

MATTHEWS ZONING ORDINANCE

§153.100 APPLICATION OF S.W.I.M. (Surface Water Improvement and Management) STREAM BUFFERS

- (A) *Purpose.* The purpose of a stream buffer network is to ensure that the stream and adjacent lands will fulfill their natural functions. Stream systems are comprised of the stream and their drainage basins. Streams have the primary natural functions of conveying storm and ground water, storing floodwater and supporting aquatic and other life. Vegetated lands adjacent to the stream channel in the drainage basin serve as a "buffer" to protect the stream system's ability to fulfill its natural functions. Primary natural functions of the buffer include:
- (1) Protect water quality by filtering pollutants;
 - (2) Provide storage for floodwaters;
 - (3) Allow channels to meander naturally; and
 - (4) Provide suitable habitats for wildlife.
- (B) *Definitions.* For the purposes of this section, the following words and phrases shall be defined as specified below:

BEST MANAGEMENT PRACTICES (BMPs). A structural or nonstructural management based practice used singularly or in combination to reduce non-point source input to receiving waters in order to achieve water quality protection goals.

Non-structural BMPs. Non-engineered methods to control the amount of non-point source pollution. These may include land-use controls and vegetated buffers.

Structural BMPs. Engineered structures that are designed to reduce the delivery of pollutants from their source or to divert contaminants away from the water supply. These may include wet detention ponds, detention basins, grass swales and ditches, and infiltration devices.

BUFFER. A vegetated area through which storm water runoff flows in a diffuse manner so that the runoff does not become channelized and which provides for infiltration of the runoff and filtering of pollutants.

BUFFER ZONES. Buffer widths are measured in three (3) zones in Figure 1: a) Stream Side Zone; b) Managed Use Zone; and c) Upland Zone. The buffer width is measured horizontally on a line perpendicular to the surface water, landward from the top of the bank on each side of the stream.

Three Zoned Urban Stream Buffer

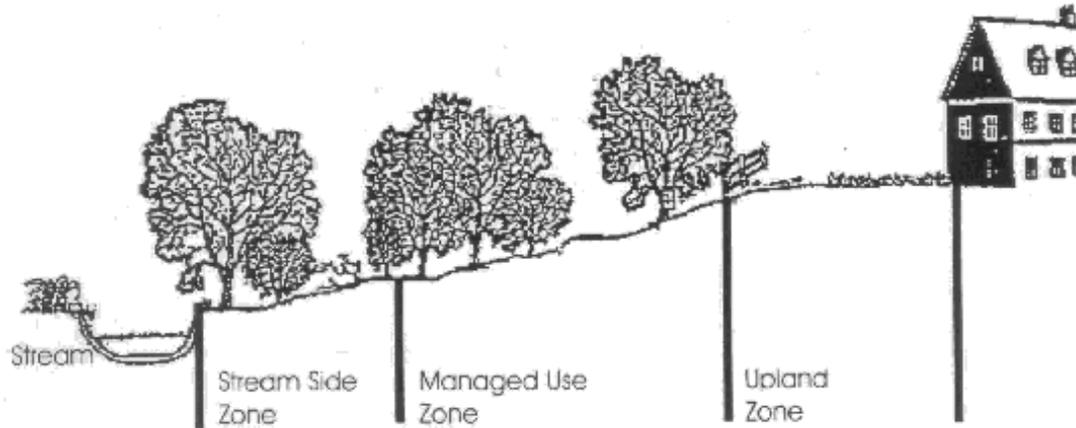


Figure 1

DRAINAGE BASIN. The area of land which drains to a given point on a body of water.

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

FLOOD FRINGE. The land area located between the limits of the floodway and the maximum elevation subject to inundation by the base (1% chance) flood.

FLOODPLAIN. The low, periodically flooded lands adjacent to rivers and lakes. For land use planning purposes, the regulatory floodplain is usually viewed as all alongside a watercourse that would be inundated by the base (1% chance) flood; the floodway plus the flood fringe.

MITIGATION. Actions taken on-site and/or off-site to offset the effects of temporary or permanent loss of a buffer.

