Forest Conservation Plan* cannot be retained, the *applicant* will demonstrate to the satisfaction of the Department:
 - i. How techniques for *forest retention* have been exhausted;
 - ii. Why the priority *forests* and priority areas specified in the design standards of the zoning districts cannot be left in an undisturbed condition: (1) If priority *forests* and priority areas cannot be left undisturbed, how the sequence for *afforestation* or *reforestation* will be followed in compliance with Natural Resources Article, §5-1607, Annotated Code of Maryland; (2) Where on the *site* in priority areas, *afforestation* or *reforestation* will occur in compliance with Natural Resources Article, §5-1607, Annotated Code of Maryland; and (3) How the disturbance to the priority *forests* and priority areas specified in the design standards of the zoning districts qualifies for a *waiver*.
- (G) If the *applicant* proposes to make a payment into the local *forest conservation* fund instead of *afforestation* or *reforestation*, the *applicant* will demonstrate to the satisfaction of the Department that the requirements for *afforestation* or *reforestation on-site* or *off-site* cannot be reasonably accomplished

3.7 SUBMITTAL REQUIREMENTS

1. SIMPLIFIED FOREST STAND DELINEATION

A simplified *Forest Stand Delineation* will include:

- (A) Topographic map delineating *intermittent* and *perennial streams* and *steep slopes* over twenty-five percent (25%).
- (B) *Soils* map delineating *soils* with structural limitations, such as, *hydric soils*, or *soils* with a *soil K Value* greater than 0.35 on *slopes* of fifteen percent (15%), or more.
- (C) Location of 100-year *non-tidal floodplains*.
- (D) Property boundaries
- (E) Map showing existing *forest cover* verified by field inspection.
- (F) Other information that the Department determines is necessary to implement *forest conservation*.

2. FOREST STAND DELINEATION

A *Forest Stand Delineation* will include the following:

- (A) Stand summary sheets that include a summary of the data collected at individual sampling *sites* including the following:
 - i. Dominant species and *forest* association
 - ii. *Site* class of dominant *tree*
 - iii. Total number of *tree* species
 - iv. Number of *trees* per acre
 - v. Common *understory* species
 - vi. Forest structure rating
- (B) A Forest Stand Delineation Map
 - i. North arrow
 - ii. Property boundaries
 - iii. Perennial and intermittent streams and their required stream protection corridors
 - iv. Topography
 - v. *Soils*, highlighting *hydric* and *soils* with a *K Value* over 0.35 on *slopes* of fifteen percent (15%) or more.
 - vi. Current *forest* and *unforested* areas, including species, location, size of *trees* and showing dominant and co-dominant *forest* types

- vii. *Forest* stand locations
- viii. *Tree* lines extending *off-site*
- ix. Steep slopes
- x. Field sampling points
- xi. Prime agricultural *soils*
- xii. Critical habitats
- xiii. Adjacent land uses
- xiv. Cultural features
- xv. Historic *sites*
- xvi. Non-tidal 100-year floodplain
- xvii. Non-tidal wetlands
- xviii. Vicinity Map at a scale of 1:2000 which indicates major *roads*, land uses, and *forest cover* within one square mile of the *site*.

- (C) A written summary of *forest* stand conditions
 - i. Stand Condition: (1) Stand *structure* (dominant species and understory species); (2) *Forest structure*; (3) *Retention* potential; (4) Comments on evidence of past management
 - ii. Environmental Features: (1) *Non-tidal floodplains*; (2) *Hydric soils*; (3) *Non-tidal wetlands*; (4) *Stream protection corridors*; (5) Critical habitats; (6) *Steep slopes* and *soils* with a *K Value* which exceeds 0.35 on *slopes* of fifteen percent (15%) or more; (7) Cultural features; (8) Historic *sites*; (9) Adjacent land uses; (10) Specimen *trees* and *champion trees*
- (D) Other information may be required if the Department determines it is necessary to implement this Ordinance.

3. PRELIMINARY FOREST CONSERVATION PLAN

A preliminary *Forest Conservation Plan* will include the following:

- (A) The approved Forest Stand Delineation
- (B) A table listing:
 - i. Net tract area
 - ii. Area of forest conservation required
 - iii. Area of *forest conservation*, both on- and *off-site* provided by the *developer*
 - iv. Afforestation and reforestation plan
 - 1. Plat, drawn at the same scale as the preliminary plan which indicates:

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- 2. Areas designated for *forest retention*
 - 3. Areas designated for *reforestation*
 - 4. Areas designated for *afforestation*
 - 5. Limits of disturbance
 - 6. Stockpile areas
 - v. Construction schedule, showing the sequence of *forest conservation*
 - vi. Five-year maintenance agreement
 - vii. A narrative on how the requirements for *forest conservation* have been addressed
 - viii. Forest Conservation Worksheet
 - (C) Other information the Department determines is necessary to implement *forest conservation*.
4. FINAL FOREST CONSERVATION PLAN.
- A final *Forest Conservation Plan* will include the following:
- (A) The approved Forest Stand Delineation
 - (B) A Forest Conservation Worksheet. A worksheet and instructions for its completion may be found in the Forest Conservation Technical Manual.
 - (C) A Forest Conservation Map which clearly indicates the following:
 - i. *Forest retention* areas (with priority rating)
 - ii. Reforestation areas
 - iii. Afforestation areas
 - iv. Protective devices, including specifications
 - v. Limits of disturbance
 - vi. Stockpile areas
 - (D) Construction Schedule, including the sequence of *reforestation* areas, *afforestation* areas, maintenance and protective measures to be employed at the *site*.
 - (E) *Forest Protection Plan* that addresses:
 - i. Pre-construction activities including stress reduction and temporary and permanent protective devices.
 - ii. Future protection measures
 - (F) *Reforestation and Afforestation Plans*, which include:

- i. Narrative evaluation of sequential analysis of *reforestation* and *afforestation* methods.
 - ii. Planting plan which includes: (1) Summary of *site* assessment and preparation; (2) Target species for *reforestation*; (3) Plant materials table including plant material source, species, number of plants, size of plants. Methods found in the *Forest Conservation Technical Manual* will be used to determine species *selection* and *site* stocking.
- (G) Incorporate a binding 5-year maintenance agreement as specified in COMAR 08.19.05.01 which includes:
 - i. Watering, and
 - ii. A reinforcement planting provision if survival rates fall below required standards, as provided in the *Forest Conservation Technical Manual*, and
 - iii. Name and contact information for company or individual responsible for tree care.
- (H) Long term binding protective agreement, that:
 - i. Provides protection for areas of *forest conservation*, including areas of *afforestation*, *reforestation*, and *retention*, and
 - ii. Limits uses in areas of *forest conservation* to those uses designated and consistent with *forest conservation* including recreational activities and *forest management* practices used to preserve *forest*.
 - iii. A narrative on how the general provisions of *forest conservation* found in this Ordinance have been addressed.
- (I) Table listing:
 - i. Net tract area
 - ii. Area of forest conservation required
 - iii. Area of *forest conservation* provided both on and *off-site*
- (J) Other information that the Department determines is necessary to implement *forest conservation*.

3.8 FOREST CONSERVATION FUND

1. A *forest conservation* fund is established that meets the requirements of Natural Resources Article, §5-1610(h-1), Annotated Code of Maryland.
2. When the Department determines that the requirements for *reforestation* or *afforestation on-site* or *off-site* cannot be reasonably accomplished and credits generated by a *forest mitigation bank* in the same County or *watershed* are not available, the *applicant* will contribute money into the *forest conservation* fund.

- (A) For a project inside a *Priority Funding Area*, at a rate of 40.0 cents per square foot of the area of required planting with the amount adjusted by the Department of Natural Resources based on the previous year's inflation rate; and
 - (B) For a project outside a *Priority Funding Area*, at a rate of 50.0 cents per square foot of the area of required planting with the amount adjusted to be 20% higher than the rate set under item 2 (A) of this sub-section.
3. The money will be paid prior to final approval.
 4. Money deposited in the local *forest conservation* fund:
 - (A) May be spent on the costs directly related to *reforestation* and *afforestation*, including *site* identification, acquisition, preparation, and maintenance of existing *forests* and achieving urban *canopy* goals.
 - (B) Will be deposited in a separate *forest conservation* fund; and
 - (C) May not revert to the general fund
 5. The County will accomplish the *reforestation* or *afforestation* for the equivalent number of acres, or *forest* land acquisition for which the money is deposited within two years or three *growing seasons*, whichever is the greater time period after receipt of the money.
 6. *Reforestation*, *afforestation*, *forest easement* purchase, or *forest* land acquisition paid for by this fund will occur in Kent County or its municipalities and in the same *watershed* in which the project is located.
 7. If the *reforestation*, *afforestation*, *forest easement* purchase, or *forest* land acquisition cannot be reasonably accomplished in the same *watershed* in which the project is located, the *reforestation*, *afforestation*, *forest easement* purchase, or *forest* land acquisition will occur within the same county or *watershed* in the state in which the project is located.

3.9 FOREST PROTECTIVE DEVICES

1. Before *cutting*, *clearing*, *grading*, or construction begins on a *site*, the *applicant* will demonstrate to the Department that protective devices have been established.
2. Protective device standards are found in the *Forest Conservation Technical Manual*.

3.10 BONDS

1. A *person* required to conduct *afforestation* or *reforestation* will furnish financial security in the form of a bond, an irrevocable letter of credit, or other security approved by the County Commissioners of Kent County. The surety will:
 - (A) Assure that the *afforestation*, *reforestation*, and the associated *maintenance agreement* are conducted and maintained in accordance with the approved *Forest Conservation Plan*.

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- (B) Be in an amount that is 125% of the estimated cost of *reforestation* or *afforestation* as determined by the Department.
 - (C) Be in a form and content approved by the Department.
2. After two *growing seasons*, an *applicant* may request reduction of the amount of the bond or other financial security by submitting a written request to the Department with a justification for reducing the bond or other financial surety amount, including estimated or actual costs to ensure *afforestation* or *reforestation* requirements are met.
- (A) The Department will determine whether a lesser amount is sufficient to cover the cost of *afforestation* or *reforestation*, taking into account such factors as the number of acres, proposed method of *afforestation* or *reforestation*, cost of planting materials, and maintenance costs.
 - (B) If after four *growing seasons* the plantings associated with the *afforestation* or *reforestation* meet or exceed the standards of the Kent County *Forest Conservation Technical Manual*, the amount of the bond, letter of credit, surety bond, or other security will be returned or released.

3.11 STATE FUNDS

- 1. A local agency or *persons* using state funds making application to conduct a *regulated activity* will submit the *subdivision*, construction, *grading*, or *sediment control* plan to the Department who will notify the Department of Natural Resources within fifteen (15) days of receipt of the plan or project.
- 2. Within fifteen (15) days of receipt of notice from the Department, the Department of Natural Resources will:
 - (A) Determine whether the project has impact on significant *forest* resources; and
 - (B) Notify the Department whether the project is subject to the State Program.
- 3. If the Department of Natural Resources determines that the project is subject to the State program:
 - (A) The time limit for approval of the *Forest Stand Delineation* and preliminary and final *Forest Conservation Plan* will begin when the Department of Natural Resources receives the necessary documents from the Department;
 - (B) The Department may not approve a *subdivision* or *site plan* or issue the *grading* or *sediment control permit* until the Maryland Department of Natural Resources notifies the county that the standards and requirements of the State program have been satisfied.
- 4. If the Department of Natural Resources determines the project need not be reviewed under the state program, the time limit for approval of the *Forest Stand Delineation* and *Forest Conservation Plan* under the Kent County Plan begins when the Department receives notice from the Department of Natural Resources.

3.12 FOREST MITIGATION BANKS

1. Payment by credits from a *forest mitigation bank*
 - (A) When the Department determines that the requirements for *reforestation* or *afforestation on-site* or *off-site* cannot be reasonably accomplished, the *applicant* may contribute credits from a *forest mitigation bank*. A credit is required for each tenth of an acre of an area of required planting.
 - (B) The credits will be debited from an approved *forest mitigation bank* prior to final approval.
2. Establishing *forest mitigation banks*
 - (A) A *person* may create a *forest mitigation bank* from which *applicants* may purchase credits to meet the *afforestation* and *reforestation* requirements of this ordinance.
 - (B) The *forest mitigation bank* will:
 - i. *Afforest* or *reforest* an area of land in accordance with a *Forest Mitigation Bank Agreement*;
 - ii. Be protected by an *easement*, deed restrictions, or covenants which require the land in the bank to remain *forested* in perpetuity and are enforceable by the Department and the Department of Natural Resources;
 - iii. Limit the use of the land in the bank to those activities which are not inconsistent with *forest conservation* such as recreational activities, *forest management* under a *forest conservation* and management program under Tax Property Article, §8-211, Annotated Code of Maryland, or activities specified in a *forest management* plan prepared by a licensed *forester* and approved by the Department;
 - iv. Use native plant materials for *afforestation* or *reforestation* unless inappropriate; and
 - v. Cause *trees* to be planted which: (1) Establish or enhance *forested buffers* adjacent to *intermittent* and *perennial streams* and coastal bays to widths of at least 50 feet; (2) Establish or increase existing *forested* corridors, which, where practical, should be a minimum of 300 feet in width to facilitate wildlife movement, to connect existing *forests* within or adjacent to the *site*; (3) Establish or enhance *forest buffers* adjacent to *critical habitats* where appropriate; (4) Establish or enhance *forested* areas in 100-year *floodplains*; (5) Stabilize *slopes* of 25 percent or greater; (6) Stabilize *slopes* of 15 percent or greater with a *soil k value* greater than 0.35 including the *slopes* of ravines or other natural depressions; (7) Establish *buffers* adjacent to areas of differing land use where appropriate, or adjacent to highways or utility rights-of-way; or (8) Establish *forest* areas

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adjacent to existing *forests* to increase the overall area of contiguous *forest cover*, when appropriate.

