

ARTICLE XVIII. - DRAINAGE, STORMWATER MANAGEMENT FACILITIES AND EROSION/SEDIMENT CONTROL

18-1 - General.

- A. *Purpose:* The purpose of this section is to provide a guide for development wherein the ecological impacts to the environment are minimized through appropriate design, landscaping, erosion control, stormwater management, and proper planning. The intent of the City of Daphne is to protect valuable natural resources, the natural environment and the quality of life for all its citizens. In order to preserve the integrity, stability and the value of land, the city encourages the use of innovative, LEED-certified (Leadership in Energy and Environmental Design) and/or other "green" practices in development design. Where such methods/practices are proposed for a development said practices shall be designed in accordance with Appendix O, the Low Impact Development and Green Infrastructure Project application and certified by a credentialed professional in his/her design field.
- B. *Applicability and use:* The following requirements shall apply to uses and developments in each overlay district and zoning district within the Daphne corporate limits, except where noted herein. As a general policy the objective of each drainage system design shall be the safety and protection of the traveling public, the environment, the City of Daphne and private property.
- C. *Jurisdiction:* All projects which fall under the inspection, permitting, or extraterritorial planning jurisdiction of the city, on items related to stormwater management and site development within the corporate limits of the city.
- D. *Permitting:* No land disturbing activity shall take place on any site prior to the issuance of a site disturbance permit in accordance with Article XV, Procedures for Site Plan Review in section 15-4(d), Special provisions and Article XVII, Procedures for Subdivision Review, section 17-3(e), Preliminary plat application, of this Ordinance. All permitted sites within the city limits shall post a waterproof site disturbance permit identification sign on site during construction. This sign shall identify the permit number, permit holder, contractor and contact phone number. Any and all state/federal permits for such activities shall be obtained and submitted to the city prior to issuance of the site disturbance permit.
- E. *Technical reference:* The current version of the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas is hereby adopted as a reference and shall be considered a part of the Land Use and Development Ordinance as an expansion of erosion control provisions not listed. Herein, the book shall be referred to as the "Alabama Handbook for Erosion Control".
- F. *Professional civil engineer:* All engineering plans and specifications submitted for review and/or approval shall be prepared by and under the direct supervision of a registered professional civil engineer, licensed in the State of Alabama. Said professional engineer shall carry errors and omissions insurance at a minimum coverage of one million dollars (\$1,000,000). All plans and specifications shall meet the minimum standards and requirements of the city and other applicable local, state or federal authorities.
- (1) Plan, profile and special drawing sheets for a project submitted for review shall bear a legible stamp and signature of the professional design engineer in charge. If the name or license number is not clear, the signature and number shall be added.
 - (2) The professional design engineer shall be qualified in the area of drainage as per the State of Alabama engineering registration laws.
 - (3) Upon completion of the project, an inspection of the site and drainage facilities shall be conducted by the design engineer. Correspondence in the form of a letter along with a set of as-built final plan sheets and an electronic version in a format deemed acceptable by the city shall thereafter be submitted to the department of community development from the design engineer certifying that all drainage and related facilities have been installed in accordance with approved plans and specifications.

- G. *Liability*: Use of the information contained herein for placement of any structure or use of land, shall not constitute a representation, guarantee, or warranty of any kind by the city, its offices or employees, of the practicability, adequacy or safety and shall not create liability upon or cause action against any such public body, office, or employee for any damage that may result pursuant thereto.
- (1) Any liability associated with the design, performance and operation of the drainage, stormwater management or erosion and sediment control facilities remains with the developer/owner and the project design engineer.
 - (2) Stormwater management facilities shall be designed in accordance with good engineering practice. The design criteria establish minimum elements of design which must be implemented with good engineering and good workmanship.
- H. *Pre-design conference*: The developer and the design engineer are encouraged to contact the city for a pre-design conference at the conceptual stage of the project. Such conference would be mutually beneficial to outline the complexity and scope of design, applicability of criteria and elimination of possible items of conflict during the review process. Subsequent conferences, during the preparation of plans may be arranged by the design engineer or the developer to obtain preliminary, informal decisions on items in need of clarification.
- I. *Letter of transmittal*: In order to facilitate review of plans, all projects shall be submitted with a letter of transmittal which shall include the name of the project, name and address of the owner and/or developer, telephone number of the engineer, and clarification as to the purpose of submittal.

(Ord. No. 2013-12, § I(b), 3-18-13)

18-2 - Drainage and stormwater management engineering plan contents.

- A. *General requirements*: For all developments affecting city rights-of-way and for all proposed subdivisions and site development plans, the developer or the professional design engineer shall submit signed and sealed detailed drainage plans and drainage computations to the city for review and approval. Said drainage plans shall contain a map, narrative and supplemental items as follows:
- (1) *Map information*:
 - i. Existing and proposed contours in one (1) foot increments (topography shall be based upon the NAVD 88 datum;
 - ii. Location of existing improvements including roads, parking areas and building footprints along with their proposed finished floor elevations;
 - iii. Existing drainage system, including but not limited to, pipes, culverts, inlets, ditches, and ponds with data providing invert elevations, slopes, permanent water elevation and other related dimensional data;
 - iv. Flood zone designation and certification;
 - v. Elevation of the regulatory lowest floor level, including basement, of all proposed structures;
 - vi. Elevation to which any non residential structures will be floodproofed;
 - vii. Drainage basin boundaries, showing direction of flow, including total tributary drainage areas entering the improved area, taking into account any off-site runoff being routed through or around the project in its undeveloped condition;
 - viii. Size, location, slopes, inverts, types and general configuration of all primary drainage facilities required to route, collect, treat and dispose of stormwater runoff, generated by or passing through the development;

- ix. Location of on-site water bodies, ephemeral streams and/or wetlands with details of size and vegetative cover to include normal water elevation, side slopes, and depths of water bodies and for wetlands, the general surface elevation and the wet season water elevation;
- x. CBMPP (Construction Best Management Practices Plan) in accordance with the Erosion Control provisions stated in section 18-6 below;
- xi. Reference the one-hundred-year flood elevation if applicable;
- xii. All final plats shall have a section that details that the city reserves the right to require the owners of all drainage facilities to perform needed maintenance to prevent potential flooding hazards.

(2) *Narrative:*

- i. Proposed project including its size, percent pervious versus impervious land usage, total wetlands within site boundaries, and a breakdown of wetland acreage preserved, by type, and acreage removed, by type.
- ii. All acres solely for water management purposes shall be noted and the legal method to ensure areas remain devoted.
- iii. Times of concentration, intensity, runoff coefficients used for determining runoff for all tributary areas and areas within the development at pre- and post-construction rates.
- iv. Discharge rate in cubic feet second (cfs), discharge velocity in feet per second (fps), and any other additional hydraulic data needed to establish that the drainage system will safely convey the flow to an adequate outlet without eroding any property or the channel of flow. Armoring of the receiving channel shall be required where velocities exceed the scour velocity for the given soil conditions. Discharge and runoff coefficients should be based on full or ultimate build out of the parcel and contributing watershed.
- v. Proposed start and completion date for the project.
- vi. Description of the extent to which any watercourse will be altered or relocated as a result of the proposed development, if applicable.