SITE SPECIFIC DEVELOPMENT PLAN. Any review process of a physical layout of a property which requires signed approval by a representative of the Town of Matthews. This may include, but is not limited to, any conditional zoning approvals, any site plan required as a condition of a previous zoning approval, Highway Overlay Compliance, Downtown Overlay Compliance, Landscape Plan, and subdivision preliminary plat.

TOP OF BANK. The landward edge of the stream channel during high water, bankfull conditions at the point where water begins to overflow onto the floodplain.

(C) *Applicability.*

(1) All properties shall comply with the buffer requirements as detailed in the Matthews Subdivision Ordinance at Section 152.33, and of this Section except those which, as of the effective date February 14, 2000, have previously secured a right to proceed by:

- (a) Being subject to a recorded subdivision plat;
- (b) Being subject to a preliminary subdivision plan approved by the Board of Commissioners prior to the effective date of this Section;
- (c) Having otherwise secured a vested property right under state law.

(2) Redevelopment or expansion of structures, uses, or other development projects included in (C)(1), above, shall comply with the buffer requirements of this Section, however uses and structures previously approved and constructed in a buffer may remain.

(3) A site specific development plan amended by action of the Board of Commissioners subsequent to adoption of this Section shall comply, in its amended form, with the S.W.I.M. buffer requirements, however uses and structures previously approved for construction in a buffer may remain.

(D) *Buffer Standards*

(1) *Minimum Buffer Widths.* Minimum stream buffer widths vary based on the size of the upstream drainage basin, as described in the following table. Mecklenburg County's Geographic Information System will locate streams and delineate the size of drainage basins associated with each.

Table of Minimum Buffer Widths by Basin Size and Buffer Zone

Area Designation	Stream Side Zone	Managed Use Zone	Upland Zone	Total Buffer Width each side of Stream	Notes
640 acres	30 feet	45 feet	Balance of floodway PLUS 100% of flood fringe, but no less than 25 feet	Floodway PLUS 100% of flood fringe, but no less than 100 feet	(1), (2)
300 acres	20 feet	20 feet	10 feet	50 feet	(1)
50 acres	20 feet	None	15 feet	35 feet	(1)

Notes:

(1) Buffer widths are measured horizontally on a line perpendicular to the surface water, landward from the top of the bank on each side of the stream.

(2) Floodplain and buffer calculations will be based upon the flood fringe and floodway encroachment lines, as locally adopted and as may be amended from time to time.

(2) *Buffer Description.* Buffer function, vegetation and use vary according to the different buffer zones and are described in the following table.

Table of Buffer Treatment by Buffer Zone

	Stream Side Zone	Managed Use Zone	Upland Zone	Notes
Function	Protect the integrity of the ecosystems	Provide natural filter; provide distance between upland development and the stream side zone	Prevent encroachment and filter runoff	
Vegetative Requirements	<u>Undisturbed (no cutting, clearing or grading).</u> If existing tree density is inadequate, reforestation is required.	<u>Limited clearing (no grading).</u> Existing tree density must be retained to a minimum of 8 healthy trees of a minimum 6 inch caliper per 1000 square feet. If existing tree density is inadequate, reforestation is encouraged.	<u>Herbaceous ground cover,</u> including grass, is allowed; maintenance of existing forest or reforestation is encouraged.	(1)
Uses	<u>Very restricted.</u> Permitted uses limited to flood control structures and bank stabilization (where permitted) as well as installation of parallel or near perpendicular (75) water and sewer utilities and near perpendicular road crossings (75) with stabilization of disturbed areas	<u>Restricted.</u> Permitted uses limited to those allowed in the Stream Side Zone, as well as bikepaths and greenway trails up to 10 feet width.	<u>Restricted.</u> Permitted uses limited to those allowed in Stream Side and Managed Use Zones, as well as gazebos, non-commercial storage buildings less than 150 square feet, limited grading that does not change the functionality or extend of the floodplain, and storm water structural best management practices (BMPs) if approved as a condition of a buffer width variance.	(2), (3)

Notes:

(1) When reforestation of disturbed buffers is required, tree planting shall be as specified in the Charlotte-Mecklenburg Land Development Standards Manual.