- (C) A *person* proposing to create a *forest mitigation bank* will submit to the Department:
- i. A completed application on a form approved by the Department which has been signed by an authorized individual;
 - ii. *Forest mitigation bank plan* which contains a: (1) Vicinity map of the proposed mitigation bank *site*; (2) Simplified *forest stand delineation* that meets the requirements for such delineations in this Section; (3) Detailed *afforestation or reforestation* plan, which will include a timetable and description of the *site* and *soil* preparation needed, species, size, and spacing to be utilized, prepared by a licensed Maryland *forester*, a licensed landscape *architect*, or a qualified professional who meets the requirements stated in COMAR 08.19.06.01a; and (4) Proposed 2-year maintenance agreement that includes: (4a) Watering plans; (4b) Fertilizing plans; (4c) Control of competing vegetation; (4d) Protection from disease pest, and mechanical injury; (4e) Replanting provisions when survival fall below acceptable levels; (4f) Name of company or individual responsible for *tree* care
 - iii. Copy of the deed to the property;
 - iv. Survey or other legally sufficient description of the bank *site* for inclusion in the deeds of *easement*, deed restrictions, or covenants;
 - v. Title report or other assurance that: (1) The property is not encumbered by any covenants or other types of restrictions which would impair the property's use as a *forest mitigation bank*; and (2) There is legally sufficient access to the *forest mitigation bank site* which can be used by the Department and its assignees to inspect the *forest mitigation bank*; and
 - vi. Description of the system to be used by the *person* owning and operating the *forest mitigation bank* to identify and keep track of which portions of the bank have been debited to meet an *applicant's* offsite *afforestation or reforestation* requirements.
- (D) The owner of an approved *forest mitigation bank* will enter into an agreement with the Department which contains: i. The approved *reforestation or afforestation* plan; ii. The approved system for marking and tracking which portions of the bank have been debited; and iii. An acknowledgment that the bank may not debit any portion of the *afforested or reforested* land until two (2) years of successful growth has been achieved unless the banker has posted a bond or alternate form of security.

SECTION 4 EROSION & SEDIMENT CONTROL

4.1 STATEMENT OF INTENT

1. The purpose of this Ordinance is to protect, maintain, and enhance the public health, safety, and general welfare by establishing minimum requirements and procedures to control the *adverse impacts* associated with land disturbances. The goal is to minimize *soil erosion* and prevent *off-site sedimentation* by using *soil erosion and sediment control* practices designed in accordance with the Code of Maryland *Regulations* (COMAR) 26.17.01, the 2011 Maryland *Standards and Specifications* and the *Stormwater Management* Act of 2007. Implementing this Ordinance will help reduce the negative impacts of land *development* on water resources, maintain the chemical, physical, and biological integrity of streams, and minimize damage to public and private property.
2. The provisions of this Ordinance pursuant to Title 4, Environment Article, Subtitle 1, Annotated Code of Maryland will apply to all land *grading* occurring within Kent County. The application of this Ordinance and the provisions expressed herein will be the minimum *erosion and sediment control* requirements and will not be deemed a limitation or repeal of any other powers granted by State Statute.
3. No *person* will disturb land without implementing *soil erosion and sediment controls* in accordance with the requirements of this Ordinance and the *Standards and Specifications* except as provided within this Section.

4.2 APPLICABILITY

1. A permit will be obtained for any *grading, clearing, stripping*, excavating, filling of land, or *forest* harvesting. A permit will also be obtained for the creation of borrow pits, spoil areas, quarries, material processing facilities, or any other facilities.
2. A permit will not be required for the following, subject to compliance with the requirements of the Department of the Environment, relating to *sediment* control plans approved by the Kent *Soil* and Water Conservation District:
 - (A) Outside the Chesapeake Bay *Critical Area*, *agricultural land management* operating according to *best management practices* in Maryland.
 - (B) In the Chesapeake Bay *Critical Area*, *agricultural land management* operating according to an approved *soil* and water conservation plan approved by the Kent *Soil* and Water Conservation District. Landowners who have signed up as conservation district cooperators but do not have a conservation plan developed for them by the District will be exempt from the requirements of this Section, if *best management practices* are used.
 - (C) *Clearing or grading* of land, provided that:
 - i. The aggregate of area(s) affected or bared at any one time does not exceed five thousand (5,000) square feet; and

- ii. The *grading* does not involve a quantity of materials in excess of one hundred (100) cubic yards.
- (D) State and federal projects that are reviewed and enforced by the Maryland Department of the Environment.

4.3 PROCEDURES

A person making an application for a *Sediment Control Permit* will submit to the Department the following:

1. Application
2. One original and five copies of the *erosion and sediment control plan*, including specifications and timing schedules.
3. Fee
4. A bond, if required under this Section.

4.4 GENERAL REQUIREMENTS

1. Permits issued under this Section do not relieve the owner of responsibility for securing required permits for work to be done which is regulated by any other applicable code, act, or County ordinance. This Section will not preclude the inclusion in other permits of more stringent *regulations* or requirements concerning *sediment control*.
2. Standard *sediment control* plans and provisions may be approved for *single family dwellings* and other minor projects. A plan will be approved prior to the issuance of a *grading* or *building* permit.
3. The Kent *Soil* and Water Conservation District may prepare *sediment control* plans for agricultural projects such as barns, chicken houses, dairy operations or other agricultural *buildings*.
4. A copy of the current approved plan will be kept at the construction *site*.
5. Prior to the issuance of a *grading* permit, copies of the plan will be referred by the Department to the Kent *Soil* and Water Conservation District for approval. Where applicable, the Maryland Department of the Environment may also review any plans that may require a water resources permit. Where deemed necessary, the Maryland Department of the Environment may also serve Kent County and the Kent *Soil* and Water Conservation District as a technical authority in *erosion and sediment control*. The *Soil* and Water Conservation District will notify the Department of its recommendations and/or approval.
6. Major modifications of the approved *grading* plans will be submitted to the Department and reprocessed in the same manner as the original plan. Field modifications of a minor nature may be authorized by the Department provided that written authorization is given

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to the *applicant* performing work pursuant to this Section, with copies forwarded in a timely manner to the Kent *Soil* and Water Conservation District.

7. The permit and inspection fee will be paid to the Department and will be determined by the Department after consultation with the Kent *Soil* and Water Conservation District. The fee for a permit authorizing additional work will be the difference between the fee paid for the original permit and the fee required for the entire *sediment* control project.
8. If the land area for which the *grading* is proposed lies within the *floodway* of any stream or *watercourse*, the Department will deny a *sediment control permit*, unless such *grading* is authorized or permitted by the Maryland Department of the Environment in accordance with its rules and *regulations*.
9. In granting any permit pursuant to this Section, the Department may impose conditions that may be reasonably necessary to prevent the creation of a nuisance or unreasonable hazard to *persons* or to public or private property. Such conditions include but are not limited to:
 - (A) Improvement of any existing *grading* to meet the standards required under this Section for new *grading* and for *sediment* control.
 - (B) Designation of *easements* for drainage facilities and for the maintenance of *slopes*, *erosion* control facilities, and storm water management *structures* or devices.
 - (C) Adequate control of dust by watering or other control methods acceptable to the Department and in conformance with applicable air pollution ordinances.
10. The Department will have the right to deny issuance of a *grading* permit when the proposed *grading* would cause hazards adverse to the public safety and welfare.
11. For steep banks along the shorelines that are actively eroding and ten feet in height or more, the Department may elect not to issue a permit for the construction of a *dwelling* or any other substantial *building*.
12. *Sediment control permits* expire after three years unless construction of the project has begun.
13. Approved erosion and sediment control plans remain valid for three (3) years from the date of approval, except surface mines (e.g., sand and gravel pits) and landfill plans, which remain valid for five (5) years from the date of approval.
14. Following initial disturbance or re-disturbance, permanent or temporary *stabilization* on areas not under active *grading* will be completed within:
 - (A) Three calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter *slopes*, and all *slopes* greater than three horizontal to one vertical (3:1).
 - (B) Seven days as to other disturbed or *graded* areas on the project *site*.

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15. The *permittee* will fully perform and complete all of the work required to be done pursuant to the *grading* within the time limit specified in the *grading* permit. If an *applicant* is unable to complete the work in the specified time, the *applicant* will submit a written request for an extension to the Department that explains the need for the requested extension.
16. All permits issued for sand, gravel, or clay pits and rock quarries or any other mining or material processing operations involving *excavation* and/or stockpiling of *soil*, rock, or other materials will lapse one year after termination of active, productive (i.e. actually removing material whether at a profit or not and whether stockpiled or sold) and continuous operations as determined by the Department. Said permits will be reviewed by the Department for compliance in accordance with the approved *grading* plan.
17. Neither the issuance of a permit under the provisions of this Section nor the compliance with the provisions hereto or with any condition imposed by the Department will relieve any *person* from any responsibility for damage to *persons* and/or property.
18. During *grading* control operations the *permittee* will be responsible for the prevention of damage to any *public utilities* or services within the limits of *grading* and along any routes of travel of equipment. No *person* will *grade* on land so close to property lines as to endanger any adjoining public *street*, sidewalk, *alley*, or any other public or private property without supporting and protecting such property from settling, cracking, or other damage. *Grading* can occur on adjacent property if *grading* rights are secured from the property owner. Storm drains will terminate in an *acceptable outfall*. Kent County, Maryland will not be responsible for any drainage damage to downstream properties for failure of any work to be done pursuant to this Section.
19. No *soil*, miscellaneous debris, or other spilled or dumped material is to be deposited in *floodplains*, *watercourses*, public *streets*, highways, sidewalks, or other public thoroughfares during transit or operation.
20. The owner of any property on which *grading* or other work has been done under the provisions of this Section will maintain and/or promptly repair or restore all *graded* surfaces, *erosion* control measures, vegetative covers and/or other protective measures if disturbed or destroyed during the course of operations. Repair and restoration will be in conformance with the approved plans until permanent measures are accepted by the Department.

4.5 STEEP SLOPE REQUIREMENTS

1. *Development* may occur within steep *slope* areas provided that a minimum of 30% of the *lot* or parcel upon which the principal *structure* is to be situated is less than 10% *grade* and is contiguous to a road meeting Kent County design standards. The extent of *cutting* and filling that will be permitted on any *lot* will be based on the *soil* conditions at the *site* and as determined by the Department upon recommendation of the Kent *Soil* and Water Conservation District. Construction on piling and/or supports will be permitted.

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2. All *roads* and *streets* will be placed as close to the contour as possible, to minimize *cutting* and *filling*.
3. The construction of all *structures* will be preceded by the installation of storm drainage system(s) and *stabilization* measures.
4. In the case of a single *lot development* within such areas where no central storm drainage system exists, runoff from driveways, roofs, and other improved surfaces will be diverted and carried to an acceptable outlet by one or a combination of the following methods: filtration beds, subsurface dry wells, storm drainage systems and/or underground conduit systems or other adequate or protected outlets.

4.6 VEGETATIVE REQUIREMENTS

Vegetative *erosion and sediment control* measures will include, but not be limited to, the following:

1. Following initial *soil* disturbance or re-disturbance, permanent or temporary *stabilization* on areas not under active *grading* will be completed within:
 - (A) Three calendar days as to the surface of all perimeter dykes, swales, ditches, perimeter *slopes*, and all *slopes* greater than three to one (3:1).
 - (B) Seven days as to all other disturbed or *graded* areas on the project *site*.
2. All projects must comply with the provisions set forth in the *2011 Maryland Standards and Specifications for Erosion and Sediment Control*, and as may be amended.

https://mde.maryland.gov/programs/water/stormwatermanagementprogram/pages/es_c_standards.aspx

4.7 REVIEW AND APPROVAL OF EROSION AND SEDIMENT CONTROL PLANS

1. A *person* may not *grade* land without an *erosion and sediment control plan* approved by the *Kent Soil and Water Conservation District*.
2. The *Kent Soil and Water Conservation District* will review *erosion and sediment control plans* to determine compliance with this Ordinance and the *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control* prior to approval. In approving the plan, the *approving agency* may impose such conditions that may be deemed necessary to ensure compliance with the provisions of this Ordinance, COMAR 26.17.01, the *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control*, and the preservation of public health and safety.
3. At a minimum, a *concept plan* will include the mapping of natural resources and sensitive areas including *highly erodible soils* and *slopes* greater than 15% as well as information required under *Stormwater Management*. These areas are to remain undisturbed, or an explanation will be included with either the concept or *site development plan* describing enhanced protection strategies for these areas during construction.

