

**THE DEVELOPMENT REGULATIONS
FOR
THE CITY OF MONROE, GEORGIA**

Adopted July 6, 1999

**AMENDMENTS TO DEVELOPMENT REGULATIONS
FOR
CITY OF MONROE**

- Original - Adopted July 6, 1999

- 1st Update - May 4, 2004
Section 8.20 Street Intersections
Section 8.27 Street Lights
Section 9.3 Right-of-Way Widths
Section 9.4 Street Intersection Radii
Section 9.5 Street Pavement Widths
Section 9.17.1 Where Required

- 2nd Update - December 6, 2005
Section 9.17.1 Where Required

- 3rd Update - November 13, 2007
Section 9.17.1(b) Where Required

- 4th Update - February 13, 2018
Section 9.16 and 9.16.1

- 5th Update - March 12, 2019
Article 11

ARTICLE 1 AUTHORITY, TITLE, PURPOSE AND INTENT	1
1.1 AUTHORITY	1
1.2 TITLE	1
1.3 PURPOSE	1
1.4 INTENT	2
ARTICLE 2 DEFINITIONS	3
2.1 USE OF WORDS	3
2.2 INTERPRETATION OF WORDS AND PHRASES	3
2.3 DEFINITIONS OF WORDS AND PHRASES	4
ARTICLE 3 APPLICATION OF THE REGULATIONS	11
3.1 APPLICATION	11
3.2 DEDICATION OF PUBLIC LANDS AND FACILITIES	11
3.3 TRANSFER OF LAND OWNERSHIP	11
3.3.1 Title Transfers	11
3.3.2 Sale of Land by Reference to Unauthorized Plat Prohibited.	12
3.3.3 Recording of Plat by the Clerk of the Superior Court.	12
ARTICLE 4 PERMITS	13
4.1 AUTHORIZATION REQUIRED FOR LAND DISTURBANCE ACTIVITY	13
4.1.1 Permit Required/Exemption	13
4.1.2 Plan Review and Approval	13
4.1.3 Interdepartmental Review and Approval	13
4.1.4 Activities Limited to Permit Authorization	13
4.1.5 Developer's Responsibility for Compliance	13
4.2 LAND DISTURBANCE PERMITS	14
4.2.1 Clearing Permit	14
4.2.2 Clearing and Grubbing Permit	14
4.2.3 Grading Permit	14
4.2.4 Development Permit	14
ARTICLE 5 SUBDIVISION EXEMPTIONS	16
5.1 GENERAL REQUIREMENTS	16
5.2 RECOMBINATIONS	16
5.3 MINOR SUBDIVISION	16
ARTICLE 6 PROCEDURES	17
6.1 SUBDIVISION REVIEW PROCEDURE	17
6.1.1 Pre-Application Conference	17
6.1.2 Preliminary Plat	17
6.1.3 Site Development Plans (Construction Plans)	18
6.1.4 Final Plat	18
6.1.5 Final Plat - Minor Subdivision	19
ARTICLE 7 PLAN AND PLAT SPECIFICATIONS	20

7.1	SKETCH PLAT (Optional)	20
7.1.1	Sketch Plat Specifications.....	20
7.2	PRELIMINARY PLAT SPECIFICATIONS	21
7.2.1	Conformance to Sketch Plat.....	21
7.2.2	Scale.....	21
7.2.3	Certified Boundary Survey.....	22
7.2.4	Preliminary Plat Specifications.....	22
7.3	SITE DEVELOPMENT PLANS (CONSTRUCTION PLANS)	25
7.3.1	Conformance to Preliminary Plat.....	25
7.3.2	Required Site Development Plan Information.....	25
7.3.3	Plans to Accompany Site Development Plans:.....	27
7.3.4	Encroachments:.....	30
7.4	FINAL PLAT SPECIFICATIONS	30
7.4.1	Scale and Sheet Size:.....	30
7.4.2	Certified Boundary Survey:.....	30
7.4.3	Conformance to Preliminary Plat:.....	30
7.4.4	Required Final Plat Information:.....	31
7.4.5	Warranty Deed Required for Other Dedications:.....	34
7.4.6	Deed of Transfer Required for Dedications to Property Owner’s Association:.....	34
7.5	MINOR SUBDIVISION PLAT SPECIFICATIONS	35
7.5.1	Scale and Sheet Size:.....	35
7.5.2	Certified Boundary Survey:.....	35
7.5.3	Required Final Plat Information:.....	35
7.6	SITE DEVELOPMENT PLANS –COMMERCIAL, INDUSTRIAL AND MULTI-FAIMLY SITES	38
7.6.1	Scale.....	38
7.6.2	Project Boundary Data:.....	38
7.6.3	Required Site Plan Information.....	38
7.6.4	Development Plans to Accompany Site Plan.....	40
7.6.5	Encroachments.....	42
7.7	BUFFER AND LANDSCAPE PLAN SPECIFICATIONS	42
7.7.1	Required Plan Information.....	42
7.7.2	Special Soil Conditions.....	43
ARTICLE 8	GENERAL REQUIREMENTS	44
8.1	CONFORMANCE WITH COMPREHENSIVE PLAN	44
8.2	SUITABILITY OF THE LAND	44
8.2.1	Unsuitable Land May Not be Developed.....	44
8.2.2	Unsuitable Land Shall be Incorporated Into Buildable Lots.....	44
8.3	ISSUANCE OF BUILDING PERMITS/ACCESS	44
8.4	DEVELOPMENT PERMIT REQUIRED FOR MULTI-FAMILY AND NON-RESIDENTIAL SITES	44
8.5	PLANNED DEVELOPMENTS DISTRICTS (PDD's)	45
8.6	ARRANGEMENT OF LOCAL STREETS	45
8.7	LOCATION OF UTILITIES	45
8.8	ALLEYS	45
8.9	BLOCKS	46
8.9.1	Design Guidelines:.....	46
8.9.2	Length:.....	46
8.10	CUL-DE-SAC STREETS	46
8.10.1	Maximum Length.....	46
8.10.2	Measurement of Length.....	46
8.11	DEAD-END STREETS	46
8.12	EASEMENTS	47
8.12.1	Drainage Easements	47
8.12.2	Pedestrian Easements	47

8.12.3	Sanitary Sewer Easements	47
8.12.4	Utility Easements, Private:.....	48
8.12.5	Utility Easements, Public;.....	48
8.14	LOTS	48
8.14.1	Design Guidelines	48
8.14.2	Lot Size.....	48
8.14.3	Corner Lots	48
8.14.4	Double Frontage Lots	48
8.14.5	Lot Access.....	49
8.14.6	Side Lot Lines	49
8.15	MONUMENTS.....	49
8.15.1	Property corners	49
8.15.2	Floodplain Elevations.....	49
8.16	PRIVATE STREETS.....	49
8.17	RAILROAD RIGHTS-OF-WAY	49
8.18	RESERVE STRIPS.....	49
8.19	STREET ADDRESSES	49
8.20	STREET INTERSECTIONS (revised May 4, 2004)	50
8.21	STREET JOGS	51
8.22	STREET NAMES	51
8.23	STREET NAME SIGNS.....	51
8.24	TRAFFIC CONTROL SIGNALS AND SIGNS.....	51
8.25	STRIPING REQUIREMENTS	51
8.26	PAYMENT OF FEES.....	52
8.27	STREET LIGHTS (revised May 4, 2004)	52
ARTICLE 9 STREET IMPROVEMENTS, DEDICATIONS AND SPECIFICATIONS.....		53
9.1	GENERAL REQUIREMENTS	53
9.2	RIGHT-OF-WAY DEDICATION.....	53
9.2.1	Dedication Required.....	53
9.2.2	Minimum Width.....	53
9.2.3	Minimum Width on Existing Street	53
9.2.4	Dedication at Intersections.....	53
9.3	RIGHT-OF-WAY WIDTHS (revised May 4, 2004).....	54
9.4	STREET INTERSECTION RADII (revised May 4, 2004).....	54
9.5	STREET PAVEMENT WIDTHS (revised May 4, 2004).....	54
9.6	BASE AND PAVEMENT SPECIFICATIONS.....	55
9.6.1	New Local Residential Streets (With Curb and Gutter).....	55
9.6.2	New Local Non-Residential Streets	55
9.6.4	New Major Thoroughfares.....	56
9.7	TESTING THICKNESS	56
9.8	STREET GRADES.....	56
9.8.1	Maximum Street Grade	56
9.8.2	Minimum Street Grade	57
9.9	STREET DESIGN SPEEDS.....	57
9.10	VERTICAL STREET ALIGNMENTS	57
9.11	HORIZONTAL STREET ALIGNMENT	58
9.12	TANGENTS	58
9.13	CURB AND GUTTER.....	58
9.14	STREET CONSTRUCTION AND SPECIFICATIONS	59
9.14.1	Street Improvements Required.....	59
9.14.2	Clearing.....	59
9.14.3	Subgrade Preparation for all Streets	59
9.15	SUBSTANDARD STREETS	60

9.15.1	Improvements to Primary Access Roads.....	60
9.15.2	Specifications.....	60
9.16	Access Management/Driveways.....	Error! Bookmark not defined.
9.16.1	Joint and Cross Access.....	Error! Bookmark not defined.
9.16.2	Driveway Slope and Thickness.....	64
9.17	SIDEWALKS.....	65
9.17.1	Where Required (revised November 13, 2007).....	65
9.17.2	Location Requirements.....	65
9.17.3	Construction Standards.....	65
9.18	INSPECTION.....	65
9.19	STANDARDS.....	65
9.20	SANITARY SEWAGE DISPOSAL.....	65
9.21	WATER SYSTEM AND FIRE HYDRANTS.....	67

ARTICLE 10 STORMWATER DETENTION, CULVERTS AND PIPED DRAINAGE SYSTEMS, AND SOIL SEDIMENT CONTROL GUIDELINES AND REQUIREMENTS..... 68

10.1	STORMWATER DETENTION.....	68
10.1.1	Stormwater Management Report Required.....	68
10.1.2	Storm Detention Required.....	68
10.1.3	Detention Design Criteria - General.....	69
10.1.4	Detention Facility Location Criteria.....	72
10.1.5	Detention Facility Easement Requirements.....	72
10.1.6	Detention Facility Maintenance.....	73
10.1.7	Detention Facility Construction Standards.....	73
10.2	STORMWATER DETENTION GUIDELINES.....	74
10.2.1	General.....	74
10.2.2	Dam Design and Construction Criteria.....	75
10.2.3	Detention Facility Outlet Devices.....	77
10.2.4	Emergency Overflow Requirements.....	78
10.2.5	Parking Lot Detention Facilities.....	79
10.2.6	Underground and Rooftop Detention Facilities.....	80
10.2.7	Sediment Basins.....	80
10.2.8	Ponds and Lakes Not Used for Detention.....	81
10.3	CULVERTS AND PIPED DRAINAGE SYSTEMS.....	82
10.3.1	Drainage Improvements Required.....	82
10.3.2	Standard Specifications.....	82
10.3.3	Design Criteria-General.....	82
10.3.4	Design Criteria-Culverts.....	82
10.3.5	Piped Collection Systems.....	83
10.3.6	Energy Dissipation - Piped Systems & Culverts.....	84
10.3.7	Minimum Pipe & Pipe Coating Requirements.....	84
10.3.8	Pipe Length.....	86
10.3.9	Pipe Installation.....	86
10.3.10	End Finish.....	87
10.3.11	Junction Boxes & Catch Basins.....	87
10.3.12	Other Structures.....	87
10.4	CULVERTS AND PIPE COLLECTION SYSTEM GUIDELINES.....	87
10.4.1	Culverts.....	87
10.4.2	Piped Collection Systems.....	88
10.4.3	Outlet Location - Culverts and Piped Systems.....	88
10.4.4	Energy Dissipation.....	88
10.4.5	Discharge of Concentrated Flows.....	88
10.5	SURFACE DRAINAGE.....	89

10.5.1	Design Standards.....	89
10.5.2	Construction Standards.....	90
10.6	EROSION CONTROL	90
10.6.1	Design Standards.....	90
10.6.2	Construction Standards.....	90
10.6.3	Abandoned Projects.....	91
ARTICLE 11 PERFORMANCE AND MAINTENANCE BONDS		92
11.1	PERFORMANCE AND MAINTENANCE AGREEMENT	92
11.1.1	Performance Surety	92
11.1.2	Maintenance Surety.....	92
ARTICLE 12 STREET CUTS		94
12.1	PERMIT REQUIRED	94
12.2	PERMIT FEE	94
12.3	BACKFILLING AND COMPACTION	94
12.4	PAVEMENT SPECIFICATIONS	94
12.5	STANDARD DETAIL OF PAVEMENT CUT AND REPAIR	94
ARTICLE 13 ADMINISTRATION AND ENFORCEMENT, VIOLATION AND PENALTY		95
13.1	ADMINISTRATION AND ENFORCEMENT	95
13.1.1	Code Enforcement Officer to Administer, Interpret, and Enforce.....	95
13.1.2	Code Enforcement Officer Authorized to Suspend Work, Permit, Issue Summonses, and Direct Corrective Measures.....	95
13.1.3	Stop Work Order	95
13.2	VIOLATION AND PENALTY	96
13.2.2	Violation.....	96
13.2.2	Court Empowered to Fine or Imprison.....	96
13.2.3	Other Legal Remedies.....	96
ARTICLE 14 APPEALS, MODIFICATIONS, AND VARIANCES		97
14.1	APPEALS	97
14.2	MODIFICATIONS	97
14.3	VARIANCES	97
ARTICLE 15 ADOPTION, AMENDMENTS, SEVERABILITY, AND CONFLICTING REGULATIONS		98
15.1	ADOPTION	98
15.2	SEVERABILITY	98
15.3	CONFLICTING REGULATIONS	98

ARTICLE 1

AUTHORITY, TITLE, PURPOSE AND INTENT

1.1 AUTHORITY

These rules and regulations are adopted pursuant to the authority conferred by Article 9, Section 2, Paragraph IV, 1983 Constitution of the State of Georgia and laws enacted pursuant thereto.

1.2 TITLE

These regulations shall be known as "The Development Regulations of the City of Monroe, Georgia," and may be referred to generally as "The Development Regulations", or, as used herein, "These Regulations," or "The Subdivision Regulations."

1.3 PURPOSE

These regulations are intended to serve the following purposes:

- 1.3.1 To protect and promote the public health, safety, and general welfare
- 1.3.2 To provide a system for the subdivision of lands and the accurate recording of land titles
- 1.3.3 To provide assurance lots shown on recorded subdivision plats are useable by the purchasers for their intended and permitted functions
- 1.3.4 To encourage economically sound and orderly land development in accordance with the policies and objectives of the Comprehensive Plan of the City of Monroe, Georgia
- 1.3.5 To assure the provision of required streets, utilities and other facilities and services to new land developments in conformance with public improvement policies of the City
- 1.3.6 To assure adequate provision of safe and convenient traffic access and circulation, both vehicular and pedestrian, in new land developments
- 1.3.7 To assure the provision of needed open spaces and public facility sites in new land developments through the dedication or reservation for purchase of land for public purposes
- 1.3.8 To assure equitable review and approval of all subdivision and site plans by providing uniform procedures and standards for the developer

1.4 **INTENT**

It is the intent of these Regulations that they apply to and provide guidance for the development of any lands within the incorporated areas of the City of Monroe, Georgia, whether the development involves the subdivision of land for sale to individual users or pertains only to the construction of buildings, streets, or other improvements on a single parcel.

ARTICLE 2

DEFINITIONS

2.1 USE OF WORDS

For the purposes of these Regulations, the following shall apply to the use of all words:

- 2.1.1 When appropriate to the context, words used in the singular shall include the plural, and the plural the singular; words used in the present tense shall include the future tense, and vice versa.
- 2.1.2 Words in the masculine gender shall include the feminine.
- 2.1.3 The word "shall" is mandatory and not discretionary.
- 2.1.4 The word "may" is permissive.
- 2.1.5 Use of the word "and" is inclusive and requires that all of the component phrases so connected must be present or fulfilled for sufficiency.
- 2.1.6 Use of the word "or" is not exclusive (as in "either/or") and requires that at least one of the component phrases so connected must be present or fulfilled for sufficiency. The word "or" may allow more than one component phrase to be present or fulfilled, as is implied by the common term "and/or".

2.2 INTERPRETATION OF WORDS AND PHRASES

The following shall control the interpretation of words and phrases as used in these Regulations:

- 2.2.1 Words and phrases defined in this Article shall be interpreted as defined herein without regard to other meanings in common or ordinary use, unless the context of the word indicates otherwise.
- 2.2.2 Words or phrases not defined herein shall be interpreted as defined in the Zoning Ordinance of the City of Monroe, Georgia, as defined in the City of Monroe Soil Erosion and Sediment Control Ordinance, as applicable to the use of the word within the context of these Regulations.
- 2.2.3 Words not defined herein or in the Zoning Ordinance or any other applicable code, regulation, or ordinance of the City of Monroe shall be construed to have the meaning given by common and ordinary use, and shall be interpreted within the context of the sentence, section, and article in which they occur.

2.3 DEFINITIONS OF WORDS AND PHRASES

Certain words or phrases in the Regulations are defined for their use herein as follows:

1. Alley or Service Drive - A minor, permanent, public service-way which is used primarily for vehicular service access to the back or the side of properties otherwise abutting on a street.
2. Applicant - A person, either the owner or the bona fide representative of the owner of land or structures governed by these Regulations, who seeks authority to use, develop, construct upon or otherwise enjoy the use of property through any of the Procedures established under these Regulations.
3. Arterial Street - A street which is used primarily for fast and heavy traffic flow, is of considerable continuity, and is used as a traffic artery for inter-connection among large areas. These streets are designated to have a right-of-way width of 100 feet and are designated on the Comprehensive Plan.
4. As-built Survey - See "Record Drawing".
5. Base Flood - The flood which has a one (1%) percent probability of occurring in any calendar year (i.e., the 100-year frequency flood).
6. Base Flood Elevation - The highest water surface elevation anticipated at any given point during the base flood.
7. Block - A piece or parcel of land entirely surrounded by public highways or streets, other than alleys.
8. Building Setback Line - A line across a lot parallel to a street right-of-way or other property line establishing the minimum open space to be provided between any principal building and the street or other property line. All building setback lines shall be at least as restrictive as the corresponding minimum yard setbacks required in the Zoning Ordinance.
9. Certificate of Occupancy - Authorization issued by the City for a building, land disturbing activity, or use to be occupied or operated. The certificate is issued provided a building, land disrupting activity, or use is in compliance with these Regulations or other regulations or ordinances.
10. City - the City of Monroe, Georgia.
11. Clearing - The removal of trees or other vegetation, but not including grubbing activities.
12. Clearing & Grubbing Permit - Authorization issued by the City to commence clearing of trees and vegetation, as well as removal of stumps on a site.
13. Clearing Permit - Authorization issued by the City to commence the clearing of trees and vegetation on a site.

14. Code Enforcement Officer – The building official or other public official designated by the city whose duties and powers are defined in Section 13.1 of the City of Monroe Zoning Ordinance.
15. Collector Street - A street which carries traffic from activity centers on local streets to arterial streets. The streets are designated on the Comprehensive Plan.
16. Comprehensive Plan – Any part or element of the comprehensive Plan adopted by the City of Monroe.
17. Condominium - A form of property ownership in which the buildings or portions of the buildings, whether residential or non-residential in use, are owned by individuals separate from the lands which surround the buildings, said lands held in common ownership by the owners of the several buildings.
18. Cul-de-Sac - A street having one end open to traffic and being permanently terminated within the development by a vehicular turnaround. For the purpose of designation, a Cul-de-Sac street shall be interpreted to begin at the intersection of two (2) or more streets nearest to the vehicular turnaround.
19. Developer - Any person, individual, firm, partnership, association, corporation, estate, trust, or any other group or combination acting as a unit who directs the undertaking or proposes to undertake development activities as herein defined, whether the development involves the subdivision of the land for sale to individual users, the construction of buildings or other improvements on land under single ownership, or both.
20. Development - 1. All activities associated with the conversion of land or the expansion or replacement of an existing use to any new use intended for human operation, occupancy or habitation, other than for agricultural purposes devoted strictly to the cultivation of the land, dairying or animal husbandry. Such activities include land disturbance (clearing and grubbing the land of vegetation and stumps, and grading) and the construction of improvements such as, but not limited to, streets, driveways or parking areas, water or sewer mains, storm water drainage facilities, sidewalks or other structures permanently placed on or in the property. 2. Where appropriate to the context, the term "development" also may be used to denote a specific subdivision or project which is a single entity or intended to be constructed as an interrelated whole, whether simultaneously or in phases.
21. Development Permit - Authorization issued by the City permitting clearing, grubbing, grading, or construction of storm drainage facilities, access drives, streets, parking or other improvements exclusive of buildings.
22. Development Plans - Those detailed and professional plans showing the layout and design, site work and construction activities proposed for a project (other than architectural building plans) and including the preliminary plat or site plan (as applicable), grading plan, erosion and sediment control plan, buffer and landscape plan, and construction drawings for streets, storm water drainage facilities, sanitary sewers, water supply facilities and other site improvements.
23. Drainage Improvements - Those facilities and structures intended to control and direct the passage of storm waters and other surface water flows from and across a property; including, but not limited to,

swales and ditches, cross drains and other piping systems, catch basins, detention ponds, and velocity dissipation devices.