(3) *Supplemental information:*

- i. Design storms used including depth, duration, and distribution;
- ii. Staged storage calculations for the project and stage discharge computations for the outfall structure(s);
- iii. Differential runoff evaluation consists of determination of rates of runoff before and after development, determination of required volume of retention/detention and verification of adequacy of discharge and control structures.
- iv. Runoff routing calculations showing discharges, elevations and volumes retained/detained during applicable storm events;
- v. Draw down calculations for detention;
- vi. Base flood elevation data for all proposed developments greater than fifty (50) lots or five (5) acres, whichever is less; if not established refer to the Flood Damage Prevention Ordinance No. 2009-01;
- vii. Calculations required for determination of minimum building floor and road elevations;
- viii. Calculations for flood plain encroachment, if applicable;
- ix. Copies of all federal and state permit applications for the activity.

(4) *Acreage in a tabular format:*

Sample Table

	Existing		Proposed	
	Acres	%	Acres	%
Total Area				
Building				
Pavement				
Impervious total				
Pervious total				
Wetlands				
Common area				
Recreation area				

B. *Provision for additional engineer's review:* The intent of this provision is to protect and improve water quality and stream conditions within the City of Daphne, particularly those on the ADEM 303(d) List of Impaired Streams. The purpose of this provision is to mitigate the impact of potential or future development in support of the Daphne MS4 permit program and to uphold the provisions of this article.

Where deemed appropriate by the planning commission, any drainage and stormwater management plan submitted for review by the planning commission that could impact a stream listed on the ADEM 303(d) Impaired Streams list, may be subject to an additional review by a qualified professional civil engineer with experience in stormwater management (consultant engineer). The applicant/developer/owner may be required to modify stormwater and drainage plans to accommodate the recommendations of the consultant engineer. All costs incurred for this additional engineer's review shall be paid by the developer/owner/ applicant.

18-3 - Drainage and stormwater management.

A. *General requirements:*

- (1) Each subdivision plat and site plan submitted for review shall make adequate provisions for stormwater or flood water runoff channels or basins. Storm drains and drainage structures shall be designed and installed as required herein and in accordance with current good engineering practices and standards. The responsible professional design engineer shall submit signed and sealed design computations with said plans.

- (2) The professional engineer shall make certain that any spring or surface water that may either exist prior to or as a result of the proposed subdivision or site development design shall be carried away by vegetative swale, pipe, open concrete paved ditch, or any alternate drainage facility certified by the design engineer and subsequently approved by the planning commission. Drainage conveyance structures may be located in the road right-of-way where feasible, or in perpetual unobstructed easements of appropriate width. Said drainage conveyance structures shall be constructed in accordance with the Alabama Department of Transportation (ALDOT) Standard Specifications.
- (3) Where a public storm drainage system is accessible, the professional engineer shall design stormwater drainage facilities to connect thereto. Storm drainage provisions for each development shall be subject to the specifications and calculations submitted by the design engineer. If no outlets are within a reasonable distance then adequate provisions shall be made for the disposal of stormwater.
- (4) Where a public storm drainage system is not accessible, the subdivider shall install all drainage structures necessary to convey the water to a location acceptable to the city and obtain all required easements thereto.
- (5) If, in a phased development, a connection to a public storm drainage system will be provided in a future phase of construction then a phasing plan for the project, a master storm drainage plan for the overall development and a bond in the amount of one hundred fifty (150) percent of the cost of installing the appropriate facilities as enumerated in Article XVII, Procedures for Subdivision Review, section 17-4(a), Final plat application, shall be submitted upon application for final plat approval. Said master drainage plan shall show the arrangements anticipated for future stormwater disposal.
- (6) No development shall be approved unless adequate drainage is provided to the natural drainage watercourse or an existing drainage facility.
 - i. For all developments, upstream drainage areas shall be accommodated and considered in designing drainage facilities. A culvert, pipe, or other drainage facility, shall in any case, be of sufficient size to accommodate potential stormwater runoff from its upstream drainage area, whether inside or outside the subdivision or development site boundary. The design engineer shall determine the necessary size of the facility based on drainage calculations and provisions of the construction standards and specifications.
 - ii. For all developments, downstream drainage areas shall be considered in designing drainage facilities. The design engineer shall review the effect of each development on existing downstream drainage facilities outside the area of the development. These drainage studies, together with such other studies as shall be appropriate, may serve as a guide to needed improvements and shall be incorporated into the drainage report to be submitted with the development application.
 - iii. Stormwater drainage facility design shall note the calculation of a runoff coefficient by measuring the total area of each sub-drainage basin within the project and the areas of each land use which will occur in each basin after construction is complete. These areas shall include off-site drainage onto the site as well as the development area. These calculations should also consider future development or build-out on the upstream contributing area based on current land use or zoning.
- (7) Where it is anticipated that additional runoff incidental to the development will overload an existing downstream drainage facility, approval of the development may be: denied, delayed, or withheld until provisions have been made to prevent and/or remedy such occurrence by the developer/owner submitting of an off-site impact bond, as provided in Article XV, Procedures for Site Plan Review, and Article XVII, Procedures for Subdivision Review, prior to preliminary plat or site plan approval.
- (8) The City of Daphne reserves the rights to enforce all federal and state water quality regulation, as amended

- (9) In a site plan review, the planning commission may require additional water quality enhancement through the use of stormwater treatment measures such may include, but shall not be limited to oil/gas/grease separators.

B. *Flood prevention:*

- (1) All proposed developments shall provide adequate storm drainage facilities.
- (2) All proposed developments shall meet standards established in the Flood Prevention Ordinance 2009-01, as amended.
- (3) Any areas subject to periodic flooding or flooding caused by poor drainage facilities will not be accepted unless the developer or subdivider makes necessary provisions to eliminate such flooding in conformity with the National Flood Insurance Program.
- (4) The floor elevations of houses or buildings shall be high enough to be above the regulatory flood.
- (5) The floodway easement shall be wide enough to provide for future enlargement of the stream channel as adjacent areas become more highly developed and runoff rates are increased.
- (6) Fill may not be used to raise land in areas subject to flood and/or excessive erosion unless permitted by the flood plain manager in accordance with the Flood Prevention Ordinance and provisions provided herein.
- (7) If fill is permitted to raise land in areas subject to flood and/or in areas of excessive erosion, said fill shall be subject to the following requirements:
 - i. Fill shall not restrict the natural flow of water,
 - ii. Fill shall not advance erosion,
 - iii. Fill shall not unduly increase flood heights,
 - iv. Fill shall not be comprised of staining materials, e.g., red clay.

C. *Easements:* Easements shall meet all specifications provided herein and shall be labeled on the record plat and/or site development plan.

- (1) Where topography or other conditions are such as to make impractical the inclusion of drainage conveyance structures/facilities within road rights-of-way, perpetual unobstructed easements for such drainage conveyance structure/facilities shall be, a minimum of twenty (20) feet in width and located across said property, outside the road lines and with satisfactory access to the road. Drainage easements shall be carried from the road to the natural watercourse or to other drainage facilities.
- (2) Where a subdivision or development of land is traversed by a watercourse, drainage way, channel, or stream, there shall be provided a stormwater easement or drainage right-of-way conforming substantially to the lines of such water course, and of such width and construction or both as shall be adequate.
- (3) The subdivider shall dedicate by easement land in its natural state on both sides of any existing stream, of an adequate width and to a distance that is adequate to discharge flood waters without cumulatively increasing the water surface elevation more than one (1) foot. Per section 18-3(d), Streams and wetland buffers, the easement shall be at least fifty (50) feet wide.
- (4) Low-lying lands along watercourses subject to flooding or overflowing during storm periods, whether or not included in areas for dedication shall be preserved and retained in their natural state as drainage ways, except where improvements are warranted and deemed necessary by the design engineer and subsequently approved by the planning commission. Said low-lying areas shall be appropriately delineated on the record plat.

