



Planning Board

Meeting Agenda

August 15, 2017 at 7:00 PM
Council Chambers, 201 S Main St

Meeting Called to Order, Invocation, and Overview of Board and general meeting rules

1. Approve minutes of the July 18, 2017 meeting

2. New Business

a. RZ1702 1216 S Main St. Request by Danny Owen to rezone property located at 1216 S Main St (GPIN 8883351628) from Medium Density Residential (R-12) to General Business (B-2).

b. RZ1703 1218 S Main St. Request by Patricia Allen to rezone property located at 1218 S Main St (GPIN 8883351529) from Medium Density Residential (R-12) to General Business (B-2).

c. AM1707 Mixed-Use Dwellings. Request by Chuck Talley to permit more than one dwelling above a structure in Central Business District (B-1)

3. Old Business

a. Comprehensive Plan Update. Discussion regarding ideas. Potentially making a recommendation to City Council.

b. AM1706 Floodplain Regulations. Updating the article and adopting new maps as required by the Federal Emergency Management Agency.

4. Public comment on non-agenda items

Adjourn

A complete agenda packet is available at www.cityofgraham.com

PLANNING ZONING BOARD

Tuesday, July 18, 2017

The Planning & Zoning Board held their regular meeting on Tuesday, July 18, 2017 in the Council Chambers of the Graham Municipal Building at 7:00 p.m. Board members present were Ricky Hall, Bonnie Blalock, Nate Perry, Dean Ward, Michael Benesch, Justin Moody and Eric Crissman. Staff members present were Nathan Page, Planning Director, Aaron Holland, Assistant City Manager, Frank Glover, Planning Intern, and Martha Johnson Zoning & Inspection Technician. Chair Hall called the meeting to order, gave the Overview of the Board, general meeting rules and gave the invocation. Martha Johnson, notary, swore in the two new members, Eric Crissman and Justin Moody.

1. Approval of the June 20, 2017 meeting minutes. Michael Benesch made a motion for approval, second by Ricky Hall. All voted in favor.

2. New Business:

a. AM1705 Subdivision Exemptions. Updating the definition of a subdivision as required by the North Carolina General Assembly. Nathan Page explained the updates to the definition of a subdivision. Dean Ward made a motion for approval to be adopted as read and is consistent with the 2035 Comprehensive Plan, second by Ricky Hall. All voted aye.

b. AM1706 Floodplain Regulations. Updating the article and adopting new maps as required by the Federal Emergency Management Agency. This item was tabled, Nate Perry made a motion, second by Ricky Hall. All voted aye.

3. Old Business:

a. Comprehensive Plan Update. Discussion regarding ideas and procedure for subsequent meetings. There was no public comment at this time and Mr. Hall stated the next update would be their meeting August 15th, 2017.

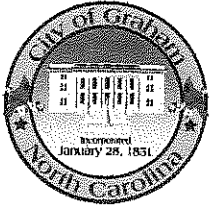
At this time the Board was opened for discussion and addressed the following items:

1. Addressed the future land use map
2. Interactivity between parking lots, commercial only
3. Possibly creating Overlay District on Jimmie Kerr Rd to Haw River and out West Highway 54 to Burlington
4. Address junk in yards and on porches

4. Public comment on non-agenda items: there were none

No further business the meeting was adjourned.

Respectfully Submitted,
Martha Johnson



Application for REZONING or CONDITIONAL REZONING

P.O. Drawer 357
201 South Main Street
Graham, NC 27253
(336) 570-6705
Fax (336) 570-6703
www.cityofgraham.com

This application is for both general district rezonings and conditional rezonings. Applications are due on the 25th of each month. Applicants are encouraged to consult with the *City of Graham Development Ordinances* and the City Planner.

Site

Street Address: 1216 S Main St
Tax Map#: 6-15-61 GPIN: 8883351628
Current Zoning District(s):
☐ R-7 ☐ R-9 ☒ R-12 ☐ R-15 ☐ R-18
☐ R-MF ☐ R-G ☐ C-R ☐ C-MXR
☐ B-1 ☐ B-2 ☐ B-3 ☐ C-B ☐ C-MXC
☐ O-I ☐ C-O-I ☐ I-1 ☐ I-2 ☐ C-I
Overlay District, if applicable:
☐ Historic ☒ S Main St/Hwy 87 ☐ E Harden St/Hwy 54
Current Use: Single Family
Total Site Acres: 0.00 0.44
Property Owner: Danny L Owen
Mailing Address: 1216 S Main St
City, State, Zip: Graham NC 27253

Applicant

☒ Property Owner Other _____
Application for Conditional Rezoning may only be initiated by the owner of a legal interest in all affected property, any person having an interest in the property by reason of written contract with owner, or an agent authorized in writing to act on the owner's behalf. If the applicant for Conditional Rezoning is other than the Property Owner, documentation in compliance with the preceding statement must be provided in order for this application to be complete.

Name: Danny L Owen
Mailing Address: 1216 S Main St
City, State, Zip: Graham NC 27253
Phone # (336) 228-6840

X Email: dowen65@ATT.NET

I have completed this application truthfully and to the best of my ability.

Signature of Applicant

Date

Proposed Rezoning or Conditional Rezoning

Proposed Zoning District(s):

☐ R-7 ☐ R-9 ☐ R-12 ☐ R-15 ☐ R-18
☐ R-MF ☐ R-G ☐ C-R ☐ C-MXR
☐ B-1 ☒ B-2 ☐ B-3 ☐ C-B ☐ C-MXC
☐ O-I ☐ C-O-I ☐ I-1 ☐ I-2 ☐ C-I

Describe the purpose of this rezoning request. For Conditional Rezoning, also specify the actual use(s) intended for the property (from Sec. 10.135 Table of Permitted Uses) along with other descriptive or pertinent information, such as number of dwelling units, type of multifamily development, square footage and number of buildings:

Designated business zone by City of Graham

Graham, NC 27253 336-570-6700	Receipt: 13794-0026 Date: 7/13/2017 2:26:22 PM	GEN/FD MISC REV danny l owen 1216 s main st rezoning application GEN/FD MISC REV	\$100.00	Total Paid: Check: 1081 danny l owen	\$100.00	\$100.00	\$100.00
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For Conditional Rezoning, this application must be accompanied by a Preliminary Site Plan and supporting information specifying the actual use(s) and any rules, regulations or conditions that, in addition to predetermined ordinance requirements, will govern the development and use of the property.

☐ Site Plan Review Application *must be attached to this application for Conditional Rezoning*

Office Use Only. DEVID#

RZ1702



STAFF REPORT

Prepared by Frank Glover, Planning Intern

1216 South Main St B-2 (RZ1702)

Type of Request: Rezoning

Meeting Dates

Planning Board on August 15, 2017

City Council on September 5, 2017

Contact Information

Danny L Owen

1216 S Main St, Graham NC 27253

336-228-6840; dlowen65@att.net

Summary

This is a request to rezone the subject property from R-12 to B-2. This is one of two adjoining lots which are currently occupied by a single family dwelling. The stated reason for this rezoning request is "designated business zone by City of Graham." No other development plan has been submitted at this time.



Location

1216 S Main St

GPIN: 8883351628

Current Zoning

Residential (Medium density)
(R-12)

Proposed Zoning

General Business (B -2)

Overlay District

HWY 87 Overlay District

Surrounding Zoning

B-2 and R-18

Surrounding Land Uses

Single-Family Residences, Retail,
Medical Clinic

Size

0.4 Acres

Public Water & Sewer

Yes

Floodplain

No

Staff Recommendation

Approval

Conformity to the *Graham 2035 Comprehensive Plan* (GCP) and Other Adopted Plans

Applicable Policies;

- **2.2.3 Retail Centers** Because of market limitations on the amount of retail space the City can viably support, Graham promotes retail within focused centers of activity that will host a large variety of small retail spaces while generally discouraging sprawling isolated retail that does not promote a cohesive urban fabric. *This lot is within an identified node or Neighborhood Activity Center.*
- **2.2.1: Focused Development** In order to maintain Graham's affordability and promote growth, the city will facilitate smart growth development by promoting infill development and focused, walkable, and mixed use built environments. *As the property is within the overlay, redevelopment plans would require the installation of a sidewalk. Additionally, city services are already provided to these lots.*

Applicable Strategies;

- **1.1.5 Discourage Strip Development** Discourage strip development along transportation arteries and proposed interstate interchanges by directing these commercial activities to proposed activity centers. *These parcels are within a Neighborhood Activity Center.*

Staff Recommendation

Based on the *Graham 2035 Comprehensive Plan* and the *City of Graham Development Ordinance*, staff recommends **approval** of the rezoning. The following supports this recommendation:

- Rezoning the subject property would permit redevelopment more fitting of a Community Activity Center in a location which is increasingly less suited for single family residences.

Description of Development Type

Commercial Corridor; HWY 87 Corridor Overlay District; This property is located in the vicinity of a Neighborhood Activity Center

Development Toolkit Checklist

Properties are located on a major thoroughfare and within the HWY 87 Overlay District

Single family residential along corridor is being replaced with automobile-oriented commercial uses.

Characteristics include future developments to be focused in strategically located clusters; pedestrian, bicycle and vehicular safety should be promoted through high quality planned development.

New intersections should be spaced at 1000 feet – 800 feet in order to improve access to future development and increase connectivity along the corridor.

Eliminate risk of collision by improving accessibility of business with rear alley access, divided slip lanes.

Density of 6 DU/acre; 0.5 Commercial/Industrial FAR



PLANNING BOARD Recommendation & Statement of Consistency

Per NCGS 160A-383, zoning regulations shall be made in accordance with an adopted comprehensive plan and any other officially adopted plan that is applicable. The Planning Board shall advise and comment on whether the proposed amendment is consistent with "The Graham 2035 Comprehensive Plan" and any other officially adopted plan that is applicable. The Planning Board shall provide a written recommendation to the City Council that addresses plan consistency and other matters as deemed appropriate by the Planning Board, but a comment by the Planning Board that a proposed amendment is inconsistent with "The Graham 2035 Comprehensive Plan" shall not preclude consideration or approval of the proposed amendment by the City Council.

**1216 S Main St
(RZ1702)**

Type of Request
Rezoning

Meeting Dates
Planning Board on August 15, 2017
City Council on September 5, 2017

☐ I move to **recommend APPROVAL** of the application as presented.

☐ I move to **recommend DENIAL**.

☐ The application is **consistent** with *The Graham 2035 Comprehensive Plan*.

☐ The application is **not fully consistent** with *The Graham 2035 Comprehensive Plan*.

The action is reasonable and in the public interest for the following reasons:

This report reflects the recommendation of the Planning Board, this the 15th day of August, 2017.

Attest:

Ricky Hall, Planning Board Chairman

Martha Johnson, Secretary



Application for REZONING or CONDITIONAL REZONING

P.O. Drawer 357
201 South Main Street
Graham, NC 27253
(336) 570-6705
Fax (336) 570-6703
www.cityofgraham.com

This application is for both general district rezonings and conditional rezonings. Applications are due on the 25th of each month. Applicants are encouraged to consult with the *City of Graham Development Ordinances* and the City Planner.

Site

Street Address: 1218 S Main St
Tax Map#: 6-15-62 GPIN: 8883351529
Current Zoning District(s):
☐ R-7 ☐ R-9 ☒ R-12 ☐ R-15 ☐ R-18
☐ R-MF ☐ R-G ☐ C-R ☐ C-MXR
☐ B-1 ☐ B-2 ☐ B-3 ☐ C-B ☐ C-MXC
☐ O-I ☐ C-O-I ☐ I-1 ☐ I-2 ☐ C-I
Overlay District, if applicable:
☐ Historic ☒ S Main St/Hwy 87 ☐ E Harden St/Hwy 54
Current Use: Single Family
Total Site Acres: 0.00 0.4 acres
Property Owner: Patricia Hughes Allen
Mailing Address: 1222 S Main St
City, State, Zip: Graham Nc 27253

Applicant

☒ Property Owner ☐ Other _____

Application for Conditional Rezoning may only be initiated by the owner of a legal interest in all affected property, any person having an interest in the property by reason of written contract with owner, or an agent authorized in writing to act on the owner's behalf. If the applicant for Conditional Rezoning is other than the Property Owner, documentation in compliance with the preceding statement must be provided in order for this application to be complete.