(2) Fill material cannot be brought into any required buffer. In the Upland Zone only, limited grading that does not change the extent or functional characteristics of the floodplain is permitted. Uses permitted in the buffer zones should be coordinated to ensure minimal disturbance of the buffer system. For example, if it is necessary to install utilities within the buffer, then if greenway trails are built they should follow these cleared areas instead of necessitating additional clearing.

(3) Notwithstanding the uses and structures permitted in the "Upland Zone", the stricter standards of floodway regulations, if applicable, shall apply.

(3) *Diffuse Flow Requirement.* Diffuse flow of runoff shall be maintained in the buffer by dispersing concentrated flow and reestablishing vegetation. Techniques for providing diffuse flow are specified in the Charlotte-Mecklenburg Land Development Standards Manual.

(a) Concentrated runoff from ditches or other manmade conveyances shall be diverted to diffuse flow before the runoff enters the buffer.

(b) Periodic corrective action to restore diffuse flow shall be taken by the property owner as necessary to impede the formation of erosion gullies

(4) *Ponds.* Ponds that intersect the stream channel shall have the same buffers as the original stream measured from the top of the bank of the pond. Buffer requirements do not apply to wet ponds used as structural BMPs.

(5) *Buffer Delineation.* The following buffer delineations are required:

(a) Stream and buffer boundaries including all buffer zones must be clearly delineated on all site specific plans for Board of Commissioner approval, on all construction plans, including grading and clearing plans, erosion and sediment control plans, and site plans.

(b) Buffer boundaries including all buffer zones must be clearly marked on-site prior to any land disturbing activities. Where existing trees are to be preserved in a buffer zone, limits of grading shall maintain a minimum 20' separation from the base of each tree of 8" DBH or larger on the upland side of the buffer.

(c) The outside boundary of the buffer must be permanently marked on each parcel following the completion of grading activities and prior to occupancy.

(d) Separate buffer zones must be permanently marked at highway stream crossings.

(e) Buffer boundaries including the delineation of each buffer zone as well as all buffer requirements must be specified on all surveys and record plats, on individual deeds, and in property association documents for lands held in common.

(E) *Buffer Impacts Allowed.* The following buffer impacts are permitted, but design and construction shall comply with the specifications provided in the Charlotte-Mecklenburg Land Development Standards Manual for stabilization of disturbed areas to minimize negative effects on the quality of surface waters.

(1) Near perpendicular (75° or greater) road crossings for connectivity or transportation links.

(2) Near perpendicular (75° or greater) utility crossings as approved by Charlotte-Mecklenburg Utilities.

(3) Parallel water and sewer utility installation as approved by Charlotte-Mecklenburg Utilities, where a logical and appropriate basis for the impact is demonstrated, where disturbance of the Stream Side Zone is minimized to the maximum extent practicable, and where guidelines for restoring vegetation within buffers disturbed as a result of parallel utility installation are met. These guidelines are specified in the Charlotte-Mecklenburg Land Development Standards Manual.

(4) Public paths and trails parallel to the creek outside the Stream Side Zone and near perpendicular stream crossings in any zone. Pathways must use existing and proposed utility alignments or previously cleared areas and minimize tree cutting to the maximum extent practicable. To the extent possible, pathways shall preserve existing drainage patterns and avoid drainage structures that concentrate storm water.

(5) Incidental drainage improvements/repairs for maintenance.

(6) Individual pedestrian paths connecting homeowners to the stream in the form of narrow, pervious footpaths with minimal tree disturbance.

(7) New domesticated animal trails (farming) where existing trails are lost as a result of action beyond the farmer's control. Stream crossings should be constructed to minimize impacts to the Stream Side Zone and be maintained with fencing perpendicular to and through the buffer to direct animal movement.

(8) Mitigation approved by a state or federal agency acting pursuant to Sections 401 or 404 of the federal Clean Water Act.