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4. A *site development plan* submittal will include all *concept plan* information and indicate how proposed *erosion and sediment control* practices will be integrated with proposed *stormwater management* practices. The latter is to be done through a narrative and an overlay plan showing both *Environmental Site Design (ESD)* and *erosion and sediment control* practices. An initial sequence of construction and proposed project phasing to achieve the *grading unit* restriction should be submitted at this time.
5. An *applicant* will submit a *final erosion and sediment control plan* to the *approving agency* for review and approval. The plan will include all of the information required by the concept and *site development plans* as well as any information in Section 8.8 not already submitted.
6. A *final erosion and sediment control plan* will not be considered approved without the inclusion of the signature and date of signature of the *approving agency* on the plan.
7. Approved plans remain valid for three (3) years from the date of approval unless extended or renewed by the *approving agency*, except surface mines (e.g., sand and gravel pits) and landfill plans, which remain valid for five (5) years from the date of approval.

4.8 CONTENTS OF EROSION AND SEDIMENT CONTROL PLANS

1. An *applicant* is responsible for submitting *erosion and sediment control plans* that meet the requirements of the *approving agency*, this Section, *Stormwater Management*, and the *Standards and Specifications*. The plans will include sufficient information to evaluate the environmental characteristics of the affected areas, the potential impacts of the proposed *grading* on water resources, and the effectiveness and acceptability of measures proposed to minimize *soil erosion* and *off-site sedimentation*.
2. At a minimum, *applicants* will submit the following information:
 - (A) A letter of transmittal and/or application;
 - (B) Name, address, and telephone number of:
 - i. The owner of the property where the *grading* is proposed;
 - ii. The *developer*; and
 - iii. The *applicant*;
 - (C) A vicinity map indicating north arrow, scale, *site* location, and other information necessary to easily locate the property;
 - (D) *Drainage area* map(s) at a 1" = 200' minimum scale showing existing, interim, and proposed *topography*, proposed improvements, standard symbols for proposed *sediment* control features, and pertinent drainage information including provisions to protect downstream areas from *erosion* for a minimum of 200 feet downstream or to the next conveyance system;
 - (E) The location of natural resources, *wetlands*, *floodplains*, *highly erodible soils*, *slopes* 15% and steeper, and any other sensitive areas;

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- (F) A general description of the predominant *soil* types on the *site*, as described by the appropriate *soil* survey information available through the local *soil* conservation district or the USDA Natural Resources *Soil* Conservation Service;
- (G) Proposed *stormwater management* practices;
- (H) *Erosion and sediment control plans* including:
 - i. The existing *topography* and improvements as well as proposed *topography* and improvements at a scale between 1" = 10' and 1" = 50' with 2-foot contours or another approved contour interval. For projects with more than minor *grading*, interim contours may also be required;
 - ii. Scale, project and sheet title, and north arrow on each plan sheet;
 - iii. The limit of disturbance (LOD) including: (1) Limit of *grading* (*grading units*, if applicable); and (2) Initial, interim, and final phases;
 - iv. The proposed *grading* and earth disturbance including: (1) Total disturbed area; (2) Volume of *cut* and fill quantities; and (3) Volume of borrow and spoil quantities;
 - v. Storm drainage features, including: (1) Existing and proposed bridges, storm drains, culverts, outfalls, etc.; (2) Velocities and peak flow rates at outfalls for the two-year and ten-year frequency storm events; and (3) *Site* conditions around points of all surface water discharge from the *site*;
 - vi. *Erosion and sediment control* practices to minimize *on-site erosion* and prevent *off-site sedimentation* including: (1) The salvage and reuse of *topsoil*; (2) Phased construction and implementation of *grading unit*(s) to minimize disturbances, both in extent and duration; (3) Location and type of all proposed *sediment control* practices; (4) Design details and data for all *erosion and sediment control* practices; and (5) Specifications for temporary and permanent *stabilization* measures including, at a minimum: (5a) The "Standard *Stabilization Note*" on the plan stating: (5a-1) "Following initial *soil* disturbance or re-disturbance, permanent or temporary *stabilization* will be completed within: (5a-2) Three calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter *slopes*, and all *slopes* steeper than 3 horizontal to 1 vertical (3:1); and (5a-3) Seven calendar days as to all other disturbed or *graded* areas on the project *site* not under active *grading*." (5b) Details for areas requiring accelerated *stabilization*; and (5c) Maintenance requirements as defined in the *Standards and Specifications*;
 - vii. A *sequence* of construction describing the relationship between the implementation and maintenance of controls, including permanent and temporary *stabilization*, and the various stages or phases of earth disturbance and construction. Any changes or revisions to the sequence of construction will be approved by the *approving agency* prior to proceeding

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with construction. The sequence of construction, at a minimum, will include the following: (1) Request for a pre-construction meeting with the appropriate enforcement authority; (2) *Clearing* and grubbing as necessary for the installation of perimeter controls; (3) Construction and *stabilization* of perimeter controls; (4) Remaining *clearing* and grubbing within installed perimeter controls; (5) Road *grading*; (6) *Grading* for the remainder of the *site*; (7) Utility installation and connections to existing *structures*; (8) Construction of *buildings, roads*, and other construction; (9) Final *grading, landscaping, and stabilization*; (10) Installation of *stormwater management* measures; (11) Approval of the appropriate enforcement authority prior to removal of *sediment* controls; and (12) Removal of controls and *stabilization* of areas that are disturbed by removal of *sediment* controls.

- viii. A statement requiring the owner/*developer* or representative to contact the *inspection agency* or its agent at the following stages of the project or in accordance with the approved *erosion and sediment control plan, grading* permit, or *building* permit: (1) Prior to the start of earth disturbance; (2) Upon completion of the installation of perimeter *erosion and sediment controls*, but before proceeding with any other earth disturbance or *grading*; (3) Prior to the start of another phase of construction or opening of another *grading unit*; and (4) Prior to the removal of *sediment* control practices;
 - ix. *Certification* by the owner/*developer* that any *clearing, grading, construction, or development* will be done pursuant to the approved *erosion and sediment control plan*. The *certification* will also require that the *responsible personnel* involved in the construction project have a Certificate of Training at an MDE approved training program for the control of *erosion and sediment* prior to beginning the project. The Certificate of Training for *Responsible Personnel* may be waived by the *approving agency* on any project involving four or fewer residential *lots*. Additionally, the owner/*developer* will allow right of entry for periodic *on-site* evaluation by the *approving agency, Department, the inspection agency, and/or MDE*; and
 - x. *Certification* by a professional *engineer, land surveyor, landscape architect, architect, or forester* (for *forest* harvest operations only) registered in the State that the plans have been designed in accordance with *erosion and sediment control laws, regulations, and standards*, if required by the *approving agency* or the Maryland Water Management Administration.
- (I) Any additional information or data deemed appropriate by the *approving agency*.
3. All plans will conform to the following terms and conditions:

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- (A) The *development* will be fitted to the *topography* and *soils* so as to create the least *erosion* potential.
- (B) *Natural vegetation* will be retained and protected wherever possible.
- (C) Only the smallest practical area will be exposed for the shortest practical period of time.
- (D) *Erosion* control practices (such as interceptor ditches, *berms*, terraces, contour ripping, *soil erosion* checks and *sediment* basins) will be installed to minimize *soil* and water losses.
- (E) Temporary vegetation and/or mulching will be used to protect *critical areas* exposed during the time of *development*.
- (F) During and after *development*, provisions will be made to effectively accommodate the increased runoff caused by changeable *soil* and surface conditions and not cause siltation, destruction, or deterioration of the receiving stream.
- (G) Permanent vegetation and *structures* will be installed in the *development* as soon as the season permits.

4.9 SECURITIES

1. A *grading* permit will not be issued for *grading* involving the movement of more than 1,000 cubic *yards* of *soils* unless the *permittee* will post with the Department a performance bond, letter of credit or other surety. The bond, irrevocable letter of credit or other surety will be in a form approved by the County Attorney and in an amount not less than the total estimated cost of the *erosion* control and *stabilization* of the *site*. Said estimated cost will be that which is approved by the Department or in consultation with the Kent *Soil* and Water Conservation District after reviewing the cost estimates proposed by the *applicant's* acceptable *engineer*, *land surveyor*, or *architect* and submitted with the *grading* permit application.
2. The bond, irrevocable letter of credit or other surety will include the following provisions:
 - (A) The *applicant* will comply with all of the provisions of this Ordinance and all other applicable laws and ordinances.
 - (B) The *applicant* will comply with all of the terms and conditions of the *grading* permit.
 - (C) Any extension of completion time under this Section will not release the *applicant* or surety on the bond, irrevocable letter of credit, or other surety.
 - (D) Upon default, the *applicant* and surety will continue to be *firmly* bound under a continuing obligation for payment of one of the following at the election of the surety:

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- i. All costs and expenses necessary to complete the work in accordance with the approved plans and specifications (or any approved modification thereof).
 - ii. All necessary costs and expenses or liabilities which may be incurred to stabilize in accordance with a *stabilization* plan for *erosion* control presented by the surety and approved by Kent County.
 - iii. Payment of the full amount of the bond to Kent County to perform the work necessary. If the cost for restoration of the *site* to meet the minimum requirements of this Section (with particular emphases on stability, safety, drainage, and *erosion* control) exceeds the amount of the bond, the *permittee* will continue to be *firmly* bound under a continuing obligation for payment of all excess cost and expenses incurred by the county.
3. The bond, irrevocable letter of credit or other surety will remain in full force and effect until the completion of the work to the specifications required. If all work of the permit is not completed within the time specified therein, or as otherwise provided for in this Section or violates any other term or condition, payment in full to Kent County may be ordered. The funds so received will be used by the County to defray the cost of restoration of the *site*. Upon approval of a certificate of completion, the bond, irrevocable letter of credit or other surety will be released.

4.10 HAZARDOUS CONDITIONS

1. If the Department determines that an *excavation*, *embankment*, or a *fill* endangers or adversely affects the safety or stability of any public or private property, as determined from the guidelines of this Ordinance, the Planning Director, or the Planning Director's designee, will promptly notify in writing the owner (or other *persons* in control) of the property upon which the condition exists.
2. If the correction is not commenced in accordance with the provisions of the Ordinance within the period of time specified in the notice, the owners (or other *persons* in control) will be subject to the penalties set forth in this Land Use Ordinance.

4.11 INSPECTIONS

1. All work will be inspected by the Department according to the following schedule.
 - (A) *Clearing* and grubbing for those areas necessary for installation of perimeter controls.
 - (B) Completion of perimeter controls.
 - (C) Remaining *clearing* and grubbing.
 - (D) Road *grading*
 - (E) *Grading* for remainder of the *site*.

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- (F) Utility and storm drain installation.
 - (G) Final *grading*, landscaping, or *stabilization*.
 - (H) Removal of controls and maintenance.
 - (I) At other times determined by the Department.
 - (J) Every two weeks, for compliance with approved *sediment* control plans.
2. It will be a condition of every *grading* or *building* permit that the *inspection agency* has the right to enter the property periodically to inspect for compliance with the approved *erosion and sediment control plan* and this Ordinance.
3. Inspection Procedure. Work approved will not proceed until the Department inspects the *site* and approves the work previously completed or notifies the *permittee* otherwise. Upon notification from the *permittee*, the Department will inspect the *site* and notify the *permittee* of its approval or rejection within forty-eight (48) hours (exclusive of Saturdays, Sundays, and Holidays). If the inspector does not make an inspection within the specified time period, work may proceed without presumption of approval at the risk of the *permittee*. The Department will have the right to waive inspections except final inspection as necessary.
4. Inspection Reports.
- (A) Written reports: Structural *erosion and sediment control* measures will include, but not be limited to, those described and depicted in the booklet entitled “*Standards and Specifications for Soil Erosion Control*” as approved by the Maryland Department of the Environment. This booklet, as currently amended, is readily available at offices of the Department, 400 High Street, Chestertown, Maryland; Kent Soil and Water Conservation District, Chestertown, Maryland; Natural Resources Conservation Service, Chestertown, Maryland; and the Maryland Department of the Environment.
 - (B) Written inspection reports will be completed by the inspector for all inspections. The reports will include, at minimum: (1) Date and location of *site* inspection; (2) Degree of plan implementation; (3) Deficiencies of plan or practice; (4) Enforcement action taken, if any; (5) A time frame for corrective measures
5. When required by the Department, inspections and testing will be performed under the direction of an *engineer*, *land surveyor* or *architect* who will certify all inspection reports and tests results. Such reports will include *certification* by an *engineer* for the adequacy of:
- (A) Cleared areas and benched or keyed surfaces prepared to receive fills.
 - (B) Removal of unsuitable materials.
 - (C) Construction of *erosion* control or drainage devices, buttress fills, under-drains, retaining walls, and other *grading* appurtenances.