Name: Patricia Hughes Allen
Mailing Address: 1222 S Main St
City, State, Zip: Graham NC 27253
Phone # (336) 228-0830
Email: allentriciag@aol.com

I have completed this application truthfully and to the best of my ability.

Patricia Hughes Allen 7-11-17
Signature of Applicant Date

Proposed Rezoning or Conditional Rezoning

Proposed Zoning District(s):

☐ R-7 ☐ R-9 ☐ R-12 ☐ R-15 ☐ R-18
☐ R-MF ☐ R-G ☐ C-R ☐ C-MXR
☐ B-1 ☒ B-2 ☐ B-3 ☐ C-B ☐ C-MXC
☐ O-I ☐ C-O-I ☐ I-1 ☐ I-2 ☐ C-I

Describe the purpose of this rezoning request. *For Conditional Rezoning*, also specify the actual use(s) intended for the property (from Sec. 10.135 Table of Permitted Uses) along with other descriptive or pertinent information, such as number of dwelling units, type of multifamily development, square footage and number of buildings:

Designated business zone by City of Graham

City of Graham, NC 27253 336-570-6700	Receipt: 13787-0047 Date: 7/12/2017 3:09:04 PM	GEN/FD MISC REV patricia h allen 1218 s main st rezoning application GEN/FD MISC REV	\$100.00
Total Paid:			\$100.00
Check: 4518 patricia h allen			\$100.00

For Conditional Rezoning, this application must be accompanied by a Preliminary Site Plan and supporting information specifying the actual use(s) and any rules, regulations or conditions that, in addition to predetermined ordinance requirements, will govern the development and use of the property.

☐ Site Plan Review Application **must be attached to this application for Conditional Rezoning**

Office Use Only. DEVID#

RZ1703



STAFF REPORT

Prepared by Frank Glover, Planning Intern

1218 South Main St B-2 (RZ1703)

Type of Request: Rezoning

Meeting Dates

Planning Board on August 15, 2017

City Council on September 5, 2017

Contact Information

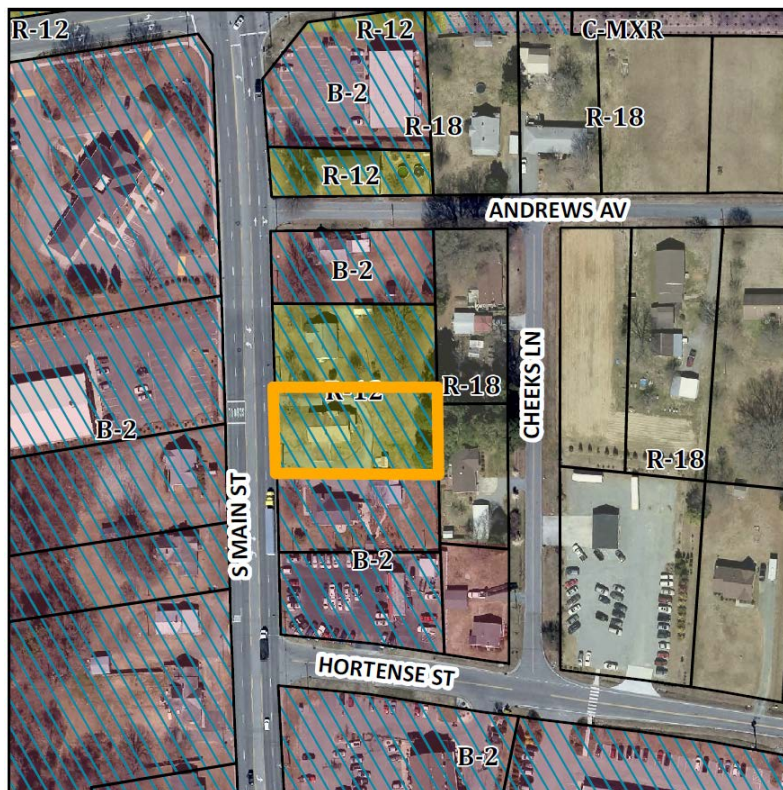
Patricia Hughes Allen

1222 S Main St, Graham NC 27253

336-228-0830; allentriciag@aol.com

Summary

This is a request to rezone the subject property from R-12 to B-2. This is one of two adjacent lots which are currently occupied by a single family dwelling. The stated reason for this rezoning request is "designated business zone by City of Graham." No other development plan has been submitted at this time.



Location

1218 S Main St

GPIN: 8883351529

Current Zoning

Residential (Medium density)
(R-12)

Proposed Zoning

General Business (B -2)

Overlay District

HWY 87 Overlay District

Surrounding Zoning

B-2 and R-18

Surrounding Land Uses

Single-Family Residences, Retail,
Medical Clinic

Size

0.44 Acres

Public Water & Sewer

Yes

Floodplain

No

Staff Recommendation

Approval

Conformity to the *Graham 2035 Comprehensive Plan* (GCP) and Other Adopted Plans

Applicable Policies;

- **2.2.3 Retail Centers** Because of market limitations on the amount of retail space the City can viably support, Graham promotes retail within focused centers of activity that will host a large variety of small retail spaces while generally discouraging sprawling isolated retail that does not promote a cohesive urban fabric. *This lot is within an identified node or Neighborhood Activity Center.*
- **2.2.1: Focused Development** In order to maintain Graham's affordability and promote growth, the city will facilitate smart growth development by promoting infill development and focused, walkable, and mixed use built environments. *As the property is within the overlay, redevelopment plans would require the installation of a sidewalk. Additionally, city services are already provided to these lots.*

Applicable Strategies;

- **1.1.5 Discourage Strip Development** Discourage strip development along transportation arteries and proposed interstate interchanges by directing these commercial activities to proposed activity centers. *These parcels are within a Neighborhood Activity Center.*

Staff Recommendation

Based on the *Graham 2035 Comprehensive Plan* and the *City of Graham Development Ordinance*, staff recommends **approval** of the rezoning. The following supports this recommendation:

- Rezoning the subject property would permit redevelopment more fitting of a Community Activity Center in a location which is increasingly less suited for single family residences.

Description of Development Type

Commercial Corridor; HWY 87
Corridor Overlay District;
Neighborhood Activity Center

Development Toolkit Checklist

Properties are located on a major thoroughfare and within the HWY 87 Overlay District

Single family residential along corridor is being replaced with automobile-oriented commercial uses.

Characteristics include future developments to be focused in strategically located clusters; pedestrian, bicycle and vehicular safety should be promoted through high quality planned development.

New intersections should be spaced at 1000 feet – 800 feet in order to improve access to future development and increase connectivity along the corridor.

Eliminate risk of collision by improving accessibility of business with rear alley access, divided slip lanes.

Density of 6 DU/acre; 0.5
Commercial/Industrial FAR



PLANNING BOARD Recommendation & Statement of Consistency

Per NCGS 160A-383, zoning regulations shall be made in accordance with an adopted comprehensive plan and any other officially adopted plan that is applicable. The Planning Board shall advise and comment on whether the proposed amendment is consistent with "The Graham 2035 Comprehensive Plan" and any other officially adopted plan that is applicable. The Planning Board shall provide a written recommendation to the City Council that addresses plan consistency and other matters as deemed appropriate by the Planning Board, but a comment by the Planning Board that a proposed amendment is inconsistent with "The Graham 2035 Comprehensive Plan" shall not preclude consideration or approval of the proposed amendment by the City Council.

**1218 S Main St
(RZ1703)**

Type of Request
Rezoning

Meeting Dates
Planning Board on August 15, 2017
City Council on September 5, 2017

☐ I move to **recommend APPROVAL** of the application as presented.

☐ I move to **recommend DENIAL**.

☐ The application is **consistent** with *The Graham 2035 Comprehensive Plan*.

☐ The application is **not fully consistent** with *The Graham 2035 Comprehensive Plan*.

The action is reasonable and in the public interest for the following reasons:

This report reflects the recommendation of the Planning Board, this the 15th day of August, 2017.

Attest:

Ricky Hall, Planning Board Chairman

Martha Johnson, Secretary



STAFF REPORT

Prepared by Nathan Page, Planning Director

Text Amendment for: Section 10.135 Table of Permitted Uses

Type of Request: Text Amendment

Meeting Dates

Planning Board on August 15, 2017

City Council on September 5, 2017

Contact Information

Chuck Talley (336)229-4255

20 NE Court Square, Graham NC 27253

Summary

Chuck Talley has requested an amendment to permit more than one dwelling above the first floor per lot within the B-1 district. Staff recommends to extend the permission to the currently permitted zones.

The following amendments to the Development Ordinance are proposed:

Project Name

Mixed-Use Dwellings (AM1707)

Location

city-wide

Current Zoning

not applicable

Proposed Zoning

not applicable

Overlay District

not applicable

Staff Recommendation

Approval

Existing Language:

Use Type	R-18	R-15	R-12	R-9	R-7	C-R	R-MF	R-G	O-1	C-O-1	B-3	B-2	B-1	C-B	I-1 (Note 19)	I-2 (Note 19)	C-1	C-MXR	C-MXC	LUC
Dwelling, located in the second or higher story of a commercial structure, with adequate light, air and bathroom facilities									X	C	X	X	X	C				C	C	1

Proposed Language:

Use Type	R-18	R-15	R-12	R-9	R-7	C-R	R-MF	R-G	O-1	C-O-1	B-3	B-2	B-1	C-B	I-1 (Note 19)	I-2 (Note 19)	C-1	C-MXR	C-MXC	LUC
Dwelling(s), located in the second or higher story of a commercial structure, with adequate light, air and bathroom facilities									X	C	X	X	X	C				C	C	1

Alternate Language:

Use Type	R-18	R-15	R-12	R-9	R-7	C-R	R-MF	R-G	O-1	C-O-1	B-3	B-2	B-1	C-B	I-1 (Note 19)	I-2 (Note 19)	C-1	C-MXR	C-MXC	LUC
Dwelling(s), located in the second or higher story of a commercial structure									X	C	X	X	X	C				C	C	1

Conformity to The Graham 2035 Comprehensive Plan and Other Adopted Plans

- **2.2.1: Focused Development** In order to maintain Graham's affordability and promote infill development and focused, walkable, and mixed use built environments. *A relaxation of the current regulations would allow for more walkable and mixed use structures.*
- **2.3.2: Innovative spaces, spaces of innovation** Graham promotes the development of flex space, live-work unites, and adaptive structures for office, retail, and light industry. *Adaptive reuse of our downtown structures as residences has been increasingly popular.*
- **2.3.3: Retail Centers** Because of market limitations on the amount of retail space the City can viably support, Graham promotes retail within focused centers of activity that will host a large variety of small retail spaces while generally discouraging sprawling isolated retail that does not promote a cohesive urban fabric. *Upper floor residences allow additional activity within our commercial spaces.*
- **5.2.1 Diverse Neighborhoods** Encourage a mix of housing types within Graham, including detached, duplex, multifamily, townhomes, and live-work units. *This amendment allows additional neighborhood choices.*
- **5.2.2 Multigenerational Housing** Promote buildings and neighborhood designs that serve multiple age groups simultaneously and meet the needs of young people, families, older adults, and people with disabilities, especially in focus areas and in close proximity to services. *Downtown residences are popular in our jurisdictions with empty nesters.*

Applicable Planning District Policies and Recommendations

- Not applicable; city-wide.

Staff Recommendation

Based on the comprehensive plan, staff **recommends approval** of the text amendment. The following supports this recommendation:

- Permitting more than one dwelling above commercial uses allows more flexible development options within our business zones, and provides expanded housing choices.

Planning District

All

Development Type

All



PLANNING BOARD Recommendation & Statement of Consistency

Per NCGS 160A-383, zoning regulations shall be made in accordance with an adopted comprehensive plan and any other officially adopted plan that is applicable. The Planning Board shall advise and comment on whether the proposed amendment is consistent with "The Graham 2035 Comprehensive Plan" and any other officially adopted plan that is applicable. The Planning Board shall provide a written recommendation to the City Council that addresses plan consistency and other matters as deemed appropriate by the Planning Board, but a comment by the Planning Board that a proposed amendment is inconsistent with "The Graham 2035 Comprehensive Plan" shall not preclude consideration or approval of the proposed amendment by the City Council.