D. *Stream and wetland buffers zones:*

- (1) For any flowing or ephemeral water body, a fifty-foot-wide vegetated non-disturbed buffer zone shall be provided on both sides of the stream from the bank. These buffer zones shall be shown on the plat, field verified by the design engineer, flagged prior to project implementation and protected by appropriate measures during all construction phases.
 - (2) For any delineated wetland area, a thirty-foot-wide vegetated non-disturbed buffer zone of shall be provided around the wetlands. These buffers shall be shown on the plat/site plan, field verified by the design engineer, flagged prior to project implementation and protected during all construction phases.
 - (3) When wetlands border, abut, and/or adjoin a stream, the undisturbed buffer zone must extend a minimum of fifty (50) feet from each stream bank and a minimum of thirty (30) feet from the delineated wetland boundary. The wetland buffer is not applicable where the U.S. Army Corps of Engineers has permitted wetland fill for a linear transportation crossing or utility crossing. However, the wetland and/or stream buffer requirements are still applicable to areas adjacent to the permitted activity.
 - (4) Modifications to the stream or wetland buffers shall be approved by the planning commission on a case by case basis. If a modification is requested, the design engineer shall demonstrate through safety or design specifications the need for the modification.
 - (5) Existing subdivisions platted, prior to the acceptance of this Ordinance, are grandfathered from the buffer requirements.
 - (6) Individual property owners within existing subdivisions shall be responsible for compliance with U.S. Army Corp of Engineers 404 Wetland Regulations. At any time during or prior to site disturbance, if it is determined by the City of Daphne or a consultant thereto that the parcel potentially has wetlands, the city shall require a wetland delineation of the parcel.
- E. *Operations in lakes or natural watercourses:* Land-disturbing activity in connection with construction, in, on, over, under a lake, or natural watercourse shall be planned and conducted in such a manner as to minimize the extent and duration of disturbance of the stream channel. Any and all state and federal permits for such activities shall be obtained and submitted to the city prior to issuance of the site disturbance permit.
- F. *Permanent downstream protection of stream banks and channels:* Provision shall be made for the permanent protection of off-site stream banks and channels from the erosive effects of increased velocity and volume of stormwater runoff resulting from certain land-disturbing activities.
- G. *Phasing and platting:* The effective acreage for a project is not limited to a fractional part of the total concept, rather if a project is developed in phases of small plats, the total acreage of the conceptual project shall be considered. Phasing is required on all site disturbance areas of seventeen and one-half (17.5) acres, i.e., seven hundred fifty thousand (750,000) square feet or more. The size of each phase will be limited to seventeen and one-half (17.5) acres or as deemed appropriate by the planning commission. The planning commission may allow exceptions to the phasing requirement on a case by case basis. In such case, the design engineer shall provide enhanced construction best management practices to ensure maximum mitigation to prevent off-site and water quality impacts.
- H. *Borrow and waste areas:*
- (1) When the person conducting the land-disturbing activity is also the person conducting borrow or waste disposal activities, areas from which borrow is obtained shall be considered as part of the land-disturbing activity where the borrow material is being used or from which the waste material originated.
 - (2) When the person conducting the land-disturbing activity is not the person obtaining borrow and/or disposing waste, these areas shall be considered a separate land-disturbing activity.
- I. *Access and haul roads:* Temporary access and haul roads, other than public roads, constructed or used in connection with any land-disturbing activity shall be considered a part of such activity.

A. *Conveyance systems:*

(1) *Culverts:*

- i. Culverts under arterial roadways shall accommodate a minimum fifty-year, twenty-four-hour storm frequency design storm unless conditions dictate that one-hundred-year frequency design storm must be accommodated. Design storm criteria will be used by the design engineer based on the site specific conditions that warrant life and property protection.
- ii. All culverts within city road rights-of-way must be approved by the City of Daphne and shall conform to Alabama Department of Transportation (ALDOT) standards.
- iii. All culverts within state road rights-of-way must be approved and permitted by the ALDOT. In conjunction with the required subdivision or site plan application material, the developer/engineer shall submit a conceptual approval letter from ALDOT to the department of community development for planning commission review. A copy of the official ALDOT permit must be submitted to the city prior to final inspection or issuance of the certificate of occupancy.
- iv. Concrete box culverts shall be designed and constructed according to the latest edition of the Standards and Specifications for Road and Bridge construction, ALDOT.
- v. Culvert head walls shall be required on pipe culverts and shall be reinforced concrete.
- vi. Special types of head walls may be required by the city when deemed necessary for erosion control.
- vii. Riprap may be required at the upstream and downstream end of culverts and shall be placed at these locations based on the velocities at that location.
- viii. All roadway cross drain pipes shall be made of reinforced concrete and shall have a minimum diameter of eighteen (18) inches or greater.
- ix. Any pipe proposed within a city right-of-way or drainage easement shall be made of reinforced concrete. If other piping is installed therein, said road right-of-way or drainage easement dedication shall not be favorably recommended by the planning commission and may not be accepted by the city council except where deemed appropriate by the department of public works director.

(2) *Bridges:* Bridges shall accommodate a minimum one-hundred-year, twenty-four-hour frequency design storms. Design storm criteria will be used by the design engineer based on the site specific conditions that warrant life and property protection. All bridges shall be designed and constructed according to the latest edition of the Standards and Specifications for Road and Bridge construction, ALDOT.

(3) *Open channels and ditches:*

- i. Storm drain pipes, open channels, open ditches or swales may be implemented when properly engineered based on site conditions. Open channels and ditches shall be designed to safely accommodate traffic and to prevent hazardous erosion.
- ii. The maximum side slope shall be 3:1 (three to one) ratio for all open channels and ditches, unless approved by the planning commission upon recommendation of the director of public works. Drainage calculations shall show the volume and velocity for each separate ditch section. Adequate ditch lining shall be determined based on the ditch calculations. Where two (2) open channels converge, some form of energy dissipation, such as riprap, shall be provided.
- iii. Where a driveway or ingress/egress easement must cross an existing or proposed ditch, the design engineer shall note upon the plat, the required culvert size(s) necessary to accommodate said crossing(s).
- iv. Headwalls and end-walls shall be installed on street culverts.

- v. Within any public right-of-way, flared headwalls or slope paved headwalls with a 4:1 (four to one) slope or flatter shall be used.
- vi. The recommended maximum flow velocities shall be in accordance with the ranges recommended in the latest edition of the ALDOT Hydraulics Manual.
- vii. All open channels and ditches shall be permanently vegetated upon final inspection. Neither seed, mulch, nor a combination thereof will be accepted as vegetation or as a substitute for permanent vegetation. Where sod is used on slopes or around corners, it shall be pinned as specified in the Alabama Handbook for Erosion Control.