(F) *Appeals and Variances*

(1) *Appeals*. An appeal to reverse or modify the order, decision, determination, or interpretation of the Zoning Administrator shall comply with the requirements of Section 153.285 through 153.291.

(2) *Variances*

(a) When a difficulty or hardship would result from adherence to the buffer width requirements and/or buffer treatment standards during preliminary subdivision plat stage, a request for subdivision variance may be submitted to the Matthews Planning Board in compliance with the procedures of the Matthews Subdivision Ordinance at Sections 152.33(F)(2) and 152.06(B). This will not be considered a zoning variance issue, in order that the same request does not have to be heard by two separate bodies.

(b) When a difficulty or hardship would result from adherence to the application of all S.W.I.M. buffer requirements listed in this Section, and no subdivision process is involved, a request for zoning variance may be submitted to the Matthews Board of Adjustment as outlined at Section 153.287(C). One or more mitigation factors listed in the Subdivision Ordinance at Section 152.33(F)(3) should be utilized in any zoning variance request on S.W.I.M. buffer regulations. The applicant for such zoning variance shall provide with the completed request form, as a part of the required submission process, a written report from the Town Public Works Director or his designee, outlining any recommendations and preferred mitigation techniques as may be appropriate.

(G) *Posting of financial security required*. When structural BMPs (wet detention ponds and other BMPs) are approved for mitigation of a buffer disturbance, the approval will be subject to the owner filing a surety bond or letter of credit or making other financial arrangements which are acceptable to the Mecklenburg County Department of Environmental Protection, in a form which is satisfactory to the County Attorney, guaranteeing the installation and maintenance of the required structural BMPs until the issuance of certificates of occupancy for seventy-five percent (75%) of all construction which might reasonably be anticipated to be built within the area which drains into the BMPs, allowing credit for improvements completed prior to the submission of the final plat. At such time that this level of occupancy is achieved, written notice thereof must be submitted by the owner to the Mecklenburg County Department of Environmental Protection. The owner must also verify the adequacy of the maintenance plan for the BMPs, including the necessary financing to support the proposed maintenance practices. The Mecklenburg County Department of Environmental Protection will inspect the structural BMPs and verify the effectiveness of the maintenance plan; if both are found to be satisfactory, the department will notify the owner within 30 days of the date of notice.

- (H) *Maintenance responsibilities for structural BMPs - Civil Penalties.* Maintenance of all structural BMPs will be the responsibility of the property owner or his designee. Any person who fails to maintain the required BMPs in accordance with the approved maintenance plan will be subject to a civil penalty of not more than \$500. Each day that the violation continues shall constitute a separate violation. No penalties shall be assessed until the person alleged to be in violation has been notified in writing of the violation by registered or certified mail, return receipt requested, or by other means which are reasonably calculated to give actual notice. The notice shall describe the nature of the violation with reasonable particularity, specify a reasonable time period within which the violation must be corrected, and warn that failure to correct the violation within the time period will result in assessment of a civil penalty or other enforcement action. (Ord. 1123, passed 2-14-00)