Mixed-Use Dwellings (AM1707)

Type of Request

Text Amendment

Meeting Dates

Planning Board on August 15, 2017

City Council on September 5, 2017

☐ I move to **recommend APPROVAL** of the application as presented.

☐ I move to **recommend DENIAL**.

☐ The application is **consistent** with *The Graham 2035 Comprehensive Plan*.

☐ The application is **not fully consistent** with *The Graham 2035 Comprehensive Plan*.

The action is reasonable and in the public interest for the following reasons:

This report reflects the recommendation of the Planning Board, this the 15th day of August, 2017.

Attest:

Ricky Hall, Planning Board Chair

Martha Johnson, Secretary

The Graham 2035 Comprehensive Plan



A Time of Opportunity

ADOPTED September 1, 2015





STAFF REPORT

Prepared by Nathan Page, Planning Director

Text Amendment for: Article IX. Flood Damage Prevention

Type of Request: Text Amendment

Meeting Dates

Planning Board on July 18, 2017

City Council on August 1, 2017

Contact Information

N/A

Summary

The Federal Government has changed the existing floodplain maps, and requires us to update our Flood Damage Prevention Ordinances.

Please note- the elevation certificate during construction [10.374 (3) (a) (ii)] has been softened to a recommendation from a requirement. The State allows us this option, and it permits the use of judgement on the part of the surveyor and review staff to determine the validity of an intermediary elevation certificate depending on circumstances.

The following amendments to the Development Ordinance are proposed:

Due to the length of this amendment, a separate copy of the current and proposed language is attached. The “track changes” version supplied from the state of North Carolina are also included.

Project Name

Floodplain Regulations (AM1706)

Location

city-wide

Current Zoning

not applicable

Proposed Zoning

not applicable

Overlay District

not applicable

Staff Recommendation

Approval

Conformity to The Graham 2035 Comprehensive Plan and Other Adopted Plans

Not applicable.

Applicable Planning District Policies and Recommendations

- Not applicable; city-wide.

Staff Recommendation

Based on the comprehensive plan, staff **recommends approval** of the text amendment. The following supports this recommendation:

- Given the requirement of the National Flood Insurance Program to adopt these new maps on or before November 17, 2017, the City of Graham must do so in order to save money for our citizens on their flood insurance premiums.

Planning District

All

Development Type

All

ARTICLE IX. FLOOD DAMAGE PREVENTION

Section 10.360 Statutory authorization; findings of fact

The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3, 5, and 8 of Article 19 of Chapter 160A; and Article 8 of Chapter 160A of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry.

Therefore, the City Council of the City of Graham, North Carolina, does ordain as follows:

Section 10.361 Findings of fact

- (1) The flood prone areas within the jurisdiction of the City of Graham are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
- (2) These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities and by the occupancy in flood prone areas of uses vulnerable to floods or other hazards.

Section 10.362 Statement of purpose

It is the purpose of this ordinance to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions within flood prone areas by provisions designed to:

- (1) restrict or prohibit uses that are dangerous to health, safety, and property due to water or erosion hazards or that result in damaging increases in erosion, flood heights or velocities;
- (2) require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;
- (3) control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters;
- (4) control filling, grading, dredging, and all other development that may increase erosion or flood damage; and
- (5) prevent or regulate the construction of flood barriers that will unnaturally divert flood waters or which may increase flood hazards to other lands.

Section 10.363 Objectives

The objectives of this ordinance are:

- (1) to protect human life and health;

- (2) to minimize expenditure of public money for costly flood control projects;
- (3) to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) to minimize prolonged business losses and interruptions;
- (5) to minimize damage to public facilities and utilities (i.e. water and gas mains, electric, telephone, cable and sewer lines, streets, and bridges) that are located in flood prone areas;
- (6) to help maintain a stable tax base by providing for the sound use and development of flood prone areas; and
- (7) to ensure that potential buyers are aware that property is in a Special Flood Hazard Area.

Section 10.364 Definitions

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

“Accessory Structure (Appurtenant Structure)” means a structure located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common urban accessory structures. Pole barns, hay sheds and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building.

“Addition (to an existing building)” means an extension or increase in the floor area or height of a building or structure.

“Appeal” means a request for a review of the floodplain administrator's interpretation of any provision of this ordinance.

“Area of Shallow Flooding” means a designated Zone AO on a community's Flood Insurance Rate Map (FIRM) with base flood depths determined to be from one (1) to three (3) feet. These areas are located where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

“Area of Special Flood Hazard” see “Special Flood Hazard Area (SFHA)”

“Basement” means any area of the building having its floor subgrade (below ground level) on all sides.

“Base Flood” means the flood having a one (1) percent chance of being equaled or exceeded in any given year.

“Base Flood Elevation (BFE)” means a determination of the water surface elevations of the base flood as published in the Flood Insurance Study. When the BFE has not been provided in a “Special Flood Hazard Area”, it may be obtained from engineering studies available from a Federal or State or other source

using FEMA approved engineering methodologies. This elevation, when combined with the “Freeboard”, establishes the “Regulatory Flood Protection Elevation”.

“Building” see “Structure”

“Chemical Storage Facility” means a building, portion of a building, or exterior area adjacent to a building used for the storage of any chemical or chemically reactive products.

“Development” means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

“Disposal” means, as defined in NCGS 130A-290(a)(6), the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

“Elevated Building” means a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

“Encroachment” means the advance or infringement of uses, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

“Existing Manufactured Home Park or Manufactured Home Subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before the original effective date of the floodplain management regulations adopted by the community.

“Expansion to an existing manufactured home park or subdivision” means the preparation of the additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete slabs.)

“Flood” or “Flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) the overflow of inland or tidal waters; and/or
- (2) the unusual and rapid accumulation of runoff of surface waters from any source.

“Flood Boundary and Floodway Map (FBFM)” means an official map of a community, issued by the Federal Emergency Management Agency, on which the Special Flood Hazard Areas and the floodways are delineated. This official map is a supplement to and shall be used in conjunction with the Flood Insurance Rate Map (FIRM).

“Flood Hazard Boundary Map (FHBM)” means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the Special Flood Hazard Areas have been defined as Zone A.

“Flood Insurance” means the insurance coverage provided under the National Flood Insurance Program.

“Flood Insurance Rate Map (FIRM)” means an official map of a community, issued by the Federal Emergency Management Agency, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.

“Flood Insurance Study (FIS)” means an examination, evaluation, and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data in a community issued by the Federal Emergency Management Agency. The Flood Insurance Study report includes Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), if published.

“Flood Prone Area” see “Floodplain”

“Floodplain” means any land area susceptible to being inundated by water from any source.

“Floodplain Administrator” is the individual appointed to administer and enforce the floodplain management regulations.

“Floodplain Development Permit” means any type of permit that is required in conformance with the provisions of this ordinance, prior to the commencement of any development activity.

“Floodplain Management” means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

“Floodplain Management Regulations” means this ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power which control development in flood-prone areas. This term describes federal, state or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

“Floodproofing” means any combination of structural and nonstructural additions, changes, or adjustments to structures, which reduce or eliminate flood damage to real estate or improved real property, water and sanitation facilities, structures, and their contents.

“Floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

“Flood Zone” means a geographical area shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.

“Floor” means the top surface of an enclosed area in a building (including basement), i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.

“Freeboard” means the height added to the Base Flood Elevation (BFE) to account for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization on the watershed. The Base Flood Elevation plus the freeboard establishes the “Regulatory Flood Protection Elevation”.

“Functionally Dependent Facility” means a facility which cannot be used for its intended purpose unless it is located in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair. The term does not include long-term storage, manufacture, sales, or service facilities.

“Hazardous Waste Facility” means, as defined in NCGS 130A, Article 9, a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.

“Highest Adjacent Grade (HAG)” means the highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.

“Historic Structure” means any structure that is:

- (a) listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register;
- (b) certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (c) individually listed on a local inventory of historic landmarks in communities with a “Certified Local Government (CLG) Program”; or
- (d) certified as contributing to the historical significance of a historic district designated by a community with a “Certified Local Government (CLG) Program”

Certified Local Government (CLG) Programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the State Historic Preservation Officer as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

“Levee” means a manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

“Levee system” means a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

“Lowest Adjacent Grade (LAG)” means the elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

“Lowest Floor” means lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or limited storage in an area other than a basement area is not considered a building's lowest floor, provided that such an enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

“Manufactured Home” means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term “manufactured home” does not include a “recreational vehicle”.

“Manufactured Home Park or Subdivision” means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

“Market Value” means the building value, not including the land value and that of any accessory structures or other improvements on the lot. Market value may be established by independent certified appraisal; replacement cost depreciated for age of building and quality of construction (Actual Cash Value); or adjusted tax assessed values.

“Mean Sea Level” means, for purposes of this ordinance, the National Geodetic Vertical Datum (NGVD) as corrected in 1929, the North American Vertical Datum (NAVD) as corrected in 1988, or other vertical control datum used as a reference for establishing varying elevations within the floodplain, to which Base Flood Elevations (BFEs) shown on a FIRM are referenced. Refer to each FIRM panel to determine datum used.

“National Geodetic Vertical Datum (NGVD)” as corrected in 1929 is a vertical control used as a reference for establishing elevations within the floodplain.

“New Construction” means structures for which the “start of construction” commenced on or after the effective date of the original version of the community’s Flood Damage Prevention Ordinance and includes any subsequent improvements to such structures.

“New manufactured home park or subdivision means a manufactured” home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction. of streets, and either final site grading or the pouring of concrete slabs) is completed on or after August 5, 1980.

“Non-Encroachment Area” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot as designated in the Flood Insurance Study report.

“Post-FIRM” means construction or other development for which the “start of construction” occurred on or after the effective date of the initial Flood Insurance Rate Map for the area.

“Pre-FIRM” means construction or other development for which the “start of construction” occurred before the effective date of the initial Flood Insurance Rate Map for the area.

“Principally Above Ground” means that at least 51% of the actual cash value of the structure is above ground.

“Public Safety” and/or “Nuisance” means anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

“Recreational Vehicle (RV)” means a vehicle, which is:

- (a) built on a single chassis;
- (b) 400 square feet or less when measured at the largest horizontal projection;
- (c) designed to be self-propelled or permanently towable by a light duty truck; and
- (d) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

“Reference feature” is the receding edge of a bluff or eroding frontal dune or, if such a feature is not present, the normal high water line or the seaward line of permanent vegetation if high water line cannot be identified.

“Reference Level” is the top of the lowest floor for structures within Special Flood Hazard Areas designated as Zone A1-A30, AE, A, A99 or AO. It can also be the bottom of the lowest horizontal structural member of the lowest floor, excluding the foundation system, for structures within all Special Flood Hazard Areas.

“Regulatory Flood Protection Elevation” means the “Base Flood Elevation” plus the “Freeboard”. In “Special Flood Hazard Areas” where Base Flood Elevations (BFEs) have been determined, this elevation shall be the BFE plus two (2) feet of freeboard. In “Special Flood Hazard Areas” where no BFE has been established, this elevation shall be at least two (2) feet above the highest adjacent grade.

“Remedy a Violation” means to bring the structure or other development into compliance with State and community floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development.

“Riverine” means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

“Salvage Yard” means any non-residential property used for the storage, collection, and/or recycling of any type of equipment, and including but not limited to vehicles, appliances and related machinery.

“Solid Waste Disposal Facility” means, as defined in NCGS 130A-290(a)(35), any facility involved in the disposal of solid waste.

“Solid Waste Disposal Site” means, as defined in NCGS 130A-290(a)(36), any place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.

“Special Flood Hazard Area (SFHA)” means the land in the floodplain subject to a one (1%) percent or greater chance of being flooded in any given year, as determined in Section 10.365 (b) of the *City of Graham Development Ordinances*.

“Start of Construction” includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

“Structure” means a walled and roofed building, a manufactured home, or a gas, liquid, or liquefied gas storage tank that is principally above ground.