24. Driveway - A vehicular access way in private ownership, other than a private street, which provides access primarily to only one property, or to no more than two (2) single-family residences.
25. Easement - Recorded authorization for a specified purpose by a property owner for the use of any designated part of the real property by another entity. (i.e., slope, utility, access).
26. Erosion Control Regulations - The City of Monroe Soil Erosion and Sediment Control Ordinance.
27. Fee Simple - A form of property ownership in which the buildings and surrounding lands are owned by the same person.
28. Federal Emergency Management Agency (FEMA) - The federal agency which administers the National Flood Insurance Program. This agency prepares, revises and distributes maps and studies referenced in these Regulations.
29. Final Plat - A finished drawing of a subdivision showing completely and accurately all legal and boundary information and certification necessary for recording.
30. Fire Department - The City of Monroe Fire Department charged with the responsibility of enforcing the City's Fire Prevention and Life Safety Codes, and coordinating full-time and volunteer fire personnel.
31. Flood or Flooding - A general and temporary condition of partial or complete inundation of normally dry land areas.
32. Flood Boundary and Floodway Map - The official map, issued by the Federal Emergency Management Agency, where the boundaries of floodways are shown and the areas of Special Flood Hazard have been defined as Zone A.
33. Flood Hazard Area - See "Floodplain".
34. Flood Insurance Rate Map (FIRM) - An official map of a community on which the Federal Emergency Management Agency has delineated both the areas of Special Flood Hazard and the applicable risk premium zones.
35. Flood Insurance Study - The official report provided by the Federal Emergency Management Agency. Report contains flood profiles, as well as Flood Boundary and Floodway Map, and water surface elevation of base flood.
36. Floodplain - Those lands subject to flooding, which have at least a one (1) percent probability of flooding occurrence in any calendar year (i.e., the 100 year frequency or base flood), based upon the official Floodway Boundary Map of the incorporated area of the City of Monroe.

37. Floodway - The channel of a river or other watercourse and adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing water surface elevation more than one foot.
38. Freeboard - The distance between the base flood elevation and the top of a storm water detention structure.
39. Georgia DOT - The Department of Transportation of the State of Georgia.
40. Grading - The movement, removal or addition of earth on a site by use of mechanical equipment.
41. Grading Permit - Authorization issued by the City to commence grading on a site, and may include installation of attendant storm water drainage facilities.
42. Grubbing - The removal of stumps or roots from a property.
43. Health Department - The Environmental Health Services Division of the Georgia Department of Human Resources for Walton County.
44. Land Disturbance Permit - Any permit, other than a Building Permit, issued by the City that authorizing clearing, grubbing, or grading activities on a site or portion of a site. Said permit may be a Clearing, Clearing and Grubbing, Grading, or a development permit as defined and authorized herein.
45. Local Street - A street used primarily for access to abutting properties or developments, serving to carry traffic to collector streets or arterial streets. Local streets comprise all streets not classified and designated as an Arterial or Collector Street on the Official Street Plan.
46. Lot - A portion of a subdivision or any other parcel of land intended as a unit for transfer of ownership or for development or both. In determining the area and dimensions of a lot, no part of the right-of-way of a public street may be included.
47. Lot, Corner - A lot abutting upon two (2) or more public streets at their intersection.
48. Lot, Double Frontage - A lot other than a corner lot, abutting upon two (2) or more public streets.
49. Lot, Interior - A lot other than a corner lot.
50. Lot of Record – A lot or parcel of land which existed as a single parcel of ownership, recorded in its entirety and present boundaries with the Clerk of Superior Court prior to March 5, 1973, or which is shown in its entirety and present boundaries on a Final Plat for a major or minor subdivision duly approved under these or any previously applicable regulations providing for the subdivision of land in the City of Monroe and recorded with the Clerk of Superior Court of Walton County.
51. Major Intersection - The intersection of two or more public streets in which at least one of the streets is an Arterial or Collector Street.

52. Major Thoroughfare – Any public street, existing or proposed, which is an Arterial or Collector Street.
53. Mayor and City Council - The Mayor and City Council of the City of Monroe, Georgia.
54. Mean Sea Level - The average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the flood plain. For purposes of these Regulations, the term is synonymous with National Geodetic Vertical Datum (NGVD).
55. Owner - A person having a majority fee simple interest in real property, or a majority interest through any other form of ownership.
56. Pedestrian Way - An easement within a block dedicated to public use, intended primarily for pedestrians and from which motor propelled vehicles are excluded.
57. Person - An individual, firm, partnership, corporation, joint venture, association, social club, fraternal organization, estate, trust, business trust, receiver, syndicate, or other group or combination acting singly or collectively for a common purpose, and the duly authorized agents thereof.
58. Planning Commission - The City of Monroe Planning Commission.
59. Plat - A map indicating the subdivision, resubdivision, or recombination of land.
60. Preliminary Plat - A drawing which shows the particular boundary, topography, lotting arrangements, street layout, and other features of a proposed subdivision, as specified in these Regulations.
61. Project - A principal building or structure, or group of buildings or structures, planned and designed as an interdependent unit together with all accessory uses or structures, utilities, drainage, access, and circulation facilities, whether built in whole or in phases. Examples include: a principal building on a lot; a residential subdivision; a multi-family development; a shopping center or an office park.
62. Record Drawing - A survey or other drawing based on a field survey which shows existing features or components and horizontal or vertical information (grades or location of improvements).
63. Responsible Party - In the context of enforcement procedures, a person (as defined above) who is alleged to have committed, caused, continued or created a violation of the terms, requirements, regulations, or provisions of these Regulations whether as a direct act, through lack of action or neglect, or at the direction of or on behalf of others. A responsible party may be the owner of a premises where a violation has occurred; an occupant whether through ownership, leases or other tenancy; a contractor, builder or developer; an agent or person otherwise acting on behalf of the aforementioned parties; or other person acting in violation of these Regulations.
64. Right-of-way - A strip of land over which the City has a right, by ownership or easement, to construct a public street, sidewalk or use for public utilities.
65. Road - See "Street Public".

66. Roadway - The paved portion of a street from back of curb to back of curb (or edge to edge of pavement for streets not having curbs) but excluding driveway aprons, bridges, and large single and multi-cell culverts which in an hydrologic sense can be considered to function as a bridge.
67. Sheet Flow - Diffused water running overland to a defined watercourse.
68. Site Development Plans - See "Development Plans".
69. Site Work - Development activity to prepare a property for construction of buildings or finished structures, including clearing, grubbing, grading, and installation of soil sedimentation and erosion control facilities.
70. Sketch Plat - A drawing which shows the overall concept of a proposed development, including lots and streets in a subdivision or the general location of buildings and improvements for a multi-family or non-residential project, and which may be drawn to approximate dimensions.
71. Street, Half - A street having one-half (1/2) of the minimum required right-of-way or pavement width.
72. Street, Private - A vehicular access way similar to and having the same function as a public street, providing access to more than one property, but held in private ownership (as distinct from a "driveway").
73. Street, Public - A right-of-way dedicated to and accepted by the City for vehicular traffic or over which the City may hold a prescriptive easement for public access, and including designated and numbered U.S. and State highways. For the purposes of these Regulations, the term "public street" shall be limited to those which afford or could afford a direct means of vehicular access to abutting property, and exclude limited access roadways which abut a property but from which direct access may not be allowed under any circumstances.
74. Structure - Anything constructed or erected on the ground or attached to something on the ground.
75. Subdivider - Any person, individual, firm, partnership, association, corporation, estate, trust, or any other group or combination acting as a unit dividing or proposing to divide land so as to constitute a subdivision as herein defined including an agent of the subdivider.
76. Subdivision - 1. Any division or redivision of a lot, tract or parcel, regardless of its existing or future use, into two or more lots, tracts or parcels. The term "subdivision" shall mean the act or process of dividing property. 2. Where appropriate to the context, the term "subdivision" also may be used in reference to the aggregate of all lots held in common ownership at the time of division.
77. Subdivision, Major - Any division or redivision of a lot, tract or parcel, regardless of its existing or future use, into more than five (5) lots abutting upon an existing public street, or any division of a lot, tract or parcel involving the dedication of a new public street pursuant to these Regulations.

78. Subdivision, Minor - Any division or redivision of a lot, tract, or parcel, regardless of its existing or future use, into five (5) or fewer lots abutting upon an existing public street and meeting the standards set forth in Article 5 of these Regulations.
79. Tie Point - The point of reference for a boundary survey. Said point of reference shall be an established, monumented position which can be identified or relocated from maps, plats, or other documents on public record.
80. City of Monroe Utilities Department - The City of Monroe Utilities Departments are charged with the responsibility of ensuring acceptable design, installation and maintenance of the public water supply, street lighting and sanitary sewer.
81. Watercourse - A channel with a defined bed and banks, including lakes, ponds and marshes.
82. Zoning Ordinance - The adopted Zoning Ordinance of the City of Monroe, Georgia, as amended from time to time.

ARTICLE 3

APPLICATION OF THE REGULATIONS

APPLICATION

Any land disturbance activity or any development activity must first comply with these Regulations.

3.2 DEDICATION OF PUBLIC LANDS AND FACILITIES

3.2.1 No land dedicated as a public street or other public purpose shall be opened or accepted as a public street or for any other public purpose and no subdivision of land shall be made, nor shall subdivision plat, nor part thereof be recorded before obtaining final approval from the Mayor and City Council. Said approval shall be entered in writing on the Final Plat by the Mayor and City Council. Said Mayor is hereby authorized to accept such dedications of land and public facilities on behalf of the City of Monroe and to cause such dedications to be recorded by the Clerk of Superior Court of Walton County.

TRANSFER OF LAND OWNERSHIP

3.3.1 Title Transfers.

No person, firm, partnership, association, corporation, estate, trust, developer, subdivider or any other owner or agent shall transfer title or attempt to record the title to any land within the City of Monroe, and no building permit may be issued on said land, unless:

- a. Said land existed as a single parcel of ownership, recorded as such in its entirety and present boundaries with the Clerk of Superior Court of Walton County prior to the adoption of the 1973 Land Subdivision Regulations of the City of Monroe; or,
- b. Said land is shown in its entirety and present boundaries on a Final Plat as approved (under these or any previous applicable regulations) and duly recorded with the Clerk of Superior Court of Walton County; or,
- c. Said land is shown in its entirety and present boundaries on a plat authorized by the City and recorded with the Clerk of Superior Court of Walton County pursuant to the regulations governing Subdivision Exemptions contained herein; or,
- d. Said land is an aggregation of properties for land assembly purposes, and no building permit will be required prior to the filing of an application for and issuance of Development Permit, pursuant to these Regulations.

3.3.2 Sale of Land by Reference to Unauthorized Plat Prohibited.

No person, firm, partnership, association, corporation, estate, trust, developer, subdivider, or any other owner or agent shall transfer title to any property by reference to, exhibition of, or any other use of any map or plat illustrating the subdivision of land without a Final Plat of said land showing said property first having been duly approved under the procedures of these Regulations or any previously applicable regulations and recorded with the Clerk of Superior Court of Walton County.

3.3.3 Recording of Plat by the Clerk of the Superior Court.

No plat of subdivision of land within the City of Monroe shall be filed or recorded in the office of the Clerk of the Superior court of Walton County without the approval of the Mayor and Council and without such approval being entered in writing on the plat by the City Clerk and the Mayor. The Clerk of the Superior Court shall not file or record a plat of subdivision that does not have the approval of the City as required by Georgia Code Section 15-6-67(d). No approval by the Mayor and Council is required if no new streets or roads are created, no new utility improvements are required, no new sanitary sewer, or approval of septic tank.

ARTICLE 4

PERMITS

4.1 AUTHORIZATION REQUIRED FOR LAND DISTURBANCE ACTIVITY

4.1.1 Permit Required/Exemption

No disturbance of the land, including clearing, grubbing, or grading activities, shall commence or proceed except in accordance with the provisions of these Regulations, unless the activity is exempt as an agricultural activity or is for the construction of an individual single family or duplex residence on a buildable lot of record.

4.1.2 Plan Review and Approval

Any developer of land within the City of Monroe shall first submit to the Code Enforcement Officer such plans, plats, or construction drawings as may be required by these Regulations and shall have been granted a permit consistent with these Regulations and approved by the Code Enforcement Officer prior to the initiation of development activities. Approval of plans by the City of Monroe officials and employees shall not imply nor transfer acceptance of responsibility for the application of the principles of engineering, architecture, landscape architecture, or any other profession, from the professional corporation or individual under whose hand or supervision of the plans were prepared and sealed.

4.1.3 Interdepartmental Review and Approval

The Code Enforcement Officer shall not issue a permit for any development activities until the plans, plats, or construction drawings, as applicable, have been approved by such other departments or agencies as may have authority or jurisdiction over said activities in whole or in part.

4.1.4 Activities Limited to Permit Authorization

Development activities shall be limited to those as authorized by the applicable permit and as may be further restricted by conditions of approval pertaining thereto by the Code Enforcement Officer or other department or agency as may have authority or jurisdiction over said activities in whole or in part.

4.1.5 Developer's Responsibility for Compliance

No permit shall be interpreted to relieve any developer or subdivider of the responsibility of maintaining full compliance with all codes, ordinances, and other regulations of the City of Monroe except as amended by an approved variance or the relief granted through applicable formal appeal procedures for a specific property or application. Any permit issued in error in contradiction to the provisions of an adopted code, ordinance, or regulation of the City of Monroe shall be considered to have been null and void upon its issuance.

4.2 LAND DISTURBANCE PERMITS

4.2.1 Clearing Permit

A permit limited to clearing only with no grubbing or other land disturbance (as defined in the Georgia Soil Erosion and Sedimentation Act) may be issued upon identification of the limits of the property to be cleared and the type of activities to be undertaken, said clearing to be consistent with the provisions of the Zoning Ordinance and any conditions of zoning approval. A Clearing Permit shall not be construed as approval of or authorization to construct improvements, buildings or other structures on the property.

4.2.2 Clearing and Grubbing Permit

No Clearing and Grubbing permit may be approved prior to approval of a Sketch Plat for a subdivision or sketch site plan for multi-family, non-residential or other, and appropriate soil erosion and sedimentation controls shall be shown, placed and maintained as required. A permit for clearing and grubbing shall expire unless activities are commenced within 60 days of issuance of the permit or if activities lapse for a period exceeding fourteen (14) calendar days. Said permit shall be limited to the removal of vegetation and stumps and the placement of required tree protection measures and soil erosion and sedimentation facilities, and may authorize the removal of existing structures on the property at the option of the developer. No grading or construction activities may be started under a Clearing and Grubbing Permit. The approval of a Clearing and Grubbing Permit shall not imply the approval of or authorization to construct any improvements, buildings, or other structures on the property.

4.2.3 Grading Permit

A Grading Permit, which may include clearing and grubbing, may not be issued prior to Preliminary Plat approval for subdivisions or prior to approval of a sketch site plan, grading plan and soil erosion and sediment control plan for multi-family and nonresidential developments. A Grading Permit may also be issued for earth borrow, where no development or construction is proposed or imminent, based on approval of a grading plan, soil erosion and sediment control plan, and hydrology study. A permit authorizing grading shall expire unless activities are commenced within 60 days of issuance of the permit or if activities lapse for a period exceeding fourteen (14) calendar days. Said permit shall be limited in its authorization to land grading activities along with associated clearing and grubbing, and demolition activities, and may authorize the construction of storm drainage improvements and soil erosion and sedimentation facilities as allow by the permit itself.

4.2.4 Development Permit

A Development Permit may not be issued prior to Preliminary Plat approval for subdivisions or approval of Site Development Plans for non-subdivision projects. A Development Permit shall expire twelve (12) months after issuance unless development activity as authorized by

the permit is initiated within the twelve (12) month period or if such authorized activities lapse for a period exceeding one (1) month. Provided, however, that the Code Enforcement Officer may approve one (1) extension not to exceed three (3) months within which time development activity must commence or the permit shall expire. Said permit shall be issued to authorize all activities associated with land development process, including clearing and grubbing, grading, and the construction of such improvements as streets, surface parking areas and drives, sewer systems, storm water drainage facilities, sidewalks, or other structures permanently placed on or in the property except for buildings or other structures requiring the issuance of a building permit. Water system improvements shall be authorized solely by the City of Monroe Water & Gas Department.

ARTICLE 5

SUBDIVISION EXEMPTIONS

5.1 GENERAL REQUIREMENTS

For the purpose of these Regulations, the types of activities contained in this Section shall be considered Subdivisions but exempt from the "procedures" and "required public improvements" portions of these Regulations, except as noted. Refer to Article 6 for procedures and Article 7 for Plan and Plat specifications. Each such Subdivision shall be drawn as a Final Plat in accordance with Final Plat Standards pursuant to the requirements of these Regulations and shall be submitted in Six (6) copies and a digital copy together with any fees established by the City to the Code Enforcement Officer for review and approval. Upon approval as specified in this ordinance, the Code Enforcement Officer shall authorize the recording of the Final Plat with the Clerk of Superior Court of Walton County and grant the issuance of building permits pursuant to the Codes and Ordinances of the City.

5.2 RECOMBINATIONS

The combination or re-combinations of all of two (2) or more buildable lots of record, where the total number of lots is not increased and the resultant lots or parcels are in compliance with the Zoning Ordinance shall be considered exempt. A Final Plat shall not be required for aggregations of properties for land assembly purposes where no building permit will be requested prior to issuance of a Development Permit.

5.3 MINOR SUBDIVISION

The division of a buildable lot of record into five (5) or fewer lots having a minimum lot area of less than five (5) acres provided:

- 5.3.1 Each proposed lot complies with all requirements of the Zoning Ordinance.
- 5.3.2 Each proposed lot abuts upon an existing public street.
- 5.3.3 All slope and utility easements, as well as required street right-of-way, as determined by the Code Enforcement Officer based on the Comprehensive Plan, are provided at no cost to the City.
- 5.3.4 Each lot, thus created, may not be resubdivided as a Minor Subdivision to these Regulations. Such resubdivisions shall be accomplished only through the procedures pertaining to Major Subdivisions contained in these Regulations.
- 5.3.5 Each proposed lot shall comply with the requirements of the Health Department whose certification of approval shall be required prior to approval of the Final Plat by the Code Enforcement Officer.
- 5.3.6 A Record Survey certified by a Land Surveyor currently registered in the State of Georgia shall be submitted and approved by the Code Enforcement Officer showing all lots.

ARTICLE 6

PROCEDURES

6.1 SUBDIVISION REVIEW PROCEDURE

6.1.1 Pre-Application Conference

Prior to the preparation of a subdivision plat, whether residential or nonresidential, the subdivider or his authorized agent is encouraged to confer with the Code Enforcement Office, the Walton County Health Department if septic tanks are needed, the Fire Department, the Streets & Transportation Department, the Solid Waste Department, the Electric and Telecom Department, and the Water and Gas Department. The purpose of this conference is to provide the subdivider with the necessary regulations in order to properly accomplish the proposed project.

6.1.2 Preliminary Plat

- a) An application for Preliminary Plat approval shall be submitted to the Code Enforcement Office using an application form as available from said office along with six (6) copies and one (1) digital copy of the Preliminary Plat.
- b) The Preliminary Plat shall be sealed by a Professional Engineer or Landscape Architect currently registered in the State of Georgia in accordance with the provisions of Georgia law.
- c) Said applications for approval shall be submitted at least thirty (30) days prior to the next scheduled Planning Commission meeting in order to be placed on their agenda for consideration.
- d) The Planning Commission shall review and consider the Preliminary Plat for its conformance with the city's Comprehensive Plan, Official Street Plan, this ordinance and other applicable city ordinances. Based on its review the Planning Commission may recommend approval, recommend denial, or table for further consideration.
- e) The Preliminary Plat shall be forwarded with a recommendation from the Planning Commission to the Mayor and council for their review and approval.
- f) The Mayor and Council shall review and consider the Preliminary Plat for its conformance with the city's Comprehensive Plan, Official Street Plan, this ordinance and other applicable city ordinances. Based on its review of the preliminary plat, the Mayor and Council may approve, deny, or table for further consideration. The subdivider may not proceed further with the

plat approval and site development process until approval is received from the Mayor and Council.