MATTHEWS SUBDIVISION ORDINANCE

152.33 DESIGN STANDARDS FOR S.W.I.M. (Surface Water Improvement and Management) STREAM BUFFERS

- (A) *Purpose* The purpose of a stream buffer network is to ensure that the stream and adjacent lands will fulfill their natural functions. Stream systems are comprised of the stream and their drainage basins. Streams have the primary natural functions of conveying storm and ground water, storing floodwater and supporting aquatic and other life. Vegetated lands adjacent to the stream channel in the drainage basin serve as a "buffer" to protect the stream system's ability to fulfill its natural functions. Primary natural functions of the buffer include:
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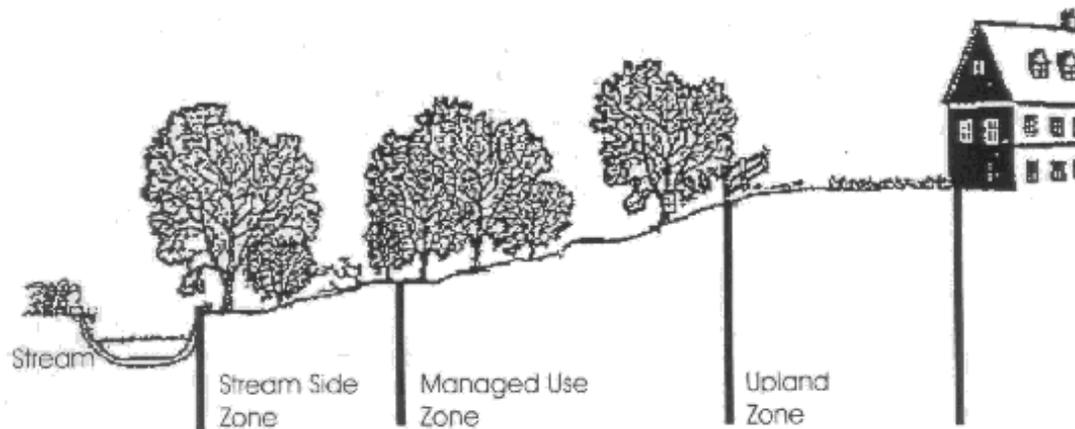
Non-structural BMPs. Non-engineered methods to control the amount of non-point source pollution. These may include land-use controls and vegetated buffers.

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BUFFER ZONES. Buffer widths are measured in three (3) zones in Figure 1: a) Stream Side Zone; b) Managed Use Zone; and c) Upland Zone. The buffer width is measured horizontally on a line perpendicular to the surface water, landward from the top of the bank on each side of the stream.

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FLOOD FRINGE. The land area located between the limits of the floodway and the maximum elevation subject to inundation by the base (1% chance) flood.

FLOODPLAIN. The low, periodically flooded lands adjacent to rivers and lakes. For land use planning purposes, the regulatory floodplain is usually viewed as all alongside a watercourse that would be inundated by the base (1% chance) flood; the floodway plus the flood fringe.

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TOP OF BANK. The landward edge of the stream channel during high water, bankfull conditions at the point where water begins to overflow onto the floodplain.

(C) *Applicability.*

(1) All properties shall comply with the buffer requirements of this Section except those which, as of the effective date February 14, 2000, have previously secured a right to proceed by:

(a) Being subject to a recorded subdivision plat;

(b) Being subject to a preliminary subdivision plan approved by the Board of Commissioners prior to the effective date of this Section;

(c) Having otherwise secured a vested property right under state law.

(2) Redevelopment or expansion of structures, uses, or other development projects included in (C)(1) above, shall comply with the buffer requirements of this Section; however uses and structures previously approved and constructed in a buffer may remain.

(3) A site specific development plan amended by action of the Board of Commissioners subsequent to adoption of this Section shall comply, in its amended form, with the S.W.I.M. buffer requirements, however uses and structures previously approved for construction in a buffer may remain.

(D) *Buffer Standards*

(1) *Minimum Buffer Widths.* Minimum stream buffer widths vary based on the size of the upstream drainage basin, as described in the following table. Mecklenburg County's Geographic Information System will locate streams and delineate the size of drainage basins associated with each.

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50 acres	20 feet	None	15 feet	35 feet	(1)

Notes:

(1) Buffer widths are measured horizontally on a line perpendicular to the surface water, landward from the top of the bank on each side of the stream.

(2) Floodplain and buffer calculations will be based upon the flood fringe and floodway encroachment lines, as locally adopted and as may be amended from time to time.

(2) *Buffer Description.* Buffer function, vegetation and use vary according to the different buffer zones and are described in the following table.