“Substantial Damage” means damage of any origin sustained by a structure during any one-year period whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. See definition of “substantial improvement”. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

“Substantial Improvement” means any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one-year period for which the cost equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage”, regardless of the actual repair work performed. The term does not, however, include either:

- (a) any correction of existing violations of State or community health, sanitary, or safety code specifications which have been identified by the community code enforcement official and which are the minimum necessary to assure safe living conditions; or,
- (b) any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

“Substantially improved existing manufactured home park” means where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

“Variance” is a grant of relief from the requirements of this ordinance.

“Violation” means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Sections 10.366, 10.367, 10.368, 10.369, 10.370, 10.371, 10.372, 10.373, 10.374, 10.375, 10.376, 10.377, and 10.378 of the *City of Graham Development Ordinances* is presumed to be in violation until such time as that documentation is provided.

“Water Surface Elevation (WSE)” means the height, in relation to mean sea level, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

“Watercourse” means a lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

Section 10.365 General provisions

- (a) *LANDS TO WHICH THIS SECTION APPLIES.* This ordinance shall apply to all Special Flood Hazard Areas within the jurisdiction, including Extra-Territorial Jurisdictions (ETJs) if applicable, of the City of Graham and within the jurisdiction of any other community whose governing body agrees, by resolution, to such applicability.
- (b) *BASIS FOR ESTABLISHING THE SPECIAL FLOOD HAZARD AREAS.* The Special Flood Hazard Areas are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its Flood Insurance Study (FIS) and its accompanying Flood Insurance Rate Maps (FIRM), for Alamance County September 6, 2006 which are adopted by reference and declared to be a part of this ordinance.
- (c) *ESTABLISHMENT OF FLOODPLAIN DEVELOPMENT PERMIT.* A Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities within Special Flood Hazard Areas determined in accordance with Section 10.365 (b) of the *City of Graham Development Ordinance*.
- (d) *COMPLIANCE.* No structure or land shall hereafter be located, extended, converted, altered, or developed in any way without full compliance with the terms of this ordinance and other applicable regulations.
- (e) *ABROGATION AND GREATER RESTRICTIONS.* This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- (f) *INTERPRETATION.* In the interpretation and application of this ordinance, all provisions shall be:
 - (1) considered as minimum requirements;
 - (2) liberally construed in favor of the governing body; and
 - (3) deemed neither to limit nor repeal any other powers granted under State statutes.

- (g) **WARNING AND DISCLAIMER OF LIABILITY.** The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur. Actual flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the Special Flood Hazard Areas or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of the City of Graham or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.
- (h) **PENALTIES FOR VIOLATION.** Violation of the provisions of this ordinance or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$50.00 or imprisoned for not more than thirty (30) days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the City of Graham from taking such other lawful action as is necessary to prevent or remedy any violation.

Section 10.366 ADMINISTRATION; Designation of Local Floodplain Administrator

The City Planner, hereinafter referred to as the "Floodplain Administrator", is hereby appointed to administer and implement the provisions of ARTICLE IX. FLOOD DAMAGE PREVENTION in the *City of Graham Development Ordinances*.

Section 10.367 Floodplain Development Application, Permit and Certification Requirements

- (1) Application Requirements. Application for a Floodplain Development Permit shall be made to the floodplain administrator prior to any development activities located within Special Flood Hazard Areas. The following items shall be presented to the floodplain administrator to apply for a floodplain development permit:
- (a) A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:
 - i) the nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, utility systems, grading/pavement areas, fill materials, storage areas, drainage facilities, and other development;
 - ii) the boundary of the Special Flood Hazard Area as delineated on the FIRM or other flood map as determined in Section 10.365 (b) of the *City of Graham Development Ordinances*, or a statement that the entire lot is within the Special Flood Hazard Area;
 - iii) flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Section 10.365 (b) of the *City of Graham Development Ordinances*;
 - iv) the boundary of the floodway(s) or non-encroachment area(s) as determined in Section 10.365 (b) of the *City of Graham Development Ordinances*;

- v) the Base Flood Elevation (BFE) where provided as set forth in Section 10.365 (b) of the *City of Graham Development Ordinances*; Section 10.368 (11 & 12) of the *City of Graham Development Ordinances*; or Section 10.373 of the *City of Graham Development Ordinances*;
 - vi) the old and new location of any watercourse that will be altered or relocated as a result of proposed development;
 - vii) certification of the plot plan by a registered land surveyor or professional engineer.
- (b) Proposed elevation, and method thereof, of all development within a Special Flood Hazard Area including but not limited to:
- i) Elevation in relation to mean sea level of the proposed reference level (including basement) of all structures;
 - ii) Elevation in relation to mean sea level to which any non-residential structure in Zone AE, A or AO will be flood-proofed; and
 - iii) Elevation in relation to mean sea level to which any proposed utility systems will be elevated or floodproofed;
- (c) If floodproofing, a Floodproofing Certificate (*FEMA Form 81-65*) with supporting data and an operational plan that includes, but is not limited to, installation, exercise, and maintenance of floodproofing measures.
- (d) A Foundation Plan, drawn to scale, which shall include details of the proposed foundation system to ensure all provisions of this ordinance are met. These details include but are not limited to:
- i) The proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls);
 - ii) Openings to facilitate equalization of hydrostatic flood forces on walls in accordance with Section 10.372(4)(c) of the *City of Graham Development Ordinances*, when solid foundation perimeter walls are used in Zones A, AO, AE, and A1-30;
- (e) Usage details of any enclosed areas below the regulatory flood protection elevation.
- (f) Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage;
- (g) Copies of all other Local, State and Federal permits required prior to floodplain development permit issuance (Wetlands, Endangered Species, Erosion and Sedimentation Control, Riparian Buffers, Mining, etc.)
- (h) Documentation for placement of Recreational Vehicles and/or Temporary Structures, when applicable, to ensure Section 10.372 (6 & 7) of the *City of Graham Development Ordinances* are met.

- (i) A description of proposed watercourse alteration or relocation, when applicable, including an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation.

(2) Permit Requirements. The Floodplain Development Permit shall include, but not be limited to:

- (a) description of the development to be permitted under the floodplain development permit.
- (b) The Special Flood Hazard Area determination for the proposed development per available data specified in Section 10.365 (b) of the *City of Graham Development Ordinances*.
- (c) The regulatory flood protection elevation required for the reference level and all attendant utilities.
- (d) The regulatory flood protection elevation required for the protection of all public utilities.
- (e) All certification submittal requirements with timelines.
- (f) A statement that no fill material or other development shall encroach into the floodway or non-encroachment area of any watercourse, as applicable.
- (g) The flood openings requirements, if in Zones A, AO, AE or A1-30.
- (h) Limitations of below BFE enclosure uses (if applicable). (i.e., Parking, Building Access and Limited Storage only).

(3) Certification Requirements.

(a) Elevation Certificates

- i) An Elevation Certificate (FEMA Form 81-31) is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the floodplain administrator a certification of the elevation of the reference level, in relation to mean sea level. The floodplain administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder prior to the beginning of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit.
- ii) A final as-built Elevation Certificate (FEMA Form 81-31) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the floodplain administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The floodplain administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to

make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

(b) Floodproofing Certificate

If non-residential floodproofing is used to meet the regulatory flood protection elevation requirements, a Floodproofing Certificate (FEMA Form 81-65), with supporting data and an operational plan, is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the floodplain administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to mean sea level. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The floodplain administrator shall review the certificate data and plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit. Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

- (c) If a manufactured home is placed within Zone A, AO, AE, or A1-30 and the elevation of the chassis is more than 36 inches in height above grade, an engineered foundation certification is required per Section 10.372 (3) of the *City of Graham Development Ordinances*.
- (d) If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; a professional engineer's certified report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a floodplain development permit.
- (e) Certification Exemptions. The following structures, if located within Zone A, AO, AE or A1-30, are exempt from the elevation/floodproofing certification requirements specified in items (a) and (b) of this subsection:
 - i) Recreational Vehicles meeting requirements of Section 10.372 (6) of the City of Graham Development Ordinances;
 - ii) Temporary Structures meeting requirements of Section 10.372 (7) of the City of Graham Development Ordinances; and
 - iii) Accessory Structures less than 150 square feet meeting requirements of 10.372 (8) of the City of Graham Development Ordinances.

Section 10.368 Duties and Responsibilities of the Floodplain Administrator

The Floodplain Administrator shall perform, but not be limited to, the following duties:

- (1) Review all floodplain development applications and issue permits for all proposed development within Special Flood Hazard Areas to assure that the requirements of this ordinance have been satisfied.

- (2) Advise permittee that additional Federal or State permits (Wetlands, Endangered Species, Erosion and Sedimentation Control, Riparian Buffers, Mining, etc.) may be required, and require that copies of such permits be provided and maintained on file with the floodplain development permit.
- (3) Notify adjacent communities and the North Carolina Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).
- (4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- (5) Prevent encroachments into floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of Section 10.374 of the *City of Graham Development Ordinances* are met.
- (6) Obtain actual elevation (in relation to mean sea level) of the reference level (including basement) and all attendant utilities of all new or substantially improved structures, in accordance with Section 10.367 (3) of the *City of Graham Development Ordinances*.
- (7) Obtain actual elevation (in relation to mean sea level) to which all new and substantially improved structures and utilities have been floodproofed, in accordance with Section 10.367 (3) of the *City of Graham Development Ordinances*.
- (8) Obtain actual elevation (in relation to mean sea level) of all public utilities in accordance with Section 10.367 (3) of the *City of Graham Development Ordinances*.
- (9) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with Section 10.367 (3) and Section 10.372 (2) of the *City of Graham Development Ordinances*.
- (10) Where interpretation is needed as to the exact location of boundaries of the Special Flood Hazard Areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Sections 10.366, 10.367, 10.368, 10.369, and 10.370 of the *City of Graham Development Ordinances*.
- (11) When Base Flood Elevation (BFE) data has not been provided in accordance with Section 10.365 (b) of the *City of Graham Development Ordinances*, obtain, review, and reasonably utilize any Base Flood Elevation (BFE) data, along with floodway data or non-encroachment area data available from a Federal, State, or other source, including data developed pursuant to Section 10.373 (2)(b) of the *City of Graham Development Ordinances*, in order to administer the provisions of this ordinance.
- (12) When Base Flood Elevation (BFE) data is provided but no floodway nor non-encroachment area data has been provided in accordance with Section 10.365 (b) of the *City of Graham Development Ordinances*, obtain, review, and reasonably utilize any floodway data or non-encroachment area data available from a Federal, State, or other source in order to administer the provisions of this ordinance.

- (13) When the lowest ground elevation of a parcel or structure in a Special Flood Hazard Area is above the Base Flood Elevation, advise the property owner of the option to apply for a Letter of Map Amendment (LOMA) from FEMA. Maintain a copy of the Letter of Map Amendment (LOMA) issued by FEMA in the floodplain development permit file.
- (14) Permanently maintain all records that pertain to the administration of this ordinance and make these records available for public inspection.
- (15) Make on-site inspections of work in progress. As the work pursuant to a floodplain development permit progresses, the floodplain administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the floodplain administrator has a right, upon presentation of proper credentials, to enter on any premises within the jurisdiction of the community at any reasonable hour for the purposes of inspection or other enforcement action.
- (16) Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance, the floodplain administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing the work. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.
- (17) Revoke floodplain development permits as required. The floodplain administrator may revoke and require the return of the floodplain development permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, or specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any floodplain development permit mistakenly issued in violation of an applicable State or local law may also be revoked.
- (18) Make periodic inspections throughout all special flood hazard areas within the jurisdiction of the community. The floodplain administrator and each member of his or her inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement action.
- (19) Follow through with corrective procedures of Section 10.369 of the *City of Graham Development Ordinances*.
- (20) Review, provide input, and make recommendations for variance requests.
- (21) Maintain a current map repository to include, but not limited to, the FIS Report, FIRM and other official flood maps and studies adopted in accordance with Section 10.365 of the *City of Graham Development Ordinances*, including any revisions thereto including Letters of Map Change, issued by FEMA. Notify State and FEMA of mapping needs.
- (22) Coordinate revisions to FIS reports and FIRMs, including Letters of Map Revision Based on Fill (LOMR-F) and Letters of Map Revision (LOMR).