(4) *Street and inlets:*

- i. Inlets shall be provided so that surface water is not carried across any intersection, or carried for a distance of more than five hundred (500) feet in the gutter. When calculations indicate curb capacities are exceeded at a point, catch basins shall be used to intercept flow at that point. The minimum pipe diameter of each storm drain shall be eighteen (18) inches. The stormwater drainage system shall be separate and independent of any sanitary sewer system. In no case shall stormwater empty into the sanitary sewer system.
- ii. Profile grades and typical roadway sections shall be submitted with all construction drawings.

(5) *Clean out access:* Clean out accesses shall be provided at least every three hundred (300) feet for continuous pipes of twenty-four (24) inches in diameter or less and at least every four hundred (400) feet for larger continuous pipes if required. Clean out accesses shall be provided at each angle point and at each change in grade.

B. *Stormwater drainage detention/retention facilities:*

(1) *General requirements:*

- i. Developments which produce an increase in the amount of stormwater runoff shall be required to construct stormwater detention/retention ponds or other approved types of detention devices.
- ii. The developer/engineer shall submit, detailed engineering plans to the city including historical runoff, developed runoff, detention/retention pond details, method of discharge, and other information as required for review.
- iii. Stormwater detention/retention facilities shall meet all specifications provided herein and shall be labeled as a lot on the record plat and/or site development plan as common area.

(2) *Minimum requirements for stormwater management detention/retention facilities:*

- i. Differential runoff is the difference in rate and volume of stormwater runoff from a parcel or project in its undeveloped natural condition and its developed condition. Post-development release rates shall not exceed pre-development rates. Where practical, the differential runoff should be less.
- ii. Detention basins shall detain the first flush from a storm event and release the subsequent runoff water at a pre-development rate for sites twenty (20) acres or less based on the rational method or modified rational method. For sites larger than twenty (20) acres, the pre- and post- calculations shall be based on the Natural Resource Conservation Service (NRCS) Curve Number Method or other accepted engineering methodology. There should also be adequate sizing of the detention basin to store an accumulation of one-half-inch sediment during construction of the infrastructure. The first flush volume for any stormwater detention structure must be contained and then slowly released over a minimum time period of twenty-four (24) hours and maximum time period of seventy-two (72) hours.
- iii. The purpose of installing detention structures is to slow or attenuate the peak flows downstream by controlling the release rate. The post-development peak outflow rate shall be limited to the pre-development peak outflow rate as the basis of detention design.

- iv. All stormwater detention structures must attenuate the post-development peak flow rates from the two-year, five-year, ten-year, twenty-five-year, fifty-year and one-hundred-year, twenty-four-hour design storms to release a graduated discharge at or below predevelopment peak flow rates.
- v. The following conditions and limitations should be observed in location, selection and use of the method of detention:
 - a. Detention facilities shall be located within the parcel limits of the project under consideration.
 - b. No detention or ponding shall be located within public road rights-of-way.
 - c. Location of detention facilities immediately upstream or downstream of the project may be considered by special request if proper documentation is submitted with reference to practicality, feasibility and proof of ownership or right-of-use of the area proposed.
- vi. During construction of a residence, allowances for silting under denuded soil conditions for a period not less than one (1) year is recommended.
- vii. All permitted site development projects shall incorporate stormwater detention and first flush treatment as part of the design. Stormwater detention is not required in the following two (2) situations:
 - a. The project discharges stormwater runoff directly into a tidally influenced water body. This does not include discharges of stormwater runoff that flows through a public drainage system or across a downstream property boundary prior to entering the tidal water body.
 - b. Where stormwater detention for a project site is either unwarranted or impractical, the design engineer shall submit complete hydrologic and hydraulic computations to support this conclusion. This conclusion must be affirmed by the department of community development. Typically this might occur in the very lowest downstream reaches of a major watershed, if it can be proved that un-detained stormwater should be discharged quickly to avoid peak discharge timing for the entire watershed. The hydrologic analysis should include more than one representative downstream location for comparing hydrographs.
 - c. Even if stormwater detention is waived by the planning commission for the above two (2) situations, the site development must still provide first flush treatment, oil/gas/grease separation, and/or any other filtration system deemed appropriate in order to protect water quality.
- viii. All detention basin slopes shall be permanently stabilized with a perennial vegetative cover prior to final inspection. Seed and mulch will not be accepted.
- ix. Detention facilities are to be built prior to storm drainage installation and prior to any building or roadway construction and/or grading. Since these facilities are intended to control increased runoff, they must be fully operational prior to any clearing of the vegetation.
- x. In accordance with Article XI, Minimum Standard and Required Improvements, section 11-14(h), Special provisions, dry detention facilities shall be located on common grounds within the development; however, detention facilities shall not be considered to be a part of the informal open space area, unless otherwise approved by the planning commission. Wet detention/retention facilities also known as lakes may be considered as part of the formal open space/recreational areas.
- xi. Projects developed under these procedures shall establish, in the recorded plat, maintenance and access easements for the detention facilities and include provisions for maintenance in the restrictive covenants or trust indentures.

- xii. The hydraulic elevations of the drainage system shall not adversely affect adjoining properties.
- xiii. All common ground areas, including but not limited to stormwater facilities, recreational spaces and open spaces must be permanently stabilized upon final inspection. Seed and mulch will not be accepted at final inspection.
- xiv. Wetland areas shall not be used for the purpose of stormwater detention.

(3) *Dry detention basins:*

- i. Dry detention basins provide limited pollutant removal benefits and are not intended for water quality treatment. Detention-only facilities must be used in conjunction with other structural controls that provide stormwater treatment.
- ii. Seventy-five (75) acres is the maximum contributing drainage area to be served by a single dry detention basin. Routing calculations must be used to demonstrate that the storage volume is adequate.
- iii. Vegetated embankments shall be no more than twenty (20) feet in height and shall have a maximum side slope of a three to one (3:1) ratio. Riprap protected embankments shall have a maximum slope of a two to one (2:1) ratio. Geotechnical slope stability analysis is required for embankments greater than ten (10) feet in height. The detention basin shall be setback such that the outfall is at least twenty-five (25) feet from the property line.
- iv. Areas above the normal high water elevations of the detention facility should be sloped toward the basin to allow drainage and to prevent standing water.
- v. Inflow channels shall be stabilized with flared riprap aprons, or the equivalent thereof. A sediment forebay sized to 0.1 (one-tenth) inches per impervious acre of contributing drainage shall be provided for dry detention basins that are part of the treatment process.
- vi. The outlet structure shall be sized based on hydrologic routing calculations and may consist of a weir, orifice, outlet pipe, combination outlet, or other acceptable control structure which would achieve the required graduated discharge.
- vii. Riprap, plunge pools or pads, or other energy dissipaters must be placed at the end of the outlet to prevent scouring and erosion.
- viii. An emergency spillway shall be included in the stormwater pond design to safely pass the extreme flood flow. The spillway must prevent pond water levels from overtopping the embankment and causing structural damage. A minimum of one (1) foot of freeboard must be provided, measured from the top of the water surface elevation for the extreme flood, to the lowest point of the dam embankment not counting the emergency spillway. Special consideration for smaller basins may be considered as long as the design engineer can show that the practice is warranted.