- g) Upon approval of the Preliminary Plat, the subdivider may proceed with Site Development Plans, based upon the approved Preliminary Plat drawings and data.
- h) Copies of the approved Preliminary Plat shall be provided in a number as determined by the Code Enforcement Officer for permanent record.

6.1.3 Site Development Plans (Construction Plans)

- a) An application for Site Development Plan approval shall be submitted to the Code Enforcement Office using an application form as available from said office along with six (6) copies and one (1) digital copy of Site Development Plans.
- b) As required by these Regulations, the application shall include a Site Plan, Soil Erosion and Sedimentation Control Plan, and other construction plans as appropriate to the project. All construction drawings and other engineering data shall be prepared and sealed by a Professional Engineer or Landscape Architect currently registered in the State of Georgia, in accordance with the provisions of Georgia law.
- c) Favorable consideration by the Code Enforcement Office, Walton County Health Department (if applicable), Fire Department, Streets and Transportation Department, the Solid Waste Department, Soil Conservation Service or designee, Electric and Telecom Department, and the Water and Gas Department shall be obtained prior to the issuance of a Development Permit.
- d) When the Code Enforcement Officer has determined that the Site Plan and other Development Plans are in compliance with all applicable City regulations and zoning requirements, and approval has been received from all affected City departments, a Development Permit shall be issued. Approved copies of the approved Site Development Plan Shall be transmitted to the applicant and copies retained by the Code Office for its records.
- e) The developer shall be responsible for compliance with all codes, regulations, and zoning requirements and for the satisfaction of all of the noted and written comments of the affected City departments and/or agencies.

6.1.4 Final Plat

- a) An application for Final Plat approval shall be submitted to the Code Enforcement Office using an application form as available from said office along with ten (10) copies of the Final Plat drawing, as well as any other data or information required by these Regulations.
- b) Said application for approval shall be submitted at least thirty (30) days prior to the next scheduled City Council meeting in order to be placed on the agenda for consideration.
- c) Upon receipt of an application for Final Plat approval, the Code Enforcement Officer shall submit the Final Plat to the Mayor and City Council for approval.
- d) Upon approval of the Final Plat by the Mayor and City Council, , the Code Enforcement Officer shall authorize the recording of the Final Plat with the Clerk of Superior Court of Walton County.
- e) Copies of the approved Final Plat shall be provided to, and in a number as determined by, the Code for permanent record.

6.1.5 Final Plat - Minor Subdivision

- a) An application for approval of a Final Plat-Minor Subdivision shall be submitted to the Code Enforcement Office using an application form as available from said office along with six (6) copies and one (1) digital copy of the Final Plat, as well as other data or information as required by these Regulations.
- b) The Code Enforcement Officer shall review the Final Plat for the minor subdivision and approve if all requirements of the City of Monroe are met. If unique conditions exist relative to a minor subdivision plat, the Code Enforcement Officer may, at his discretion, refer the minor subdivision plat to the Planning commission for review and approval. He is not compelled to approve a minor subdivision plat if in his opinion these unique conditions should be reviewed by the Planning Commission.
- c) The Code Enforcement Officer shall submit the Final Plat to the City Clerk and Mayor for their signatures.
- d) After the Final Plat for a minor subdivision has been signed by the City Clerk and Mayor, the Code Enforcement Officer shall authorize the recording of the Final Plat with the Clerk of superior Court of Walton County.
- e) Copies of the approved Final Plat shall be provided to, and in a number as determined by, the Code Officer for permanent record.

ARTICLE 7

PLAN AND PLAT SPECIFICATIONS

7.1 SKETCH PLAT (Optional)

The Sketch Plat shall show in sketch form the proposed layout of streets, lots, and other features in relation to existing conditions. The Sketch Plat may be a free-hand sketch made directly on a print of the topographic survey. The Sketch Plat must include all of the contiguous property under one (1) ownership.

7.1.1 Sketch Plat Specifications

The Sketch Plat shall contain the following information:

- a) Name of the subdivision, unit number, Land District, Land Lot number, tax map number, and total acreage of tract.
- b) Name, address and telephone number of owner or agent.
- c) Name, address and telephone number of individual responsible for subdivision design and surveys.
- d) Date, graphic scale and north point.
- e) Location sketch of tract showing major surrounding features.
- f) Proposed use of the subdivision.
- g) Minimum building setback lines along streets with dimensions.
- h) Location of existing property lines, major easements, rights-of-way, water courses, drainage areas and ditches, distinctive natural features, and existing buildings.
- i) The location, names and width of all existing or proposed streets within or directly adjacent to the subject property.
- j) Lots numbered in numerical order and blocks lettered alphabetically.
- k) Total number of lots proposed in tabular form.
- l) The approximate location of all proposed or existing lots and the site of the smallest lot.

7.2.3 Certified Boundary Survey

- a) The Preliminary Plat shall be based on a certified boundary survey delineating the entirety of the property contained within the Preliminary Plat, and tied to a point of reference (tie point) with the same degree of accuracy as the boundary survey itself. The survey shall have an accuracy of no less than one (1) in ten thousand (10,000), and shall meet all requirements of Georgia Law regarding the recording of maps and plats.
- b) Each Preliminary Plat shall be drawn on, accompanied by, or referenced to a boundary survey.

7.2.4 Preliminary Plat Specifications.

The Preliminary Plat shall contain the following:

- a) Name of the subdivision, unit number, Land District, Land Lot number, and total acreage of tract.
- b) Name, address, and telephone number of owner or agent.
- c) Name, address and telephone number of individual responsible for subdivision design and surveys.
- d) Date, graphic scale, and north point.
- e) Location sketch of tract showing major surrounding features.
- f) Proposed use of the subdivision
- g) Minimum building setback lines along streets, with dimensions.
- h) Location of existing property lines, major easements, rights of way, water courses, drainage areas and ditches, distinctive natural features, and existing buildings.
- i) The location, names, and width of all existing or proposed streets within or directly adjacent to the subject property.
- j) Lots numbered in numerical order and blocks lettered alphabetically.
- k) Total number of lots proposed in tabular form

z) CERTIFICATE OF APPROVAL BY PLANNING COMMISSION (text follows):

The Preliminary Plat shown hereon has been found to comply with the Zoning Ordinance and the Development Regulations of the City of Monroe and is hereby given Preliminary Approval by the City of Monroe Planning Commission. This Preliminary Approval does not constitute approval of a Final Plat. This Certificate of Approval shall expire and be null and void one (1) year from the date of this Certificate of Approval.

Dated this ____ day of _____, 20__

By: _____, Chairman

By: _____, Secretary

a.) CERTIFICATE OF APPROVAL BY MONROE WATER & GAS DEPARTMENT (text follows):

The lots shown hereon and plans for water and sewage collection and disposal have been reviewed and approved by the City of Monroe Water & Gas Department, and with the exception of lots are approved for development.

Dated this ____ day of _____, 20__

By: _____

Title: _____

aa) CERTIFICATE OF APPROVAL BY MAYOR AND COUNCIL (text follows):

The Preliminary Plat shown hereon has been found to comply with the Zoning Ordinance and the Development Regulations of the City of Monroe and is hereby given Preliminary Approval by the City of Monroe Mayor and Council. This Preliminary Approval does not constitute approval of a Final Plat. This Certificate of Approval shall expire and be null and void one (1) year from the date of this Certificate of Approval.

Dated this ____ day of _____, 20__

By: _____, Mayor

By: _____, City Clerk

7.3 SITE DEVELOPMENT PLANS (CONSTRUCTION PLANS)

7.3.1 Conformance to Preliminary Plat.

The Site Development Plans shall generally conform to the Preliminary Plat and may constitute only that portion of the approved Preliminary Plat which the subdivider proposes to construct at one time as a single unit, provided that such portion conforms to the requirements of these Regulations.

7.3.2 Required Site Development Plan Information

The Site Development Plan shall contain the following:

- a) Name of Subdivision
- b) Name, address, and telephone number of owner of record and the subdivider (if not the owner)
- c) Name, address and telephone number of each professional firm associated with the Site Development Plans (engineer, surveyor, landscape architect, etc.)
- d) Date of survey, north point, and graphic scale, source of vertical datum, date of plat drawing, and space for revision dates
- e) Proposed use of the site, such as single family residences, duplexes, town houses, office park, industrial subdivision, etc. For residential, indicate total number of dwelling units proposed.
- f) Land District, Land Lot, and acreage
- g) Location sketch of tract showing major surrounding features
- h) Boundary lines of the perimeter of the tract indicated by a heavy line, giving lengths in feet and hundredths of a foot and bearings in degrees, minutes, and seconds, (bearing and distance to designated tie point.)
- i) Directional flow arrows for street drainage
- j) Contour lines based on sea level datum or other datum acceptable to the City. These shall be drawn at intervals of not more than two (2) feet. Contour lines

shall be based on field surveys or photogrammetric methods from aerial photographs. The basis for the topographic contours shown shall be specified and dated.

- k) Natural features within the proposed subdivision, including drainage channels, bodies of water, and other known significant features such as extensive exposed rock. On all water courses leaving the tract, the direction of flow shall be indicated
- l) Manmade and cultural features existing within and adjacent to the proposed subdivision including existing right of way measured from centerline, pavement widths, and names of existing and platted streets; all easements, and City jurisdiction lines; existing structures on the site and their disposition, and other significant information. Location and dimensions of existing bridges, water, sewer, other existing utility lines and structures, culverts, and other existing features should be indicated
- m) Proposed layout including lot lines, lot numbers, and block letters; proposed street names, roadway and right-of-way lines and sites reserved through covenants, easement, dedication, or otherwise for public use. Lots shall be numbered in numerical order and blocks lettered alphabetically. The minimum building setback line from all streets shall be shown. Streets shall be dimensioned to show right-of-way and roadway widths, central angles, intersection radii, and cul-de-sac roadway and right-of-way radii. Centerline curve data shall be provided for all roadway curves radius, length, amount of super elevation (if any), point of curvatures (P.C.), point of tangency (P.T.), etc., if not shown separately on construction drawings
- n) Identify unit number, division, or stage of development, if any, as proposed by the subdivider
- o) Existing zoning of the property. Note minimum lot size and minimum yard setback requirements and other applicable zoning requirements. Show and dimension any required buffers, no-access easements, etc. Note any approved Variances from these Regulations
- p) All adjoining property owners, subdivision names, lot numbers and lot lines, block letters, and zoning
- q) Location of all known existing or previously existing landfills

- r) Location of all known existing groundwater recharge areas
- s) Location of all known existing wetlands
- t) Location of all known flood hazard areas
- u) Location of all known Protected River Corridors
- v) Location of all known Water Supply Watershed areas
- w) The Words “Not for Final Recording” shall be noted on the plan
- x) CERTIFICATE OF APPROVAL BY THE CODE ENFORCEMENT OFFICE (text follows):

All requirements of the Zoning Ordinance and Development Regulations of the City Monroe having been fulfilled and all supporting plans and data having been approved by all affected City Departments as required by their respective regulations, approval is hereby granted of these Site Development Plans.

Dated this _____ day of _____, 20_____.

By: _____ Code Enforcement Officer

7.3.3 Plans to Accompany Site Development Plans:

The Site Development Plans shall be accompanied by other Development Plans showing the following information when same is not shown on, or is evident from, the Site Development Plans. The various plans may be combined where appropriate so that clarity can be maintained.

- a) Buffer and Landscape Plan – Buffer and Landscape Plan, if any such areas are required on the site, prepared in accordance with the specifications contained in these Regulations.

- b) Erosion Control Plan – Erosion Control Plan prepared in accordance with the requirements of the Soil Erosion and Sediment Control Ordinance. Erosion control measures may be shown on the Grading Plan, if desired.
- c) Floodplain Management Plans – Floodplain Management Plans, if any floodplain areas are located on the property, such data as is required by the Floodplain Management Ordinance shall be submitted.
- d) Grading Plan – Grading Plan prepared in accordance with the requirements of these Regulations if grading is proposed beyond the street right of way.
- e) New Streets and Street Widening Construction Data
 - 1) Centerline profiles and typical roadway sections of all proposed streets as well as plans and profiles for all proposed major thoroughfares. Typical roadway sections shall be provided for street widening.
 - 2) Where sanitary or storm sewers are to be installed within a street, the grade, size, location, bedding, and class of pipe, as well as location and invert elevation of manholes shall be indicated on the road profile.
 - 3) All elevations shall be coordinated and tied into U.S. Coast and Geodetic Survey or Department of Transportation benchmarks where feasible, into reference monuments established by the Federal Emergency Management Agency, or into permanent benchmarks established for the development.
 - 4) Streets stubbed out at the adjacent property line shall be profiled at least 200 feet onto adjoining property (no tree cutting).
- f) Storm Water Drainage Construction Data and Plan
 - 1) Location and size of all proposed drainage structures, including detention ponds, catch basins, grates, headwalls, pipes and any extensions thereof, energy dissipaters, improved channels, and all proposed drainage easements to be located outside street right-of-way lines.

- 2) Profiles of all storm drainage pipes and slope of receiving channels. On storm drainage profiles a pipe chart will be shown which will include pipe numbers, pipe size, pipe material, pipe slope, and Manning's normal flow friction slope for the 25-year storm flow for cross drains and for all other pipe collection systems. On all pipe which drain into detention ponds or floodplains, the hydraulic grade line will be shown from the pond or floodplain to the nearest catch basin, grated inlet, or yard inlet. The hydraulic grade line will begin at the calculated 25-year storm storage elevation depending on the pipe collection system. On all outfall structures from detention ponds, the hydraulic grade line will be shown for the 100-year storm.
 - 3) Profiles of all open channels and ditches including Manning's 25-year storm normal depth and velocity.
 - 4) A 100-year study utilizing Reservoir Routing Method only, used in determining size of structures, including map of all contributing drainage basins and acreage.
- g) Water System Plans – Water System Plans indicating proposed water main size and location, with fire hydrants, on the site. The distance to and the direction of all other fire hydrants within 500 feet of the site along existing streets shall also be shown.
- h) Sanitary Sewer Plans – If sanitary sewers are required, Sanitary Sewer Plans, including the location, type, and size of all proposed sewer lines, manholes, and any easements required thereof, together with sufficient dimensions to locate same on the ground.

The Water System Plans and Sanitary Sewer Plans shall include the following statement for approval by the City of Monroe Utilities Department.

CERTIFICATE OF APPROVAL BY CITY OF MONROE WATER & GAS DEPARTMENT (text follows):

The lots shown hereon and plans for water and sewage collection and disposal have been reviewed and approved by the City of Monroe Water & Gas Department.

Dated this _____ day of _____, 20__

By: _____

Title: _____

7.3.4 Encroachments:

Where construction is proposed on adjacent property, an encroachment agreement or easement shall be submitted to the Code Enforcement Officer.

7.4 FINAL PLAT SPECIFICATIONS

7.4.1 Scale and Sheet Size:

The Final Plat shall be clearly and legibly drawn in black ink on tracing cloth or other permanent, reproducible material. The scale of the Final Plat shall be 100 feet to one (1") inch (1"=100') or larger. Sheet size shall be 15" X17", or if larger than 15" X 17", it must be photographically reduced, prior to recording, to no more than 15" X 17".

7.4.2 Certified Boundary Survey:

The Final Plat shall be based on a certified boundary survey delineating the entirety of the property contained within the Final Plat and tied to a point of reference (tie point) with the same degree of accuracy as the boundary survey itself. The survey shall have an accuracy of no less than 1 in 10,000 and shall meet all requirements of Georgia law regarding the recording of maps and plats.

7.4.3 Conformance to Preliminary Plat:

The Final Plat shall substantially conform to the Preliminary Plat and may constitute only that portion of the approved Preliminary Plat which the subdivider proposes to record at any one time, provided that such portion conforms to the requirements of these Regulations and said portion is not inconsistent with the public health, safety, or welfare. Any substantial deviation from the Preliminary Plat shall require revision and re-approval of the Preliminary Plat.

7.4.4 Required Final Plat Information:

The Final Plat shall contain the following information:

- a) Name of the subdivision, unit number, Land District, and Land Lot number.
- b) Name, address, and telephone number of owner of record and the subdivider (if not the owner).
- c) Name, address and telephone number of each professional firm associated with the portion of the subdivision within the Final Plat (engineer, surveyor, landscape architect, etc.)
- d) Date of plat drawing, graphic scape, north point, notation as to the reference of bearings to magnetic true north or grid north, and indication whether bearings shown are calculated from angles turned.
- e) Location sketch of tract showing major surrounding features.
- f) Boundary lines of the tract, to be indicated by a heavy line, giving distances to the nearest one-hundredth foot and bearings to the nearest second. Bearing and distance to designated tie point shall be shown. The Plat shall have a closure precision of 1 foot in no less than 10,000 feet.
- g) Municipal or City jurisdiction lines approximately tied to the lines of the subdivision by distance and angles when such lines traverse or adjoin the subdivision. Land Lot lines traversing or adjoining the subdivision shall also be indicated.

- h) Locations, widths, and names of all streets and alleys within and immediately adjoining the plat, the location and widths of all internal public crosswalks, and all other public rights of way.
- i) Street centerlines, showing angles of deflection and standard curve data including radii, length of arcs and tangents between curves, points of curvance (P.C.), and Point of Tangency (P.T.).
- j) Lot lines with dimensions to the nearest one-tenth (1/10) of a foot and bearings to the nearest second, and radii of rounded corners as necessary to delimit each lot.
- k) Minimum building setback lines along streets with dimensions.
- l) Lots in numerical order and blocks lettered alphabetically.
- m) Location and size of all drainage pipe, location and extent of detention ponds, the location and size of all public water mains and fire hydrants, and the location, dimensions, and purpose of any easements, including construction or slope easements if required.
- n) Location of any areas to be reserved, donated, or dedicated to public use with notes stating their purpose and limitations. Location of any areas to be reserved by private deed covenant for common use of all property owners, or dedicated to a homeowner's association.
- o) A statement of private covenants, if any, brief enough to be put directly on the plat; otherwise, if covenants are separately recorded, a statement as follows: This plat is subject to the covenants set forth in the separate document(s) attached hereto dated_____ which hereby become a part of this plat and which were recorded and signed by the owner.
- p) Accurate location, material, and the description of monuments and markers in place prior to approval of the Final Plat.
- q) Extent of the 100-year floodplain and the origin of the 100-year data shall be indicated.

- r) Street address numbers for each lot.
- s) The following drainage notice:
NOTE: The City of Monroe assumes no responsibility for overflow or erosion of natural or artificial drains beyond the extent of the street right of way, or for the extension of culverts beyond the point shown on the approved and recorded subdivision plat.

OWNERS CERTIFICATE AND DECLARATION (text follows):

STATE OF GEORGIA
THE CITY OF MONROE

The owner of the land shown on this plat and whose name is subscribed hereto in person or through a duly authorized agent acknowledges that this plat was made from an actual survey and dedicates to the use of the public forever all streets, drains, easements and other public facilities and appurtenances thereon shown for the purposes therein expressed.

Dated this _____ day of _____, 19/20_____

By: _____, Owner

t) SURVEYOR’S CERTIFICATION (text follows):

It is hereby certified that this plat is true and correct as to the property lines and all improvement shown thereon and was prepared from an actual survey of the property made by me or under my supervision; that all monuments shown hereon actually exist; and their location, size, type, and material are correctly shown. The field data upon which this plat is based has a closure precision of one foot in feet and an angular error or _____ per angle point, adjusted using rule. This plat has been calculated for closure and is found to be accurate within one foot in feet, and contains total of _____ acres. The equipment used to obtain the linear and angular measurements herein was _____.

By: _____

Date: _____

Registered Georgia Land Surveyor

Reg. No: _____ Date of Expiration _____

u) CERTIFICATE OF APPROVAL BY THE Code Enforcement Office

The Code Enforcement Officer certifies that this plat complies with the Zoning Ordinance and Development Regulations of the City of Monroe and has been approved by all other affected City Departments, as appropriate. This plat is approved, subject to the provisions and requirements of the Performance and Maintenance Surety Agreement executed for this project between the owner and the City of Monroe.