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- (D) The degree of *compaction* where tests are performed.
- 6. All certified inspection reports and certified test results will be periodically submitted to the Department, during the performance of the work.
- 7. Final Reports. The Department will maintain permanent files on their respective inspections. Upon completion of permitted work, the Department will require the following for these files and will also require copies for the *Kent Soil* and Water Conservation District.
 - (A) An as-built original plan by a *land surveyor* or *engineer* and showing all improvements and final *grades* with red line *alterations* allowed.
 - (B) *Certification* by the owner that all *grading*, drainage, *erosion* control measures, and facilities and vegetative measures have been completed in conformance with the approved plans and specifications.
 - (C) A report summarizing the inspection reports, field and laboratory tests and locations of tests.
- 8. Final Inspection Request. The *permittee* or the *permittee's* agent will notify the Department when the *grading* operation is ready for final inspection. Final approval will be given in a timely manner when all work (including installation of all drainage *structures* and *erosion* protective devices) has been completed as well as the required vegetative *stabilization* and the required reports have been submitted.
- 9. The Department may also require signed and sealed drawings from a professional land surveyor or engineer, certifying that the requirements above have been satisfied. The Department may also engage third-party professionals to review the drawings to ensure compliance with the regulations in this Section, the Land Use Ordinance in general, and any applicable federal, State, or other laws, rules, and regulations. The costs for any third-party professionals will be paid by the applicant or property owner of record.

SECTION 5 STORMWATER MANAGEMENT

5.1 STATEMENT OF INTENT

The purpose of this ordinance is to protect, maintain and enhance the public health, safety and general welfare by establishing minimum requirements and procedures to control the *adverse impacts* associated with increased *stormwater* runoff. The goal is to manage *stormwater* by using *environmental site design (ESD)* to the *maximum extent practicable (MEP)* to maintain after *development* as nearly as possible, the *predevelopment* runoff characteristics, and to reduce stream *channel erosion*, pollution, siltation, and *sedimentation*, and local *flooding*, and use appropriate structural *best management practices (BMP)* only when necessary. This will restore, enhance, and maintain the chemical, physical, and biological integrity of streams, minimize damage to public and private property and reduce the impacts of land *development*.

5.2 AUTHORITY; EXPLANATION OF PROVISIONS

The provisions of this ordinance pursuant to the Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland, 2009-replacement volume, are adopted under the Code of Public Local Laws of Kent County and will apply to all *development* or *redevelopment* occurring within the unincorporated area of Kent County. The application of this ordinance and the provisions expressed herein will be the minimum *stormwater management* requirements and will not be deemed a limitation or repeal of any other powers granted by state statute. The County will be responsible for the coordination and enforcement of the provisions of this Ordinance. Any *development* that has not received final approval for *erosion and sediment control* and *stormwater management plans* by May 4, 2010, will comply with the 2010 revised Ordinance, unless the *development* or *redevelopment* is granted an administrative *waiver* under this Section.

5.3 INCORPORATION BY REFERENCE

1. The 2000 Maryland *Stormwater Design Manual*, Volumes I & II (Maryland Department of the Environment, April 2000 and as may be amended), will be incorporated by reference and will serve as the official guide for *stormwater management* principles, methods, and practices.
2. The USDA Natural Resources Conservation Service Maryland Conservation Practice Standard Pond Code 378 (January 2000 and as may be amended) will be incorporated by reference.

5.4 LEGACY APPROVAL

1. DEFINITIONS APPLICABLE TO LEGACY APPROVALS. For the purpose of determining the legacy approval of *development stormwater management plans* as set forth in this Section certain words are hereby defined.
 - (A) *Administrative Waiver*: A decision by Kent County pursuant to this Ordinance to allow the construction of a *development* to be governed by the *stormwater*

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management ordinance in effect as of May 4, 2009. An administrative *waiver* is distinct from a *waiver* granted pursuant to Article IV Processes.

- (B) Approval: A documented action by Kent County following a review to determine and acknowledge the sufficiency of submitted material to met the requirements of a specified stage in a local *development* review process. Approval does not mean acknowledgment by Kent County that material has been received for review.
 - (C) Final Project Approval: Approval of the *final stormwater management plan* and *erosion and sediment control plan* required to construct a project's *stormwater management* facilities. Final approval also includes securing the bonding or financing for final *development* plans if required as a prerequisite for approval.
 - (D) Preliminary Project Approval: Approval of the preliminary *development* plan that includes at a minimum:
 - i. The number of planned *dwelling units* or *lots*
 - ii. The proposed project *density*
 - iii. The proposed size and location of all land uses for the project
 - iv. A plan that identifies: (1) The proposed drainage patterns; (2) The location of all points of discharge from the *site*; and (3) The type, location, and size of all *stormwater management* measures based on *site-specific stormwater management* requirement computations.
 - v. Any other information required by Kent County including but not limited to: (1) The proposed alignment, location and construction type and standard for all *roads*, access ways, and areas of vehicular traffic; (2) A demonstration that the methods by which the *development* will be supplied with water and wastewater services are adequate; and (3) The size, type, and general location of all proposed wastewater and water system *infrastructure*.
2. ADMINISTRATIVE WAIVERS. Kent County may grant an administrative *waiver* to a *development* that received a preliminary project approval prior to May 4, 2010. Administrative *waivers* expire according to this Section and may be extended. Kent County may impose such conditions upon the approval of an administrative *waiver* deemed necessary to secure compliance with the spirit and intent of this Ordinance.
3. EXPIRATION OF ADMINISTRATIVE WAIVERS. Except as provided for in this Section, an administrative *waiver* will expire on May 4, 2013, if the *development* does not receive final project approval prior to May 4, 2013, or May 4, 2017, if the *development* receives final approval prior to May 4, 2013. All construction authorized pursuant to an administrative *waiver* will be completed by May 4, 2017, unless otherwise extended. Administrative *waivers* which receive an extension will expire according to the requirements of this Section.

4. EXTENSION OF ADMINISTRATIVE WAIVERS

- (A) In order to grant an extension to an administrative *waiver*, Kent County will find the following: (1) the project received preliminary project approval prior to May 4, 2010; and (2) the project was subject to a *Development* Rights and Responsibilities Agreement, a Tax Increment Financing Approval, or an annexation agreement.
- (B) Administrative *waivers* which receive an extension will expire with the expiration of the *Developers* Rights and Responsibilities Agreement, the Tax Increment Financing approval or the Annexation agreement.

5.5 SCOPE

No *person* will develop any land for residential, commercial, industrial, or institutional uses or redevelop land without having provided for appropriate *stormwater management* measures that control or manage runoff from such *developments*, except as provided in this section. *Stormwater management* measures will be designed consistent with the *Design Manual* and constructed according to an approved plan for new *development* or polices stated in Section 9.7 below for *redevelopment*.

5.6 EXEMPTIONS

The following *development activities* are exempt from the provisions of this Section and the requirements of providing *stormwater management*:

- 1. Normally accepted *agricultural land management* activities and *BMPs*, (i.e. *waterways*, ponds, etc.)
- 2. Additions or modifications to existing single *family* detached residential *structures* provided that these additions or modifications do not disturb over 5,000 square feet of land.
- 3. *Developments* that do not disturb over 5,000 square feet of land.
- 4. Land *development activities* that the Maryland Department of the Environment determines will be regulated under specific state laws, which provide for managing *stormwater* runoff.

5.7 REDEVELOPMENT

This Section applies to any construction, *alteration*, or improvement performed on *sites* where existing land use is commercial, industrial, institutional, or multi-*family* residential and existing *site* impervious area exceeds forty (40) percent.

- 1. *Stormwater management plans* are required by Kent County for all *redevelopment*, unless otherwise specified by *watershed* management plans developed according to this Ordinance. *Stormwater management* measures will be consistent with the *Design Manual*.

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2. All *redevelopment* designs will:
 - (A) Reduce *impervious surface* area within the limit of disturbance (LOD) by at least 50% according to the *Design Manual*;
 - (B) Implement *ESD* to *MEP* to provide water quality treatment for at least 50% of the existing *impervious surface* area within the limit of disturbance; or
 - (C) Use a combination of 9.7 2a and 2b of this Ordinance for at least 50% of the existing *site* impervious area.
3. Alternative *stormwater management* measures may be used to meet the requirements of this Section, if the *applicant* satisfactorily demonstrates to the County that impervious area reduction has been maximized and *ESD* has been implemented to the *MEP*. Alternative *stormwater management* measures include, but are not limited to:
 - (A) An *on-site* structural *BMP*;
 - (B) An *off-site BMP* to provide water quality treatment for an area equal to or greater than 50% of the existing impervious area; or
 - (C) A combination of impervious area reduction, environmental *site* design implementation, and an *on-site* or *off-site* structural Best Management Practice for an area equal to or greater than 50% of the existing *site impervious surface* area within the limit of disturbance.
4. Kent County may develop separate policies for providing water quality treatment for *redevelopment* projects if the requirements of this sub-section cannot be met. Any separate *redevelopment* policy will be reviewed and approved by the Maryland Department of the Environment and may include but not be limited to:
 - (A) A combination of *ESD* and an *on-site* or *offsite* structural *BMP*;
 - (B) *Retrofitting* including existing *BMP* upgrades, filtering practices and *offsite ESD* implementation;
 - (C) Stream restoration in the same 12-digit *watershed* as the proposed *development* and an area restored equivalent to the area required for treatment.
 - (D) Pollution trading with another entity.
 - (E) Payment of a fee in lieu; or
 - (F) A partial *waiver* of the treatment requirements if *ESD* is not practicable.
5. The determination of alternatives available may be made by Kent County at the appropriate stage in the *development* review process. Kent County will consider the prioritization of alternatives in this Section, after it has been determined that it is not practicable to meet the 2009 regulatory requirements using *ESD*. In deciding the alternatives that may be required, Kent County may consider factors including but not limited to the following:

- (A) Whether the project is in an area targeted for *development* incentives such as a *Priority Funding Area*;
 - (B) Whether the project is necessary to accommodate growth consistent with the *Comprehensive Plan*; or
 - (C) Whether bonding or other financing mechanisms have been secured based on an approved *development* plan.
6. *Stormwater management* will be addressed according to the new *development* requirements in the *Design Manual* for any net increase in impervious areas.

5.8 STORMWATER MINIMUM CONTROL STANDARDS

Stormwater management will be accomplished for all new *development* according to the minimum requirements established in this Section and the *Design Manual* as follows:

1. All *planning techniques*, nonstructural practices, and design methods specified in the *Design Manual* will be used to implement *ESD* to the *MEP*. The use of *environmental site design planning techniques* and treatment practices will be exhausted before any structural *BMP* is implemented. *Stormwater management plans* for *development* projects subject to this Ordinance will be designed using *ESD* sizing criteria, *recharge volume*, *water quality volume*, and *channel protection storage volume* criteria according to the *Design Manual*. The *MEP* standard is met when *channel* stability is maintained, *predevelopment* groundwater recharge is replicated, nonpoint source pollution is minimized, and structural *stormwater management* practices are used only if determined to be absolutely necessary.
2. Control of the 10-year frequency storm event is required according to the *Design Manual* if the County determines that additional *stormwater management* is necessary because historical *flooding* problems exist and downstream *floodplain development* and conveyance system design cannot be controlled.
3. Kent County may require more than the minimum control requirements specified in this Ordinance if hydrologic or topographic conditions warrant or if *flooding*, stream *channel erosion*, or water quality problems exist downstream from a proposed project.
4. Alternate minimum control requirements may be adopted subject to approval by the Maryland Department of the Environment. The Maryland Department of the Environment will require a demonstration that alternative requirements will implement *ESD* to the *MEP* and control *flood* damages, accelerated stream *erosion*, water quality and *sedimentation*. Comprehensive *watershed* studies may also be required.
5. *Stormwater management* and *development* plans where applicable, will be consistent with adopted and approved *watershed* management plans or *flood* management plans as approved by the Maryland Department of the Environment in accordance with the *Flood Hazard Management Act* of 1976.

5.9 STORMWATER MANAGEMENT MEASURES

The ESD *planning techniques* and practices and structural *stormwater management* measures established in this Ordinance and the *Design Manual* will be used, either alone or in combination in a *stormwater management plan*. The *applicant* will demonstrate that ESD has been implemented to the MEP before the use of a structural Best Management Plan is considered in developing the *stormwater management plan*.