Table of Buffer Treatment by Buffer Zone

	Stream Side Zone	Managed Use Zone	Upland Zone	Notes
Function	Protect the integrity of the ecosystems	Provide natural filter; provide distance between upland development and the stream side zone	Prevent encroachment and filter runoff	
Land Disturbance/Vegetative Requirements	<u>Undisturbed (no cutting, clearing or grading).</u> If existing tree density is inadequate, reforestation is required.	<u>Limited clearing (no grading).</u> Existing tree density must be retained to a minimum of 8 healthy trees of a minimum 6 inch caliper per 1000 square feet. If existing tree density	<u>Herbaceous ground cover,</u> including grass, is allowed; maintenance of existing forest or reforestation is encouraged.	(1)

		is inadequate, reforestation is encouraged.		
Uses	<u>Very restricted.</u> Permitted uses limited to flood control structures and bank stabilization (where permitted) as well as installation of parallel or near perpendicular (75) water and sewer utilities and near perpendicular road crossings (75) with stabilization of disturbed areas as specified in Section 152.33(E).	<u>Restricted.</u> Permitted uses limited to those allowed in the Stream Side Zone, as well as bikepaths and greenway trails up to 10 feet width.	<u>Restricted.</u> Permitted uses limited to those allowed in Stream Side and Managed Use Zones, as well as gazebos, non-commercial storage buildings less than 150 square feet, limited grading that does not change the functionality or extend of the floodplain, and storm water structural best management practices (BMPs) if approved in accordance with Section 152.33(F)(2) as a condition of a buffer width variance.	(2), (3)

Notes:

(1) When reforestation of disturbed buffers is required, tree planting shall be as specified in the Charlotte-Mecklenburg Land Development Standards Manual (Sections 40.01, 40.02, and 40.03 or as revised).

(2) Fill material cannot be brought into any required buffer. In the Upland Zone only, limited grading that does not change the extent or functional characteristics of the floodplain is permitted. Uses permitted in the buffer zones should be coordinated to ensure minimal disturbance of the buffer system. For example, if it is necessary to install utilities within the buffer, then if greenway trails are built they should follow these cleared areas instead of necessitating additional clearing.

(3) Notwithstanding the uses and structures permitted in the "Upland Zone", the stricter standards of floodway regulations, if applicable, shall apply.

(3) *Diffuse Flow Requirement.* Diffuse flow of runoff shall be maintained in the buffer by dispersing concentrated flow and reestablishing vegetation. Techniques for providing diffuse flow are specified in the Charlotte-Mecklenburg Land Development Standards Manual.

(a) Concentrated runoff from ditches or other manmade conveyances shall be diverted to diffuse flow before the runoff enters the buffer.

(b) Periodic corrective action to restore diffuse flow shall be taken by the property owner as necessary to impede the formation of erosion gullies.

(4) *Ponds.* Ponds that intersect the stream channel shall have the same buffers as the original stream measured from the top of the bank of the pond. Buffer requirements do not apply to wet ponds used as structural BMPs.

(5) *Buffer Delineation.* The following buffer delineations are required:

(a) Stream and buffer boundaries including all buffer zones must be clearly delineated on all site specific plans for Board of Commissioner approval, on all construction plans, including grading and clearing plans, erosion and sediment control plans, and site plans.

(b) Buffer boundaries including all buffer zones must be clearly marked on-site prior to any land disturbing activities. Where existing trees are to be preserved in a buffer zone, limits of grading shall maintain a minimum 20' separation from the base of each tree of 8" DBH or larger on the upland side of the buffer.

(c) The outside boundary of the buffer must be permanently marked on each parcel following the completion of grading activities and prior to occupancy.

(d) Separate buffer zones must be permanently marked at highway stream crossings.

(e) Buffer boundaries including the delineation of each buffer zone as well as all buffer requirements must be specified on all surveys and record plats, on individual deeds, and in property association documents for lands held in common.

(E) *Buffer Impacts Allowed.* The following buffer impacts are permitted, but design and construction shall comply with the specifications provided in the Charlotte-Mecklenburg Land Development Standards Manual for stabilization of disturbed areas to minimize negative effects on the quality of surface waters.

(1) Near perpendicular (75 or greater) road crossings for connectivity or transportation links.

(2) Near perpendicular (75 or greater) utility crossings as approved by Charlotte-Mecklenburg Utilities.

(3) Parallel water and sewer utility installation as approved by Charlotte-Mecklenburg Utilities, where a logical and appropriate basis for the impact is demonstrated, where disturbance of the Stream Side Zone is minimized

to the maximum extent practicable, and where guidelines for restoring vegetation within buffers disturbed as a result of parallel utility installation are met. These guidelines are specified in the Charlotte-Mecklenburg Land Development Standards Manual.