(4) *Stormwater ponds:*

- i. Stormwater ponds also known as wet ponds, retention ponds, and or permanent lakes are constructed stormwater retention basins that have a permanent pool of water throughout the year. Runoff from each rain event shall be detained and treated in the pool through gravitational settling and biological uptake until it is displaced by runoff from the next storm. The permanent pool must protect deposited sediments from re-suspension. Above the permanent pool level, additional temporary storage shall be provided for runoff quantity control. The upper stages of a stormwater pond shall be designed to provide extended detention of the two-year, twenty-four-hour storm event for downstream channel protection, as well as normal detention of larger storm events.
- ii. Channel protection may be achieved by releasing the two-year, twenty-four-hour storm runoff volume over twenty-four (24) hours. A stormwater pond shall provide the required storage above the permanent pool and meet the specified graduated allowable release. Where required, stormwater ponds shall also be used to provide detention to control the

one-hundred-year storm event. Where this is not required, said pond structure shall be designed to safely pass extreme storm flows.

- iii. Minimum setback requirements for stormwater pond facilities:
 - a. Twenty-five (25) feet from property line to outward toe of berm;
 - b. One hundred (100) feet from private wells;
 - c. Fifty (50) feet from a septic system tank/leach field;
 - d. Five hundred (500) feet from public well.
- iv. The stormwater pond shall consist of a permanent pool of water, the overlying zone in which runoff control volumes are stored, and a shallow littoral zone along the edge of the permanent pool that acts as a biological filter. All stormwater pond designs shall include a sediment forebay at the inflow to the basin to allow heavier sediments to drop out of suspension before the runoff enters the permanent pool. Additional pond design features include an emergency spillway, maintenance access, safety bench, pond buffer and appropriate native landscaping.
- v. Proper geometric design shall be implemented to prevent hydraulic short-circuiting. The minimum length-to-width ratio for the permanent pool shape is one and one-half to one (1.5:1), and should ideally be greater than three to one (3:1) to avoid short-circuiting. In addition ponds should be wedge-shaped when possible so that flow enters the pond and gradually spreads out, improving the sedimentation process.
- vi. To avoid stratification and anoxic conditions, the maximum depth of the permanent pool shall generally not exceed eight (8) feet. Minimum depth for the pond bottom shall be three (3) feet.
- vii. Side slopes to the pond shall not exceed three to one (3:1) without the use of safety precautions. Side slopes to the pond shall not exceed three to one (3:1) if mowing is anticipated. Said should terminate on a safety bench. The safety bench requirement may be waived if slopes are four to one ratio (4:1) or gentler.
- viii. The perimeter of all deep pool areas should be surrounded by two benches: safety and aquatic. For larger ponds, the safety bench shall extend approximately fifteen (15) feet outward from the normal water edge to the toe of the pond side slope. The maximum slope of the safety bench should be sixteen to one (16:1) or six (6) percent. An aquatic bench should extend inward from the normal pool edge, fifteen (15) feet on average, and should have a maximum depth of eighteen (18) inches below the normal pool water surface elevation.
- ix. The sediment forebay should consist of a separate cell, formed by an acceptable barrier. The forebay must be sized to contain 0.1 (one-tenth) inches per impervious acre of contributing drainage. A fixed vertical sediment depth marker shall be installed in the forebay to measure sediment deposition over time. The bottom of the forebay may be hardened to make sediment removal easier. Inflow channels are to be stabilized with flared riprap aprons, or the equivalent. Exit velocities from the forebay must be non-erosive.
- x. Flow control from a stormwater pond is typically accomplished with the use of a concrete or corrugated metal riser and barrel. The riser should be located within the maintenance easement for access, safety and aesthetics. Higher flows should pass through openings or slots protected by trash racks further up on the riser. After entering the riser, flow is conveyed through the barrel and discharged downstream. Anti-seep collars should be installed on the outlet barrel to reduce the potential for pipe failure.
- xi. Riprap, plunge pools or pads, or other energy dissipaters must be placed at the end of the outlet to prevent scouring and erosion. If pond daylights to a channel with dry weather flow, care should be taken to minimize tree clearing along the downstream channel, and to re-establish a forested riparian zone in the shortest possible distance.

- xii. An emergency spillway shall be included in the stormwater pond design to safely pass the extreme flood flow. The spillway must prevent pond water levels from overtopping the embankment and causing structural damage. A minimum of one (1) foot of freeboard must be provided, measured from the top of the water surface elevation for the extreme flood, to the lowest point of the dam embankment not counting the emergency spillway. Special consideration for smaller basins may be considered as long as the design engineer can show that the practice is warranted.
- xiii. A maintenance right-of-way or easement must be provided to a pond from a public or private road. Maintenance access should be at least fifteen (15) feet wide, having a maximum slope of no more than fifteen (15) percent and be appropriately stabilized to withstand maintenance equipment and vehicles. The maintenance access must extend to the forebay, safety bench, riser, and outlet and, to the extent feasible, be designed to allow vehicles to turn around.
- xiv. The principal spillway opening should not permit access by small children, and end walls above pipe outfalls greater than forty-eight (48) inches in diameter should be fenced to prevent access. Warning signs should be posted near the pond to prohibit swimming and fishing in the facility.

(5) *Other methods of stormwater drainage detention/retention:*

- i. Other methods of detention such as seepage pits, French drains, etc., may be considered. If these methods are proposed, proper documentation of soils data, percolation, geological features, shall be provided for review and consideration.
- ii. The use of underground detention shall consist of the following elements designed in accordance with acceptable engineering practices:
 - a. An outlet structure with emergency release provisions;
 - b. An emergency spillway;
 - c. Maintenance access;
 - d. Maintenance schedule; and
 - e. Sediment trap on inflow structure.
- iii. *Parking lot detention:*
 - a. Detention within parking lots is only permitted within overflow parking areas the maximum depth of said detention shall be eight (8) inches. In no case should the maximum limits extent of ponding be designed closer than twenty (20) feet from a building unless water proof of the building and pedestrian accessibility is properly documented on plans.
 - b. The minimum freeboard from the maximum ponding elevation to the lowest sill elevation shall be one (1) foot.

(6) *Stormwater management detention/retention control structures:*

- i. Detention facilities shall be provided with obvious and effective control structures. Plan view and sections of the structure with adequate detail shall be included in plans.
- ii. Sizing the low-flow pipe shall be by inlet control or hydraulic gradient requirements.
- iii. Low-flow pipes shall not be smaller than eight (8) inches in diameter to minimize maintenance and operating problems, except in parking lot and roof retention where minimum size of opening shall be designed specifically for each condition.
- iv. The overflow opening or spillway shall be designed to accept the total peak runoff of the improved tributary area.

- v. Proper engineering judgment shall be exercised in analysis of secondary routing of discharge of greater intensity than the basic design storm in order to avoid economic losses or damage downstream.

(7) *Stormwater management detention/retention discharge systems:*

- i. Sizing of the system located below the control structure shall be based upon the total improved peak runoff tributary to the structure with no allowance for detention.
- ii. When existing downstream pipe sizing, outside the developers control jurisdiction, is inadequate, an evaluation for under sizing of pipes may be undertaken by the city upon receipt of written request from the engineer specifying the run or runs desired to be undersized.
- iii. Requests for under sizing shall be accompanied by plans and profiles of the entire undersized system downstream if less than five hundred (500) feet in length or a minimum of five hundred (500) feet.
- iv. When hydraulic gradients of the proposed undersize system affect the performance or capacity of structures maintained by the city, no under-sizing will be allowed.