1. ENVIRONMENTAL SITE DESIGN TECHNIQUES AND PRACTICES

- (A) The following *planning techniques* will be applied according to the *Design Manual* to satisfy the applicable minimum control requirements established in SECTION 5.8:
 - i. Preserving and protecting natural resources
 - ii. Conserving natural drainage patterns
 - iii. Minimizing impervious areas
 - iv. Reducing runoff volume
 - v. Using ESD practices to maintain 100% of the annual *predevelopment* groundwater *recharge volume*.
- (B) The following ESD practices will be designed according to the *Design Manual* to satisfy the applicable minimum control requirements established in SECTION 5.8.
 - i. Disconnection of rooftop runoff
 - ii. Disconnection of non-rooftop runoff
 - iii. Sheet flow to conservation areas
 - iv. Rainwater harvesting, including rain barrels, rainwater tanks, and cisterns.
 - v. Submerged gravel *wetlands*
 - vi. Landscape *infiltration*
 - vii. *Infiltration berms*
 - viii. Dry wells
 - ix. Micro-bioretenion
 - x. Rain gardens
 - xi. Swales
 - xii. Enhanced Filters
 - xiii. Any practice approved by the Maryland Department of Environment

- (C) The use of *ESD planning techniques* and treatment practices specified in this Section will not conflict with existing State law or local ordinances, *regulations*, or policies. The County will modify ordinances and codes to eliminate any impediments to implementing *ESD* to the *MEP* according to the *Design Manual*.
2. STRUCTURAL STORMWATER MANAGEMENT MEASURES
- (A) The following structural *stormwater management* practices will be designed according to the *Design Manual* to satisfy the applicable minimum control requirements established SECTION 5.8:
 - i. *Stormwater management ponds*
 - ii. *Stormwater management wetlands*
 - iii. *Stormwater management infiltration*
 - iv. *Stormwater management filtering systems*
 - v. *Stormwater management open channel systems*
 - (B) When selecting structural *stormwater management* practices, the *applicant* will consider the performance criteria specified in the *Design Manual* with regard to general feasibility, conveyance, *pretreatment*, treatment and geometry, environment and landscaping, and maintenance.
 - (C) Structural *stormwater management* practices will be selected to accommodate the unique hydrologic or geologic regions of the State.
3. ALTERNATIVE PRACTICES AND MEASURES. Alternative *ESD planning techniques* and treatment practices and structural *stormwater* measures may be used for new *development* runoff control if the practices and measures meet the performance criteria in the *Design Manual* and all subsequent revisions and are approved by the Maryland Department of Environment. Practices used for *redevelopment* projects will be approved by the County.
4. RECORDATION OF PRACTICES AND MEASURES. *ESD* techniques and treatment practices and structural *stormwater management* measures used to satisfy the minimum requirements in SECTION 5.8 will be recorded in the land records of Kent County and remain unaltered by subsequent property owners. Prior approval from the County will be obtained before any *stormwater management* practice is altered.
5. MODIFICATION. For purposes of modifying the minimum control requirements or design criteria, the *applicant* will submit an analysis to the County of the impacts of *stormwater* flows downstream in the *watershed*. The analysis will include hydrologic and hydraulic calculations necessary to determine the impact of hydrographic timing modifications of the proposed *development* upon a dam, highway, *structure*, or natural point of restricted stream flow. The point of investigation will be established with the concurrence of the County downstream of the first downstream tributary whose *drainage area* equals or exceeds the contributing area to the project or *stormwater management* facility.

5.10 SPECIFIC DESIGN CRITERIA

The basic design criteria, methodologies, and construction specifications, subject to the approval of Kent County and the Maryland Department of Environment will be those of the *Design Manual*.

5.11 STORMWATER MANAGEMENT PLANS - REVIEW AND APPROVAL

1. For any proposed *development* a phased *stormwater management plan* will be submitted to the County for review and approval. Unless otherwise determined by the County, plans will be submitted for the concept, *site* design, and final *stormwater management* construction. When deemed appropriate by the County due to minor cumulative impacts of the *development* and when the *applicant* has demonstrated that *ESD* standards have been met to the *MEP*, the *site* design and final *stormwater management* construction may be combined. *Site plans*, *subdivisions*, and *building* permits with a total proposed *lot* coverage of 15% and total land disturbance less than 20,000 square feet may combine all review phases when the *applicant* has demonstrated that *ESD* standards have been met to the *MEP* using the Standard Plan. *Sites Plans* and *building* permits that meet the criteria outlined on the Standard *Stormwater Plan* may utilize the Standard *Stormwater Management Plan*.
2. Conceptual *stormwater management plans* should be submitted with conceptual *site* or *subdivision* plans and will include sufficient information for an initial assessment of the proposed project and proposed *stormwater*. The concept review process will review at a conceptual level, the feasibility, design and environmental characteristics of the proposal with a goal to ensure that significant natural areas are protected and to determine if *stormwater management* can be provided according the *Stormwater Management Measures* identified in SECTION 5.9.
3. Following conceptual approval and where applicable in conjunction with the preliminary *site* or *subdivision* plan, the *applicant* will submit a *site development plan*. The *site development plan* will include detailed designs for *stormwater management* and *erosion and sediment control*. The *site development plan* process will review the plan to ensure that all options for implementing *ESD* have been exhausted and comments received during conceptual review have been incorporated into the *site development plan*.
4. Following *site development plan* approval and where applicable in conjunction with the final *site* or *subdivision* plan and the *sediment* and *erosion* control plan, the *applicant* will submit a *final stormwater management plan*. The *final stormwater management plan* will include *stormwater* construction drawings accompanied by a report that includes sufficient information to evaluate the effectiveness of the proposed runoff control design. The final *stormwater* plan process will review the plan and supporting documents for compliance with all applicable *regulations* and to ensure that when structural practices are used, all reasonable options for implementing *ESD* have been exhausted.
5. The County will perform a comprehensive review of the *stormwater management plans* for each phase of the *site* design. Coordinated comments will be provided for each plan phase that reflects input from all appropriate agencies including but not limited to the

Kent Soil and Water Conservation District, the Department of Planning, Housing, and Zoning, and the Department of Public Works. All comments will be addressed and reflected in the next phase of project design.

6. The *stormwater management plan* will not be considered approved without the inclusion of the signature and date of the signature of the Kent County designee for approval of *stormwater management plans*.

5.12 CONTENTS OF STORMWATER MANAGEMENT PLANS

1. *CONCEPT PLAN*. A concept *stormwater management plan* will include:
 - (A) Scale of 1 inch = 100 feet or greater detail
 - (B) Vicinity map with *site* location clearly marked
 - (C) North arrow
 - (D) Existing *natural features*, water and other sensitive resources
 - (E) *Topography*
 - (F) Natural drainage patterns
 - (G) Anticipated location of all proposed impervious areas, *buildings*, *roadways*, parking, sidewalks, utilities, and other *site* improvements
 - (H) Location of the proposed limit of disturbance, erodible *soils*, *steep slopes*, and areas to be protected during construction
 - (I) Preliminary estimates of *stormwater management* requirements, the *selection* and location of *ESD* practices to be used, and the location of all points of discharge from the *site*
 - (J) A narrative that supports the concept design and describes how *ESD* will be implemented to the *MEP*
 - (K) Any other information required by the County
2. *SITE DEVELOPMENT PLAN*. A *site development plan* will include:
 - (A) Scale of 1 inch = 100 feet or greater detail
 - (B) Vicinity map with *site* location clearly marked
 - (C) North arrow
 - (D) All the information provided in the concept *stormwater management plan*
 - (E) Final layout
 - (F) Exact impervious area locations and acreages
 - (G) Proposed *topography*
 - (H) Delineated *drainage areas* at all points of discharge from the *site*

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- (I) *Stormwater* volume computations for *ESD* and quantity control
 - (J) Preliminary *erosion and sediment control plan* that contains the construction sequence, any phasing necessary to limit earth disturbances and impacts to natural resources and an overlay showing the types and locations of *ESD* and *erosion and sediment control* practices to be used
 - (K) A narrative that supports the *site development* design, describes how *ESD* will be used to meet the minimum control requirements, and justifies any proposed structural *stormwater management* measures
 - (L) Any other information required by the County
3. FINAL *STORMWATER PLAN*. A final *stormwater* plan will be of sufficient detail to permit all *stormwater management* approvals and permits to be issued and will include:
- (A) *Final erosion and sediment control plans* submitted according to COMAR 26.17.01.05
 - (B) Include construction drawings
 - (C) A report that includes sufficient information to evaluate the effectiveness of the proposed runoff and control design. The report will include but is not limited to the following:
 - i. Geotechnical investigations including *soil* maps, borings, *site* specific recommendations, and any additional information necessary for the final *stormwater management* design
 - ii. *Drainage area* maps depicting *predevelopment* and post *development* runoff flow path segmentation and land use
 - iii. Hydrologic computations of the applicable *ESD* and unified sizing criteria according to the *Design Manual* for all points of discharge from the *site*
 - iv. Hydraulic and structural computations for all *ESD* practices and structural *stormwater management* measures to be used
 - v. Narrative that supports the final *stormwater management* design
 - vi. Any other information required by the County
 - (D) Construction drawings that include but are not limited to the following:
 - i. Vicinity Map
 - ii. North arrow
 - iii. Existing and proposed *topography*
 - iv. Proposed *drainage areas* including areas necessary to determine downstream analysis for proposed *stormwater management* facilities
 - v. Proposed improvements including the location of *buildings* and other *structures*, *impervious surfaces*, storm drainage facilities, and all *grading*

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- vi. Location of existing and proposed *structures* and utilities
 - vii. Existing and proposed *easements* and rights-of-ways
 - viii. Delineation of 100-year *floodplains* and onsite *tidal* and *non-tidal wetlands*, where applicable
 - ix. Structural and construction details including representative cross-sections for all components of the proposed drainage system or systems and *stormwater management* facilities
 - x. All necessary construction specifications
 - xi. h) Sequence of construction
 - xii. Data for total *site* area, disturbed area, new impervious areas, and total impervious areas
 - xiii. Table showing the *ESD* and unified sizing criteria volumes required in the *Design Manual*
 - xiv. Table of materials to be used for *stormwater management* facility planting
 - xv. All *soil* boring logs and locations
 - xvi. Inspection and maintenance schedule
 - xvii. Owner's *certification* that all *stormwater management* construction will be done according to the approved *stormwater management plan*.
 - xviii. As-built *certification* signature block to be executed after project completion
 - xix. Any other information required by the County
- (E) When the *stormwater management plan* involves direction of some or all runoff off the *site*, it is the responsibility of the *applicant* to obtain from the adjacent property owners any *easements* or other necessary property interests concerning flowage of water. Approval of a *stormwater management plan* does not create or affect any right to direct runoff onto adjacent property without the property owner's permission.

5.13 PREPARATION OF STORMWATER MANAGEMENT PLANS

1. *Stormwater management plans* will be prepared by a professional *engineer*, professional *land surveyor*, or landscape *architect* licensed in the State of Maryland.
2. If a *stormwater BMP* requires either a dam safety permit from the Maryland Department of the Environment or small pond approval by the Kent *Soil* and Water Conservation District, the *stormwater management plan* will be prepared by a professional *engineer* licensed in Maryland.

5.14 PERMITS

A *grading* or *building* permit may not be issued for any parcel or *lot* unless final *erosion and sediment control* and *stormwater management plan* has been approved County as meeting all the requirements of this Ordinance and the *Design Manual*. Where appropriate, a *building* permit may not be issued without:

1. Recorded *easements* for the *stormwater management* facility and *easements* to provide adequate access for inspection and maintenance from a public *right of way*.
2. A recorded *stormwater management maintenance agreement* as described in SECTION 5.22.
3. A performance bond, an irrevocable letter of credit or other surety; as described in this Ordinance.
4. Permission from adjacent property owners, as may be required.

5.15 PERMIT AND REVIEW FEES

1. The County Commissioners will establish a schedule of fees and collection procedure for *stormwater management* review and permits. Permits fees will be based on the relative complexity of the project and may cover the cost of plan review, administration and management of the permit process, and inspection of all projects subject to this Ordinance.
2. No permits will be issued, nor action taken on amendments or other matters pertaining to this Ordinance, until the fee has been paid in full.

5.16 SUSPENSION AND REVOCATION

Any *grading* or *building* permit issued by Kent County may be suspended or revoked after written notice is given to the *permittee* for any of the following reasons:

1. Any *violation(s)* of the conditions of the *stormwater management plan* approval.
2. Changes in *site* runoff characteristics upon which an approval or *waiver* was granted.
3. Construction is not in accordance with the approved plans.
4. Non-compliance with correction notice(s) or stop-work order(s) issued for the construction of the *stormwater management* practice.
5. An immediate danger exists in a downstream area in the opinion of the County.

5.17 CONDITIONS FOR APPROVAL

In granting the plan approval, the County may impose such conditions thereto as may be deemed necessary to ensure compliance with the provisions of this Ordinance and the preservation of the public health and safety.