By: _____

Date: _____

Code Enforcement Officer: _____

v) CERTIFICATE OF APPROVAL BY MAYOR AND COUNCIL (text follows):

The City of Monroe Mayor and City Council hereby accept on behalf of the City of Monroe the dedication of all public streets, rights of way, easements and other public facilities and appurtenances shown thereon. This plat is approved subject to the provisions and requirements of the Performance and Maintenance Surety Agreement executed for this project between the owner and the City of Monroe.

Dated this _____ day of _____, 20 ____

By: _____, Mayor
The City of Monroe Mayor and City Council

Attest: _____
City Clerk, City of Monroe

7.4.5 Warranty Deed Required for Other Dedications:

If any lands are shown on the Final Plat for dedication to the City of Monroe other than street rights of way or easements, a Warranty Deed transferring title to said land in fee simple shall be submitted with the Final Plat application.

7.4.6 Deed of Transfer Required for Dedications to Property Owner's Association:

If any lands are shown on the Final Plat for dedication to a Property Owners Association, a copy of the deed of transfer for such dedication and a copy of the

instrument of incorporation of the Property Owners Association shall be submitted with the Final Plat application.

7.5 MINOR SUBDIVISION PLAT SPECIFICATIONS

The Final Plat for a Minor Subdivision shall include the following information:

7.5.1 Scale and Sheet Size:

The Final Plat shall be clearly and legibly drawn in black ink on tracing cloth or other permanent reproducible material. The scale of the Final Plat shall be 100 feet to one (1") inch (1"=100'), or larger. Sheet size shall be 15" x 17", or if larger than 15" x 17", it must be photographically reduced, prior to recording, to no more than 15" x 17".

7.5.2 Certified Boundary Survey:

The Final Plat shall be based on a certified boundary survey delineating the entirety of the property contained within the Final Plat and tied to a point of reference (tie point) with the same degree of accuracy as the boundary survey itself. The survey shall have an accuracy of no less than 1 in 10,000 and shall meet all requirements of Georgia law regarding the recording of maps and plats.

7.5.3 Required Final Plat Information:

The Final Plat for a Minor Subdivision shall contain the following information:

- a) Name of the subdivision, unit number, Land District, and Land Lot number
- b) Name, address and telephone number of owner of record and the subdivider (if not the owner)
- c) Name, address, and telephone number of the professional firm which prepared the Final Plat
- d) Date of plat drawing, graphic scape, north point, notation as to the reference of bearings to magnetic true north or grid north, and indication whether bearings shown are calculated from angles turned
- e) Boundary lines of the tract, indicated by a heavy line, giving distances to the nearest one-hundredth foot and bearings to the nearest second. Bearing and

distance to designated tie point shall be shown. The plat shall have a closure precision of 1 foot in no less than 10,000 feet

- f) Municipal or City jurisdiction lines approximately tied to the lines of the subdivision by distance and angles when such lines traverse or adjoin the subdivision. Land Lot lines traversing or adjoining the subdivision shall also be indicated
- g) Locations, widths, and names of all streets and alleys immediately adjoining the site
- h) Lot lines with dimensions to the nearest one-tenth (1/10) of a foot and bearings to the nearest second
- i) Minimum building setback lines along streets with dimensions
- j) Lots in numerical order and blocks lettered alphabetically
- k) Location and size of all public water mains and fire hydrants and the location, dimensions, and purpose of any easements, including construction or slope easements, if required
- l) A statement of private covenants, if any, and they are brief enough to be put directly on the plat; otherwise, if covenants are separately recorded, a statement as follows:

This plat is subject to the covenants set forth in the separate document(s) attached hereto dated which hereby become a part of this plat, and which were recorded and signed by the owner
- m) Accurate location, material, and the description of monuments and markers. (All monuments shall be in place prior to approval of the Final Plat.)
- n) Extent of the 100-year floodplain and the origin of the floodplain data shall be indicated
- o) Street address numbers for each lot and for each street

p) OWNER'S CERTIFICATE AND DECLARATION, STATE OF GEORGIA,
THE CITY OF MONROE (text follows):

The owner of the land shown on this plat and whose name is subscribed hereto and in person or through a duly authorized agent acknowledges that this plat was made from an actual survey and dedicates to the use of the public forever all streets, drains, easements and other public facilities and appurtenances thereon shown for the purposes therein expressed.

Dated this ____ day of _____, 20__.

By: _____ Owner

q) SURVEYOR'S CERTIFICATION

It is hereby certified that this plat is true and correct as to the property lines and all improvements shown thereon, and was prepared from an actual survey of the property made by me or under my supervision; that all monuments shown hereon actually exist and their location, size, type, and material are correctly shown. The field data upon which this plat is based has a closure precision of one foot in ____ feet and an angular error of ____ per angle point, and was adjusted using _____ rule. This plat has been calculated for closure and is found to be accurate within one foot in ____ feet, and contains a total of _____ acres. The equipment used to obtain the linear and angular measurements herein was _____.

By: _____ Date: _____

Reg.No: _____ Date Of Expiration: _____

r) CERTIFICATE OF APPROVAL BY THE CODE ENFORCEMENT
OFFICE (text follows:)

The Code Enforcement Officer certifies that this plat complies with the Zoning Ordinance Development Regulations of the City of Monroe and has been approved by all other affected City Departments, as appropriate.

Dated this ____ day of _____, 20__

By: _____
Code Enforcement Officer

s) CERTIFICATE OF APPROVAL BY MAYOR AND COUNCIL

The City of Monroe Mayor and City Council hereby accept on behalf of the City of Monroe the dedication of all public streets, rights of way, easements, and other public facilities and appurtenances shown thereon. This plat is approved subject to the provisions and requirements of the Performance and Maintenance Surety Agreement executed for this project between the owner and the City of Monroe.

Dated this _____ day of _____, 20 ____

By: _____, Mayor
The City of Monroe Mayor and City Council

Attest: _____
City Clerk, City of Monroe

7.6 SITE DEVELOPMENT PLANS –COMMERCIAL, INDUSTRIAL AND MULTI-FAIMILY SITES

An application for a Development Permit for a multi-family or nonresidential development shall consist of the Site Plan, a certified boundary survey reference, associated slope or construction easements (if any), and such other Development Plans as may be required by these Regulations.

7.6.1 Scale

The Development Plans shall be clearly and legibly drawn at an engineering scale convenient to illustrate the details of the project. Sheet size shall not exceed forty-eight (48") inches by thirty-six (36") inches. Plan and Profile sheets, if any, shall have a horizontal scale of no less than 100 feet to one (1") inch and a vertical scale of no less than ten (10') feet to one (1") inch. The Code Enforcement Officer may approve other scales as deemed appropriate.

7.6.2 Project Boundary Data:

The Site Plan shall be based on the boundaries of a lot as recorded on a Final Subdivision Plat or on a certified boundary survey delineating the entirety of the property contained within the project, and tied to a point of reference (tie point) with the same degree of accuracy as the boundary survey itself. The survey shall have an accuracy of no less than 1 in 10,000 and shall meet all requirements of Georgia Law regarding the recording of maps and plats.

7.6.3 Required Site Plan Information

The Site Plan shall contain the following information (on one or more sheets):

- a) Proposed name of development. If the project is located within a subdivision, the name of the subdivision, lot, and block number must also be shown.
- b) Name, address and telephone number of the owner of record, and of the developer (if not the owner).
- c) Name, address and telephone number of each professional firm associated with the Development Plans (engineer, surveyor, landscape architect, etc.).
- d) Date of survey, north point, and graphic scale, source of vertical datum, date of plat drawing, and space for revision dates.
- e) Proposed use of the site, including gross square footage for each different use type or building.
- f) Land District, Land Lot and acreage or area in square feet.
- g) Location map locating the development in relation to the surrounding area with regard to well-known landmarks such as major thoroughfares or railroads.
- h) Size and location of all buildings, building setback lines, minimum yard lines, and distances between buildings from the buildings to property lines; location of outdoor storage area; parking and loading areas; driveways, curb cuts and designated fire lanes. Each building shall be identified with a number or letter.
- i) Boundary lines of the perimeter of the tract indicated by a heavy line giving lengths in feet and hundredths of a foot, and bearings to the nearest second. Bearing and distance to designated tie point.
- j) Directional flow arrows for street drainage.
- k) Contour lines based on sea level datum, or other datum acceptable to the City. These shall be drawn at intervals of not more than two (2') feet and shall include the entire site and all abutting public streets. Contour lines shall be based on field surveys or photogrammetric methods from aerial photographs. The basis for the topographic contour shown shall be specified and dated.
- l) Natural features within the proposed subdivision, including drainage channels, bodies of water, and other known significant features such as extensive exposed rock. On all water courses leaving the tract, the direction of flow shall be indicated. The 100-year floodplain shall be outlined and the source of the depicted floodplain information shall be indicated. The acreage of area in square feet within the floodplain shall be indicated.

- m) Manmade and cultural features existing within and adjacent to the proposed subdivision including existing right-of-way measured from centerline, pavement widths, and names of existing and platted streets; all easements, City jurisdiction lines; existing structures on the site and their disposition, and other significant information. Location and dimensions of existing bridges, water, sewer, and other existing utility lines and structures, culverts and other existing features should be indicated.
- n) All adjoining property owners, subdivision names, lot numbers, lot lines, block letters, and zoning
- o) The location and number of parking spaces according to the size of the building on plans. Show factors used in determining number of spaces as required in the Zoning Ordinance. Handicapped parking spaces must be shown as required by the Georgia Handicap Law.
- p) If buffers, buffer enhancements, or other visual screening treatments are required, show the location, size and type (natural or planted) on the plan.
- q) Location of all known existing or previously existing landfills. On-site burial pits will not be allowed unless permitted by the State Environmental Protection Division (EPD) or other Jurisdictional Authority.
- r) Such additional information as may be reasonably required to permit an adequate evaluation of the project.

7.6.4 Development Plans to Accompany Site Plan

The Site Plan shall be accompanied by other Development Plans showing the following information when same is not shown on, or evident from the Site Plan. The various plans may be combined where appropriate and clarity can be maintained.

- a) Buffer and Landscape Plan. Buffer and Landscape Plan, if any such areas are required on the site, prepared in accordance with the specifications contained in these regulations.
- b) Erosion Control Plan prepared in accordance with the requirements of the Soil Erosion and Sediment Control Ordinance. Erosion control measures may be shown on the Grading Plan, if desired.
- c) Floodplain Management Plans. If any floodplain areas are located on the property, such data as is required by the Floodplain Management Ordinance shall be submitted.
- d) Grading Plan. Grading Plan prepared in accordance with the requirements of these Regulations.

- e) Sewer Disposal Plans.
 - (1.) Sanitary Sewer Plans, including the profiles and other information as may be required.
 - (2.) For projects proposed to be served by on-site sewage disposal systems, location and extent of septic tank, drain field and attendant structures, and other information required by the Health Department.
- f) Street Widening Construction Data
 - (1.) Profiles (and plans, where required) shall be drawn on standard plan and profile sheet with plan section showing street layout, pavement and right-of-way width, curvature, and required drainage facilities. Typical roadway sections shall be provided for street widening.
 - (2.) Where sanitary or storm sewers are to be installed within a street, the grade, size, location, and bedding class of pipe; as well as the location and invert elevation of manholes shall be indicated on the road profile.
 - (3.) All elevations shall be coordinated and tied into U.S. Coast and Geodetic Survey or Department of Transportation bench marks where feasible, and into reference monuments established by the Federal Emergency Management Agency, or into permanent benchmarks established for the development.
- g) Storm Water Drainage Construction Data and Plan
 - (1.) Location and size of all proposed drainage structures, including detention ponds, catch basins, grates, headwalls, pipes and any extensions thereof, energy dissipaters, improved channels, and all proposed drainage easements to be located outside street right-of-way lines.
 - (2.) Profiles of all storm drainage pipes. Hydraulic grade line to be shown on all pipes which cross City roads and detention basin outfalls.
 - (3.) Acreage of drainage areas and Hydrological study for existing and proposed conditions, utilizing Reservoir Routing Method only, used in determining size of structures, including map of all contributing drainage basins and acreages.

7.6.5 Encroachments. Where construction is proposed on adjacent property, an encroachment agreement or easement shall be submitted to the Code Enforcement Officer.

7.7 BUFFER AND LANDSCAPE PLAN SPECIFICATIONS

A Buffer and Landscape Plan shall be prepared for any project wherein buffer areas or other landscaping treatments are required by the Zoning Ordinance or conditions of zoning approval, and shall be approved prior to issuance of a Development Permit. While the Plan shall cover, at a minimum, the required buffer and landscape areas, the Plan can be combined with a general landscape plan for the entire project at the developer's option.

7.7.1 Required Plan Information

The Buffer and Landscape Plan shall contain, but need not be limited to, the following:

- a) Project name, Land District, Land Lot, parcel number, and acreage.
- b) Developer's name, address and telephone number.
- c) The name, address, and telephone number of the Registered Landscape Architect, Urban Forester, or Arborist responsible for preparation of the plan, and the Seal or statement of professional qualifications of said person.
- d) Boundary lines of each buffer or other landscape area, appropriately labeled.
- e) Delineation of undisturbed buffer areas wherein trees are proposed to be retained to meet City requirements.
- f) General location of all proposed trees, shrubs, vines, groundcovers, mulching, and other features proposed within the buffer/landscape area. A scale sufficient to clearly indicate all details shall be used, along with a north arrow.
- g) Planting and other landscape architectural details as required to fully illustrate installation or construction technique fully.
- h) For new plant materials to be installed, a plant materials schedule including, but not limited to:
 1. Common and botanical names of all proposed plants.
 2. Plant quantities.

3. Size and condition of plants. (Example: 1" caliper, 6 feet height, balled and burlapped)
4. Spacing
5. Remarks as necessary to insure proper plant selection upon installation. (Example: Specimen, multi-trunked)

7.7.2 Special Soil Conditions

- a) While most soils in the area can be safely stabilized at a 2:1 slope, some soils exhibit a low shearing resistance and a low cohesiveness. These soils typically are micaceous silts and sandy soils with little or no clay. If the 2:1 slope shows evidence of shearing, non-cohesiveness, sliding, or inability to maintain compaction, the slope shall be stabilized at 3:1 or by using such mechanical methods as needed (such as retaining walls or "grow mats" stapled in place) to maintain slope, height, and integrity.
- b) Slopes may be steeper if a geotechnical report is submitted to the Code Enforcement Officer substantiating the integrity of any slope in excess of 2:1.

ARTICLE 8

GENERAL REQUIREMENTS

8.1 CONFORMANCE WITH COMPREHENSIVE PLAN

The arrangement, character, extent, width, grade, and location of all streets shall conform to these Regulations and the Comprehensive Plan and shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety; and in their appropriate relation to the proposed uses of the land to be served by such streets.

8.2 SUITABILITY OF THE LAND

The City of Monroe shall not approve any development or subdivision, if from adequate investigation conducted by any public agency concerned, it has been determined that in the best interest of the public, the site is not suitable for development purposes of the kind proposed.

8.2.1 Unsuitable Land May Not be Developed

Land subject to flooding, improper drainage or erosion, or deemed to be unsuitable for development due to steep slope, unsuitable soils or subsurface conditions, etc., shall not be subjected to development for any uses as may continue such conditions or increase danger to health, safety, life, or property unless steps are taken to eliminate or abate these conditions.

8.2.2 Unsuitable Land shall be Incorporated into Buildable Lots

Land within a proposed subdivision or development which is unsuitable for development shall be incorporated into the buildable lots as excess land. Lots, which do not comply with the requirements of the Zoning Ordinance, are prohibited.

8.3 ISSUANCE OF BUILDING PERMITS/ACCESS

No building permit shall be issued and no building shall be erected on any lot in the City of Monroe unless the street giving access thereto has been accepted as a public street in accordance with these Regulations, or unless such street had attained the status of a public street prior to the effective date of adoption of these or prior Regulations.

8.4 DEVELOPMENT PERMIT REQUIRED FOR MULTI-FAMILY AND NON-RESIDENTIAL SITES

Issuance of a building permit for any principal building other than a single family detached or duplex residence (and associated accessory structures) shall first require issuance of a Development Permit for the building site, and the building permit shall be consistent with said Development Permit.

8.5 PLANNED DEVELOPMENTS DISTRICTS (PDD's)

The requirements of these Regulations may be modified by the Code Enforcement Officer in the case of Planned Developments not subdivided into customary lots, blocks and streets if the Planned Development has met the requirements of the Zoning Ordinance, has been approved by the Mayor and City Council (along with any conditions of approval attached thereto) and is in conformance with the purpose and intent of these Regulations.

8.6 ARRANGEMENT OF LOCAL STREETS

The local street network built in a subdivision must meet the following requirements:

- 8.6.1 Provide for the continuation or the appropriate connection of existing Local Streets in surrounding areas at the same or greater width. Provision must be made for the extension of any dead-end streets.
- 8.6.2 The system of streets designated for the subdivision must connect with streets already platted to the boundary from abutting subdivisions. At reasonable intervals streets must be continued to the boundaries (with no reserve strips) of the tract subdivided, so that future abutting subdivisions may connect therewith.
- 8.6.3 Conform to a plan for a neighborhood approved or adopted by the City to meet a particular situation where topographical or other conditions make continuance or conformance to existing local streets impracticable.
- 8.6.4 Be so laid out that their use for through traffic is discouraged.

8.7 LOCATION OF UTILITIES

All proposed water, sewer, and natural gas lines shall be installed along street rights-of-way, underground, but not under paved areas in order to prevent damage to pavement during utility construction maintenance. All new utilities shall be installed at the locations specified in the typical roadway section. Construction of proposed utilities, which cross under an existing paved street, shall be bored under existing pavement. Where required because of topography, location of existing utilities, or other factors, the Code Enforcement Officer may allow the installation of utilities in other areas.

8.8 ALLEYS

Alleys shall not be provided except where the subdivider produces evidence satisfactory to the City of the need for same. In the event the City approves a preliminary plat which proposes alleys, the alley shall be constructed according to standards established in this ordinance.

8.9 BLOCKS

8.9.1 Design Guidelines

The lengths, widths and shapes of blocks shall be determined with regard to:

- a) Provision of adequate building sites suitable to the special needs of the type of use contemplated.
- b) Zoning requirements as to lot size and dimensions.
- c) Needs for convenient access, circulation, control and safety of street traffic.
- d) Limitations and opportunities of topography.

8.9.2 Length

The maximum block length is twelve hundred (1,200) feet.

8.10 CUL-DE-SAC STREETS

8.10.1 Maximum Length

Dead-end streets designed to have one (1) end permanently closed shall provide a cul-de-sac turnaround and may be no more than 1000 feet in length. Additional length necessitated by topography or property configuration may be approved by the City.

8.10.2 Measurement of Length

The length of a cul-de-sac street shall be measured from the center of the cul-de-sac to the center of the intersection with another street that is not another cul-de-sac or dead-end street.

8.11 DEAD-END STREETS

Dead-end streets may be platted where the City deems desirable and where the land adjoins property not subdivided, in which case the street shall be carried to the boundaries thereof and provided with a temporary "cul-de-sac" if over 600 ft. long.

8.12 EASEMENTS

8.12.1 Drainage Easements

- a) Drainage Easements for improved ditches, pipe construction, and detention facilities shall be cleared, opened, and stabilized at the time of development to control surface water run-off.
- b) Drainage Easements shall be provided where a development is traversed by or contains a water course, impoundment, detention pond, floodplain, natural stream or channel. It shall conform substantially to the limits of such natural drainage feature, but shall be not less than twenty (20) feet in width.
- c) Drainage Easements outside of the street right-of-way shall be clearly defined on the Final Plat. The property owner will be required to keep the easement free of obstruction in such a way as to assure the maximum designed flow at all times. The property owner shall not alter any drainage improvements without the prior written approval from the City.
- d) Drainage Easements shall be extended to a public right of way.
- e) Drainage Easements for storm drainpipes and improved ditches shall be as follows:

<u>DIAMETER OF PIPE</u>	<u>MINIMUM EASEMENT WIDTH</u>
15 inches to 36 inches	20 feet
42 inches to 72 inches	20 feet
Over 72 inches	30 feet
Ditches	20 feet

8.12.2 Pedestrian Easements

Pedestrian Easements, not less than ten (10) feet wide, may be required where deemed essential to provide circulation, or access to schools, playgrounds, shopping centers, transportation, and other community facilities.

8.12.3 Sanitary Sewer Easements

Permanent sanitary sewer easements shall be no less than twenty (20') feet in width when no other parallel utilities are located therein. When warranted, temporary construction easement widths shall be as required by the City.