(4) Public paths and trails parallel to the creek outside the Stream Side Zone and near perpendicular stream crossings in any zone. Pathways must use existing and proposed utility alignments or previously cleared areas and minimize tree cutting to the maximum extent practicable. To the extent possible, pathways shall preserve existing drainage patterns and avoid drainage structures that concentrate storm water.

(5) Incidental drainage improvements/repairs for maintenance.

(6) Individual pedestrian paths connecting homeowners to the stream in the form of narrow, pervious footpaths with minimal tree disturbance.

(7) New domesticated animal trails (farming) where existing trails are lost as a result of action beyond the farmer's control. Stream crossings should be constructed to minimize impacts to the Stream Side Zone and be maintained with fencing perpendicular to and through the buffer to direct animal movement.

(8) Mitigation approved by a state or federal agency acting pursuant to Sections 401 or 404 of the federal Clean Water Act.

(F) *Appeals and Variances, With Mitigation*

(1) *Appeals.* An appeal to reverse or modify the order, decision, determination, or interpretation of the Zoning Administrator shall comply with the requirements of the Matthews Zoning Ordinance.

(2) *Special Variance Provisions*

(a) When a difficulty or hardship would result from adherence to the buffer width requirements and/or buffer treatment standards, a request for subdivision variance may be filed with the Matthews Planning Board in compliance with the procedures of Section 152.06(B). Such request shall not be deemed complete for consideration until a written report with recommended actions, including preferred mitigation techniques, from the Town Public Works Director or his designee is provided. It shall be the responsibility of the applicant requesting the subdivision variance to obtain this report.

(b) The standards for granting a variance, as set out in Section 152.06 of these regulations shall be met. Site specific mitigation plans using the techniques below, and approved by the designated agency, shall constitute

conditions relating to the intent and standards of this ordinance, and may be attached to variance approval by the Town Board. Specifications for these mitigation techniques are provided in the Charlotte-Mecklenburg Land Development Standards Manual. These techniques are not construed to offset the requirement of Section 152.33(D)(3) for diffuse flow.

(3) *Mitigation Techniques.* The following techniques are available to landowners for mitigation of buffer impacts, in association with the granting of a subdivision variance to specific buffer requirements of 152.33(A) through (E).

(a) *Installation of Structural BMPs.* The installation of an on-site structural BMP designed to achieve specified pollutant removal targets will allow for all proposed stream buffer impact on the specific site. The BMP must remain outside of the Stream Side Zone and Managed Use Zone. A detailed BMP design plan must be submitted to the Mecklenburg County Department of Environmental Protection for approval based on specifications contained in the Charlotte-Mecklenburg Land Development Standards Manual. This plan must also include a long term maintenance strategy for the BMP, complete with the establishment of adequate financing to support the proposed maintenance practices.

(b) *Stream Restoration.* The owner may restore and preserve the buffer area on any stream of equivalent or greater drainage area the condition of which is determined to be qualified for restoration by the Mecklenburg County Department of Environmental Protection on a 1:1 basis in linear feet of stream. This restoration shall include stream bank improvements and Stream Side and Managed Use Zone re-vegetation, in accordance with the Charlotte-Mecklenburg Land Development Standards Manual and receive approval by Mecklenburg County Department of Environmental Protection.

(c) *Stream Preservation.* The owner may purchase, fee simple, other stream segments at equivalent or greater drainage area on a 1:1 linear foot basis and convey fee simple and absolute title to the land to the Town of Matthews, Mecklenburg County, or conservation trust, with a plan approved by the Mecklenburg County Department of Environmental Protection.

(d) *Wetlands Restoration.* On a 2:1 acreage basis for disturbed stream and buffer area (2 acres of wetland for each acre of disturbed area), the owner may provide a combination of the preservation and/or restoration of wetlands with protective easements and the implementation of structural or non-structural BMPs to achieve specific pollutant removal targets within the impacted area. Restoration plan must be approved by the Mecklenburg County Department of Environmental Protection.