5.18 PERFORMANCE BONDS

The *developer* is required to obtain a surety, irrevocable letter of credit, or other means of security acceptable to Kent County and payable to the County Commissioners of Kent County, prior to the issuance of any *building* and/or *grading* permit for construction of a *development* requiring *stormwater management*. The amount of the security will not be less than 125% of the total estimated construction cost of all *stormwater management* facilities and practices. The security so required in this Section will include provisions relative to forfeiture for failure to complete work specified in the approved *stormwater management plan*, compliance with all the provisions of this Section and other applicable laws and *regulations*, and any time limitations. The security will not be fully released without a final inspection of the completed work by Kent County, submission of “as-built” plans, and *certification* of completion by the County, that all *stormwater management* facilities and practices as being in compliance with the approved plan and the provisions of this Section. A provision may be made for partial release of the amount of the bond pro-rata upon completion and acceptance of the various stages of *development* as specifically delineated, described, and scheduled on the required plans and specifications. The provision for partial release of the surety will be specified by Kent County in writing prior to *stormwater management plan* approval. The *developer* will notify the County upon completion of each stage that is ready for inspection.

5.19 INSPECTIONS

1. INSPECTION SCHEDULE AND REPORTS

- (A) The owner/*developer* will notify the County at least 48 hours before beginning any work in conjunction with *site development*, the *stormwater management plan* and completion of construction.
- (B) Regular inspections will be made and documented for each *ESD* planning technique and practice at the stages of construction specified in the *Design Manual* by Kent County, its authorized representative, or a certified *engineer* license in the State of Maryland. At a minimum, all *ESD* and other nonstructural practices will be inspected upon completion of final *grading*, the establishment of permanent *stabilization*, and before issuance of use and occupancy approval.
- (C) Written reports will be prepared for every inspection and will include:
 - i. The date and location of the inspection
 - ii. Whether construction was in compliance with the approved *stormwater management plan*
 - iii. Any variations from the approved construction specifications
 - iv. Any *violations* that exist

- (D) The owner/*developer* and *on-site personnel* will be notified in writing when *violations* are observed. Written notification will describe the nature of the *violation* and the required corrective action.
- (E) Work will not proceed until the work previously complete is approved by the appropriate inspector and the inspector furnishes the *developer* with the results of the inspection reports. The inspector should provide copies of the inspection report to the *developer* as soon as possible after completion of each required inspection.

2. INSPECTION REQUIREMENTS DURING CONSTRUCTION

At a minimum, regular inspections will be made and documented at the following specific stages of construction:

- (A) Ponds:
 - i. Upon completion of *excavation* to sub-foundation and when required, installation of structural supports or reinforcement for *structures* including but not limited to: (1) Core trenches for structural embankments; (2) Inlet and outlet *structures*, anti-seep collars or diaphragms, and watertight connectors; (3) Trenches for enclosed storm drainage facilities
 - ii. During placement of structural fill, concrete, and installation of piping and catch basins
 - iii. During backfill of foundations and trenches
 - iv. During embankment construction
 - v. On completion of final *grading*, establishment of permanent *stabilization*
- (B) *Wetlands* - At all stages specified for pond construction, during and after *wetlands* reservoir planting, and during the second *growing season* to verify a vegetation survival rate of at least 50%.
- (C) *Infiltration* trenches:
 - i. During *excavation* to subgrade
 - ii. During placement and backfill of under drain systems and observation wells
 - iii. During placement of geotextiles and all filter media
 - iv. During construction of appurtenant conveyance systems such as *diversion structures*, pre-filters and filters, inlets, outlets, and flow distribution *structures*
 - v. Upon completion of final *grading* and establishment of permanent *stabilization*
- (D) *Infiltration* basins - At all stages specified for pond construction, during placement of and backfill of under drainage system.

- (E) Filtering Systems:
 - i. During *excavation* to *subgrade*
 - ii. During placement and backfill of under drain systems
 - iii. During placement of geotextiles and all filter media
 - iv. During construction of appurtenant conveyance systems such as *diversion structures*, pre-filters, and filters, inlets, outlets, and flow distribution *structures*
 - v. Upon completion of final *grading* and establishment of permanent *stabilization*
- (F) Open Channel Systems:
 - i. During *excavation* to *subgrade*
 - ii. During placement and backfill of under drain systems for dry swales
 - iii. During installation of diaphragms, check dams, or weirs
 - iv. Upon completion of final *grading* and establishment of permanent *stabilization*
- (G) *Environmental Site Design Practices* – At the stage of construction specified in the *Design Manual* for each *ESD* planning technique and practice and at a minimum upon completion of final *grading*, the establishment of permanent *stabilization* and before issuance of use and occupancy approval.

5.20 AS-BUILT PLANS

Once construction is complete, “as-built” plan *certification* will be submitted by a professional *engineer* or professional *land surveyor* licensed in the State of Maryland to ensure that *ESD* techniques, treatment practices, and structural *stormwater management* practices and conveyance systems comply with the specifications contained in the approved plan. The “as-built” plan will compare the approved plan with what was constructed. As-built plans shall certify that all constructed elements conform to the dimensions, intent, and function of the approved plan, denoting any deviations in constructed elements and/or existing conditions of the property. At a minimum, “as-built” *certification* will include a set of drawings comparing the approved plan with what was constructed. Other information will be submitted as required by the County.

The Department may also engage third-party professionals to review said drawings to ensure compliance with the regulations in this Section, the Land Use Ordinance in general, and any applicable federal, State, or other laws, rules, and regulations. The costs for any third-party professionals will be paid by the applicant or property owner of record of the subject property.

5.21 NOTICE TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT

Within 45 days of construction, the County will submit a notice of construction completion to the Maryland Department of the Environment on a form supplied by the Maryland Department of

the Environment for each structural *stormwater management* practice. The type, number, total *drainage area*, and total impervious area treated by all ESD techniques and practices will be reported to the Maryland Department of the Environment. A notice of construction completion will be sent to the Kent *Soil* and Water Conservation District when *BMPs* requiring District approval are constructed.

5.22 MAINTENANCE

1. Maintenance Inspection

- (A) The County will ensure that preventive maintenance is performed by inspecting all *ESD* treatment systems and structural *stormwater management* measures. Inspections will occur during the first year of operation and then at least once every three years thereafter. A *maintenance agreement* between the property owner and Kent County will be executed for privately owned *ESD* treatment practices and structural *stormwater management* measures as described in this Section.
- (B) Inspection reports will be maintained by the County for all *ESD* treatment systems and structural *stormwater management* measures. Inspection reports will include the following:
 - i. Date of inspections and names of inspectors
 - ii. An assessment of the quality of the *stormwater management system* related to *ESD* treatment practice efficiency and the control of runoff to the *MEP*
 - iii. The condition of: (1) vegetation or filter media; (2) fences or other safety devices; (3) spillways, valves, or other control *structures*; (4) *slopes*, embankments, and safety benches; (5) reservoir or treatment areas; (6) inlet and outlet *channels* or *structures*; (7) underground drainage; (8) *sediment* and debris accumulation in storage or forebay areas; (9) any nonstructural practice to the extent possible; (10) any other item that could affect the proper function of the *stormwater management system*
 - iv. Description of needed maintenance
- (C) After notification is provided to the owner of the inspection results, the owner will have 30 days, or other time frame to which the County, and the owner mutually agree to correct the deficiencies. The County will then conduct an inspection to ensure completion of the repairs.
- (D) Failure to complete the repairs or repairs found to be improperly completed will be considered *violations* and subject to the provisions of this Ordinance.
- (E) If, after an inspection by the County, the condition of a *stormwater management* facility presents an immediate danger to the public health or safety, because of an unsafe condition or improper construction, or poor

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maintenance, the County, will take such action as may be necessary to protect the public and make the facility safe. Any cost incurred by the County will be assessed against the owner(s).

2. Maintenance Agreement

- (A) Prior to the issuance of any *building* permit for which *stormwater management* is required, the County will require the *applicant* or owner to execute an inspection and *maintenance agreement* binding on all subsequent owners of land served by the private *stormwater management* facility. Such agreement will provide for access to the facility at reasonable times for regular inspection by the County, and for regular or special assessments of property owners to ensure that the facility is maintained in proper working condition to meet design standards and any provisions established.
- (B) The agreement will be recorded by the *applicant* and/or owner with the Kent County Clerk of Court. A copy of the recorded agreement will be returned to the Department.
- (C) The agreement will also provide that if, after notice by the County, to correct a *violation* requiring maintenance work, satisfactory corrections are not made by the owner(s) within a reasonable period of time (thirty (30) days maximum), the County, may perform all necessary work to place the facility in proper working condition. The owner(s) of the facility will be assessed the cost of the work and any penalties, and there will be a lien on the property, which may be placed on the tax bill and collected as ordinary taxes by Kent County.

3. Maintenance Responsibility

- (A) The owner of the property on which work has been done pursuant to this Ordinance for private *stormwater management* facilities, or any other *person* or agent in control of such property, will maintain in good condition and promptly repair and restore all *ESD* practices, state *grade* surfaces, walls, drains, dams and *structures*, vegetation, *erosion and sediment control* measures, and other protective devices in perpetuity. Such repairs or restoration and maintenance will be in accordance with previously approved or newly submitted plans.
- (B) A maintenance schedule will be developed for the life of any *stormwater management* facility or system of *ESD* practices and will state the maintenance to be completed, the time period for completion and who will perform the maintenance. This maintenance schedule will be on the *stormwater management plan*.

SECTION 6 FLOODPLAIN MANAGEMENT

6.1 STATEMENT OF INTENT

The purpose of the *floodplain* management Section is to provide a unified, comprehensive approach to *floodplain* management which addresses the natural *floodplain* functions and encourages the use of appropriate construction practices that prevent or minimize *flood* damage. In combination with the *floodplain* design standards found in Article II of this Ordinance, these *regulations* address the requirements of the Federal and State programs concerned with *floodplain* management; namely: the National *Flood* Insurance Program (44 CFR 59-79), the Maryland *Waterway* Construction Permit Program for *Non-tidal Floodplains*, the Maryland Tidal and *Non-tidal Wetlands* Permit Programs, the U.S. Army Corps of *Engineers'* Section 10 and 404 Permit Programs, and the Maryland Coastal Zone Management Program.

6.2 ESTABLISHMENT OF FLOODPLAIN DISTRICT

1. Identification of *flood* zones. The regulatory *floodplain* will be those areas of Kent County, Maryland, which are subject to the *1-percent annual chance (100-year) flood* as delineated on the most recent revision of the community's *Flood Insurance Rate Maps (FIRMs)* and *Flood Insurance Study (FIS)* for Kent County, Maryland and incorporated areas dated June 9, 2014 prepared by the Federal Emergency Management Agency (FEMA). Areas along non-tidal streams that do not have FEMA delineations as described above are subject to regulation by this Ordinance and the State.
2. The *Flood Insurance Rate Maps (FIRMs)* and *Flood Insurance Studies (FIS)*, and all notations, dimensions, references, and symbols thereon, will be considered a part of this Ordinance and will be filed as a part of this Ordinance with the Department. Copies of the *FIRMs* and *FIS* will be available for inspection in the Department.
3. The *floodplain* will be comprised of the following *subdivisions*:
 - (A) *Non-tidal floodplains*: These consist of the *floodway* and *floodway fringe*. *Non-tidal floodplains* may have detailed *engineering* study data, profiles, and water surface elevations or may have approximate delineations only. For *development* in *Special Flood Hazard Areas* of non-tidal waters of the State with *Base Flood Elevations (BFE)* but no designated *floodways*, the cumulative effect of all past and projected *development* will not increase the BFE by more than 1 foot.
 - (B) *Tidal floodplains*: Those areas subject to coastal or tidal *flooding* by the *1-percent annual chance (100-year) flood*. These areas are *flooded* due to high tides, hurricanes, tropical storms and steady on-shore winds.
 - (C) *Coastal high hazard areas*: Those areas subject to coastal or tidal *flooding* with the addition of high velocity water and wind action. These areas are designated as V-Zones on the *Flood Insurance Rate Maps*.

- (D) Shallow *Flood Zones* (Zone AO): Those areas of shallow *flooding*, with *flood* depths of 1 to 3 feet (usually areas of ponding or sheet flow on sloping terrain), with or without BFEs of designated *flood* depths.
4. *Floodplain* Zone Determination.
- (A) The Planning Director or Planning Director's designee will determine the *floodplain* zone in which the *development* activity is proposed using the *FIRMs* and *FIS* if applicable. Without prior approval from FEMA, the community will use no other data to enforce *floodplain* management *regulations*. Where map boundaries and elevations disagree, elevations prevail, with approval from FEMA through the issuance of a Letter of Map Change or Amendment.
 - (B) The Planning Director of the Planning Director's designee will submit to FEMA, or require *applicants* to submit to FEMA, data and information necessary to maintain *FIRMs*, including hydrologic and hydraulic *engineering* analyses prepared by or for Kent County, within six months after such data and information becomes available if the analyses indicate changes in *Base Flood Elevations* or boundaries.
5. *Approximate Floodplain* Determination. For *development* proposed in the approximate *floodplain* (no water surface elevations or *floodway* data provided), the *applicant* will use the best available information to determine the elevation of the *1-percent annual chance (100-year) flood* and the extent of the *floodway*, and will delineate these on the *site plan* submitted for approval. For new *subdivisions*, the *applicant* will have the *1-percent annual chance (100-year) flood* elevations certified by a registered professional *engineer* based on hydrologic and hydraulic analyses which include a *floodway* analysis.
6. *Unmapped Streams*. In cases in which *development* is proposed in the vicinity of unmapped streams which have no delineated *1-percent annual chance (100-year) floodplain*, a 100-foot *flood* protection *setback* from the banks of the stream will be used. State permits may be required and *applicants* are advised to seek a determination from the State.