Section 10.369

Corrective Procedures

- (1) Violations to be Corrected: When the floodplain administrator finds violations of applicable State and local laws, it shall be his or her duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law cited in such notification.
- (2) Actions in Event of Failure to Take Corrective Action: If the owner of a building or property shall fail to take prompt corrective action, the floodplain administrator shall give the owner written notice, by certified or registered mail to the owner's last known address or by personal service, stating:
 - (a) that the building or property is in violation of the Flood Damage Prevention Ordinance;
 - (b) that a hearing will be held before the floodplain administrator at a designated place and time, not later than ten (10) days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and,
 - (c) that following the hearing, the floodplain administrator may issue an order to alter, vacate, or demolish the building; or to remove fill as appears appropriate.
- (3) Order to Take Corrective Action: If, upon a hearing held pursuant to the notice prescribed above, the floodplain administrator shall find that the building or development is in violation of the Flood Damage Prevention Ordinance, they shall issue an order in writing to the owner, requiring the owner to remedy the violation within a specified time period, not less than sixty (60) calendar days. Where the floodplain administrator finds that there is imminent danger to life or other property, they may order that corrective action be taken in such lesser period as may be feasible.
- (4) Appeal: Any owner who has received an order to take corrective action may appeal the order to the local elected governing body by giving notice of appeal in writing to the floodplain administrator and the clerk within ten (10) days following issuance of the final order. In the absence of an appeal, the order of the floodplain administrator shall be final. The local governing body shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.
- (5) Failure to Comply with Order: If the owner of a building or property fails to comply with an order to take corrective action for which no appeal has been made or fails to comply with an order of the governing body following an appeal, the owner shall be guilty of a misdemeanor and shall be punished at the discretion of the court.

Section 10.370

Variance Procedures

- (1) The Board of Adjustment as established by the City of Graham), hereinafter referred to as the "appeal board", shall hear and decide requests for variances from the requirements of this ordinance.
- (2) Any person aggrieved by the decision of the appeal board may appeal such decision to the Court, as provided in Chapter 7A of the North Carolina General Statutes.

(3) Variances may be issued for:

- (a) the repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure.
- (b) functionally dependent facilities if determined to meet the definition as stated in Section 10.364 of the *City of Graham Development Ordinances*, provided provisions of Section 10.370 (9) (b, c, and e) of the *City of Graham Development Ordinances* have been satisfied, and such facilities are protected by methods that minimize flood damages.
- (c) any other type of development, provided it meets the requirements stated in this section.

(4) In passing upon variances, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:

- (a) the danger that materials may be swept onto other lands to the injury of others;
- (b) the danger to life and property due to flooding or erosion damage;
- (c) the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- (d) the importance of the services provided by the proposed facility to the community;
- (e) the necessity to the facility of a waterfront location as defined under Section 10.364 of the *City of Graham Development Ordinances* as a functionally dependent facility, where applicable;
- (f) the availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
- (g) the compatibility of the proposed use with existing and anticipated development;
- (h) relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
- (i) safety of access to the property in times of flood for ordinary and emergency vehicles;
- (j) the expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and
- (k) the costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

(5) A written report addressing each of the above factors shall be submitted with the application for a variance.

- (6) Upon consideration of the factors listed above and the purposes of this ordinance, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
- (7) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the Base Flood Elevation (BFE) and the elevation to which the structure is to be built and that such construction below the Base Flood Elevation increases risks to life and property, and that the issuance of a variance to construct a structure below the Base Flood Elevation will result in increased premium rates for flood insurance up to \$25 per \$100 of insurance coverage. Such notification shall be maintained with a record of all variance actions, including justification for their issuance.
- (8) The floodplain administrator shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency and the State of North Carolina upon request.
- (9) Conditions for Variances:
- (a) Variances shall not be issued when the variance will make the structure in violation of other Federal, State, or local laws, regulations, or ordinances.
 - (b) Variances shall not be issued within any designated floodway or non-encroachment area if the variance would result in any increase in flood levels during the base flood discharge.
 - (c) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (d) Variances shall only be issued prior to development permit approval.
 - (e) Variances shall only be issued upon:
 - i) a showing of good and sufficient cause;
 - ii) a determination that failure to grant the variance would result in exceptional hardship; and
 - iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
- (10) A variance may be issued for solid waste disposal facilities, hazardous waste management facilities, salvage yards, and chemical storage facilities that are located in Special Flood Hazard Areas provided that all of the following conditions are met.
- (a) The use serves a critical need in the community.
 - (b) No feasible location exists for the use outside the Special Flood Hazard Area.
 - (c) The reference level of any structure is elevated or floodproofed to at least the regulatory flood protection elevation.

- (d) The use complies with all other applicable Federal, State and local laws.
- (e) The City of Graham has notified the Secretary of the North Carolina Department of Crime Control and Public Safety of its intention to grant a variance at least thirty (30) calendar days prior to granting the variance.

Section 10.371 Provisions for Flood Hazard Reduction

GENERAL STANDARDS. In all Special Flood Hazard Areas the following provisions are required:

- (1) All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure.
- (2) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- (3) All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.
- (4) Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, appliances (washers, dryers, refrigerators, freezers, etc.), hot water heaters, and electric outlets/switches.
- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into flood waters.
- (7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- (8) Any alteration, repair, reconstruction, or improvements to a structure, which is in compliance with the provisions of this ordinance, shall meet the requirements of "new construction" as contained in this ordinance.
- (9) Nothing in this ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the regulatory flood protection elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.
- (10) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in Section 10.370 (10) of the *City of Graham Development Ordinances*. A structure or tank for chemical or fuel

storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the regulatory flood protection elevation and certified according to Section 10.367 (3) of the *City of Graham Development Ordinances*.

- (11) All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.
- (12) All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- (13) All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.
- (14) All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.

Section 10.372 Specific Standards

In all Special Flood Hazard Areas where Base Flood Elevation (BFE) data has been provided, as set forth in Section 10.365 or Section 10.368 (11 & 12) of the *City of Graham Development Ordinances*, the following provisions, in addition to Section 10.371 of the *City of Graham Development Ordinances*, are required:

- (1) Residential Construction. New construction and substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation, as defined in Section 10.364 of the *City of Graham Development Ordinances*.
- (2) Non-Residential Construction. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation, as defined in Section 10.364 of the *City of Graham Development Ordinances*. Structures located in A, AE and A1-30 Zones may be floodproofed to the regulatory flood protection elevation in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the regulatory flood protection elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. For AO Zones, the floodproofing elevation shall be in accordance with Section 10.376 of the *City of Graham Development Ordinances*. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Section 10.367 (3) of the *City of Graham Development Ordinances*, along with the operational and maintenance plans.
- (3) Manufactured Homes.
 - (a) New or replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the regulatory flood protection elevation, as defined in Section 10.364 of the *City of Graham Development Ordinances*.

- (b) Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by engineer certification, or in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.
 - (c) All enclosures or skirting below the lowest floor shall meet the requirements of Section 10.372 (4) (a, b, & c) of the *City of Graham Development Ordinances*..
 - (d) An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the floodplain administrator and the local Emergency Management coordinator.
- (4) Elevated Buildings. Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor:
- (a) shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;
 - (b) shall be constructed entirely of flood resistant materials below the regulatory flood protection elevation;
 - (c) shall include, in Zones A, AO, AE, and A1-30, flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the following minimum design criteria;
 - i) A minimum of two flood openings on different sides of each enclosed area subject to flooding;
 - ii) The total net area of all flood openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding;
 - iii) If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;
 - iv) The bottom of all required flood openings shall be no higher than one (1) foot above the adjacent grade;
 - v) Flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and

- vi) Enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings as outlined above.

(5) Additions/Improvements.

- (a) Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:
 - i) not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure.
 - ii) a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
- (b) Additions to post-FIRM structures with no modifications to the existing structure other than a standard door in the common wall shall require only the addition to comply with the standards for new construction.
- (c) Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:
 - i) not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction.
 - ii) a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.

(6) Recreational Vehicles. Recreational vehicles shall either:

- (a) be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions); or
- (b) meet all the requirements for new construction.

(7) Temporary Non-Residential Structures. Prior to the issuance of a floodplain development permit for a temporary structure, the applicant must submit to the floodplain administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the floodplain administrator for review and written approval;

- (a) a specified time period for which the temporary use will be permitted. Time specified may not exceed three months, renewable up to one year;

- (b) the name, address, and phone number of the individual responsible for the removal of the temporary structure;
 - (c) the time frame prior to the event at which a structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);
 - (d) a copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and
 - (e) designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.
- (8) Accessory Structures. When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area, the following criteria shall be met:
- (a) Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);
 - (b) Accessory structures shall not be temperature-controlled;
 - (c) Accessory structures shall be designed to have low flood damage potential;
 - (d) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
 - (e) Accessory structures shall be firmly anchored in accordance with Section 10.371 (1) of the *City of Graham Development Ordinances*;
 - (f) All service facilities such as electrical shall be installed in accordance with Section 10.371 (4) of the *City of Graham Development Ordinances*; and
 - (g) Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below regulatory flood protection elevation in conformance with Section 10.372 (4) (c) of the *City of Graham Development Ordinances*.

An accessory structure with a footprint less than 150 square feet that satisfies the criteria outlined above does not require an elevation or floodproofing certificate. Elevation or floodproofing certifications are required for all other accessory structures in accordance with Section 10.367 (3) of the *City of Graham Development Ordinances*.

(Section 10.372 amended by City Council 11/7/2006)

Section 10.373 Standards for Floodplains Without Established Base Flood Elevations

Within the Special Flood Hazard Areas designated as Approximate Zone A and established in Section 10.365 (b) of the *City of Graham Development Ordinances*, where no Base Flood Elevation (BFE) data has been provided by FEMA, the following provisions, in addition to Section 10.371 and Section 10.372 of the *City of Graham Development Ordinances*, shall apply:

- (1) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty (20) feet each side from top of bank or five times the width of the stream, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- (2) The BFE used in determining the regulatory flood protection elevation shall be determined based on one of the following criteria set in priority order:
 - (a) If Base Flood Elevation (BFE) data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this ordinance and shall be elevated or floodproofed in accordance with standards in Section 10.368 (11 & 12) of the *City of Graham Development Ordinances*.
 - (b) All subdivision, manufactured home park and other development proposals shall provide Base Flood Elevation (BFE) data if development is greater than five (5) acres or has more than fifty (50) lots/manufactured home sites. Such Base Flood Elevation (BFE) data shall be adopted by reference per Section 10.365 (b) of the *City of Graham Development Ordinances* to be utilized in implementing this ordinance.
 - (c) When Base Flood Elevation (BFE) data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated to or above the regulatory flood protection elevation, as defined in Section 10.364 of the *City of Graham Development Ordinances*.

Section 10.374 Standards for Riverine Floodplains with BFE but Without Established Floodways or Non-Encroachment Areas

Along rivers and streams where BFE data is provided but neither floodway nor non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS report, the following requirements shall apply to all development within such areas:

- (1) Standards outlined in Section 10.371 and Section 10.372 of the *City of Graham Development Ordinances*; and
- (2) Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

Section 10.375 Floodways and Non-Encroachment Areas

Areas designated as floodways or non-encroachment areas are located within the Special Flood Hazard Areas established in Section 10.365 (b) of the *City of Graham Development Ordinances*. The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in Section 10.371 and Section 10.372 of the *City of Graham Development Ordinances*, shall apply to all development within such areas:

- (1) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated that:
 - (a) the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood, based on hydrologic and hydraulic analyses performed in accordance with standard engineering practice and presented to the floodplain administrator prior to issuance of floodplain development permit, or
 - (b) a Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A Letter of Map Revision (LOMR) must also be obtained upon completion of the proposed encroachment.
- (2) If Section 10.375 (1) of the *City of Graham Development Ordinances* is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this ordinance.
- (3) No manufactured homes shall be permitted, except replacement manufactured homes in an existing manufactured home park or subdivision, provided the following provisions are met:
 - (a) the anchoring and the elevation standards of Section 10.372 (3) of the *City of Graham Development Ordinances*; and
 - (b) the no encroachment standard of Section 10.375 (1) of the *City of Graham Development Ordinances*.