(e) *Bottom Land Hardwood Preservation.* On a 2:1 acreage basis for impacted stream and buffer area (2 acres of bottomland hardwood for each acre of disturbed area), the owner may provide a combination of the preservation of existing bottom land hardwood forest or other specifically approved natural heritage area by conservation easement or other legal instrument, and the implementation of structural or non-structural BMPs to achieve specific pollutant removal targets within the impacted area. Plan to be approved by Mecklenburg County Department of Environmental Protection.

(f) *Controlled Impervious Cover for Disturbance landward of Stream Side Zone.* The owner may commit to, and provide, a specific site development plan for the parcel with requested buffer disturbance. The plan shall limit overall site impervious cover to less than or equal to 24%. Preservation of the Stream Side Zone is still required. Plan to be approved by Mecklenburg County Department of Environmental Protection.

(g) *Open Space Development.* The submission of a site specific development plan that preserves 50% of the total land area as undisturbed open space. Plan to be approved by Mecklenburg County Department of Environmental Protection.

(h) *Mitigation Credits.* The purchase of mitigation credits through the Stream Restoration Program on a 1:1 basis, utilizing linear feet of stream impacted and the prevailing rate of purchase as established by the Charlotte-Mecklenburg Land Development Standards Manual. Mitigation credits purchased under any other program (i.e., U.S. Army Corp of Engineers) shall not cover this requirement unless the issuing agency agrees to relinquish the funds to the appropriate local government agency.

(I) *Alternative mitigation.* The list of mitigation techniques shall not prevent the creative development of alternative mitigation plans that achieve the purposes of this section. The owner shall submit such plan with proposed buffer impacts and detailed mitigation information to the Mecklenburg County Department of Environmental Protection for approval. The criteria used to judge acceptability of any alternative plan shall be the degree to which the plan addresses the preservation of the four primary natural functions of stream buffers given in 152.33(A). When considering proposed mitigation alternatives, the Mecklenburg County Department of Environmental Protection shall give equal weight to proposals which utilize the preservation of unique or endangered habitat or natural areas against proposed buffer impacts. Plans may be submitted in conjunction with a mitigation plan submission to the US Army Corps of Engineers and NC Department of Environment and Natural Resources for proposed stream or wetlands impacts.

- (G) *Posting of financial security required.* When structural BMPs (wet detention ponds and other BMPs) are approved for mitigation of a buffer disturbance, the approval will be subject to the owner filing a surety bond or letter of credit or making other financial arrangements which are acceptable to the Mecklenburg County Department of Environmental Protection, in a form which is satisfactory to the County Attorney, guaranteeing the installation and maintenance of the required structural BMPs until the issuance of certificates of occupancy for seventy-five percent (75%) of all construction which might reasonably be anticipated to be built within the area which drains into the BMPs, allowing credit for improvements completed prior to the submission of the final plat. At such time that this level of occupancy is achieved, written notice thereof must be submitted by the owner to the Mecklenburg County Department of Environmental Protection. The owner must also verify the adequacy of the maintenance plan for the BMPs, including the necessary financing to support the proposed maintenance practices. The Mecklenburg County Department of Environmental Protection will inspect the structural BMPs and verify the effectiveness of the maintenance plan; if both are found to be satisfactory, the department will notify the owner within 30 days of the date of notice.
- (H) *Maintenance responsibilities for structural BMPs - Civil Penalties.* Maintenance of all structural BMPs will be the responsibility of the property owner or his designee. Any person who fails to maintain the required BMPs in accordance with the approved maintenance plan will be subject to a civil penalty of not more than \$500. Each day that the violation continues shall constitute a separate violation. No penalties shall be assessed until the person alleged to be in violation has been notified in writing of the violation by registered or certified mail, return receipt requested, or by other means which are reasonably calculated to give actual notice. The notice shall describe the nature of the violation with reasonable particularity, specify a reasonable time period within which the violation must be corrected, and warn that failure to correct the violation within the time period will result in assessment of a civil penalty or other enforcement action. (Ord. 1124, passed 2-14-00)