8.12.4 Utility Easements, Private

Utility easements for private utilities shall be avoided except in cases where no other satisfactory arrangements can be provided for the installation of private utilities.

8.12.5 Utility Easements, Public

A common twenty (20') foot wide utility easement for sanitary sewer and drainage purposes may be allowed if the pipes are parallel and at least ten (10') feet is provided between pipes (on center).

8.13 HALF STREETS

Half streets shall be prohibited.

8.14 LOTS

8.14.1 Design Guidelines

The lot size, width, depth, shape and orientation, and the minimum building setback lines shall be appropriate for the location of the subdivision and for the type of development and use contemplated.

8.14.2 Lot Size

Lot sizes and dimensions shall conform to the requirements of the Zoning Ordinance of the City of Monroe.

8.14.3 Corner Lots

Corner lots shall have an extra width to permit appropriate building setbacks from and orientation to both streets.

8.14.4 Double Frontage Lots

Double Frontage (reverse frontage) lots may be required where essential to provide separation of residential subdivisions from Arterial or Collector Streets where internal access can be provided or to overcome specific disadvantages of topography and orientation. A no-access easement of at least ten (10) feet in width, and across which there shall be no right of access, shall be provided along the line of lots abutting such streets. Said easement shall contain a screen planting of trees and shrubs, decorative fencing or other landscape treatment.

8.14.5 Lot Access

Each lot shall abut upon a Public Street as required by the Zoning Ordinance of the City of Monroe.

8.14.6 Side Lot Lines

Side lot lines shall be substantially at right angles (90 degrees) to straight lines, radial to curved street lines, and radial to the radius point of a cul-de-sac.

8.15 MONUMENTS

8.15.1 Property corners

All corners shall be marked with an iron rebar or pin, at least one-half inch in diameter and 18 inches long and driven so as to extend no less than one inch above the finished grade.

8.15.2 Floodplain Elevations

On subdivisions containing floodplains, flood elevation references shall be set in accordance with the requirements of the Floodplain Management Ordinance.

8.16 PRIVATE STREETS

There shall be no private streets platted in any subdivisions. Every development or lot shall abut and be served from a publicly dedicated street. Private streets may be allowed as part of a planned development approved the Mayor and Council as allowed by the Monroe Zoning Ordinance under Section 7.6, Planned Development Districts.

8.17 RAILROAD RIGHTS-OF-WAY

Where a subdivision borders on or contains a railroad right-of-way, the City may require a street approximately parallel to and one each side of such right-of-way, at a distance suitable for the appropriate use of the intervening land. Such distances shall be determined with due regard for the requirements of approach grades and future grade separations.

8.18 RESERVE STRIPS

Land in private ownership adjacent to public rights-of-way which could control or are intended to control access to streets, alleys, or public lands shall not be permitted unless their control is given to the City under ownership, dedication, or easement conditions approved by the City Attorney. No development shall be designed so as to deny access to abutting properties.

8.19 STREET ADDRESSES

Street addresses shall be obtained from the City and shall be shown upon each Final Plat.

8.20 STREET INTERSECTIONS (revised May 4, 2004)

8.20.1 Street intersections shall generally be at right angles (90 degrees) and shall not be at an angle less than 85 degrees unless approved by the Code Enforcement Officer. Street intersections at an angle less than 80 degrees shall be subject to the review and approval of a Traffic Engineer designated by the City.

8.20.2 Both center left and right turn lanes shall be provided on all new internal project streets, and on all existing City of Monroe roads where traffic volumes and turning movements warrant the installation. At the request of the Code Enforcement Officer, the Developer or Applicant shall prepare and submit a detailed traffic study (as defined herein) outlining projected traffic volume, turning movements, and auxiliary lanes required. The methodology and conclusions presented in the traffic study are subject the review and approval of the City of Monroe Code Department.

1. Center Turn Lane Storage – A minimum storage length of 150 feet shall be provided for center left turn lanes on any Arterial Streets. A minimum storage length of 100 feet shall be provided on all Collector Streets. Additional storage capacity shall be provided as required, based on projected peak traffic volumes and turning movements.
2. Taper Length – The taper length shall be in accordance with AASHTO design standards, based on the lane widths and design speed of the subject street.
3. The design, right-of-way acquisition, drainage system improvements, roadway widening, asphalt construction, traffic control, traffic striping, signage and all other improvements required are incidental to the installation of auxiliary turn lanes required to support any proposed development shall be completed by the Developer or Applicant, at no cost to the City of Monroe.
4. Under the following conditions, left storage lanes shall be added to two-lane collectors or arterials with speed limits of 30 MPH or more, at unsignalized locations where left turning vehicles will leave the arterial or collector street and enter major driveways or development entrances:

If average peak hour left turn volume is:	And collector/arterial traffic is: (vehicles per lane in peak hour):	Left turn storage lane
Over 25	All volumes	Required
16-25	51-100	Required
13-15	101-200	Required
1-12	Over 200	May be required

Any volume	Any volume	May be required by Director if sight distance (in feet) in either direction is less than 10 times the posted speed limit.
------------	------------	---------------------------------------------------------------------------------------------------------------------------

Source: Institute for Traffic Engineers, Traffic Engineering Handbook

5. When a City of Monroe project intersects with a Walton County road, the Developer shall secure approval from the Walton County Planning and Development Departments prior to final approval of plans.

8.21 STREET JOGS

Street jogs shall have offsets of no less than one-hundred and twenty-five (125') feet as measured between centerlines of said streets.

8.22 STREET NAMES

No street name shall be used which will duplicate or be confused with the names of existing streets. Street names shall be subject to the approval of the City.

8.23 STREET NAME SIGNS

Street name signs shall have a green background with white legends mounted on channelized posts. Alternate post material shall be subject to the review and approval of the City of Monroe. The posts and signs will be furnished and installed by the City at all street intersections. The developer (or homeowners association in the event an alternate signpost is chosen at a later date) shall pay the City's costs.

8.24 TRAFFIC CONTROL SIGNALS AND SIGNS

Street signs, traffic control signs and devices such as striping and signalization, shall be provided through payment of fees to the City of Monroe for the installation thereof. All traffic signals and signs shall conform to the Georgia DOT Manual on Uniform Traffic Control Devices (no decorative traffic control devices will be allowed).

8.25 STRIPING REQUIREMENTS

All newly constructed streets having 4 or more lanes (including auxiliary lanes) and existing streets being widened with one or more additional lanes shall be striped or the payment of said striping costs shall be required from the Developer to the City of Monroe prior to the Approval of Development Conformance for the project. Striping shall be accomplished with paint meeting Georgia DOT standards conforming to the Manual on Uniform Traffic Control Devices.

8.26 PAYMENT OF FEES

Payment for materials and installation of street name and traffic control signs in new developments shall be required by the City of Monroe prior to the recording of a final plat.

8.27 STREET LIGHTS (revised May 4, 2004)

The installation of streetlights by the developer shall be required for all residential subdivision streets in accordance with the requirements and specifications of the City of Monroe Electric and Telecom Department. Developer shall pay for the operation of street lights for one (1) year from the date of dedication of streets or from installation and lighting whichever is later.

ARTICLE 9

STREET IMPROVEMENTS, DEDICATIONS AND SPECIFICATIONS

9.1 GENERAL REQUIREMENTS

Every owner or developer of lands within the jurisdiction of these Regulations shall provide the public improvements included in these Regulations as shall be appropriate to serve the project in accordance with these Regulations and other pertinent Codes, Ordinances, and Regulations of the City. Said improvements and associated lands shall be provided at no cost to the City of Monroe, and shall be dedicated or otherwise transferred, as required, to the public in perpetuity and without covenant or reservation, except as otherwise provided herein.

9.2 RIGHT-OF-WAY DEDICATION

9.2.1 Dedication Required

Right-of-way for all abutting and internal Public Streets, existing and proposed, shall be dedicated in accordance with the street classifications as shown on the Comprehensive Plan, or as otherwise required by the Mayor and City Council, or these Regulations.

9.2.2 Minimum Width

The minimum width of right-of-way shall be dedicated based upon the street classifications as shown on the Comprehensive Plan and as contained in these Regulations.

9.2.3 Minimum Width on Existing Street

On any existing street which abuts a property, one-half (1/2) of the required width of right-of-way shall be dedicated at no cost to the City of Monroe as measured from the centerline of the roadway, along the entire property frontage.

9.2.4 Dedication at Intersections

Additional street right-of-way width may be required to be dedicated at intersections or other locations fronting the property where turning lanes, storage lanes, medians, or realignments are required for traffic safety and minimum right-of-way standards would be inadequate to accommodate the improvements. In residential subdivisions, a ten (10) foot mitre shall be provided at street intersections.

9.3 RIGHT-OF-WAY WIDTHS (revised May 4, 2004)

Street right-of-way widths shall be no less than as follows:

Street Classification	Minimum Right-of-Way	Minimum Cul-De-Sac and Right-of-Way Radii
Arterial	100 feet	
Collector	60 feet	
Local Non-Residential	60 feet	60 feet
Local Residential	50 feet	50 feet
Alley	30 feet	

9.4 STREET INTERSECTION RADII (revised May 4, 2004)

Intersection radii for roadways measured at back of curb shall be as follows: For intersecting streets of different classification, the larger radii shall be provided. For all street classifications other than alleys, adequate right of way widths shall be provided to maintain a minimum of eleven (11') feet from the back of curb. For streets classified as Alleys, minimum radii of 5 feet should be used. Larger radii may be required for streets intersecting at angles less than 90-degrees.

Street Classification	Minimum Roadway Radii	Minimum Right-of-Way Radii
Arterial	40 feet	
Collector	25 feet	
Local Non-Residential	25 feet	
Local Residential	20 feet	
Alley	10 feet	

9.5 STREET PAVEMENT WIDTHS (revised May 4, 2004)

The following street pavement widths shall be required in every major subdivision or development along all abutting and internal Public Streets, whether existing or proposed. Measurement of street pavement widths shall include curb and gutter.

Minimum Street Classification	Minimum Pavement Width	Minimum Cul-De-Sac Radii
Arterial	66 feet	
Collector	32 feet	
Local Non-Residential	32 feet	50 feet
Local Residential	28 feet	40 feet
Alley	20 feet	

9.6 BASE AND PAVEMENT SPECIFICATIONS

9.6.1 New Local Residential Streets (With Curb and Gutter)

The following standards shall apply to new Local Residential Streets that require curb and gutter or where curb and gutter is provided.

- a) **Crushed Stone Base and Wearing Course.** The base course shall consist of at least six (6") inches of graded aggregate base (GAB). After being thoroughly compacted and brought to proper section a 2" Binder "B" shall be applied and then the final one and one half (1½") inches of type "E" or "F" asphaltic wearing course shall be applied. If a delay in paving is reasonably expected by the developer or the Department, the base shall be primed with 0.25 gallon of R.C. 70 per square yard the same day it is compacted and cured for seven (7) days prior to paving.
- b) **Soil Cement Base and Wearing Course**
 - (1) If the base material (resident soil) is unsatisfactory to the Department, then a soil cement mix design with engineer test results must be submitted to the Department for review and acceptance. The design must come from a geotechnical firm with the results certified by a Professional Engineer registered in the State of Georgia. The tests required for the design are ASTM D558 or AASHTO T134 or ASTM D559 and/or 560 or AASHTO T135 and 136.
 - (2) The minimum base course shall consist of at least six (6") inches of suitable soil (high mica content not suitable) stabilized with ten (10%) percent of Portland Cement by volume (approximately 423.3 pounds per square yard). Please refer to grade of Subparagraph (a) above for the applicable binder and/or paving standards. Where the grade of the street is five (5%) percent or greater, a single surface treatment course must be applied before the asphalt pavement.
- c) **Concrete Streets.** Five (5") inches of 3500-psi concrete is to be applied on a stabilized subgrade, consisting of at least 150 pounds of stone per square yard mixed in four (4") inches deep and compacted. The design and construction of the street shall comply with the Portland Cement Association standards or as designed by a Professional Engineer registered in the State of Georgia and approved by the City.

9.6.2 New Local Non-Residential Streets

The following standards shall apply to new Local Non-Residential Streets.

- a) **Crushed Stone Base and Wearing Course.** The base course shall consist of at least eight (8") inches of graded aggregate base. After being thoroughly compacted and brought to proper section of three (3) inches of Type "B" binder followed by the final one and one-half (1½") inches of type "E" or "F" wearing course shall be applied. If a

delay in paving is reasonably expected by the developer or the Department, the base shall be primed with .25 gallon of R.C. 70 per square yard the same day it is compacted, and cured for seven (7) days prior to paving.

- b) Concrete Streets. Seven (7") inches of Class "A" 3500 psi concrete is to be applied on a stabilized subgrade, consisting of at least 150 pounds of stone per square yard mixed in four (4") inches deep and compacted. The design and construction of the street shall comply with the Portland Cement Association standards or as designed by a Professional Engineer registered in the State of Georgia and approved by the City.

9.6.3 New Major Thoroughfares

Arterial and Collector streets abutting a residential or nonresidential project shall be constructed in accordance with designs prepared by the City or Georgia DOT, or, if no design has been prepared, to the following standards:

Construction Standards For Major Thoroughfares

Street Category	Base	Black Base	Binder	Wearing Course
Arterial E or F	10" GAB	3"	3"B	1-1/2"
Collector E or F	10" GAB	3"	3"B	1-1/2"

9.7 TESTING THICKNESS

To determine the average thickness of the base course prior to the placing of the surface course. The average thickness of all the specimens shall be at least the specified thickness of the base. In areas where there is a deficiency in the base course, the surface course shall be increased in thickness the amount of the average deficiency in the base course. If tests show a deficiency of one-fourth (1/4") inch or more in the surface course, the development shall be required to place an additional surface course of one (1") inch in thickness.

9.8 STREET GRADES

9.8.3 Maximum Street Grade

Street grades, wherever feasible, shall not exceed the following with due allowances for reasonable vertical curves:

Street Classification	Maximum Grade*
Arterial	10%
Collector	10%
Local Non-Residential	15%
Local Residential	15%
Alley	15%

* Maximum grade at cul-de-sac turnaround shall be six (6%) percent.

9.8.4 Minimum Street Grade

No street grade shall be less than one and one-half (1.5%) percent for all Local Streets and Alleys. Minimum grades for all Collector and/or Arterial Streets shall conform to Georgia D.O.T. standard practice.

9.9 STREET DESIGN SPEEDS

The minimum design speeds allowable are as follows:

Street Classification	Design Speed
Arterial	50 MPH
Collector	40 MPH
Local Non-Residential	30 MPH
Local Residential	20 MPH
Alley	20 MPH

9.10 VERTICAL STREET ALIGNMENTS

9.10.3 All changes in street profile grades having an algebraic difference greater than one (1%) percent shall be connected by a parabolic curve having a minimum length (L) equal to the product of the algebraic difference between the graded in percent (A) and the design constant (K) assigned to the street according to its category (i.e., $L = KA$).

9.10.4 Constant (K) values are shown below for both desirable and minimum acceptable ("hardship") conditions. In all cases, the "desirable" value shall be used, unless it cannot be achieved due to topographic conditions beyond the developer's control. In such hardship situations, the City may approve a lesser value to the extent required by the hardship situation, but in no event less than the value shown as "minimum".

9.10.5 Constant (K) Values for Vertical Curves

STREET CLASSIFICATION	CREST CURVES		SAG CURVES	
	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE
Arterial	55	80	55	70
Collector	55	80	55	70
Local Non-Residential	30	30	35	35
Local Residential	10	10	20	20
Alley	10	10	20	20

9.11 HORIZONTAL STREET ALIGNMENT

All new streets shall adhere to the following standards governing horizontal curvature and superelevation:

<u>MINIMUM</u> STREET CLASSIFICATION	RADIUS (FT)	<u>MAXIMUM*</u> SUPERELEV
Arterial	560	0.04
Collector	560	0.04
Local Non-Residential	300	0.04
Local Residential	120	0.00
Alley	120	0.00

* Superelevation rate to conform to Georgia D.O.T. Standard practice

9.12 TANGENTS

Between reverse horizontal curves there shall be no less than the minimum centerline tangents unless otherwise specified by Georgia D.O.T. as follows: Compound radii curves are prohibited. At least the "desirable" length shall be provided unless hardship conditions of topography of property shape will not allow lengths greater than those known as "minimum". For compound circular curves, the ratio of the flatter radius shall not exceed 1.5 to 1.

<u>MINIMUM</u> <u>STREET CLASSIFICATION</u>	<u>DESIRABLE</u> <u>TANGENT LENGTH</u>	<u>TANGENT LENGTH</u>
Arterial	100 Feet	120 Feet
Collector	100 Feet	120 Feet
Local Non-Residential	75 Feet	90 Feet
Local Residential	50 Feet	60 Feet
Alley	50 Feet	60 Feet

NOTE: Minimum tangents are based on the distance traveled in 1.7 seconds at the design speed for each category of street. Desirable length is based on distance traveled in 2.0 seconds.

9.13 CURB AND GUTTER

9.13.1 Curbs and gutters on streets shall be required in all subdivisions in the City of Monroe. Curbing shall be furnished and installed by developer.

9.13.2 Classes and Type: Minimum classes and types of curbing permitted will be as follows:

- a) 24" Roll Type Class "A" concrete curb and gutter
- b) 6" x 24" Combination Class "A" concrete curb and gutter

9.13.3 All curbing shall be placed on firm well compacted subgrade and curbing displaced prior to acceptance for maintenance by the City shall be re-set or replaced. Specifications for different classes of curbing, the standard typical section for 24" roll type concrete curb and gutter, and 6"x24" combination concrete curb and gutter, are available from the City.

9.14 STREET CONSTRUCTION AND SPECIFICATIONS

9.14.1 Street Improvements Required

Street improvements shall be furnished and installed by the owner or developer in accordance with the herein listed specifications. Any materials or work not covered by these specifications shall be performed in accordance with Georgia DOT Specifications and these Regulations.

9.14.2 Clearing

All trees, stumps, brush, old foundations, or other building material and rubbish shall be removed from the area within grading limits. No trees, stumps or other rubbish shall be placed or disposed of within the limits of the street right-of-way.

9.14.3 Subgrade Preparation for all Streets

- a) Grading shall be accurately done to the lines and grades shown on the plans. Local Residential Streets shall be graded to a width of not less than thirty (30') feet in the center of right-of-way to provide for a minimum width of pavement of twenty-four (24') feet. Local Non-Residential Streets shall be graded to a minimum of forty (40') feet in the center of right-of-way to provide for a minimum paving width of thirty (32') feet.
- b) Subgrade preparation shall be in accordance with Georgia DOT specifications and these Regulations.
- c) If any sections of the subgrade are composed of topsoil, organic, or other unsuitable or unstable material, such material shall be removed and replaced with suitable material and then thoroughly compacted as specified for fill or stabilized with stone, geo-textile or geo-grid.
- d) Fill shall be placed in uniform, horizontal layers not more than eight (8") inches thick (loose measurement). Moisture content shall be adjusted as necessary to compact material to 95% of maximum dry density except for the top twelve (12") inches, which shall be compacted to 100% of maximum dry density.

- e) After the earthwork has been completed, all storm drainage, water, and sanitary sewer utilities have been installed within the right-of-way as appropriate, and the backfill in all such ditches thoroughly compacted, the subgrade shall be brought to the lines, grades, and typical roadway section shown on the approved development plans.
- f) Utility trenches cut in the subgrade shall be backfilled as specified herein. Compaction tests at the rate of one per 150 feet of trench shall be provided to verify compaction.
- g) The subgrade must pass roll testing prior to placement of the base material. With the approval of the City, a geo-textile or grid may be used to stabilize a subgrade that does not pass proof rolling.
- h) When the street is to be used for construction traffic before the paving work is completed, a layer of stone (except crusher run) shall be laid as a traffic surface. This material shall not be used as a part of the base material. It may be worked into the subgrade, or it shall be removed before the base course is set up for paving.
- i) Provisions shall be made to drain low points in the road construction when the final paving is delayed. A break in the berm section is required when the curb has not been constructed. After installation, drainage under the curb to side slopes is required, using minimum four (4") inch diameter pipe sections.

9.15 SUBSTANDARD STREETS

In the event that a development has access to a substandard street (i.e., is a dirt or gravel road), the following improvements shall be required:

9.15.1 Improvements to Primary Access Roads

If a development has road frontage on a substandard street, the street shall be paved from the end of existing pavement to the primary access point into the subject development. Said improvements shall meet the specifications required in Section 9.15.2, below.