18-5 - Verification of adequate design, easements and maintenance.

A. *Verification of adequacy:* Analysis of all elements of design shall be performed by the registered professional design engineer. The following outline is provided to ascertain that critical elements of design are in workable compliance with the aims of design:

- (1) Volume of retention for the total project;
- (2) Tributary (Q) peak runoff to basin;
- (3) Balanced maximum outflow rate from the low-flow structure;
- (4) Ratios of inflow to outflow;
- (5) Sizing of the overflow facilities;
- (6) Permeability rates, and geotechnical data where applicable;
- (7) Stability of dikes;
- (8) Safety features; and
- (9) Maintenance features.

For projects up to two hundred (200) acres, routing calculations for all ponds shall be submitted in legible tabulated form with documented verification of adequacy according to scope and complexity of design. Proof of adequacy of volume of retention and sizing computations for low-flow structures shall also be submitted and certified by the design engineer. Features of stability and safety may also need to be documented if the scope of the project requires special attention in this area of design.

B. *Stormwater management detention/retention easements:* Two (2) types of easements shall be provided in plans for stormwater detention/retention facilities.

(1) *Maintenance easement:*

- i. All stormwater management facility reservoirs, with the exception of parking lot and roof detention, shall be enclosed by a maintenance easement. The limits of the said easement shall extend ten (10) feet beyond the top elevation of the reservoir.
- ii. When a stormwater management facility is adjacent to a public right-of-way, the limits of the easement shall extend twenty-five (25) feet beyond the elevation of the reservoir on the public right-of-way side.

- (2) *Drainage easement:* A minimum fifteen (15) feet wide drainage easement shall be provided within the reservoir area connecting the tributary pipes and the discharge system along the best possible routing of a piping system for possible future elimination of managed stormwater.

C. *Maintenance of stormwater detention/retention facilities and liability:*

- (1) All final plats shall have a section that details that the city reserves the right to require the owners of all drainage facilities to perform needed maintenance to prevent potential flooding hazards.
- (2) Operation and maintenance of any existing and future stormwater management facility (detention or retention basin) is the responsibility of the property owner(s).
- (3) Any liability associated with the design, performance and operation of the facility remains with the owner and the project design engineer. The project design engineer shall be responsible for disclosing information regarding and instructing the owner of required operation and maintenance of the facility(s). Prior to final plat approval by the planning commission, a completed Stormwater Management Indemnification Form (Appendix) shall be submitted to the city. Said agreement shall require among other things that the landowner, its successors, and, or assigns or any property owner who discharges to or benefits from the maintenance or improvements to the real property shall, annually, inspect the stormwater facility and submit said inspection report to the environmental programs manager or designee of the building official. The landowner, its successors and/or assigns of any property owner within the subdivision who discharges to or benefits from the maintenance or improvement to the real property shall have a qualified credential professional (QCP) inspect the facility at least once every three (3) years. Upon completion of the inspection the QCP shall submit to the City of Daphne in report form a copy of said inspection detailing but not limited to the following items: facility as-built engineered floor elevation, existing floor elevation, sedimentation, vegetative cover, debris, fencing (if required), outlet structure and inlets. The facility shall be subject to at least an annual inspection by the city to ensure that it functions in accordance with its original design criteria and to follow up on submitted inspection and/or respond to citizen complaints. Entry to the stormwater management facility shall be granted by the owner, developer or property owners association.
- (4) Any defects discovered by the city during the annual inspection process shall be furnished to the owner of the stormwater management facility in writing by the city. The notice shall be in the form of certified mail-return receipt required, through the United States Postal Service. The owner shall have fifteen (15) business days from the date of mailing of said notice by the city to submit a written plan detailing the actions that will be instituted to correct noted defects and thirty (30) business days thereafter to implement a corrective plan. If said repairs involve engineered practices, then the plan shall be signed by an engineer licensed in the State [of] Alabama. Also, if the repair plan results in land disturbance greater than one thousand (1,000) square feet, a City of Daphne Land Disturbance Permit (Ordinance # 2008-54) shall be required. The city may, at its discretion, allow the owner additional time as deemed appropriate for the corrective work to be performed. Failure by the owner to perform the corrective action may result in enforcement by the city which may include, but not be limited to, the issuance of a municipal offense citation and or the declaration of the facility as a public nuisance.

D. *Abatement of detention/retention facility public nuisance:* It shall be unlawful for any person to maintain a public or private nuisance upon any public or private property.

- (1) *Resolution of abatement:* Whenever any such public nuisance occurs, the city council may, by resolution, declare the same to be a public nuisance and order its abatement. The resolution shall refer to the street by the name under which it is commonly known, describe the property upon which, or in front of which, the public nuisance exists, by giving a legal description thereof and no other description of the property shall be required. Any number of streets, sidewalks or parcels of property may be included in one and the same resolution.
- (2) *Notice of declaration:*

- i. After the passage of the resolution, notice of a public hearing on the matter shall be given by certified mail, return receipt requested, mailed a minimum of thirty (30) days prior to the date of the public hearing and shall inform the owner of the time, date and place of the public hearing and reason therefore. The notice shall be mailed to the owner of the property as it appears of record in the Baldwin County Revenue Commissioner's office.
 - ii. Notice shall also be given by publication in a local newspaper of general circulation once a week for two (2) consecutive weeks. The first notice shall be published at least fourteen (14) days prior to the date of the scheduled public hearing.
 - iii. In addition thereto, signs shall be conspicuously posted at sixty-foot intervals along the frontage of the property. The caption of the signs shall not be less than one (1) inch in height and shall be in substantially the same form as expressed in the public notice.
 - iv. The notice shall be posted at least seven (7) days prior to the time of the hearing of the city council.
- (3) *Hearing on nuisance declaration:* If objections are filed with the city clerk's office prior to the time stated in the notice, the city clerk's office shall hear and consider all evidence, objections and protests regarding the proposed compliance issues. The council may continue the assessment hearing from time to time, as needed. Upon the conclusion of an assessment hearing, the council, by resolution, shall decide whether a public nuisance exists and, if so, shall order it to be removed or abated with respect to any property or part thereof described. The city council, by passage of the resolution, shall be deemed to have acquired jurisdiction to proceed and either to perform or have performed the work of removal or abatement with respect to such property or part thereof. The decision of the governing body on the matter shall be deemed final and conclusive.
- (4) *Order for abatement:*
 - i. After the council passes the resolution finding the conditions of the property to be a public nuisance and ordering its abatement, all employees and duly authorized agents of the city are hereby expressly authorized to enter upon private property for that purpose.
 - ii. The city may, at its option, engage and authorize city employees and/or private contractors, companies, enterprises or individuals to abate and remove the nuisance. The council, by resolution, shall designate the city employees and/or private contractors, companies, enterprises or individuals who may perform the work.
 - iii. Any property owner shall have the right to abate any public nuisance at his own expense, providing the same is done prior to the time city employees or agents commence work.
- (5) *Liability insurance:* Private contractors engaged by the city in accordance with this article shall be required to provide proof of liability insurance in the amounts routinely required by the city for similar projects and will accept responsibility for any damages to subject lots and surrounding areas which may occur during the cutting/cleaning of subject property. The insurance policy shall contain an endorsement that the same shall not be canceled without giving to the city ten (10) days' written notice.
- (6) *Billing and collection:*
 - i. The city shall keep an account of the cost of abating each nuisance in front of or on each separate lot or parcel of land where work is completed by it or its employees, or by a duly authorized private contractor, company, enterprise or individual, and shall render a written itemized report to the city council showing the cost of removing a particular public nuisance; provided that before the report is submitted to the governing body, a copy of the same shall be posted for at least five (5) days prior thereto on or near the chamber door of the city council, together with a notice of the time when the report shall be submitted to the city council for confirmation.
 - ii. Prior to the time fixed for the city council to receive and consider the report, the administrative appeal process of filing, hearing and ruling upon complaints and objections

shall have been completed. Contested assessments shall be appealed to the city council, at the property owner's request upon filing a timely notice with the city clerk at least seven (7) days prior to the time fixed by the city council to receive and consider the report.