6.3 DEVELOPMENT REGULATIONS

1. **General.** In order to prevent excessive *flood* damage, to determine whether proposed activities will be reasonably safe from *flooding*, to implement construction methods and practices which minimize *flood* damage, and to allow for the protection of the natural and beneficial *floodplain* functions, all *development*, *new construction*, and *substantial improvements* to existing *structures* in all *floodplain* zones will comply with the requirements of this Section and those found in Article II. In the event that a *structure* is in more than one (1) zone, the more stringent provision will apply to the entire *structure*.
2. **Watercourses.** In all *floodplain* zones, any *development* which proposes to alter a *watercourse* will obtain a *variance*. All conditions for encroachment in the *floodway* will

be met and *adverse impacts* to aquatic resources will be minimized. Adjacent communities and property owners, the U.S. Army Corps of *Engineers*, FEMA, and MDE will be notified by the *applicant* prior to any modification of a *watercourse*. Any activity falling within the 100-year non-tidal *floodplain* may require a *waterway* construction permit from the Maryland Department of the Environment.

3. ***Non-tidal and Tidal Floodplains*** (Zones A, AE, and A1-30)

- (A) General *development* will not occur in the *floodplain* where alternative locations exist. Before a permit is issued, the *applicant* will demonstrate that new *structures* cannot be located out of the *floodplain* and that encroachments onto the *floodplain* are minimized
- (B) Elevation Requirements, Residential *Structures*.
 - i. *Basements* are prohibited. Enclosures below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*) will be constructed with water equalizing vents to meet the specification found in SECTION 6.4.
 - ii. The elevation of the *lowest floor* of all new or substantially improved *structures*, including *manufactured homes*, will be elevated to or above the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*). In *non-tidal floodplains*, horizontal expansions which increase the footprint and that are less than substantial will also have the *lowest floor* elevated to or above the *Flood Protection Elevation*. A registered surveyor or professional *engineer* will certify elevation of the *lowest floor* on the *Elevation Certificate* after the *lowest floor* is in place. An elevation certificate should be submitted at the time of finished construction prior to any certificate of occupancy being issued.
 - iii. Improvements in tidal *floodplains* which are less than substantial will be constructed to minimize damage during *flooding* or will be elevated to the greatest extent possible.
- (C) Elevation Requirements, Non-residential *Structures*.
 - i. All new or substantially improved non-residential *structures* will either be elevated as required for residential *structures* or will be *floodproofed*. *Basements* are prohibited. Enclosures below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*) will be constructed with water equalizing vents to meet the specification found in SECTION 6.4.
 - ii. Horizontal expansions in the *non-tidal floodplain* which increase the footprint and that are less than substantial will also have the *lowest floor* elevated to or above the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance / 100-year flood*).

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- iii. In *non-tidal floodplains*, *basements* and *floodproofing* are prohibited.
- iv. *Floodproofing* designs will insure that areas below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*) are watertight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
- v. When the *floodproofing* option is chosen, a *Floodproofing Certificate* will be completed by a registered professional *engineer* or *architect*. If a *Floodproofing Certificate* is not provided, then an *Elevation Certificate* will be completed by a registered *surveyor* or professional *engineer*.

(D) Fill

- i. An *applicant* will demonstrate that the *fill* will not affect the *flood* storage capacity or increase *flooding* onto neighboring properties.
- ii. In the event that *structures* on adjacent properties are known or determined to be subject to *flooding* under current conditions, the Planning Director or the Planning Director's designee may require submission of hydrologic and hydraulic analysis of the effects of the proposed *fill*. All *fill* will meet the standards set forth in this Ordinance.

(E) Subdivisions

- i. *Non-tidal floodplains*. To avoid *flood* damage and to protect the natural and beneficial *floodplain* functions, new *flood-prone building sites* will not be permitted in *non-tidal floodplains*. Each new *lot* will have a suitable *building site* outside the *floodplain*. Whenever possible, *development* should be located outside the *floodplain*. An access road, constructed above the elevation of the *1-percent annual chance (100-year) floodplain* will be provided.
- ii. The *applicant* will submit a plan which demonstrates that all *building sites* located outside of the 100- year *floodplain*, and that the *floodplain* areas are protected in their natural state.
- iii. *Tidal floodplains*. New *subdivisions* in *tidal floodplains* will be designed to develop land outside the *floodplain* whenever possible. An access road constructed above the elevation of the *1-percent annual chance (100-year) flood* will be provided whenever possible.
- iv. *Subdivision* proposals and *development* proposals will minimize *flood* damage and have adequate drainage paths provided to reduce exposure to *flood* hazards and to guide *floodwaters* around and away from proposed *structures*.

4. **Floodway**

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- (A) *Floodways* will be preserved to carry the discharge of the *1-percent annual chance (100-year) flood*. *Floodways* present increased risks to human life and property because of their relatively faster and deeper flowing waters. In a regulatory *floodway*, any encroachment is prohibited which would cause any increase in the *base flood* level unless hydrologic and hydraulic analyses prove that the proposed encroachment would not increase *flood* levels during the *base flood* discharge.
- (B) *Fill* will not be permitted.
- (C) New *structures* will not be permitted.
- (D) New *development* will not be permitted where alternatives exist elsewhere or if any increase in the water surface elevations of the *1-percent annual chance (100-year) flood* will occur.
- (E) *Development* in the *floodway* which may result in any increase in water surface elevations or change to the *floodway* will be submitted to FEMA for a conditional letter of map revision. Hydrologic and hydraulic analysis on existing *floodway* models and performed in accordance with standard *engineering* practices and certified by a registered professional *engineer* will be submitted. Failure to receive this conditional letter of map revision will be grounds for denial of a permit.
- (F) Alternative analysis requirement. An alternative analysis will be submitted to the Department before a permit will be issued. The alternative analysis will demonstrate that:
 - i. No reasonable alternative exists outside the *floodway*.
 - ii. Encroachment in the *floodway* is the minimum necessary.
 - iii. The *development* will withstand the *1-percent annual chance (100-year) flood* without significant damage.
 - iv. The *development* will not increase downstream or upstream *flood*ing or *erosion*.
- (G) Existing *structures*. Existing *structures* in the *floodway* will be substantially improved only by *variance* and if they can be brought into conformance with this Ordinance without increasing the footprint. Minor additions (less than substantial) will be elevated to the *Flood Protection Elevation* (three feet above the *flood* elevation) on pilings or columns. In the event of *substantial damage* or replacement, the *applicant* will submit an alternative analysis to determine if the *structure* can be relocated to a less hazardous *site*. Where replacement *structures* cannot be relocated, they will be limited to the footprint of the previous *structure* and will comply with the elevation requirements of this Ordinance. Permits for incremental improvements and additions will be tracked by the Department, and if cumulative improvements constitute

substantial improvement, no further permits may be issued unless the *structure* conforms to the provisions of this Ordinance.

- (H) Maintenance of natural *channel*. The natural *watercourse* will be maintained for protection of aquatic resources. A *variance* is required for *alteration* of *watercourses*. Any *variance* issued will assure that the conditions for encroachment in the *floodway* are met, *adverse impacts* to aquatic resources are minimized, and the public good outweighs the *adverse impacts*. The provisions of SECTION 6.3.2 pertaining to altering a *watercourse* will be met.
- (I) Obstructions. *Structures* or *fill* which may impede, retard, or change the direction of the flow of *floodwaters*, or any materials that may be carried downstream to cause damage will not be placed in the *floodway*. Fences, except two wire fences, will not be placed in the *floodway*.
- (J) Construction of *roads*, bridges, culverts, dams and in-stream ponds. Construction of *roads*, bridges, culverts, dams and in-stream ponds in non-tidal waters of the State will not be approved unless they comply with this Section and the *applicant* has received a permit from MDE.

5. ***Coastal high hazard areas*** (V-Zones and Coastal A Zones)

- (A) New *development* will not be permitted in the Coastal High Hazard Area where the action of wind and waves, in addition to tidal *flooding*, is a factor unless the *applicant* demonstrates that:
 - i. No reasonable alternative exists outside the Coastal High Hazard Area;
 - ii. The encroachment into the Coastal High Hazard Area is the minimum necessary;
 - iii. The *development* will withstand the 100-year wind and water loads without damage;
 - iv. The *development* will not create an additional hazard to existing *structures*; and
 - v. Any natural dune system will not be disturbed.
- (B) New and substantially improved *structures*.
 - i. All new or substantially improved *structures* will be elevated on adequately anchored pilings or columns to resist *flotation*, collapse, and lateral movement due to the effects of the one-hundred-year water loads and wind loads acting simultaneously on all *building* components. Water loading values will be those associated with the *base flood*, and wind loading values will be those required by local *building* standards. The bottom of the lowest horizontal structural member supporting the *lowest floor* will be elevated to three feet above the *Base Flood Elevation*. A registered professional *engineer* or *architect* will certify that *building* designs, elevations and anchoring have been designed to withstand the

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water and wind loads. The use of slabs or other at *grade* foundation systems will be prohibited.

- ii. The space below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*) will be free of obstruction or may be enclosed with open wood lattice, insert *screening* or *breakaway walls*.
 - iii. *Breakaway walls* will be designed to collapse under a wind and water load less than would occur during the *1-percent annual chance (100-year) flood*, and have a design safe loading resistance of not less than ten pounds and no more than twenty pounds (20) per square foot. Glass walls will not be considered *breakaway walls*. Enclosed areas below the *Flood Protection Elevation* will be used solely for the parking of vehicles, limited storage, and *building* access. If such areas are enclosed, a *Declaration of Land Restrictions* will be signed. Electrical, mechanical, and plumbing system components will not be mounted on or penetrate through walls that are designed to break away under *flood* loads.
- (C) *Manufactured homes and recreational vehicles.* *Manufactured homes* will not be permitted in the Coastal High Hazard Area. *Recreational vehicles* will meet the requirements of SECTION 6.55
- (D) *Fill and excavation.* *Fill* will not be used for the structural support of *buildings*. *Excavation* under existing *structures* or *excavation* within any enclosed space will be prohibited. Minor *grading*, and the placement of minor quantities of fill, will be permitted for landscaping and for drainage purposes under and around *buildings* and for support of parking slabs, pool decks, patios, and walkways.
- (E) Location of *structures*. *New construction* within the reach of mean high tide is prohibited. *Alteration* of the dune system is prohibited.
- (F) Existing *structures*. Existing *structures* will not be substantially improved or expanded vertically or horizontally unless the entire foundation system is certified by a professional *engineer* or *architect* as capable of supporting the existing *building* and the proposed improvement during the *1-percent annual chance (100-year) flood* as specified in SECTION 6.3.56.55. Permits for incremental improvements will be tracked, and when cumulative improvements constitute *substantial improvement*, the entire *building* will comply with SECTION 6.3.56.55.
- (G) Decks and patios. In addition to the requirements of the *building* code or the residential code, decks and patios will be located, designed, and constructed in compliance with the following:
- i. A deck that is structurally attached to a *building* or *structure* will have the bottom of the lowest horizontal structural member at or above the *Flood*

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Protection Elevation and any supporting members that extend below the design *flood* elevation will comply with the foundation requirements that apply to the *building* or *structure*, which will be designed to accommodate any increased loads resulting from the attached deck.

- ii. A deck or patio that is located below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*). will be structurally independent from *structures* and their foundation systems and will be designed and constructed either to remain intact and in place during *base flood* conditions or to break apart into small pieces that will not cause structural damage to adjacent elevated *structures*.
 - iii. A deck or patio that has a vertical thickness of more than 12 inches or that is constructed with more than the minimum amount of fill that is necessary for *site* drainage will not be approved unless an analysis demonstrates no harmful *diversion* of *floodwaters* or wave run-up and wave reflection that would increase damage to adjacent elevated *structures*.
 - iv. A deck or patio that has a vertical thickness of 12 inches or less and that is at natural *grade* or on fill material that is similar to and compatible with local *soils* and is the minimum amount necessary for *site* drainage may be approved without requiring analysis of the impact on *diversion* of *floodwaters* or wave run-up and wave reflection.
6. **Areas of shallow flooding** (Zone AO). In areas of shallow *flood*ing (Zone AO), have the *lowest floor* (including *basement*) elevated at least as high above the *highest adjacent grade* as the depth number specified in feet on the *FIRM* plus three (3) feet, or at least four (4) feet if a depth number is not specified; and:
- (A) Have enclosures below the *lowest floor*, if any, that comply with the requirements of Section 10.4; or
 - (B) If proposed to be elevated on fill, meet the limitations on fill in Section 10.3.3.d
7. **Critical and Essential Facilities.** *Critical and essential facilities* will:
- (A) Not be located in *coastal high hazard areas* (V Zones), *Coastal A Zones* or *floodways*.
 - (B) If located in *flood* hazard areas other than *coastal high hazard areas*, *Coastal A Zones* and *floodways*, be elevated to the higher of the elevation required by these *regulations* plus one (1) foot, the elevation required by the *building* code, or the elevation of the 0.2 percent chance (500-year) *flood*.