(Section 10.375 amended by City Council 11/7/2006)

Section 10.376 Standards for Areas of Shallow Flooding (Zone AO)

Located within the Special Flood Hazard Areas established in Section 10.365 (b) of the *City of Graham Development Ordinances*, are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. In addition to Section 10.371 of the *City of Graham Development Ordinances*, all new construction and substantial improvements shall meet the following requirements:

- (1) The reference level shall be elevated at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM), in feet, plus a freeboard of two (2) feet, above the highest adjacent grade; or at least two feet above the highest adjacent grade plus a freeboard of two (2) feet if no depth number is specified.
- (2) Non-residential structures may, in lieu of elevation, be floodproofed to the same level as required in Section 10.376 (1) of the *City of Graham Development Ordinances* so that the structure, together with attendant utility and sanitary facilities, below that level shall be watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required as per Section 10.367 (3) and Section 10.372 (2) of the *City of Graham Development Ordinances*.
- (3) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

**Section 10.377 Legal Status Provisions, Effect on Rights and Liabilities Under the Existing
Flood Damage Prevention Ordinance**

This ordinance in part comes forward by re-enactment of some of the provisions of the flood damage prevention ordinance enacted August 5, 1980 as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued thereunder are reserved and may be enforced. The enactment of this ordinance shall not affect any action, suit or proceeding instituted or pending. All provisions of the flood damage prevention ordinance of the City of Graham enacted on August 5, 1980, as amended, which are not reenacted herein are repealed.

Section 10.378 Effect Upon Outstanding Building Permits

Nothing herein contained shall require any change in the plans, construction, size, or designated use of any development or any part thereof for which a building permit has been granted by the Chief Building Inspector before the time of passage of this ordinance; provided, however, that when construction is not begun under such outstanding permit within a period of six (6) months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this ordinance.

Sections 10.379 – 10.389 Reserved

FLOOD DAMAGE PREVENTION ORDINANCE SUMMARY OF CHANGES

The following colored text identifies the changes from the 2007 model Flood Damage Prevention Ordinance to the Current 2017 model Flood Damage Prevention Ordinance:

- Blue text = Changes from 2007 version to 2017 version
- Green text = Additions that are new to the 2017 version
- Red text = Deleted from the 2017 version

FLOOD DAMAGE PREVENTION ORDINANCE

Non-Coastal Regular Phase

ARTICLE 1. STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES.

SECTION A. STATUTORY AUTHORIZATION.

Municipal: The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3, 5, and 8 of Article 19 of Chapter 160A; and Article 8 of Chapter 160A of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare.

County: The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3 and 4 of Article 18 of Chapter 153A; and Part 121, Article 6 of Chapter 153A of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare.

Therefore, the Governing Body of Community Name, North Carolina, does ordain as follows:

SECTION B. FINDINGS OF FACT.

- (1) The flood prone areas within the jurisdiction of Community Name are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
- (2) These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities and by the occupancy in flood prone areas of uses vulnerable to floods or other hazards.

SECTION C. STATEMENT OF PURPOSE.

It is the purpose of this ordinance to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions within flood prone areas by provisions designed to:

- (1) Restrict or prohibit uses that are dangerous to health, safety, and property due to water or erosion hazards or that result in damaging increases in erosion, flood heights or velocities;
- (2) Require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at

the time of initial construction;

- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters;
- (4) Control filling, grading, dredging, and all other development that may increase erosion or flood damage; and
- (5) Prevent or regulate the construction of flood barriers that will unnaturally divert flood waters or which may increase flood hazards to other lands.

SECTION D. OBJECTIVES.

The objectives of this ordinance are to:

- (1) Protect human life, safety, and health;
- (2) Minimize expenditure of public money for costly flood control projects;
- (3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) Minimize prolonged business losses and interruptions;
- (5) Minimize damage to public facilities and utilities (i.e. water and gas mains, electric, telephone, cable and sewer lines, streets, and bridges) that are located in flood prone areas;
- (6) Minimize damage to private and public property due to flooding;
- (7) Make flood insurance available to the community through the National Flood Insurance Program; ✓ *yes*
- (8) Maintain the natural and beneficial functions of floodplains;
- (9) Help maintain a stable tax base by providing for the sound use and development of flood prone areas; and
- (10) Ensure that potential buyers are aware that property is in a Special Flood Hazard Area. ✓ *important*

ARTICLE 2. DEFINITIONS.

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance it's most reasonable application. ✓

"Accessory Structure (Appurtenant Structure)" means a structure located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common urban accessory structures. Pole barns, hay sheds and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building.

"Addition (to an existing building)" means an extension or increase in the floor area or height of a building or structure.

"Alteration of a watercourse" means a dam, impoundment, channel relocation, change in channel alignment, channelization, or change in cross-sectional area of the channel or the channel capacity, or any other form of modification which may alter, impede, retard or change the direction and/or velocity of the riverine flow of water during conditions of the base flood.

"Appeal" means a request for a review of the Floodplain Administrator's interpretation of any provision of this ordinance.

"Area of Shallow Flooding" means a designated Zone AO on a community's Flood Insurance Rate Map (FIRM) with base flood depths determined to be from one (1) to three (3) feet. These areas are located where a clearly defined channel does not

exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

“Area of Special Flood Hazard” see “Special Flood Hazard Area (SFHA)”.

“Area of Future Conditions Flood Hazard” means the land area that would be inundated by the 1-percent-annual-chance (100- year) flood based on future-conditions hydrology (OPTIONAL).

“Base Flood” means the flood having a one (1) percent chance of being equaled or exceeded in any given year.

“Base Flood Elevation (BFE)” means a determination of the water surface elevations of the base flood as published in the Flood Insurance Study. When the BFE has not been provided in a “Special Flood Hazard Area”, it may be obtained from engineering studies available from a Federal, State, or other source using FEMA approved engineering methodologies. This elevation, when combined with the “Freeboard”, establishes the “Regulatory Flood Protection Elevation”.

“Basement” means any area of the building having its floor subgrade (below ground level) on all sides.

“Building” see “Structure”.

“Chemical Storage Facility” means a building, portion of a building, or exterior area adjacent to a building used for the storage of any chemical or chemically reactive products.

“Design Flood”: See “Regulatory Flood Protection Elevation.”

“Development” means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

“Development Activity” means any activity defined as Development which will necessitate a Floodplain Development Permit. This includes buildings, structures, and non-structural items, including (but not limited to) fill, bulkheads, piers, pools, docks, landings, ramps, and erosion control/stabilization measures.

“Digital Flood Insurance Rate Map (DFIRM)” means the digital official map of a community, issued by the Federal Emergency Management Agency (FEMA), on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.

“Disposal” means, as defined in NCGS 130A-290(a)(6), the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

“Elevated Building” means a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

“Encroachment” means the advance or infringement of uses, fill, excavation, buildings, structures or development into a special flood hazard area, which may impede or alter the flow capacity of a floodplain.

“Existing building and existing structure” means any building and/or structure for which the “start of construction” commenced before date the community’s first floodplain management ordinance was adopted.

“Existing Manufactured Home Park or Manufactured Home Subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before the initial effective date of the floodplain management regulations adopted by the community.

“Flood” or “Flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (a) The overflow of inland or tidal waters; and/or
- (b) The unusual and rapid accumulation or runoff of surface waters from any source.

"Flood Boundary and Floodway Map (FBFM)" means an official map of a community, issued by the FEMA, on which the Special Flood Hazard Areas and the floodways are delineated. This official map is a supplement to and shall be used in conjunction with the Flood Insurance Rate Map (FIRM).

"Flood Hazard Boundary Map (FHBM)" means an official map of a community, issued by the FEMA, where the boundaries of the Special Flood Hazard Areas have been defined as Zone A.

"Flood Insurance" means the insurance coverage provided under the National Flood Insurance Program.

"Flood Insurance Rate Map (FIRM)" means an official map of a community, issued by the FEMA, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated. (see also DFIRM)

"Flood Insurance Study (FIS)" means an examination, evaluation, and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data in a community issued by the FEMA. The Flood Insurance Study report includes Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), if published.

"Flood Prone Area" see "Floodplain"

"Flood Zone" means a geographical area shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.

"Floodplain" means any land area susceptible to being inundated by water from any source.

"Floodplain Administrator" is the individual appointed to administer and enforce the floodplain management regulations.

"Floodplain Development Permit" means any type of permit that is required in conformance with the provisions of this ordinance, prior to the commencement of any development activity.

"Floodplain Management" means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

"Floodplain Management Regulations" means this ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power. This term describes federal, state or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

"Floodproofing" means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitation facilities, structures, and their contents.

"Flood-resistant material" means any building product [material, component or system] capable of withstanding direct and prolonged contact (minimum 72 hours) with floodwaters without sustaining damage that requires more than low-cost cosmetic repair. Any material that is water-soluble or is not resistant to alkali or acid in water, including normal adhesives for above-grade use, is not flood-resistant. Pressure-treated lumber or naturally decay-resistant lumbers are acceptable flooring materials. Sheet-type flooring coverings that restrict evaporation from below and materials that are impervious, but dimensionally unstable are not acceptable. Materials that absorb or retain water excessively after submergence are not flood-resistant. Please refer to Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements*, and available from the FEMA. Class 4 and 5 materials, referenced therein, are acceptable flood-resistant materials.

"Floodway" means the channel of a river or other watercourse, including the area above a bridge or culvert when applicable, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

"Floodway encroachment analysis" means an engineering analysis of the impact that a proposed encroachment into a floodway or non-encroachment area is expected to have on the floodway boundaries and flood levels during the occurrence of the base flood discharge. The evaluation shall be prepared by a qualified North Carolina licensed engineer using standard

engineering methods and models.

“Freeboard” means the height added to the BFE to account for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, blockage of bridge or culvert openings, and the hydrological effect of urbanization of the watershed. The BFE plus the freeboard establishes the “Regulatory Flood Protection Elevation”.

“Functionally Dependent Facility” means a facility which cannot be used for its intended purpose unless it is located in close proximity to water, limited to a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair. The term does not include long-term storage, manufacture, sales, or service facilities.

“Hazardous Waste Management Facility” means, as defined in NCGS 130A, Article 9, a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.

“Highest Adjacent Grade (HAG)” means the highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.

“Historic Structure” means any structure that is:

- (a) Listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register;
- (b) Certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (c) Individually listed on a local inventory of historic landmarks in communities with a “Certified Local Government (CLG) Program”; or
- (d) Certified as contributing to the historical significance of a historic district designated by a community with a “Certified Local Government (CLG) Program.”

Certified Local Government (CLG) Programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the State Historic Preservation Officer as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

“Letter of Map Change (LOMC)” means an official determination issued by FEMA that amends or revises an effective Flood Insurance Rate Map or Flood Insurance Study. Letters of Map Change include:

- (a) Letter of Map Amendment (LOMA): An official amendment, by letter, to an effective National Flood Insurance Program map. A LOMA is based on technical data showing that a property had been inadvertently mapped as being in the floodplain, but is actually on natural high ground above the base flood elevation. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property, portion of a property, or structure is not located in a special flood hazard area.
- (b) Letter of Map Revision (LOMR): A revision based on technical data that may show changes to flood zones, flood elevations, special flood hazard area boundaries and floodway delineations, and other planimetric features.
- (c) Letter of Map Revision Based on Fill (LOMR-F): A determination that a structure or parcel of land has been elevated by fill above the BFE and is, therefore, no longer located within the special flood hazard area. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community’s floodplain management regulations.
- (d) Conditional Letter of Map Revision (CLOMR): A formal review and comment as to whether a proposed project complies with the minimum NFIP requirements for such projects with respect to delineation of special flood hazard areas. A CLOMR does not revise the effective Flood Insurance Rate Map or Flood Insurance Study; upon submission and approval of certified as-built documentation, a Letter of Map Revision may be issued by FEMA to revise the effective FIRM.

“Light Duty Truck” means any motor vehicle rated at 8,500 pounds Gross Vehicular Weight Rating or less which has a vehicular curb weight of 6,000 pounds or less and which has a basic vehicle frontal area of 45 square feet or less as defined in 40 CFR 86.082-2 and is:

- (a) Designed primarily for purposes of transportation of property or is a derivation of such a vehicle, or
- (b) Designed primarily for transportation of persons and has a capacity of more than 12 persons; or
- (c) Available with special features enabling off-street or off-highway operation and use.