9.15.2 Specifications

Off-site improvements required under 9.15.1, above, shall, at a minimum, result in a full-section roadway meeting a standard of 20 feet edge to edge of pavement, with drainage swale ditches as needed. Responsibilities shall be as follows:

- a) The Developer shall design the road and provide the labor, equipment, and materials required for roadway improvements and necessary drainage improvements.
- b) If the City desires the roadway to be improved to a standard greater than that as specified herein, the City shall provide or pay the cost of the additional materials and labor.
- c) All right-of-way required for these off-site improvements shall be acquired by the City at the expense of the developer.

9.16 Access Management / Driveways

(revised 2/13/18)

The following standards shall apply to land subdivision and development, except for single-family dwelling units or industrial development where the primary access is from a state or federal highway or a thoroughfare classified as a major collector or arterial in the City of Monroe Development Regulations. These standards shall apply unless a more restrictive standard is required by the Georgia Department of Transportation.

9.16.1. Joint and Cross Access

- 1. Adjacent commercial or office properties on major collectors and arterials shall provide a cross access drive and pedestrian access to allow circulation between sites.
- 2. Joint driveways and cross access easements shall be established for multi-parcel commercial office or industrial development wherever feasible along major arterial highway corridors. The building site shall incorporate the following:
 - a) Continuous service drives or cross access corridor connecting adjacent parcels along the entire length of the development for at least 1,000 feet of linear frontage along the thoroughfare.
 - b) A design speed of 15 mph and a two-way travel aisle width of 24 feet to accommodate automobiles, service vehicles, and loading vehicles.
 - c) Driveway aprons, stub-outs and other design features to indicate that abutting properties may be connected to provide cross access via a service drive.
- 3. The Planning and Development Department may reduce the required separation distance of access points where they prove impractical, provided all of the following requirements are met:
 - a. Joint access driveways and cross access easements are provided wherever feasible in accordance with this Section.

b. The site plan incorporates a unified access and circulation system for vehicles and pedestrians in accordance with this Section.

B. Minimum Driveway Setbacks at Intersections

Driveway spacing at intersections and corners shall provide adequate sight distance, response time, and permit adequate queuing space. Driveway connections shall not be permitted within the functional area of an intersection, which includes the longitudinal limits of auxiliary or turning lanes. Minimum standards: No driveway access shall be allowed within one hundred and fifty (150) feet of the centerline of an intersecting Major Collector or Arterial Street, or within one hundred (100) feet of any Minor Collector Street.

C. Minimum Access Requirements

1. Except as otherwise noted in sub-section 2, below, all developments shall have access to a public right-of-way. The number of access points shall be as follows:

2. MINIMUM NUMBER OF ACCESS POINTS

Type of Development	Minimum Number of Driveway Access Points	Preferred Type of Primary Access
Residential, less than 100 units	1	Local Street or Minor Collector
Residential, 101 -200 units	2	Local Street or Minor Collector
Residential, more than 200 units	3	Collector
Non-Residential, less than 50 required parking spaces	1	Collector
Non-Residential, 50-300 required parking spaces	2	Collector
Non-Residential, 301 – 1,000 required parking spaces	3	Major Collector or Arterial
Non-Residential, more than 1,000 required parking spaces	4 or more	Major Collector or Arterial

3. Townhouse and Multi-Family Developments:

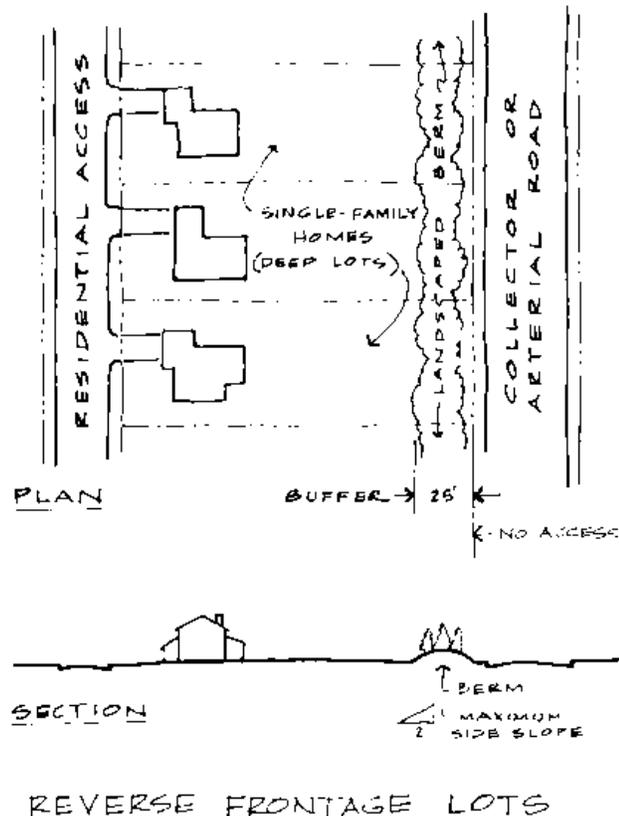
a. Individual parcels shall have right of access through common areas containing private streets and/or private drives at least twenty-two (22) feet in width leading to a publicly maintained street.

4. Manufactured Home Park

a. No space shall have direct vehicular access to a public street.

b. All spaces shall directly abut a private street contained within the park. Private streets shall be paved and provide adequate drainage in accordance with these Regulations.

c. Adequate access shall be provided to each space, with a minimum access width of twenty (20) feet unless more is deemed necessary because of topographical conditions or street curvature.



D. Separation of Access Points

1. Subdivisions located along existing roads and streets shall be required to provide reverse frontage lots or parallel frontage roads where feasible. All other lots must comply with the following:

- a) Along State or US highways, no more than 1 point of vehicular access from a property shall be permitted for each 300 feet of lot frontage, or fraction thereof, although requirements of the Georgia Department of Transportation shall apply whenever more restrictive.
- b) Along Arterial or Collector streets other than State or US highways, no more

than two (2) points of vehicular access from a property to each abutting public street shall be permitted for each 300 feet of lot frontage, or fraction thereof; provided however, that lots with less than 200 feet of frontage shall have no more than one point of access to any one public street. The Department shall determine whether the points of access may be unrestricted or will have to be designed for right-in, right-out traffic flow.

2. No point of access shall be allowed within 35 feet of the right-of-way line of any street intersections for single-family and two-family residential lots and within 50 feet for multi-family and non-residential properties.

3. Corner lot access shall be located as far from the intersection as reasonably possible to reduce turning movement conflicts and to promote proper traffic circulation.

4. Otherwise, the separation of access points on any street or road shall be determined by the established speed limit of the street or road, with the following minimum spacing requirements:

Posted Speed Limit of Road	Minimum Driveway Spacing
25 MPH	75 feet
Greater than 25 MPH	

5. The distance between access points shall be measured from the centerline of the proposed driveway to the nearest adjacent driveway or roadway.

6. The requirements of this Section are not intended to eliminate all access to a parcel of land that was legally subdivided prior to the enactment of this Section.

E. Emergency Access

All public streets, private and residential drives shall be designed and maintained so as to provide safe and convenient access for emergency vehicles.

9.16.2 Driveway Slope and Thickness

a) Slope: Any driveway entering on a roadway or street shall be sloped down from the street or roadway at a rate of one-half (1/2") inch per one (1') foot for a minimum of ten (10') feet, when possible.

b) Thickness: Driveways within the right-of-way shall be constructed according to the City's standard plan and shall have a minimum thickness of six (6")

inches of Class "A" concrete or five (5") inches plant mix asphalt. Such driveways shall terminate at the back of the curb.

9.17 SIDEWALKS

9.17.1 Where Required

(revised November 13, 2007)

- a) Sidewalks shall be provided on both sides of streets in all subdivisions in all zoning classifications.
- b) Along street frontage of all developments, commercial or residential, Developer may be allowed to place sidewalk at another location within the City limits if approved by the Code Enforcement Officer and the Director of Public Works.
- c) Sidewalks shall be installed on an individual lot basis at the time of building construction. The City shall inspect the location and construction of the sidewalk, and shall not issue a Certificate of Occupancy until the required sidewalk is properly installed.

9.17.2 Location Requirements

Sidewalks shall be located 5' from back of curb. All new sidewalks shall match and provide a smooth transition to any existing sidewalk.

9.17.3 Construction Standards

Sidewalks shall be concrete and a minimum four feet wide and four inches thick. Concrete shall be Class "B" (as defined by Georgia DOT) and have a strength of 2500 PSI at 28 days. Expansion Joints shall be provided at (6) foot intervals and construction joints at 30-foot intervals. Disturbed areas along sidewalks shall be backfilled, stabilized, and grassed.

9.18 INSPECTION

The City shall be notified prior to the beginning of each phase of construction. All work shall be done under the direct inspection of the City and the developer shall have the full responsibility of the quality of the work performed.

9.19 STANDARDS

Standard plans and specifications referred to in these Regulations are the minimum acceptable standards.

9.20 SANITARY SEWAGE DISPOSAL

- 9.20.1 Connection to the City of Monroe sewage disposal system shall be made, which may require the construction of an on-site system or the extension of public sanitary sewerage and associated appurtenances, as required under the Sanitary Sewer Regulations of the City of Monroe.
- 9.20.2 No septic tanks shall be allowed if public sewer is available. All structures shall connect to public sewer when such sewer is available, in accordance with the Sanitary Sewer Regulations of the City of Monroe. Sewer availability shall be determined by the City of Monroe.
- 9.20.3 Septic Tanks: Septic tanks may be permitted wherever sanitary sewerage is not available within a reasonable period of time upon obtaining permission of the Walton County Health Department. The following information shall be submitted to the Health Department for consideration of septic tank approval:
- a) Topographical information for each parcel of land on which a septic tank is to be installed. Contour interval shall not exceed two (2') feet
 - b) Location of all drainage facilities either natural or proposed for installation in the subdivision.
 - c) Percolation data indicated on a plat as specified by the Health Department.
 - d) Proposed number of sanitary fixtures per dwelling unit.

NOTE: Lot size shall be not less than the minimum standard and of satisfactory size for the proper installation of a septic tank sewage system as indicated by the percolation test.

- 9.20.4 Lots with septic tanks and tile drain-field sewerage disposal systems shall contain the contiguous area outside of the 100-year floodplain as required by the Health Department.
- 9.20.5 The Health Department may require notation that certain lots must meet additional requirements prior to issuance of a building permit or otherwise limit development relative to Health Department regulations.
- a) Such lots may include lots upon which adequate depth to water table must be demonstrated during the appropriate season of the year, adequate percolation tests must be performed, and there are limitations upon the number of bedrooms in a dwelling, etc.
 - b) No lot shall be included on a Final Plat which the Health Department is not confident will meet all Health Department regulations at a reasonable cost or within a reasonable period of time, except lots proposed to be served by sanitary sewer in subdivisions where "dry" sewer has been installed. Such lots shall be noted - "Approved by City of Monroe Water

and Gas Department for connection to sanitary sewer required prior to issuance of a building permit".

9.21 WATER SYSTEM AND FIRE HYDRANTS

- 9.21.1 The developer shall install or have installed a system of water mains connected to a public water supply system in accordance with the requirements of the authority having jurisdiction.
- 9.21.2 All water mains, fire hydrants and appurtenances shall be designed in accordance with the policies, standards, plans and specifications of the City of Monroe Fire Prevention Ordinance and the Water System Authority having jurisdiction.
- 9.21.3 Water mains and appurtenances shall be installed after installation of the curbs and gutters and before paving, or after staking of the curb line and submission to the City of an as-graded survey of the street profile accompanied by a certification executed by the owner as required by the City that the sub grade will not change. Water mains shall be relocated as necessary to meet City regulations prior to City acceptance of the streets and utilities, if improperly located to final curb line or grade.

ARTICLE 10

STORMWATER DETENTION, CULVERTS AND PIPED DRAINAGE SYSTEMS, AND SOIL SEDIMENT CONTROL GUIDELINES AND REQUIREMENTS

10.1 STORMWATER DETENTION

10.1.1 Stormwater Management Report Required

- a) Every project shall provide a Stormwater Management Report prepared by a Professional Engineer currently registered in the State of Georgia. The purpose of this report shall be to formulate a plan to manage stormwater runoff so that stormwater runoff hazards are not created and existing runoff-related problems are not exacerbated, either upstream or downstream from or within the boundaries of the property being developed.
- b) Stormwater Management Report shall identify the locations and quantities of stormwater runoff entering and exiting the site for both pre- and post-developed conditions. The report shall also include analysis of the impact of the proposed development to downstream water courses and properties. It shall contain drainage area delineation maps and other exhibits at satisfactory scale and sufficient in quantity and scope to define the boundaries of the site relative to water courses, drainage divides, drainage structures, and other pertinent features.
- c) The analysis of downstream conditions in the report shall address each and every point or area along the project site's boundaries at which runoff will exit the property. In all cases, the most critical downstream area investigation shall be conducted relative to existing tracts which adjoin the project site.

10.1.2 Storm Detention Required

- a) Whenever a Stormwater Management Report indicates that adverse stormwater runoff related impact is expected to result from the development of a property, that project shall be required to provide stormwater detention facilities. Furthermore, stormwater detention facilities will be required for any development expected to increase the peak flow from pre-existing conditions during a 24-hour or 25-year storm event. These facilities must be designed such that peak flows generated from the developed site do not exceed those associated with pre-development conditions. However, stormwater detention facilities shall not be required where the increase in peak flows have been certified by a professional engineer to be no greater than 0.50 cubic feet per second (cfs) and such increase would not result in adverse impact to downstream properties.

- b) The following criteria shall be evaluated by the Engineer preparing the Stormwater Management Report in determining whether or not detention should be required for any portion of any site:
 - 1) Existing land uses downstream.
 - 2) Magnitude of increase in peak flows due to development
 - 3) Presence of existing drainage problems
 - 4) Capacity of existing and anticipated drainage systems
 - 5) Creation of concentrated flows where none had occurred previously.
 - 6) Availability of feasible locations for detention facilities.
 - 7) Existing flows generated off-site which pass through the project site.
 - 8) The nature of the receiving watercourse

- c) Stormwater detention facilities shall be required for any portion of any site for which development activities will result in increase flows, unless the Professional Engineer currently registered in the State of Georgia, certifies and provides documentation supporting the conclusion to the Code Enforcement Officer that the following is true and correct as applicable:
 - 1) Non-detained, post-development runoff will leave the project site as sheet flow with a maximum increase of 0.50 cfs and will not have an adverse impact upon downstream properties.
 - 2) The runoff will flow directly into a floodplain without crossing off-site properties.
 - 3) The undetained flow will pass through downstream properties, in drainage easements obtained by the developer, to an existing detention facility, which has been designed to manage the upstream property's runoff.

10.1.3 Detention Design Criteria - General

- a) All stormwater detention design calculations shall be certified by a Professional Engineer currently registered in the State of Georgia.

- b) All stormwater detention facilities shall be designed to control the peak flow rates associated with storms having 2-year, 10-year, and 25-year return frequencies. Where conditions warrant, detention facilities shall also control the 100-year storm.

- c) A variety of methods of achieving stormwater management goals shall be acceptable in providing detention facilities. The type of facility provided shall be based on the following criteria:
 - 1) The type of development for which the detention facility is being provided,
 - 2) The type of development, which the detention facility is intended to protect,
 - 3) Volume of stormwater to be stored,
 - 4) Origin and magnitude of the flows to be managed,
 - 5) Topographic opportunities and limitations,
 - 6) Safety considerations,
 - 7) Maintenance requirements,
 - 8) Aesthetic consideration,
 - 9) Likelihood of facility operation interfering with access to public or private facilities,
 - 10) Proximity of facility to property lines, utilities, buffers, etc., and
 - 11) Similar site-specific constraints.

- d) Detention facilities may be of any of the following types, and two (2) or more types may be used in combination with one another:
 - 1) Normally dry basins, whether excavated or created by damming a natural drainage feature, or a combination of both methods.
 - 2) Lakes and ponds, whether excavated or created by damming a natural drainage feature, or a combination of both methods.
 - 3) Parking lot facilities.
 - 4) Underground facilities, and

- 5) Roof top facilities
- e) Reservoir routing methods shall be used for all detention facility design.
- f) The detention methodology required for any given project shall conform to the following table. Although the various methods shown are authorize, it shall be the responsibility of the design Engineer to use the correct coefficients and applications, which will result in compliance with the requirements of this Article and the intent of these Regulations.

**Table 10-A
Detention Methodology By Drainage Basin Size**

Total Acres Within Basin	Methodology
Up to 10	Rational
Over 10 to 500	Rational or SCS
Over 500 to 2,000	SCS or HEC-1
Over 2,000	HEC-1 or TR-20

- 1) For the purpose of these Regulations, a drainage basin includes all of the acreage, which will contribute flow to a study point (or area) along a downstream property line of the site being developed.
- 2) All sub-basins draining a project, which fall within the same size category above, should be analyzed using the same methodology.
- 3) Under no circumstances will the "bowstring" method be acceptable.
- g) Runoff coefficients used for pre and post-development conditions for the Rational Method shall be consistent with those shown in Table 6-B. For the SCS method, the runoff Curve Numbers found in the "Manual for Erosion and Sediment Control in Georgia" shall be used.
- h) If either the Rational Method or the SCS Method is used for detention design, calculations shall be provided showing how all times of concentration or lag times were computed, both for pre and post-developed conditions. Likewise, adequate support must be provided for all composite runoff coefficients or curve numbers used.
- i) If a computer program is used for detention design, including generating and rounding hydrographies, the output from the program shall be summarized in the Stormwater Management Report, and the

name and version of the program shall be indicated. Computer output sheets may be attached to the report if desired by the design Engineer or if requested by the Code Enforcement Officer.

- j) The design of every detention facility of any type shall consider the effects both of inflows in excess of those the facility is designed to accommodate and of malfunctioning of the primary outlet system. A safe path for overflow conditions flows shall be provided. At a minimum, one (1) foot of freeboard shall be provided at any detention facility and structures.
- k) Detention pond outlet structures and outfall piping shall be designed to pass the 24-hour and 25-year storm event peak flows.

10.1.4 Detention Facility Location Criteria

- a) For purposes of these Regulations, a detention facility shall be deemed to consist of the area within the maximum design ponding limits, the dam (if one) including all embankment slopes and wall footings (if applicable), primary and emergency outlet works, any drainage and access easements, and any energy dissipation devices.
- b) Detention facilities, to the greatest extent feasible, shall be located so as to minimize the amount of flow generated on-site which by-passes the facility.
- c) No portion of any detention facility shall disturb any required (as opposed to voluntary) buffer.
- d) The 100-year ponding limits of a detention facility shall not encroach upon a public right-of-way.
- e) Detention facilities may be located within utility easements or rights-of-way, or encroach upon utility easements or rights-of-way, upon receipt by the City of written permission from both the property and utility owners.
- f) A detention facility may not be located within or encroach upon a floodplain.
- g) Detention facilities designed to have a depth of greater than three (3) feet shall have a chain link fence. Standards for the fence shall comply with the Standards of the Chain Link Fence Manufacturers Institute.

10.1.5 Detention Facility Easement Requirements

- a) An easement at least 25 feet in width shall be required to provide access to all detention facilities from a public street. This easement shall be cleared, grubbed and/or graded so that it can be utilized by rubber-tired construction vehicles. Its location shall be such as to minimize the amount of grading required.
- b) Every normally dry detention basin, lake, or parking lot detention facility shall be completely enclosed within a drainage easement. The drainage easement shall extend at least 10 feet beyond the limits of the detention facility.

10.1.6 Detention Facility Maintenance

- a) The detention storage capacity or function of any detention basin, pond or other impoundment, whether natural or man-made, shall not be removed or diminished without the express approval of the City.
- b) It shall be the responsibility of the property owner to maintain the operational characteristics of any facility constructed on their property for stormwater detention pursuant to City Requirements, and to maintain the facility free of obstruction, silt or debris.