6.4 DESIGN STANDARDS

1. **Placement of *Buildings* and *Materials*** – In general, *buildings* and *accessory structures* should be located entirely out of the *floodplain*, out of the *flood* protection *setback*, or on land that is least susceptible to *flooding*. All *structures* permitted in the *floodplain* will be oriented so as to offer the least resistance to the flow of *floodwaters*. Materials which are buoyant, flammable, explosive, hazardous to health, or which at times of *flooding* may be injurious to human, animal, or plant life, will not be stored below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*).
2. **Enclosures below *Lowest Floor*** – *Buildings* which have been elevated and have fully enclosed areas below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*), as well as garages and *accessory structures* which are not elevated will be constructed with water equalizing vents which meet or exceed the following standards:
 - (A) A minimum of two (2) openings on different walls having a total net area of not less than one square (1) inch for every square foot of enclosed area subject to *flooding* or an *engineered* opening certified by a licensed professional;
 - (B) The bottom of all openings will be no higher than one foot above *grade*; and
 - (C) Openings may be equipped with *screens*, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of *floodwaters* to equalize hydrostatic forces on the walls.
 - (D) Fully enclosed areas below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*) will be used solely for parking of vehicles, access to the *building*, or limited storage. If such areas are enclosed, a *Declaration of Land Restriction* will be signed by the *applicant*.
 - (E) In *coastal high hazard areas*, enclosures below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*) will comply with the provisions of SECTION 6.3 and 6.35.
3. ***Manufactured Homes* and *Manufactured Home Parks*** – New *manufactured homes* and *manufactured home* parks will be prohibited in the Coastal High Hazard Area and in the *floodway*. In other *floodplain* zones, all new, replacement, or substantially improved *manufactured homes*, whether in a *manufactured home* park or not, will comply with SECTION 6.3.
 - (A) Methods of anchoring will include the use of over the top and frame ties to ground anchors. Pilings or columns will be used to maintain the storage capacity of the *floodplain*. Concrete block support pilings will be reinforced by placing reinforcing bars inside and extending them into the footing, filling the hollows with cement, and using mortar to cement the blocks together. FEMA Publication 85, “Protecting *Manufactured Homes* from *Floods* and Other Hazards,” should be consulted for specific recommendations.

- (B) *Manufactured homes* repaired or replaced due to substantial *flooding* or other causes will be considered new *structures* and will fully comply with SECTION 6.3.
 - (C) Owners of *manufactured home* parks or *subdivisions* that are partially or fully within the *floodplain* will file an evacuation plan with the Director of Emergency Management. New *manufactured home* parks will provide an access road elevated to the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*).
4. **Anchoring** – All *structures* will be *firmly* anchored in accordance with acceptable *engineering* practices to prevent *flotation*, collapse, and lateral movement during *flooding*. All air ducts, large pipes and storage tanks located below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*) will be *firmly* anchored to resist *flotation*.
5. **Utilities**
- (A) Electric. Distribution panel boxes will be installed at least two (2) feet above the *Flood Protection Elevation*. All outlets and electrical installations, such as heat pumps, air conditioners, water heaters, furnaces, generators, and distribution systems will be installed at or above the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*).
 - i. Plumbing. Toilets, sinks, showers, water heaters, pressure tanks, furnaces, and other permanent plumbing installations will be installed at or above the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*).
 - ii. Gas and liquid storage. Meters and appliances will be installed at or above the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*): (1) Underground tanks in *flood* hazard areas will be anchored to prevent *flotation*, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the *base flood*. (2) Above-ground tanks in *flood* hazard areas will be anchored to a supporting *structure* and elevated to or above the *Base Flood Elevation*, or will be anchored or otherwise designed and constructed to prevent *flotation*, collapse, or lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the *base flood*. (3) In *flood* hazard areas, tank inlets, fill openings, outlets and vents will be:
 - (3a) At or above the *Base Flood Elevation* or fitted with covers designed to prevent the inflow of *floodwater* or outflow of the contents of the tanks during conditions of the *base flood*; and
 - (3b) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the *base flood*.

- (B) Water supply and sanitary facilities. Water supply distribution and sanitary disposal collection systems will be designed to minimize or eliminate the *infiltration* and to avoid impairment or contamination of *floodwaters* into the systems or discharges from the systems into *floodwaters* and will be located and constructed so as to minimize or eliminate *flood* damage. *On-site* sewage disposal systems will meet these same standards.
- (C) Other service facilities. In addition to utilities noted in this Section, all other service facilities will be designed and/or located to prevent water entry or accumulation.

6.5 ACCESSORY STRUCTURES

1. Where feasible, *accessory structures* and garages will be located out of the *floodplain* or elevated to or above the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*). When these measures are not feasible the following will apply:
 - (A) The floor of the *structure* will be at or above *grade*;
 - (B) The *structures* will be located, oriented, and constructed so as to minimize *flood* damage;
 - (C) The *structure* will be *firmly* anchored to prevent *flotation*; and
 - (D) The structure will be constructed with *flood* damage-resistant materials below the *Base Flood Elevation*.
2. *Accessory structures* or detached garages, that do not exceed six hundred (600) square feet in size, and used solely for the parking of vehicles and limited storage may be constructed below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*) under the conditions of SECTION 6.8. No machinery, electric devices, or appliances will be located below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*). All interior walls, ceilings and floors located below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*) will remain unfinished. A *Declaration of Land Restriction* will be signed by the property owner and recorded with the Kent County Clerk of Court. A copy of the recorded document will be attached to the *building* permit.
3. An *accessory structure* or garage larger than six hundred (600) square feet in size will be elevated to the proper *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) floodplain*).
4. Attached Garages
 - (A) Attached garages, used solely for the parking of vehicles, storage or *building* access and no more than six hundred (600) square feet in size, are exempt from the elevation requirement but will be elevated to the greatest extent possible.

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Attached garages will meet the venting requirements found in this Section. All interior walls, ceilings, and floors below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*) will be unfinished.

- (B) No machinery, electrical devices, or appliances will be located below the *Flood Protection Elevation* (three feet above the elevation of the *1-percent annual chance (100-year) flood*). A *Declaration of Land Restriction* will be signed by the property owner and recorded with the Kent County Clerk of Court. A copy of the recorded document will be attached to the *building* permit.

5. *Recreational Vehicles*

- (A) *Recreational vehicles* located within the *floodplain* may be exempt from the elevation and anchoring requirements provided they are:
 - i. Located on the *site* less than one-hundred eighty (180) consecutive days per year;
 - ii. Fully licensed and ready for highway use; and
 - iii. Properly permitted.
- (B) A *recreational vehicle* is ready for highway use if it is on its wheels and jacking system, is attached to the *site* only by quick disconnect type utilities and securing devices, and has no permanently attached additions. If it cannot meet all of these criteria, the *recreational vehicle* will be considered a *manufactured home* and is subject to the elevation and construction standards of this Ordinance.

6. *Fill*

- (A) *Fill* will not be placed in the *floodway*. *Fill* will not be used for structural support in the Coastal High Hazard Area.
- (B) *Fill* will consist of *soil* and rock materials only. Dredge material will be used as *fill* only upon *certification* of suitability by a registered professional geotechnical *engineer*. Landfills, rubble fills, dumps, and sanitary fills will not be permitted in the *floodplain*.
- (C) *Fill* used to support *structures* will be compacted to 95% of the maximum *density* obtainable by the Standard Proctor Test (ASTM Standard D-698), and its suitability to support *structures* certified by a registered professional *engineer*. *Fill slopes* will be no greater than two horizontal to one vertical. Flatter *slopes* may be required where velocities may result in *erosion*.
- (D) The use of *fill* will not increase *flooding* onto or interfere with drainage from neighboring properties.
- (E) In the event that *structures* on adjacent properties are known or determined to be subject to *flooding* under current conditions, the Planning Director or the

Planning Director's designee may require submission of hydrologic and hydraulic analysis of the affects of the proposed *fill*. All *fill* will meet the standards set forth in this Ordinance.

6.6 PERMITS

1. No *development* will occur without first obtaining a permit form the Department. This permit will not be valid until all applicable federal or state permits are obtained.
2. Application for a permit will contain, at a minimum, the following information.
 - (A) Name, address, and phone number of the *applicant*
 - (B) Name, address, and phone number of the property owner, if different from that of the *applicant*
 - (C) Name, address, and phone number of the contractor
 - (D) Legal description of the *site*
 - (E) Proposed use of the *site*
 - (F) Type, dimensions, and estimated cost of the improvement
 - (G) *Site* characteristics and improvements
 - (H) *Site plan* drawn to scale which shows:
 - i. Dimensions of the *site*
 - ii. Size and location of existing and proposed *structures* or *alterations*
 - iii. *Setbacks*
 - iv. Elevation contours in mean sea level (NAVD)
 - v. Delineation of the *1-percent annual chance (100-year) flood* boundary.
 - vi. Proposed elevation of the *lowest floor* and method of elevation, if applicable.
 - (I) A signed agreement stating that the *applicant* will supply an *Elevation Certificate*.
 - (J) For additions or improvements, market value or assessed value of *structures* before improvement.
 - (K) *Declaration of Land Restriction* where applicable.
3. General permits will be granted only after determining that the proposed *development* will be in compliance with this Ordinance.
4. After approval of a permit, no changes of any kind will be made to the application, permit, plans, specifications, or other documents submitted with the application without the written approval of the applicable county official. A copy of the permit will be displayed at the construction *site*.

5. During construction, the *building* inspector will inspect the *site* to determine that work is in compliance with the permit. Any work not in compliance with the permit will be corrected before any additional work is undertaken.
6. A record of all *floodplain* permits will be maintained and be available upon request by the Federal Emergency Management Agency or its authorized agent during periodic assessments of the County's participation in the National *Flood* Insurance Program. All documents needed to support permit action, such as *Elevation Certificates*, map amendments or revisions, or *variance* actions will be available for review during these assessments.

6.7 DAM SAFETY

The condition design criteria, hazard class and danger reach of the dam will be considered when reviewing *development* downstream of existing or proposed dams. *Development* within the dam break *flood* wave will be denied unless the dam meets the standards for a high hazard dam.

6.8 CONDITIONAL PERMITS

A conditional permit may be issued for garages and *accessory structures* less than six hundred (600) square feet in size, provided:

1. The *structure* is incidental to the primary *structure*.
2. It is used solely for limited storage and parking of vehicles.
3. The floor of the *structure* is constructed at or above *grade*.
4. The *structure* is located, oriented, and constructed so as to minimize *flood* damage.
5. The *structure* is *firmly* anchored to prevent *flotation*.
6. The *structure* meets the requirements of this Section.
7. A *Declaration of Land Restriction* is recorded with the Kent County Clerk of Court. A copy of the recorded document will be attached to the *building* permit.

6.9 ENFORCEMENT

1. It will be the duty of the Planning Director of the Planning Director's designee to perform the function of the *Floodplain Administrator* and to enforce the provisions of this Ordinance and to refuse to issue any permit or approve any *development* that would violate the provisions of this Ordinance. It will be the duty of all officers and employees of Kent County to assist in the enforcement of this Ordinance by reporting seeming *violations*.
2. The Planning Director of the Planning Director's designee is authorized and directed to institute any appropriate action to correct *violations* of this Ordinance.
3. Any *violation* of Section 10 will be subject to the fines and penalties established in this Ordinance.

4. The Federal Insurance *Administrator* and the State of Maryland will be notified immediately in writing of any *structure* or property in *violation* of this Section.
5. The Department may require signed and sealed drawings from a professional licensed surveyor or an engineer, certifying that the requirements above have been satisfied. The Department may also engage third-party professionals to review the drawings to ensure compliance with the regulations in this Section, the Land Use Ordinance in general, and any applicable federal, State, or other laws, rules, and regulations. The costs for any third-party professionals will be paid by the applicant or property owner of record.

6.10 LIABILITY

1. The degree of *flood* protection provided by this chapter is considered reasonable for regulatory purposes and is based on *engineering* experience and scientific methods of study. *Floods* of greater magnitude may occur or *flood* heights may be increased by man-made or natural causes. This Section does not imply that *flooding* will not occur outside of delineated *floodplain* zones, nor that the permitted *development* and land uses within the *floodplain* will be free of *flooding* and associated *flood* damage. This Section does not create liability on the part of the County, any officer, or employee thereof for any damage which may result from reliance on this Section.
2. The degree of the *flood* protection required by these *regulations* is considered reasonable for regulatory purposes and is based on scientific and *engineering* considerations. Larger *floods* can and will occur, and *flood* heights may be increased by man-made or natural causes. These *regulations* do not imply that land outside of the *Special Flood Hazard Areas* or uses that are permitted within such areas will be free from *flooding* or *flood* damage.