- iii. The cost of abating such nuisance in front of or upon the various parcels of land mentioned in the report shall constitute a special assessment and as thus made and confirmed shall constitute a lien on the property for the total amount of such assessment along with any administrative costs, respectively. After confirmation of the report, the city shall attempt to collect the lien. If this attempt by the city proves futile, a copy of the lien confirmation report will be turned over to the Baldwin County Revenue Commissioner who, under the "optional method of taxation," is charged with the collection of the city's municipal taxes pursuant to Code of Ala. 1975, §§ 11-51-40 through 11-51-74. It shall be the duty of the Baldwin County Revenue Commissioner to add the amount of the respective lien to the next regular bill for taxes levied against the respective lots and parcels of land, and thereafter the amounts shall be collected at the same time and in the same manner as ordinary municipal ad valorem taxes are collected and shall be subject to the same penalties and the same procedure under foreclosure and sale in case of delinquency pursuant to Code of Ala. 1975, §§ 11-51-40 through 11-51-74.

18-6 - Erosion and sediment control.

A. *Purpose:* During the construction process, soil is most vulnerable to erosion by wind and water. Eroded soil endangers water resources by reducing water quality and causing the siltation of aquatic habitat for fish and other desirable species. Eroded soil also necessitates repair of sewers and ditches, and the dredging of watercourses. In addition, clearing and grading during construction causes the loss of native vegetation necessary for terrestrial and aquatic habitat, and to provide a healthy living environment for the citizens of Daphne.

B. *General requirements:*

- (1) Construction best management practices plan (CBMPP) shall be designed by a qualified credentialed professional (QCP as defined in Article VII, Definition of Terms) such as a professional engineer.

CBMPP map shall include the following:

- i. Identify topography, natural features such as watercourses, waterways, and wetlands and proposed construction areas.
- ii. Identify critical areas which are subject to severe erosion and off-site areas which are especially vulnerable to damage from erosion and/or sedimentation. Critical areas shall be identified and shall receive special attention and protection. Critical areas include but are not limited to cut and fill slopes, streams and wetlands.
- iii. Erosion and sediment controls used throughout all phases of construction and details of permanent stabilization methods to be used at completion.
- iv. Provisions for maintenance of erosion and sediment controls and periodic inspections for effectiveness of controls.

C. *Submittal, review and approval procedures:*

- (1) CBMPP shall be submitted with application material required for planning commission review.
- (2) No land disturbance shall take place prior to review and approval of the project CBMPP.

D. *Modifications to the CBMP plan:*

- (1) Major modification, such as relocation of detention facility, to the CBMPP shall be submitted to the department of community development and shall be processed and approved, or disapproved, by the environmental programs manager or designee of the building official and the director of community development or his/her designee. Where deemed necessary by the

director of community development, approval for such modification may be required upon planning commission review.

- (2) Minor modifications, such as the addition of additional silt fence, to the CBMPP may be addressed on site as needed to ensure compliance with the provisions outlined.

E. *Design requirements:* Erosion control practices, and sediment control practices, shall meet the design criteria set forth in the most recent version of the Alabama Handbook for Erosion and Sediment Control and shall be adequate to prevent transportation of sediment from the site to the satisfaction of the environmental programs manager or designee of the building official.

(1) *Clearing and grading:*

- i. Clearing and grading of natural resources, such as wetlands, waterways, and watercourses, shall not be permitted, except where in compliance with all other sections of this Land Use and Development Ordinance and as permitted by the United States Army Corps of Engineers, if applicable.
- ii. Clearing techniques that retain natural vegetation and natural drainage patterns are strongly encouraged.
- iii. Phasing shall be required in accordance with provisions provided in Article XVIII, Drainage and Stormwater Management Facilities and Erosion/Sediment Control, section 18-3(g), Phasing and platting, on all sites seventeen and one-half (17.5) acres or greater, with the size of each phase to be no more than seventeen and one-half (17.5) acres.
- iv. Clearing, except as necessary to establish sediment basin and other sediment control devices, shall not begin until all sediment control devices have been installed.
- v. Cut and fill slopes shall be no greater than three to one (3:1), except as approved by the City of Daphne to meet other community or environmental objectives.

F. *Erosion control:*

- (1) Soils must be stabilized within thirteen (13) days of clearing or inactivity in construction.
- (2) If vegetative erosion control methods, such as seeding, have not become established within four (4) weeks, the City of Daphne may require that the site be reseeded, or that a non-vegetative option be employed.
- (3) On steep slopes or in drainage ways, special techniques that meet design criteria outlined in the Alabama Handbook shall be used to ensure stabilization.
- (4) Soil stockpiles are considered part of the site disturbance and therefore must be temporarily stabilized within thirteen (13) days of clearing or inactivity in construction.
- (5) Techniques shall be employed to prevent the blowing of dust or sediment from the site onto adjacent properties.
- (6) Appropriate techniques shall be employed to divert upland runoff past disturbed slopes.

G. *Sediment controls:*

- (1) Sediment controls shall be provided in the form of sediment basins or sediment traps and perimeter controls.
- (2) Where possible, sediment basins shall be designed in a manner that allows adaptation to provide long term stormwater management. Permanent stormwater controls can be retrofitted to serve as sediment controls during construction.
- (3) Adjacent properties shall be protected by the use of a vegetated buffer strip, in combination with perimeter controls.