"Lowest Adjacent Grade (LAG)" means the elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

"Lowest Floor" means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or limited storage in an area other than a basement area is not considered a building's lowest floor, provided that such an enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

"Manufactured Home" means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

"Manufactured Home Park or Subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

"Market Value" means the building value, not including the land value and that of any accessory structures or other improvements on the lot. Market value may be established by independent certified appraisal; replacement cost depreciated for age of building and quality of construction (Actual Cash Value); or adjusted tax assessed values.

~~"Mean Sea Level" means, for purposes of this ordinance, the North American Vertical Datum (NAVD) as corrected in 1988, to which Base Flood Elevations (BFEs) shown on a DFIRM are referenced. North Carolina uses NAVD 1988.~~

"New Construction" means structures for which the "start of construction" commenced on or after the effective date of the initial floodplain management regulations and includes any subsequent improvements to such structures.

"Non-Conversion Agreement" means a document stating that the owner will not convert or alter what has been constructed and approved. Violation of the agreement is considered a violation of the ordinance and, therefore, subject to the same enforcement procedures and penalties. The agreement must be filed with the recorded deed for the property. The agreement must show the clerk's or recorder's stamps and/or notations that the filing has been completed. (OPTIONAL) *adopt — Agreed, should adopt.*

"Non-Encroachment Area (NEA)" means the channel of a river or other watercourse, including the area above a bridge or culvert when applicable, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot as designated in the Flood Insurance Study report.

"Post-FIRM" means construction or other development for which the "start of construction" occurred on or after insert date of community's first FIRM (OPTIONAL), the effective date of the initial Flood Insurance Rate Map.

"Pre-FIRM" means construction or other development for which the "start of construction" occurred before insert date of community's first FIRM (OPTIONAL), the effective date of the initial Flood Insurance Rate Map.

"Principally Above Ground" means that at least 51% of the actual cash value of the structure is above ground.

"Public Safety" and/or "Nuisance" means anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

"Recreational Vehicle (RV)" means a vehicle, which is:

- (a) Built on a single chassis;
- (b) 400 square feet or less when measured at the largest horizontal projection;
- (c) Designed to be self-propelled or permanently towable by a light duty truck;
- (d) Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use, and
- (e) Is fully licensed and ready for highway use.

(OPTIONAL For the purpose of this ordinance, "Tiny Homes/Houses" and Park Models that do not meet the items listed above are not considered Recreational Vehicles and should meet the standards of and be permitted as Residential Structures.)

Mobile Homes? => I would think

"Reference Level" is the top of the lowest floor for structures within Special Flood Hazard Areas designated as Zones A, AE, AH, AO, A99. The reference level is the bottom of the lowest horizontal structural member of the lowest floor for structures within Special Flood Hazard Areas designated as Zone VE.

(Alternative acceptable language for Reference Level) "Reference Level" is the bottom of the lowest horizontal structural member of the lowest floor for structures within all Special Flood Hazard Areas.

"Regulatory Flood Protection Elevation" means the "Base Flood Elevation" plus the "Freeboard". In "Special Flood Hazard Areas" where Base Flood Elevations (BFEs) have been determined, this elevation shall be the BFE *plus* Insert freeboard [two (2) feet (Two feet is the state recommended minimum)] feet *freeboard*). In "Special Flood Hazard Areas" where no BFE has been established, this elevation shall be at least Insert feet [Two (2) feet is a state-recommended minimum, greater than two (2) feet is OPTIONAL] feet above the highest adjacent grade.

"Remedy a Violation" means to bring the structure or other development into compliance with state and community floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing federal financial exposure with regard to the structure or other development.

"Riverine" means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

"Salvage Yard" means any non-residential property used for the storage, collection, and/or recycling of any type of equipment, and including but not limited to vehicles, appliances and related machinery.

"Solid Waste Disposal Facility" means any facility involved in the disposal of solid waste, as defined in NCGS 130A-290(a)(35).

"Solid Waste Disposal Site" means, as defined in NCGS 130A-290(a)(36), any place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.

"Special Flood Hazard Area (SFHA)" means the land in the floodplain subject to a one percent (1%) or greater chance of being flooded in any given year, as determined in Article 3, Section B of this ordinance.

"Start of Construction" includes substantial improvement, and means the date the building permit was issued provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

"Structure" means a walled and roofed building, a manufactured home, or a gas, liquid, or liquefied gas storage tank that is principally above ground.

"Substantial Damage" means damage of any origin sustained by a structure during any one-year period whereby the cost of

restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. See definition of "substantial improvement". *[CRS communities are eligible for up to 20 CRS points for adopting OPTIONAL Text for Substantial Damage that could include one or more of the following higher standards:]*

- ✓
D.K.
- ~~1.) By choosing a timeframe that includes cumulative damages sustained over a period of time exceeding one year period. (5 or 10 year period recommended)~~
 - ~~2.) By choosing a percent damaged that is less than 50% of the market value of the structure (CRS recommends 30 %.)~~
 - ~~3.) By adding the following text for eligibility for Increased Cost of Compliance (ICC) benefits for repetitive losses: Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.]~~

"Substantial Improvement" means any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one-year period for which the cost equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

- (a) Any correction of existing violations of state or community health, sanitary, or safety code specifications which have been identified by the community code enforcement official and which are the minimum necessary to assure safe living conditions; or
- (b) Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure and the alteration is approved by variance issued pursuant to Article 4 Section E of this ordinance.

✓
D.K.

~~*[CRS communities are eligible for up to 20 CRS points for adopting OPTIONAL Text for Substantial Damage that could include one or more of the following higher standards:]*~~

- ~~1.) By choosing a timeframe that includes cumulative damages sustained over a period of time exceeding one year period. (5 or 10 year period recommended)~~
- ~~2.) By choosing a percent damaged that is less than 50% of the market value of the structure (CRS recommends 30 %.)~~

"Technical Bulletin and Technical Fact Sheet" means a FEMA publication that provides guidance concerning the building performance standards of the NFIP, which are contained in Title 44 of the U.S. Code of Federal Regulations at Section 60.3. The bulletins and fact sheets are intended for use primarily by State and local officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders. New bulletins, as well as updates of existing bulletins, are issued periodically as needed. The bulletins do not create regulations; rather they provide specific guidance for complying with the minimum requirements of existing NFIP regulations.

It should be noted that Technical Bulletins and Technical Fact Sheets provide guidance on the minimum requirements of the NFIP regulations. State or community requirements that exceed those of the NFIP take precedence. Design professionals should contact the community officials to determine whether more restrictive State or local regulations apply to the building or site in question. All applicable standards of the State or local building code must also be met for any building in a flood hazard area. (OPTIONAL) ← removes from exception in ETJ. =? Should we adopt the optional language if it removes the exception? ✓

"Temperature Controlled" means having the temperature regulated by a heating and/or cooling system, built-in or appliance.

"Variance" is a grant of relief from the requirements of this ordinance.

"Violation" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Articles 4 and 5 is presumed to be in violation until such time as that documentation is provided.

"Water Surface Elevation (WSE)" means the height, in relation to NAVD 1988, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

“Watercourse” means a lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

ARTICLE 3. GENERAL PROVISIONS.

SECTION A. LANDS TO WHICH THIS ORDINANCE APPLIES.

This ordinance shall apply to all Special Flood Hazard Areas within the jurisdiction, *including Extra-Territorial Jurisdictions (ETJs), [if applicable]* of Community Name.

SECTION B. BASIS FOR ESTABLISHING THE SPECIAL FLOOD HAZARD AREAS.

The Special Flood Hazard Areas are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its FIS dated Insert effective date shown on FIS for County Name County and associated DFIRM panels, including any digital data developed as part of the FIS, which are adopted by reference and declared a part of this ordinance. Future revisions to the FIS and DFIRM panels that do not change flood hazard data within the jurisdictional authority of Community Name are also adopted by reference and declared a part of this ordinance. Subsequent Letter of Map Revisions (LOMRs) and/or Physical Map Revisions (PMRs) shall be adopted within 3 months.

SECTION C. ESTABLISHMENT OF FLOODPLAIN DEVELOPMENT PERMIT.

A Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities within Special Flood Hazard Areas determined in accordance with the provisions of Article 3, Section B of this ordinance.

SECTION D. COMPLIANCE.

No structure or land shall hereafter be located, extended, converted, altered, or developed in any way without full compliance with the terms of this ordinance and other applicable regulations.

SECTION E. ABROGATION AND GREATER RESTRICTIONS.

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

SECTION F. INTERPRETATION.

In the interpretation and application of this ordinance, all provisions shall be:

- (a) Considered as minimum requirements;
- (b) Liberally construed in favor of the governing body; and
- (c) Deemed neither to limit nor repeal any other powers granted under State statutes.

SECTION G. WARNING AND DISCLAIMER OF LIABILITY.

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur. Actual flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the Special Flood Hazard Areas or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of Community Name or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or

any administrative decision lawfully made hereunder.

SECTION H. PENALTIES FOR VIOLATION.

Violation of the provisions of this ordinance or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a Class 1 misdemeanor pursuant to NC G.S. § 143-215.58. . Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$100.00 or imprisoned for not more than thirty (30) days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent Community Name from taking such other lawful action as is necessary to prevent or remedy any violation.

ARTICLE 4. ADMINISTRATION.

SECTION A. DESIGNATION OF FLOODPLAIN ADMINISTRATOR.

The Staff Title, hereinafter referred to as the "Floodplain Administrator", is hereby appointed to administer and implement the provisions of this ordinance. In instances where the Floodplain Administrator receives assistance from others to complete tasks to administer and implement this ordinance, the Floodplain Administrator shall be responsible for the coordination and community's overall compliance with the National Flood Insurance Program and the provisions of this ordinance.

SECTION B. FLOODPLAIN DEVELOPMENT APPLICATION, PERMIT AND CERTIFICATION REQUIREMENTS.

- (1) **Application Requirements.** Application for a Floodplain Development Permit shall be made to the Floodplain Administrator prior to any development activities located within Special Flood Hazard Areas. The following items shall be presented to the Floodplain Administrator to apply for a floodplain development permit:
 - (a) A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:
 - (i) The nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, utility systems, grading/pavement areas, fill materials, storage areas, drainage facilities, and other development;
 - (ii) The boundary of the Special Flood Hazard Area as delineated on the FIRM or other flood map as determined in Article 3, Section B, or a statement that the entire lot is within the Special Flood Hazard Area;
 - (iii) Flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Article 3, Section B;
 - (iv) The boundary of the floodway(s) or non-encroachment area(s) as determined in Article 3, Section B;
 - (v) The Base Flood Elevation (BFE) where provided as set forth in Article 3, Section B; Article 4, Section C; or Article 5, Section D;
 - (vi) The old and new location of any watercourse that will be altered or relocated as a result of proposed development; and
 - (vii) *The certification of the plot plan by a registered land surveyor or professional engineer. (OPTIONAL)*
 - (b) Proposed elevation, and method thereof, of all development within a Special Flood Hazard Area including but not limited to:
 - (i) Elevation in relation to **NAVD 1988** of the proposed reference level (including basement) of all

structures;

- (ii) Elevation in relation to [NAVD 1988](#) to which any non-residential structure in Zones A, AE, AH, AO, A99 will be floodproofed; and
 - (iii) Elevation in relation to [NAVD 1988](#) to which any proposed utility systems will be elevated or floodproofed.
- (c) If floodproofing, a Floodproofing Certificate (FEMA Form 086-0-34) with supporting data, an operational plan, and an inspection and maintenance plan that include, but are not limited to, installation, exercise, and maintenance of floodproofing measures.
 - (d) A Foundation Plan, drawn to scale, which shall include details of the proposed foundation system to ensure all provisions of this ordinance are met. These details include but are not limited to:
 - (i) The proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls); and
 - (ii) Openings to facilitate automatic equalization of hydrostatic flood forces on walls in accordance with Article 5, Section B(4)(d) when solid foundation perimeter walls are used in Zones A, AE, AH, AO, A99.
 - (e) Usage details of any enclosed areas below the lowest floor.
 - (f) Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage.
 - (g) Certification that all other Local, State and Federal permits required prior to floodplain development permit issuance have been received.
 - (h) Documentation for placement of Recreational Vehicles and/or Temporary Structures, when applicable, to ensure that the provisions of Article 5, Section B, subsections (6) and (7) of this ordinance are met.
 - (i) A description of proposed watercourse alteration or relocation, when applicable, including an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation.
- (2) **Permit Requirements.** The Floodplain Development Permit shall include, but not be limited to:
- (a) [A complete description of all the development to be permitted under the floodplain development permit \(e.g. house, garage, pool, septic, bulkhead, cabana, pier, bridge, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials, etc.\).](#)
 - (b) The Special Flood Hazard Area determination for the proposed development in accordance with available data specified in Article 3, Section B.
 - (c) The Regulatory Flood Protection Elevation required for the reference level and all attendant utilities.
 - (d) The Regulatory Flood Protection Elevation required for the protection of all public utilities.
 - (e) All certification submittal requirements with timelines.
 - (f) [A statement that no fill material or other development shall encroach into the floodway or non-encroachment area of any watercourse unless the requirements of Article 5, Section F have been met.](#)
 - (g) The flood openings requirements, if in Zones A, AE, AH, AO, A99.