10.1.7 Detention Facility Construction Standards

- a) Stormwater detention facilities shall be constructed in accordance with plans reviewed and approved by the City and shall be in place and inspected prior to the initiation of other improvements. If the detention facility is planned to be a lake, temporary detention facilities shall be provided and shall remain in place until such time as the lake has become effective in providing stormwater management.
- b) Within a detention basin, all stumps are to be cut flush with the ground or removed and all debris is to be removed below the 10-year ponding elevation. Trees or shrubs may be allowed to remain below the 10-year ponding elevation only upon certification of the survivability of the vegetation.
- c) Detention slopes, which are disturbed, are to be grassed; the ground cover within the basin shall be well established with all exposed areas covered prior to the end of the maintenance period.
- d) The required fence mesh shall be 9-gauge wire woven to 2-inch square, galvanized after weaving and in six (6) foot roll. It shall be a minimum 4-foot high fence of durable material, with a 12-foot wide access gate equipped with a lock mechanism. . The fence shall be contained within an easement at least 20 feet wide, shall not encroach upon the detention facility (although their easements may overlap by up to 10 feet), and shall comply with the locational requirements of the Zoning Ordinance.

10.2 STORMWATER DETENTION GUIDELINES

10.2.1 General

- a) Stormwater detention facilities shall be designed so that their peak release rates, when combined with those of all detention by-pass areas in the same basin, produce peak flow rates and flow velocities at the site's boundary line no greater than those which occurred at the same location for pre-developed conditions.
- b) Peak flow rate control shall normally be provided only for the 2, 10, and 25 year frequency storm events. However, under certain conditions, the 100 year event must also be detained to the pre-developed rate. Such control of the 100 year event shall be provided when failure to do so would result in flooding of other habitable dwellings, property damage, or public access and/or utility interruptions.
- c) For any stormwater analysis, the composite "C" (Rational Method) or CN (SCS Method) used for analysis of pre-development conditions shall not exceed 0.25 or 60, respectively, unless prior approval has been obtained from the Department. A pre-design conference between the design engineer and appropriate Department personnel, which may in certain straightforward cases be conducted via the telephone, is required.
- d) Rational Method runoff coefficients used for analysis of pre and post-development conditions shall be consistent with those shown in Table 10-B.

TABLE 10-B
RATIONAL METHOD RUNOFF COEFFICIENTS

Land Use	TYPE OF TERRAIN		
	Steep (OVER 7%)	Rolling (2%-7%)	Flat (Under 2%)
<u>Wooded</u>			
Heavily	.21	.18	.15
Moderately	.25	.21	.18
Lightly	.30	.25	.21
Lawns/Grassed Areas	.35	.30	.26
Bare Soil (Un-compacted)	.60	.60	.50

Impervious	.98	.95	.95
<u>Residential</u>			
2 Acre Lots	.35	.30	.30
1 Acre lots	.40	.85	.30
30,000 S.F. Lots	.45	.38	.33
15,000 S.F. Lots	.50	.40	.35
10,000 S.F. Lots	.55	.47	.92
Town homes (45% Impervious)	.65	.60	.55
Apartments (75% Impervious)	.82	.79	.74
<u>Pasture</u>			
Good Condition	.25	.21	.18
Average Condition	.45	.40	.6
Poor Condition	.55	.50	.45
Farmland (Non-Growing Season)	.50	.46	.41
Lakes & Detention Basin	1.00	1.00	1.00
Commercial & Industrial	(Calc. on Case-by-Case Basis)		

10.2.2 Dam Design and Construction Criteria

- a) Detention facilities, which take the form of normally dry basins, ponds, or lakes, usually are created by damming a drainageway or watercourse. Such dams can take a variety of different forms, the most common being earthen embankments and reinforced concrete walls. Each type of dam has different characteristics, and the selection of the most appropriate type for a particular site should be made by a Professional Engineer and based on the physical features of the dam site, the purpose of the dam, the type of impoundment, safety, and maintenance requirements.
- b) For purposes of these Regulations, dams will be addressed separately for each of the three most frequently encountered types of detention facilities; normally dry basins, ponds, and lakes. Normally a dry basin is one designed to impound stormwater runoff for only a brief period of time following a storm event. The vast majority of the time the basin will be completely dry except for any normal stream flows, which pass through unimpeded. Lakes and ponds, on the other hand, are designed to impound a body of water at least several feet in depth on a more-or-less permanent basis. Lakes and ponds vary from one another only in terms of magnitude. The magnitude of a lake is determined primarily from the height of its dam, the size of its contributing drainage area, and the volume of water it is capable of impounding. For purposes of these Regulations, a pond is any lake having a dam height of less than 20 feet, a

drainage area of less than 100 acres, and which is incapable of impounding more than 10 acre-feet of water.

- c) All dam design is to be certified by a Professional Engineer currently registered in the State of Georgia.
- d) Dams for normally dry detention basins shall conform to the following:
 - 1) Dams for normally dry detention basins may be constructed of earth, reinforced concrete, mortared rubble, or other suitable materials.
 - 2) The design of any concrete wall over 5 feet in height shall be certified by a Structural Engineer currently registered as a professional engineer in the State of Georgia, and the structural design shall be based on soil tests certified by a Geotechnical Engineer currently registered as a professional engineer in the State of Georgia.
 - 3) Any non-earthen structure shall be designed to prevent piping failure through its subgrade and abutments.
 - 4) The construction of walls over five (5) feet in height shall be monitored and approved by a qualified materials testing company.
 - 5) Earthen dams for normally dry detention basins shall have a top width of no less than 8 feet, and slopes on both faces no steeper than 2 (horizontal) to 1 (vertical).
 - 6) For earthen dams for normally dry detention basins, there shall be at least 1½ feet of vertical separation between the 100-year ponding elevation in the basin and the low point on the top of the dam. One foot of this distance is to provide a margin of safety against overtopping of the dam and the other 6 inches is to allow for settlement. No separation is required for a non-earthen dam, if it has been designed to overtop safety.
 - 7) More stringent design and construction criteria shall be used for dams for normally dry detention basins whenever the probable consequences of dam failure are severe.
- e) Dams for Ponds shall conform to the following: Any engineer responsible for the design of a dam for a pond is expected to be knowledgeable of the criteria contained in the Georgia Safe Dams Act, Georgia Department of Natural Resources "Rules for Dam Safety" publication, and the USDA Soil Conservation Service's Technical Release No. 60 "Earth Dams and Reservoirs". The provisions of each are to be applied wherever applicable. Applicability

shall be determined based on upon site-specific constraints and downstream conditions. Consultation with appropriate City personnel, both prior to and throughout the design process, is encouraged.

- f) Dams for lakes shall conform to the following: Any Engineer responsible for the design of a dam for a lake is expected to be knowledgeable of the criteria contained in the Georgia Safe Dams Act, Georgia Department of Natural Resources "Rules for Dam Safety" publication, and the USDA Soil Conservation Service's Technical Release No. 60 "Earth Dams and Reservoirs". All design is to be in accordance with applicable requirements contained in each of the above referenced publications.

10.2.3 Detention Facility Outlet Devices

- a) Because of the variables that may be associated with the choice of an outlet device for any given conditions, the design consultant is responsible for the selection of the device, subject to the review and approval of the City.
- b) The City will include in its consideration, the ease of maintenance, longevity of the system, freedom from congestion, practicality, and aesthetics in its review of the outlet device. The consultant should be guided by the City in preference of vertical weir designs since they have proven to generally meet most of the considerations expressed herein.
- c) No orifice shall be smaller than 3 inches in diameter.
- d) All outlet devices and orifices shall be protected by a trash rack. No opening in the trash rack shall have an area more than one-third the size of the area of the orifice or outlet device being protected. Two-stage trash racks, or screens having progressively smaller openings placed in series, are suggested. To facilitate outlet operation, curved or inclined trash racks designed to allow debris to rise with the water level are preferred. In all cases, trash racks shall be either hinged or removable to facilitate maintenance operations.
- e) If the primary detention facility outlet is a conduit through a dam, and there is not an orifice, weir box, or other flow-control device affixed to the upstream end, then the outlet shall be analyzed for both inlet and outlet control conditions. If an orifice or weir box is affixed, then the conduit shall be analyzed to determine if any flows will occur for which outlet control conditions in the conduit, rather than the hydraulic characteristics of the flow-control structure, will determine the total flows occurring. In any case, where the conduit through the

dam is less than 15 inches in diameter, the trash rack provisions of 10.2.3 (d) above, shall be followed.

- f) All conduits through a dam forming a pond or a lake must be equal or superior to Class V reinforced concrete pipe in its structural characteristics.

10.2.4 Emergency Overflow Requirements

- a) For every type of detention facility, a planned safe flow path must be provided for conveyance of flows of water in excess of those for which the detention facility was designed. In many instances, this function can be provided through installation of an emergency spillway. Emergency spillways are usually excavated open channels, either vegetated or paved with reinforced concrete.
- b) Every earthen dam shall be provided with an open-channel emergency spillway, unless all of the following apply:
 - 1) The principal spillway is a closed conduit having cross-sectional area that can pass 125% of the 100-year storm routed peak discharge.
 - 2) The principal spillway is a closed conduit having a cross-sectional area of at least one square foot per each three acres of drainage area, or a maximum of twenty square feet of surface area, whichever is less.
 - 3) The inlet is a reinforced concrete box structure having an interior width equal to the width of the conduit.
 - 4) The principal spillway capacity is at least equal to the capacity required for an open-channel emergency spillway.
- c) Any portion of any emergency spillway excavated into a dam embankment or other fill section must be paved. Pavement material shall be reinforced concrete, as dictated by the design life of the dam and the potential consequences of its failure. Any portion of any emergency spillway excavated into natural ground shall be vegetated in accordance with practices described in the "Manual for Erosion and Sediment Control in Georgia".
- d) In determining the necessary dimensions of an open-channel spillway for a normally dry basin, a pond, or a lake, either the methodology contained in the "Earth Emergency Spillway Design Data" section of the "Manual for Erosion and Sediment Control in Georgia" or the

methodology of the U.S.D.A. Soil Conservation Service Technical Release No. 39, "Hydraulics of Broad-Crested Spillways" shall be followed. The freeboard requirements of Article 10.4 shall also be observed in determining the spillway's dimensions.

- e) Emergency spillway capacity for earthen dams shall be as follows:
 - 1) For normally dry detention basins, ponds, and lakes, having a dam height of less than 20 feet, a drainage area of less than 200 acres, and which are incapable of impounding more than 50 acre-feet of water, and for which probable consequences of dam failure are not severe, the emergency spillway shall be placed at the 25 year ponding elevation or higher. Its capacity shall be at least equal to difference between 100-year peak flow into detention facility and 25 year peak release rate from the facility.
 - 2) For normally dry detention basins, pond and lakes, which do not meet all of the magnitude limitations in "a" above, the emergency spillway shall be placed no lower than the 100 year ponding elevations, and its capacity shall be at least equal to the lesser of either the full 100 year peak flow rate into the facility, or the routed one-third (1/3) PMF hydrograph. In those cases where State or Federal regulations may require greater spillway capacity, those more stringent regulations shall govern.
- f) Emergency overflow for non-earthen dams may take the form of planned structure overtopping. In such cases, however, care must be taken to prevent flows from eroding supporting soils along the toe of or immediately downstream from the dam so as to cause it to be undermined. The profile of the top of the dam shall be so designed as to prevent flows along the ends of the structure, which might result in abutment erosion.

10.2.5 Parking Lot Detention Facilities

- a) Parking lot detention facilities shall generally be on one of the two following types:
 - 1) Depressed areas of pavement at drop inlet locations; and
 - 2) Ponding areas along sections of raised curbing. The curbing in these areas is usually higher than a standard curbed section.

- b) The Rational Method shall be utilized for all parking lot detention facility design.
- c) Parking lot detention areas shall be located so as to restrict ponding to areas other than parking spaces near buildings, and to not encroach upon entrance drives.
- d) The maximum depth of detention ponding in a parking lot, except at a flow control structure, shall be 6 inches for a 10 year storm, and 9 inches for a 100 year storm. The maximum depth of ponding at a flow control structure shall be 12 inches for a 100 year storm.
- e) In truck parking areas, the maximum depth of ponding shall be 12 inches for the 10 year storm.
- f) Detention ponding areas are to be drained within 30 minutes after the peak inflow occurs.
- g) Parking lot detention areas shall have a minimum surface slope of 1% and a maximum slope of 5%.

10.2.6 Underground and Rooftop Detention Facilities

The design of underground or rooftop detention facilities shall be in accordance with current engineering standard practice, and shall conform to the general spirit and intent of this Article. In the case of rooftop detention, permissible structural loads and weatherproofing shall be governed by the Standard Building Code as amended by the City of Monroe.

10.2.7 Sediment Basins

- a) Stormwater management and sediment trapping functions should be separated whenever possible. Every erosion control design should seek to: 1) prevent erosion from occurring; 2) trap sediments as close to their sources as possible, and; 3) provide a second-tier or backup line of defense against sediments leaving the project site. This backup will usually consist of check dams and/or sediment basins.
- b) Whenever a sediment basin and a detention facility are both required on the same watercourse, the sediment basin should be located immediately upstream of the detention facility.
- c) In unusual cases where a normally dry detention basin is planned to be used to trap sediment, as well as provide stormwater control, the basin may be undercut to accommodate the sediment so that the required detention characteristics, particularly volume, will be maintained.

- d) The design of sediment basins shall be in accordance with Appendix "C" of the "Manual for Erosion and Sediment Control in Georgia".

10.2.8 Ponds and Lakes Not Used for Detention

In such cases where a pond or lake is provided as part of a development, but is not planned to function as a stormwater detention facility, the same general and specific criteria contained in these Regulations shall apply, but may be modified in instance where a specific requirement is clearly detention oriented rather than safety-based.

10.3 CULVERTS AND PIPED DRAINAGE SYSTEMS

10.3.1 Drainage Improvements Required

Stormwater conveyance facilities, which may include, but are not limited to, culverts, storm drainage pipes, catch basins, drop inlets, junction boxes, headwalls, gutters, swales, channels and ditches shall be provided for the protection of public rights-of-way and private properties adjoining projects sites and/or public rights-of-way.

10.3.2 Standard Specifications

Unless otherwise specifically set forth herein or in the City of Monroe Standard Drawings, all of the materials, methods of construction, and workmanship for the work covered in reference to stormwater conveyance facility construction shall conform to the most recent Standard Specifications of the Georgia Department of Transportation (Georgia DOT).

10.3.3 Design Criteria-General

- a) All stormwater conveyance facility design calculations shall be certified by a Professional Engineer currently registered in the State of Georgia.
- b) Stormwater flows from drainage areas up to 500 acres in size may be calculated using the Rational Method. Flows from drainage areas between 10 and 2,000 acres of size may be calculated using the SCS Method. Flows for drainage areas larger than 2,000 acres in size must be calculated using published floor-frequency relations for the Atlanta area.
- c) All portions of a stormwater conveyance system with drain areas falling within the same size category above shall be analyzed using the same methodology.
- d) Run-off coefficients used for the Rational Method shall be consistent with those shown in Table 6-B. For the SCS Method, the Runoff Curve Numbers found in the "Manual for Erosion and Sediment Control in Georgia" shall be used.

10.3.4 Design Criteria-Culverts

- a) Culverts (structures designed to convey water from one side of a public right-of-way to the other) and which carry the runoff from a contributing drainage area of at least 20 acres shall be designed to pass the peak flow associated with a 100- year storm with at least one (1') foot of freeboard water between the 100-year ponding elevation and the top of the roadway shoulder, without

raising the 100-year flood elevation on upstream properties, and in accordance with Flood Management Ordinances.

- b) The 100-year ponding limits above the culvert shall be shown on the Development Plans and on the Final Plat (if applicable).
- c) The minimum allowable culvert diameter shall be 18 inches.
- d) Culvert design is to be in accordance with the methods contained in the Georgia DOT "Drainage Manual for Highway", Chapter 7, and shall include a thorough analysis of both inlet and outlet control structures.
- e) Culverts up to 24 inches in diameter must be ACCMP with paved inverts. Culverts larger than 24 inches in diameter must be reinforced concrete materials.

10.3.5 Piped Collection Systems

- a) Preliminary design (initial pipe sizing and profile design) of piped collection systems required under 10.4.1 herein shall be based upon conveyance of the peak flows associated with a 25-year storm with the hydraulic grade line being at or below the crown of the pipe throughout the system.
- b) Once the preliminary design of a piped collection system has been prepared, it shall be analyzed for its behavior during conditions of 100-year flow with the objective of this analysis being to ascertain the quantities of flow and the flowpaths followed by flows exceeding the capacity of the system whether these pond at inlets or flow along the ground's surface.
- c) Based on the analysis of the 100-year condition, the preliminary design shall be revised where necessary to procedure a final design for which the likelihood of dwelling flooding, major property damage, or substantial public access and/or utility interruption shall be less than one chance in 100 years.
- d) The minimum allowable pipe diameter shall be 15 inches.
- e) Catch basins shall be spaced so that the spread in the street for a 10-year design flow shall not exceed 8 feet, as measured from the face of the curb.
- f) Complete flow, velocity and hydraulic grade line computations shall be provided for all portions of a piped collection system. Hydraulic grade lines shall be shown on the storm drainage profiles contained with the Development Plans for the 25-year storm.

10.3.6 Energy Dissipation - Piped Systems & Culverts

- a) Energy dissipation devices, such as splash pads, riprap, stilling basins, etc., shall be provided at the outlet of every culvert and piped collection system.
- b) Energy dissipation devices shall be located entirely within the project site and shall not encroach upon any required buffer.
- c) When uniform, graded stone riprap is used for energy dissipation, ultraviolet resistant filter fabric (200-pound test) shall be used between the stone layers.

10.3.7 Minimum Pipe & Pipe Coating Requirements

- a) Galvanized, corrugated steel pipe and pipe arches shall conform to the requirements of Type I or II pipe per AASHTO M-36 for the specified dimensions and thicknesses. Corrugated steel pipe shall have a minimum of 2 ounces per square foot of zinc coating, complying with AASHTO M-218.
 - 1) All corrugated galvanized pipe not carrying a live stream located within a street right-of-way, drainage easements, or detention facility, shall be fully bituminous coated only. Except for culverts under driveways, all corrugated galvanized pipe which will carry a live stream, within a street right-of-way, drainage easement, or in a detention facility, shall be: 1) asphalt coated with a paved invert per AASHTO M-190 Type C: 2) asphalt coated with a concrete lining, or 3) reinforced concrete construction. The lining shall be plant applied so as to produce a homogeneous non-segregated lining throughout. The lining shall have a nominal thickness of ¼ inch above the crest of the corrugations.
 - 2) See the Standard Drawings for minimum acceptable combinations of gages, diameters, and corrugation configurations for corrugated steel pipe and pipe arches.
 - 3) Each end of each pipe section to be joined by a coupling band shall have a minimum of two (2) annular corrugations. Coupling bands shall be so constructed as to lap on an equal portion of each of the pipe sections to be connected. The connecting bands shall have a minimum of two (2) annular corrugations and shall fully engage, over the entire pipe periphery, one (1) corrugation on each pipe end. Bands shall be fabricated from the same material as is the pipe, and the gauges shall be as specified in Section 9.2 of AASHTO M-310.
 - 4) Gaskets may be required as determined by the Department in the field and shall be either sleeve type or O-ring type, and shall meet the

requirements for gaskets as specified in Section 9.3 of AASHTO M-36.

- b) Reinforced concrete pipe shall be in not less than 8-foot joint lengths. All joints shall be bell and spigot type, using an O-ring gasket conforming to ASTM C-443. Pipe shall be manufactured in accordance with AASHTO M-170 and/or ASTM C-76. Class of pipe and wall thickness shall be in accordance with 1030-D, Georgia DOT Specification, Table No.1.
- c) Aluminized steel-coated pipe shall comply with AASHTO M-274 for the coating and AASHTO M-36 for the pipe fabrication. Aluminum alloy pipe shall comply with AASHTO M-196 for material and fabrication.
 - 1) Except for culverts under driveways, all corrugated aluminized or aluminum pipe within a street right-of-way, drainage easement, or in a detention facility, shall be as follows: 1) diameters of 30 inches and less may be plain; 2) diameters greater than 30 inches shall have paved inverts pursuant to AASHTO M-190, Type C, except that the pipe need not be fully coated.
 - 2) See the Standard Drawings for minimum acceptable combinations of gages, diameters, and corrugation configurations for corrugated aluminum pipe and pipe arches, and for corrugated aluminized steel pipe and pipe arches.
 - 3) Each end of each pipe section to be joined by a coupling band shall have a minimum of two (2) annular corrugations. Coupling bands shall be so constructed as to lap on an equal portion of each of the pipe sections to be connected. The connecting bands shall have a minimum of two (2) annular corrugations and shall fully engage, over the entire pipe periphery, one (1) corrugation on each pipe end. Bands shall be fabricated from the same material, as is the pipe. The minimum band gauges for aluminum pipe shall be as specified in AASHTO M-196, Section 19 and AASHTO M-36, Section 9, respectively.
 - 4) Gaskets may be required as determined by the Department in the field and shall be either sleeve type or O-ring type, and shall meet the requirements for gaskets as specified in Section 9.3 of AASHTO M-36.
- d) Structural plate drainage structures shall conform to the following specifications:
 - 1) Corrugated steel structural plate pipe, pipe arches, and arches shall consist of galvanized plates, bolts and nuts of the same size, shape and

thickness as shown on the approved plans. These structures shall conform to the requirements of AASHTO M-167.