H. *Waterways and watercourses:*

- (1) When a watercourse must be crossed regularly during construction, a temporary stream crossing shall be provided, and an approval obtained from the United States Army Corps of Engineers. The letter of permission or the permit from the USCOE must be submitted to the city prior to issuance of the site disturbance permit.
 - (2) When in-channel work is conducted, the channel shall be stabilized after work is completed.
 - (3) All on-site stormwater conveyance channels shall be designed according to the criteria outlined in the Alabama Handbook.
 - (4) Outlets of all pipes and paved channels shall have adequate stabilization to prevent erosion. Riprap may be required for stabilization if vegetative measures prove to be ineffective at controlling erosion in waterways or watercourses.
- I. *Construction site access:*
- (1) A stabilized construction access shall be required in order to ensure sediment is not tracked on to public streets.
 - (2) If sediment tracking occurs on public streets and/or right-of-ways, the contractor will be required to remove accumulated sediments from streets and ditches.
- J. *ADEM "303(d)" Listed Streams:* Any site which discharges directly or indirectly to an ADEM 303(d) Listed Stream segment shall submit an enhanced CBMPP to minimize to the maximum extent practical the release of the listed pollutant to the stream. The enhanced CBMPP shall include enhanced BMPs and other measures which may include but not be limited to a water sampling component of the sites discharge for the 303d listed pollutant.
- K. *Other provisions related to construction and/or site disturbance:*
- (1) *Burning:* No open burning associated with property clearing is allowed during the months of May through October per state regulations. During certain permissible months, open burning is not allowed unless a smoke curtain or incinerator is used and permitted per the current City of Daphne Fire Code.
 - (2) *Spill prevention control counter-measures plan requirement:* Sites that store onsite fuel, chemicals or other pollutants shall prepare implement and maintain a spill prevention, control and countermeasures plan (SPCCP), as a separate document or as a component of the erosion and sediment control plan (CBMPP) for the site.
 - (3) *Washout areas:* A concrete washout area shall be designated on all sites during installation of drainage structures and in the residential construction phase.
 - (4) *BMPs:* The placement of BMPs in/on city right-of-way is prohibited unless express written permission is granted by the director of public works or his/her designee.
 - (5) *Construction debris:* CBMPP shall include measures to address construction debris during all phases of construction at the site.
 - (6) *Sanitary waste:* CBMPP shall include measures to address public health and safety in regards to restroom usage during all phases of construction.
- L. *Site inspections:* The owner or contractor shall make daily inspections of all control measures throughout the construction process to ensure the overall effectiveness of the CBMPP; however any permitted site shall be subject to at least the following inspections by the site containment officer and/or environmental programs manager:
- (1) Immediately after erosion and sediment controls are in place and prior to commencement of site clearing and grading;
 - (2) After installation of stormwater detention/retention management facilities;
 - (3) After clearing and grading has been completed;
 - (4) After remaining drainage has been installed;

- (5) After streets and curb and gutter have been completed; and/or,
- (6) Before construction completion.

M. *Enforcement of erosion and sediment control provisions:*

- (1) The building inspections department and/or public works department (where applicable) shall serve as a line of communication between the permit holder and the city in regard to permit compliance.
- (2) The City of Daphne may issue a stop work order and/or suspend or revoke the site disturbance permit where the site containment officer or designee of the building official or the director of public works or his/her designee has found the following:
 - i. Violation(s) of the terms of the permit or site development which may adversely affect the health, welfare, or safety of persons residing or working in the neighborhood.
 - ii. Site development that is detrimental to the public welfare or injurious to property or improvements in the neighborhood.
- (3) *Compliance with erosion control/sedimentation requirements:*
 - i. If compliance cannot be achieved through the normal inspection process, the city may issue a notice of violation.
- (4) *Notice of violation:*
 - i. *General:* Whenever the development is determined to be in non-compliance, the owner shall be notified of the violations and/or deficiencies. Upon notification, the owner shall have forty-eight (48) hours to bring the site into compliance. The city may, at its discretion, allow the owner additional time as deemed appropriate for the corrective work to be performed. If the site fails to come into compliance, the owner may be found in violation of the Ordinance and guilty of a misdemeanor. Any person who violates this Ordinance shall, upon conviction thereof, be fined not more than five hundred dollars (\$500.00), and in addition shall pay all costs and expenses involved in the case. Each day during which any violation of any of the provisions of this Ordinance is committed, continued, or permitted shall constitute a separate offense. Nothing herein contained shall prevent the City of Daphne from taking such other lawful actions as are necessary to prevent or remedy any violation.
 - ii. *Sediment impact violations:* Whenever the City of Daphne determines that significant sedimentation is occurring as a result of a land disturbing activity, despite application and maintenance of protective practices, the person conducting the land disturbing activity or the person responsible for maintenance will be required to take additional protective action. Furthermore, if it is determined that sedimentation has occurred off site onto right-of-way, in-stream, or into stormwater drainage systems, the sediments shall be removed. The owner, builder, or engineer shall be notified by a certified notice of violation.
 - iii. The notice of violation shall detail the non-compliance and shall give the violator fourteen (14) days to submit a restoration plan to the environmental programs manager (EPM). This plan shall include measures to mitigate any offsite sediment and measure including but not limited to stabilization measure for the impacted area. Upon receipt and review of the restoration plan, the environmental programs manager at his or her discretion shall require the plan to be submitted to the planning commission, United States Corps of Engineers, and/or the Alabama Department of Environmental Management for further review and approval. Upon approval of the plan by the city and other regulatory agencies the violator shall have thirty (30) days to implement and complete the plan. Upon completion of the plan, the environmental programs manager or his/or her designee shall perform a follow-up inspection. If the site is compliant, then the violation shall be resolved.
 - iv. *Intentional circumvention of the drainage, stormwater management facilities and erosion/sediment control provisions:* When an owner, builder or design engineer is found to

have intentionally circumvented any provision of Article XVIII, the following steps shall be taken:

- a. The owner, builder, or engineer shall be notified of such by a certified notice of violation.
- b. The notice of violation shall detail the non-compliance and shall give the violator fourteen (14) days to submit a corrective action plan to the director of community development for review of the applicable city inspector/complainant.
- c. Upon receipt and review of the corrective action plan, director of community development at his/her discretion may require the plan to be submitted to the planning commission for further review and approval.
- d. Upon approval of the plan the violator will have thirty (30) days to implement and complete the plan.
- e. If the completion of the plan requires more than thirty (30) days, the owner, builder, or engineer may formally request by letter a thirty-day extension from the director of community development. Once the corrective action is complete, the director of community development designee shall inspect the site for compliance with Article XVIII, Drainage, Stormwater Management Facilities and Erosion/Sediment Control provisions.
- f. If the site is compliant then the violation will be resolved. [However, if the violation is not resolved during the allotted time the owner, builder, or engineer will be notified by a second (2nd) certified notice of violation stating that the planning commission shall consider making a recommendation to city council that said violator's city business license be revoked for a one-year period the owner.]

18-7 - Completion of construction activities, final inspection and/or certificate of occupancy requests.

- A. All open channels and ditches shall be permanently vegetated with perennial vegetation upon final inspection. Seed and mulch shall not be accepted. If sod is used on slopes, corners will need to be pinned per the Alabama Handbook.
- B. Common areas, such as detention basins shall be permanently stabilized upon final inspection with perennial vegetation. Seed and mulch shall not be accepted.
- C. All construction waste and debris, silt fences, hay bales, inlet protection, and other temporary BMPs shall be removed prior to final inspection.
- D. All final inspection submissions shall include the following:
 - (1) Signed set of as-built engineered drawings and an electronic version of the drawings compatible with Arc Info 9.3: Projected Coordinate System:
NAD_1983_State Plane_Alabama_West_FIPS_0102_Feet.
 - (2) Letter of acceptance from the city site containment inspector and/or environmental programs manager, director of public works, fire marshal, Daphne utilities, all applicable public utility providers, and applicable state/federal agency.
 - (3) Letter of completion from the project engineer.
 - (4) Letter of completion from the project landscape architect.
 - (5) Copy of all recorded drainage or right of entry easements.
 - (6) Maintenance bonds for streets and drainage, and any other applicable bonds.