- 2) Corrugated aluminum alloy structure plate pipe, pipe arches, and arches shall consist of aluminum plates and galvanized bolts and nuts of the size, shape and thickness as shown on the approved plans. These structures shall conform to the requirements of AASHTO M-219.

10.3.8 Pipe Length

- a) Culverts carrying live streams shall extend to where the crown of the pipe intersects the roadway slope.
- b) Pipes that do not carry live streams shall extend at least 50 feet beyond the front building setback lines, and may be required to extend farther where necessary to provide an adequately protected building site on the property. In nonresidential subdivisions, these pipes may temporarily end at the right-of-way line, but shall be extended as part of a subsequent development permit approved for the individual site.

10.3.9 Pipe Installation

Reinforced concrete pipe, corrugated steel pipe, corrugated aluminum pipe and corrugated aluminized steel pipe shall be bedded and backfilled in the same manner:

- a) **Bedding:** All pipe structures shall be placed on stable earth or fine granular foundation, the characteristics of which would be expected to provide long-term stability. In all live stream pipe installations in areas of low bearing soils or non-uniform foundations, in areas where rock is encountered at the foundation level, or in other locations where conditions warrant, a minimum of 6 inches of crushed stone bedding is required. (maximum size of stone shall be 3/4 inch) Geotextiles or geogrids may also be required by the City in problem areas.
- b) **Backfilling:** Backfill on all pipe installation shall be constructed using foundation backfill material Type I or Type II, as specified in Section 812.01 and 812.02 respectively, Georgia DOT, Standard Specifications. These materials shall be placed in layers not more than 6 inches loose. Compaction of these materials shall be accomplished by hand tamping or machine tamping. Required compactions levels are as follows:
 - 1) Backfill within all street rights-of-way shall be compacted to 95% maximum density, tested using the AASHTO Method T-99.
 - 2) Backfill in all other areas shall be compacted to 90% maximum density testing using the AASHTO Method T-99.

- c) Construction Loads and Minimum Covers: If drainage pipe is installed prior to the completion of grading, a minimum of 4 feet of fill should be provided where needed to adequately protect the drainage structure during the land development phase unless the structure itself is designed to withstand the anticipated live load during construction.

10.3.10 End Finish.

Headwalls or other end treatments are required on all culverts (except under residential driveways), detention pond outlets, and at the outlet of all piped collection systems.

- a) Headwalls are to be precast concrete, stone masonry with reinforced concrete footings, or poured-in-place, reinforced concrete with reinforced concrete footings.
- b) End treatments that conform to the slope may be masonry, pre-cast concrete end sections, metal end sections, reinforced poured-in-place slope collars, or grouted riprap. Concrete and metal flared-end sections shall conform to Georgia DOT Specification 1120.

10.3.11 Junction Boxes & Catch Basins.

Junction boxes and catch basins shall have metal manhole frames and covers for access.

10.3.12 Other Structures

Natural bottom arches and box culverts may be used in accordance with the latest Standard Specifications of the Georgia DOT.

10.4 CULVERTS AND PIPE COLLECTION SYSTEM GUIDELINES

10.4.1 Culverts

- a) Single-barrel or single-cell culvert structures are less prone to clogging and require less maintenance than multi-barrel or multi-cell installations and should therefore be used whenever feasible.
- b) Velocities over 10 fps shall be considered a special design with particular attention required to pipe a structure invert protection and to fill slope, stream bed, and stream bank stability. The maximum velocity in a culvert for the 100-year flow shall be 15 fps (feet per second).

- c) The minimum allowable slope shall be that which produces a 2-year flow velocity of 2.5 fps.
- d) Culverts greater than 24 inches in diameter must be of reinforced concrete construction. Culverts up to 24 inches in diameter shall be ACCMP with a paved invert.

10.4.2 Piped Collection Systems

- a) Velocities over 10 fps shall be considered a special design with particular attention required to pipe invert protection and the ability of the receiving waterway or detention facility to accept the flow without damage. The maximum velocity in a piped system for the 100-year flow shall be 15 fps (feet per second).
- b) The minimum allowable slope shall be that which produces a 2-year flow velocity of 2.5 fps.
- c) The maximum allowable slope for a storm drainage pipe shall be 25%. Greater slopes may be approved if installation is in accordance with manufacturer's recommendations. In cases where the slope is in excess of 10 percent, anchor collars may be required.
- d) A minimum pipe cover of one (1) foot shall be required.

10.4.3 Outlet Location - Culverts and Piped Systems

- a) Outlet structures (such as headwalls) shall not be located closer to the project site's property line with an adjoining property than a flow distance equal to six (6) pipe diameters. For non-circular conduits, this distance shall be six times the rise dimension of the conduit.
- b) The invert elevation of a culvert or pipe outlet shall be not more than two (2) feet above the elevation of the bottom of the receiving watercourse at the outlet.

10.4.4 Energy Dissipation

The maximum developed condition flow velocity at the project site's downstream property line with an adjoining tract shall not exceed the maximum pre-developed condition velocity. Calculations may be required to support this velocity standard on a case-by-case basis.

10.4.5 Discharge of Concentrated Flows

- a) The discharge of concentrated flows of storm water into public roadways shall be avoided. In no case shall such concentrated flows, including flows from swales, ditches, draws, driveways, or piped systems exceed the allowable peak flow rates in Table 10-C, below.
- b) In residential subdivisions, the peak flow rate associated with a 2-year storm shall not exceed 1.0 cubic feet per second (cfs) along any property line between lots within 50 feet of the building setback line for either lot, unless contained within a pipe drainage system or maintained in a natural watercourse. This maximum flow rate may be increased to 1.5 cfs in individual cases where there can be determined to be more than the normal separation between the dwellings on the affected lots.

TABLE 10-C

MAXIMUM FLOWS INTO STREETS

STREET CLASSIFICATION	ALLOWABLE PEAK FLOWRATE FOR A 2-YEAR STORM
Local	2.0 cfs
Minor Collector	1.0 cfs
Other	0.5 cfs

10.5 SURFACE DRAINAGE

10.5.1 Design Standards

- a) All new proposed channels shall be designed to carry at least the 25-year storm with one (1') foot of freeboard. A typical cross section of the proposed grassed channel must be provided for review and approval.
- b) Transition channels shall be provided at the inlet and outlets ends of all culverts and pipe systems unless otherwise provided herein.
- c) The maximum flow velocity at the project site's downstream property line shall not exceed the pre-developed velocity generated from the 2, 5, 10 and 25 year storm frequency.
- d) In cases of potential erosion due to irregular channel alignment, extreme velocities, or excessive slopes, a paved ditch may be required. However, if in the opinion of the City, the expected long-term maintenance of a surface drainage system could prove impractical, a pipe design may be required.

- e) The cross-sectional shape of channel shall be as found in the Standard Drawings. "V" shaped cross-sections are not permitted in grassed channels.
- f) If the channel will be affected by backwater from culverts, bridges, other structures or floodplains, backwater curves shall be shown in profiles of the channel.
- g) All channels must be capable of conveying flows sufficient to ensure that overflow of the channel would not result in a likelihood greater than one chance in 100 years of dwelling flooding, property damage or public access and/or utility interruption.

10.5.2 Construction Standards

- a) The channel shall be shaped to the dimensions specified on the approved plans and shall be free of overfalls, gullies, or other irregularities.
- b) Channels in fills shall be lined.
- c) Protective cover in grassed channels shall be installed as soon as the earthwork is completed.

10.6 EROSION CONTROL

10.6.1 Design Standards

- a) The procedures and requirements of the City of Monroe Soil Erosion and Sediment Control Ordinance revised from time shall be applicable whenever any land disturbance is proposed to occur and shall continue to apply until the project has been completed. In those instances wherein these regulations are silent, the "Manual for Erosion and Sediment Control in Georgia" shall apply.
- b) No permit shall be issued authorizing any land disturbing activity unless erosion and sediment control plans have first been submitted to and approved by the department in accordance with these regulations.

10.6.2 Construction Standards

- a) All erosion control structures and/or appurtenances as shown on the approved plans shall be in place and operational, inspected and approved by the Department prior to the beginning of construction and shall be maintained in operational condition until the phase or project has been

complete. (See also requirements for initiation of development activities under Article 11.4)

- b) Temporary and permanent ground covers are required.
- c) Upon project completion, erosion control devices and temporary siltation facilities shall be maintained in place while the individual lots are being developed or until all disturbed areas are fully stabilized.
- d) Erosion controls and siltation facilities shall be installed and maintained on each building lot during building construction and site development as required by the Soil Erosion and Sediment Control Ordinance and consistent with the provisions of the “Manual for Erosion and Sediment Control in Georgia.”

10.6.3. Abandoned Projects

Any project whose permit has lapsed under the terms expressed in Article 5 of these Regulations shall immediately proceed to stabilize all disturbed areas. This responsibility shall fall upon the owner, developer, contractor, or any and all other responsible parties involved in the land disturbance activity.

ARTICLE 11

PERFORMANCE AND MAINTENANCE BONDS

11.1. Performance and Maintenance Agreement

Prior to the approval of a Final Plat or Certificate of Occupancy, the Developer shall provide to the City a Performance and Maintenance Agreement in a form as required by the City.

11.1.1 Performance Surety

1. When Required. Performance surety shall be required, prior to the approval of a Final Plat or Certificate of Occupancy, for any Development containing unfinished amenities, improvements, or installations required to be constructed by These Regulations or the Zoning Ordinance or as a condition of any approval or permit granted thereunder which the Code Enforcement Officer, in his sole discretion, determines to be the result of unusual weather, site conditions, or construction phasing situations. All other Developments shall be completed prior to the approval of a Final Plat or Certificate of Occupancy.
2. Purpose. Performance surety shall be conditioned upon the faithful performance by the Developer of all work required to complete all amenities, improvements, and installations for the Development in compliance with These Regulation and the Zoning Ordinance and any approval or permit granted thereunder within one (1) year of the approval of the Final Plat or Certificate of Occupancy.
3. Form. Performance surety shall be payable to the City of Monroe in the form of:
 - a). Cash deposited in an account with the City of Monroe along with an escrow agreement, in a form acceptable to the Code Enforcement Officer and the City Attorney, from the Developer; or b).A surety bond, in a form acceptable to the Code Enforcement Officer and the City Attorney, from a company that is listed on the U.S. Department of the Treasury's Listing of Approved Sureties (Department Circular 570) as of the date of issuance and authorized by law to do business in the State of Georgia; or
 - c). An irrevocable letter of credit, in a form acceptable to the Code Enforcement Officer and the City Attorney, from a financial institution that has a Texas Ratio of less than 100% as of the date of issuance and is authorized by law to do business in the State of Georgia.
4. Amount. Performance surety shall be in an amount equal to the cost of construction of the required work plus an additional fifty percent (50%) of said costs, as calculated by the Code Enforcement Officer.
5. Period. Performance surety shall be for a period of one (1) year unless authorized for a longer period of time by the Code Enforcement Officer.

6. Release and Forfeiture. Performance surety shall be released to the Developer upon request if all work required to complete all amenities, improvements, and installations for the Development in compliance with These Regulations and any approval or permit granted thereunder has been completed timely. If such work has not been completed within the required performance surety period, the performance surety shall be forfeited to the City of Monroe.

11.1.2 Maintenance Surety

1. When Required. Maintenance surety shall be required, prior to the approval of a Final Plat or Certificate of Occupancy, for any Development containing public improvements.
2. Purpose. Maintenance surety shall be conditioned upon the faithful maintenance by the Developer of the public improvements in compliance with These Regulations and the Zoning Ordinance and any approval or permit granted thereunder for a period of two (2) years following the approval of the Final Plat or Certificate of Occupancy.
3. Form. Maintenance surety shall be payable to the City of Monroe in the form of
 - a) Cash deposited in an account with the City of Monroe along with an escrow agreement in a form acceptable to the Code Enforcement Officer and the City Attorney, from the Developer; or
 - b) A surety bond, in a form acceptable to the Code Enforcement Officer and the City Attorney, from a company that is listed on the U.S. Department of the Treasury's Listing of Approved Sureties (Department Circular 570) as of the date of issuance and authorized by law to do business in the State of Georgia; or
 - c) An irrevocable letter of credit, in a form acceptable to the Code Enforcement Officer and the City Attorney, from a financial institution that has a Texas Ratio of less than 100% as of the date of issuance and is authorized by law to do business in the State of Georgia.
4. Amount. Maintenance surety shall be in an amount equal to fifty percent (50%) of the cost of construction of the public improvements, as calculated by the Code Enforcement Officer.
5. Period. Maintenance surety shall be for a minimum period of two (2) years as determined by the Code Enforcement Officer.
6. Release and Forfeiture. Maintenance surety shall be released to the Developer upon request if the public improvements have been maintained in compliance with These Regulations and the Zoning Ordinance and any approval or permit granted thereunder for the requisite period. If the public improvements are not so maintained by the Developer for the entirety of the requisite maintenance surety period, the maintenance surety shall be forfeited to the City of Monroe.

ARTICLE 12

STREET CUTS

12.1 PERMIT REQUIRED

All utility construction plans for street cuts within City right of way shall be reviewed and approved and a Permit obtained from the City before construction begins. Street cuts shall not be allowed unless deemed absolutely necessary due to the presence of rock, the need to tap into an existing line beneath the road surface, or other circumstances which makes boring impossible or infeasible.

12.2 PERMIT FEE

No Street Cut Permit shall be authorized until a Street Cut Permit fee has been paid as established by the Mayor and City Council.

12.3 BACKFILLING AND COMPACTION

If approved, all trenches shall be backfilled and compacted the same day the trench is opened.

12.3.1 Trenches under the paving shall be returned to 95% compaction.

12.3.2 Trenches elsewhere shall be returned to 90% compaction.

12.4 PAVEMENT SPECIFICATIONS

All trenches under paving shall be concreted with eight (8") inches of Class "A" 3500-psi concrete base and 1½ inch of type "E" or "F" wearing course asphalt is to be spread.

12.4.1 The paving cut shall be widened to a minimum of twelve (12") inches beyond the edges of the trench.

12.4.2 The edges of the paving cut shall be compacted to a smooth surface.

12.5 STANDARD DETAIL OF PAVEMENT CUT AND REPAIR

All street cuts shall be made in accordance with the City of Monroe Standard Detail of Pavement Cut and Repair.

ARTICLE 13

ADMINISTRATION AND ENFORCEMENT, VIOLATION AND PENALTY

13.1 ADMINISTRATION AND ENFORCEMENT

13.1.1 Code Enforcement Officer to Administer, Interpret, and Enforce.

These Regulations shall be administered, interpreted, and enforced by the Code Enforcement Officer. All other ordinances or regulations referenced herein, such as the fire prevention and life safety codes, building and other technical codes, health, water, and sewer regulations shall be administered by the Code Enforcement Officers of the Departments responsible for such regulations as established by the Mayor and City Council.

13.1.2 Code Enforcement Officer Authorized to Suspend Work, Permit, Issue Summonses, and Direct Corrective Measures.

In any case in which activities are undertaken in violation of these Regulations, not in compliance with the provisions of a permit issued under the authorization of these Regulations, or without authorization of a permit which would otherwise be required, the Code Enforcement Officer is hereby authorized to suspend or invalidate such permits, order that all unauthorized or improper work be stopped, direct correction of deficiencies, issue summonses to any court of competent jurisdiction, or take any other legal or administrative action appropriate to the severity of the violation and degree of threat to the public health, safety, and welfare.

13.1.3 Stop Work Orders.

Work which is not authorized by an approved permit or which is not in conformance to the approved plans for the project or which is not in compliance with the provisions of these Regulations or any other adopted code, regulation, or ordinance of the City, shall be subject to immediate Stop Work Order by the Code Enforcement Officer. Work which proceeds without having received the necessary inspections of the city shall be halted until all inspections of intervening work are completed.

13.2 VIOLATION AND PENALTY

13.2.1 Violation

Any responsible party or other persons convicted by a Court of competent jurisdiction of violating any provision of these Regulations shall be guilty of violating a duly adopted Ordinance of the City and shall be punished either by a fine not to exceed \$500.00 or by imprisonment not to exceed 60 days or both. The owner of any lands or parts thereof where anything in violation of these Regulations shall be placed or shall exist and each responsible party or other person assisting in the commission of any such violation shall be guilty of a separate offense.

13.2.2 Court Empowered to Fine or Imprison.

The Court shall have the power and authority to place any person found guilty of violation of these Regulations on probation and to suspend or modify any fine or sentence. As a condition of said suspension, the Court may require payment of restitution or impose other punishment allowed by law.

13.2.3 Other Legal Remedies.

In any case in which any land is or is proposed to be used or activities are undertaken in violation of these Regulations or any amendment thereto adopted by the Mayor and City Council, the City, in addition to other remedies provided by law, may petition for a restraining order, injunction, abatement, or other appropriate legal action or proceeding through a court of competent jurisdiction to prevent, restrain, or abate such unlawful activity.

ARTICLE 14

APPEALS, MODIFICATIONS, AND VARIANCES

14.1 APPEALS

Appeals of the interpretation of the Code Enforcement Officer of the requirements of these Regulations shall first be submitted in writing to the Planning Department, which shall review the request in a timely manner and receive comments from other affected departments. The appeal thereupon shall be forwarded to the Mayor and City Council for final action in the normal course of business.

14.2 MODIFICATIONS

Modification of the design standards set forth in these Regulations may be authorized by the Code Enforcement Officer in specific cases when, in his opinion, undue hardship may result from strict compliance, provided any such determination shall be based fundamentally on the fact that unusual topographical or other exceptional conditions require such modification, or that the granting of the modification will not adversely affect the general public welfare or nullify the intent of these Regulations. Any such modification granted shall be made in writing to the developer and also made a part of the Department's records. Application for any modifications shall be filed in writing on a form provided by the Planning Department with necessary supporting documents and shall explain in detail the reasons and facts supporting the application.

14.3 VARIANCES

Variance requests of the requirements of these Regulations shall be submitted on an application form as provided by the Planning Department along with such fees as shall be established and which may be amended by the Mayor and City Council from time to time. The Code Enforcement Officer shall coordinate the review of each variance request by all other affected City departments and shall summarize such comments or recommendations as may be received to the Mayor and City Council for final action in the normal course of business.

ARTICLE 15

ADOPTION, AMENDMENTS, SEVERABILITY, AND CONFLICTING REGULATIONS

15.1 ADOPTION

- 15.1.1** These Regulations shall be in full force immediately following adoption by the Mayor and City Council and shall apply to any Land Disturbance Permit for which an application is received after the effective date of these Regulations.

- 15.1.2** Any subdivision or other project for which a valid and complete application for a Development Permit shall have been received prior to the effective date of these Regulations shall be considered “grandfathered.”

- 15.1.3** Any subdivision or other project for which a Development Permit has been issued prior to the effective date of these Regulations shall be considered “grandfathered,” provided that the time constraints as set forth by these or previous Regulations have not expired.

- 15.1.4** Nothing in these Regulations shall be construed to affect the validity of any building permit lawfully issued prior to the effective date of these Regulations.

15.2 SEVERABILITY

If any section, subsection, sentence, clause, or phrase of these Regulations is for any reason held to be unconstitutional, void, or invalid, the validity of the remaining portions of these Regulations shall not be affected thereby, it being the intent of the City of Monroe Mayor and City Council in adopting these Regulations that no portion thereof or provision of the Regulations contained herein shall become inoperative or failed by reason of the unconstitutionality or invalidity of any section, subsection, sentence, clause, phrase or provisions of these Regulations.

15.3 CONFLICTING REGULATIONS

All regulations or parts of regulations or the Code of Laws of the City of Monroe, Georgia in conflict with these Regulations shall be and the same are hereby repealed in their portions so in conflict, provided, however, that it is not the intent of these Regulations to repeal or affect any law of the State of Georgia or any Code or Ordinance of the City of Monroe adopted as a requirement of a State law in which case the most restrictive requirement shall control.

Adopted By The Mayor And Council This _____ Day of 20 _____.

The City of Monroe Mayor

Attest:

City Clerk

Approved As To Form:

City Attorney