(h) Limitations of below BFE enclosure uses (if applicable). (i.e., parking, building access and limited storage only). (OPTIONAL) *clearly defines restrictions*

(i) A statement, that all materials below BFE/RFPE must be flood resistant materials. (OPTIONAL) *Life ✓*

(3) **Certification Requirements.**

(a) Elevation Certificates

one of these is good
two restrictions
not necessary
(i) An Elevation Certificate (FEMA Form 086-0-33) is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, in relation to NAVD 1988. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder prior to the beginning of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit. (STATE RECOMMENDED BUT OPTIONAL)

(ii) An Elevation Certificate (FEMA Form 086-0-33) is required after the reference level is established. Within seven (7) calendar days of establishment of the reference level elevation, it shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, in relation to NAVD 1988. Any work done within the seven (7) day calendar period and prior to submission of the certification shall be at the permit holder's risk. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further work being permitted to proceed. Failure to submit the certification or failure to make required corrections shall be cause to issue a stop-work order for the project. (STATE RECOMMENDED BUT OPTIONAL)

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(iii) A final Finished Construction Elevation Certificate (FEMA Form 086-0-33) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy. The Finished Construction Elevation Certificate certifier shall provide at least 2 photographs showing the front and rear of the building taken within 90 days from the date of certification. The photographs must be taken with views confirming the building description and diagram number provided in Section A. To the extent possible, these photographs should show the entire building including foundation. If the building has split-level or multi-level areas, provide at least 2 additional photographs showing side views of the building. In addition, when applicable, provide a photograph of the foundation showing a representative example of the flood openings or vents. All photographs must be in color and measure at least 3" x 3". Digital photographs are acceptable. (OPTIONAL) (THE FEMA ELEVATION CERTIFICATE IS OPTIONAL FOR FLOODPLAIN MANAGEMENT ELEVATION DATA, BUT RECOMMENDED. THE USE OF THE FEMA ELEVATION CERTIFICATE IS REQUIRED FOR THE PURCHASE OF FLOOD INSURANCE AND MANDATORY FOR CRS PARTICIPATION, AND THIS LANGUAGE SHOULD BE INCLUDED IN ITS ENTIRETY.)

(b) Floodproofing Certificate

Why are you not wanting this included?
(i) If non-residential floodproofing is used to meet the Regulatory Flood Protection Elevation requirements, a Floodproofing Certificate (FEMA Form 086-0-34), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data, the

operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy. *(OPTIONAL) (THE FEMA FLOODPROOFING CERTIFICATE IS OPTIONAL AT THE TIME OF PERMITTING THE STRUCTURE BUT RECOMMENDED TO ENSURE COMPLIANCE WITH THIS ORDINANCE AND PROPERLY PERMIT THE STRUCTURE.)*

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- (ii) A final Finished Construction Floodproofing Certificate (FEMA Form 086-0-34), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the issuance of a Certificate of Compliance/Occupancy. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988. Floodproofing certificate shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to Certificate of Occupancy. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. Failure to construct in accordance with the certified design shall be cause to deny a Certificate of Compliance/Occupancy.
- (c) If a manufactured home is placed within Zones A, AE, AH, AO, A99 and the elevation of the chassis is more than 36 inches in height above grade, an engineered foundation certification is required in accordance with the provisions of Article 5, Section B(3)(b).
- (d) If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; a professional engineer's certified report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a floodplain development permit.
- (e) Certification Exemptions. The following structures, if located within Zones A, AE, AH, AO, A99, are exempt from the elevation/floodproofing certification requirements specified in items (a) and (b) of this subsection:
 - (i) Recreational Vehicles meeting requirements of Article 5, Section B(6)(a);
 - (ii) Temporary Structures meeting requirements of Article 5, Section B(7); and
 - (iii) Accessory Structures that are Insert square foot (150 recommended) square feet or less or Insert Cost of Structure ((\$3,000 recommended) or less and meeting requirements of Article 5, Section B(8).

(4) Determinations for existing buildings and structures.

For applications for building permits to improve buildings and structures, including alterations, movement, enlargement, replacement, repair, change of occupancy, additions, rehabilitations, renovations, substantial improvements, repairs of substantial damage, and any other improvement of or work on such buildings and structures, the Floodplain Administrator, in coordination with the Building Official, shall:

- (a) Estimate the market value, or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building or structure before the start of construction of the proposed work; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made;
- (b) Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure;
- (c) Determine and document whether the proposed work constitutes substantial improvement or repair of


substantial damage; and

- ✓ (d) Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the NC Building Code and this ordinance is required.

SECTION C. DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR.

The Floodplain Administrator shall perform, but not be limited to, the following duties:

- (1) Review all floodplain development applications and issue permits for all proposed development within Special Flood Hazard Areas to assure that the requirements of this ordinance have been satisfied.
- (2) Review all proposed development within Special Flood Hazard Areas to assure that all necessary local, state and federal permits have been received, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
- (3) Notify adjacent communities and the North Carolina Department of Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).
- (4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is maintained.
- (5) Prevent encroachments into floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of Article 5, Section F are met.
- (6) Obtain actual elevation (in relation to NAVD 1988) of the reference level (including basement) and all attendant utilities of all new and substantially improved structures, in accordance with the provisions of Article 4, Section B(3).
- (7) Obtain actual elevation (in relation to NAVD 1988) to which all new and substantially improved structures and utilities have been floodproofed, in accordance with the provisions of Article 4, Section B(3).
- (8) Obtain actual elevation (in relation to NAVD 1988) of all public utilities in accordance with the provisions of Article 4, Section B(3).
- (9) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with the provisions of Article 4, Section B(3) and Article 5, Section B(2).
- (10) Where interpretation is needed as to the exact location of boundaries of the Special Flood Hazard Areas, floodways, or non-encroachment areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.
- (11) When BFE data has not been provided in accordance with the provisions of Article 3, Section B, obtain, review, and reasonably utilize any BFE data, along with floodway data or non-encroachment area data available from a federal, state, or other source, including data developed pursuant to Article 5, Section D(2)(c), in order to administer the provisions of this ordinance.
- (12) When BFE data is provided but no floodway or non-encroachment area data has been provided in accordance with the provisions of Article 3, Section B, obtain, review, and reasonably utilize any floodway data or non-encroachment area data available from a federal, state, or other source in order to administer the provisions of this ordinance.

- (13) *When the lowest floor and the lowest adjacent grade of a structure or the lowest ground elevation of a parcel in a Special Flood Hazard Area is above the BFE, advise the property owner of the option to apply for a Letter of Map Amendment (LOMA) from FEMA. Maintain a copy of the LOMA issued by FEMA in the floodplain development permit file. (OPTIONAL)*
- (14) Permanently maintain all records that pertain to the administration of this ordinance and make these records available for public inspection, recognizing that such information may be subject to the Privacy Act of 1974, as amended.
- (15) Make on-site inspections of work in progress. As the work pursuant to a floodplain development permit progresses, the Floodplain Administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the Floodplain Administrator has a right, upon presentation of proper credentials, to enter on any premises within the jurisdiction of the community at any reasonable hour for the purposes of inspection or other enforcement action.
- (16) Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance, the Floodplain Administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing or in charge of the work. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.
- (17) Revoke floodplain development permits as required. The Floodplain Administrator may revoke and require the return of the floodplain development permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, and specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any floodplain development permit mistakenly issued in violation of an applicable State or local law may also be revoked.
- (18) Make periodic inspections throughout the Special Flood Hazard Areas within the jurisdiction of the community. The Floodplain Administrator and each member of his or her inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement action.
- (19) Follow through with corrective procedures of Article 4, Section D.
- (20) Review, provide input, and make recommendations for variance requests.
-  (21) **Maintain a current map repository to include, but not limited to, historical and effective FIS Report, historical and effective FIRM and other official flood maps and studies adopted in accordance with the provisions of Article 3, Section B of this ordinance, including any revisions thereto including Letters of Map Change, issued by FEMA. Notify State and FEMA of mapping needs.**
- (22) Coordinate revisions to FIS reports and FIRMs, including Letters of Map Revision Based on Fill (LOMR-Fs) and Letters of Map Revision (LOMRs).

SECTION D. CORRECTIVE PROCEDURES.

- (1) Violations to be corrected: When the Floodplain Administrator finds violations of applicable state and local laws; it shall be his or her duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law cited in such notification.
- (2) Actions in Event of Failure to Take Corrective Action: If the owner of a building or property shall fail to take prompt corrective action, the Floodplain Administrator shall give the owner written notice, by certified or registered mail to the owner's last known address or by personal service, stating:
- (a) That the building or property is in violation of the floodplain management regulations;
 - (b) That a hearing will be held before the Floodplain Administrator at a designated place and time, not later than ten

(10) days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and

(c) That following the hearing, the Floodplain Administrator may issue an order to alter, vacate, or demolish the building; or to remove fill as applicable.

(3) Order to Take Corrective Action: If, upon a hearing held pursuant to the notice prescribed above, the Floodplain Administrator shall find that the building or development is in violation of the Flood Damage Prevention Ordinance, he or she shall issue an order in writing to the owner, requiring the owner to remedy the violation within a specified time period, not less than sixty (60) calendar days, nor more than least Insert Calendar Days (One-hundred-eighty (180) calendar days or less is recommended) calendar days. Where the Floodplain Administrator finds that there is imminent danger to life or other property, he or she may order that corrective action be taken in such lesser period as may be feasible.

(4) Appeal: Any owner who has received an order to take corrective action may appeal the order to the local elected governing body by giving notice of appeal in writing to the Floodplain Administrator and the clerk within ten (10) days following issuance of the final order. In the absence of an appeal, the order of the Floodplain Administrator shall be final. The local governing body shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

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Failure to Comply with Order: If the owner of a building or property fails to comply with an order to take corrective action for which no appeal has been made or fails to comply with an order of the governing body following an appeal, the owner shall be guilty of a Class 1 misdemeanor pursuant to NC G.S. § 143-215.58 and shall be punished at the discretion of the court.

SECTION E. VARIANCE PROCEDURES.

(1) The Insert appeal board name (The Board of Adjustment is the recommended appeal board) as established by Community Name, hereinafter referred to as the "appeal board", shall hear and decide requests for variances from the requirements of this ordinance.

(2) Any person aggrieved by the decision of the appeal board may appeal such decision to the Court, as provided in Chapter 7A of the North Carolina General Statutes.

(3) Variances may be issued for:

(a) The repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure;

(b) Functionally dependent facilities if determined to meet the definition as stated in Article 2 of this ordinance, provided provisions of Article 4, Section E(9)(b), (c), and (e) have been satisfied, and such facilities are protected by methods that minimize flood damages during the base flood and create no additional threats to public safety; or

(c) Any other type of development provided it meets the requirements of this Section.

(4) In passing upon variances, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:

(a) The danger that materials may be swept onto other lands to the injury of others;

(b) The danger to life and property due to flooding or erosion damage;

(c) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

- (d) The importance of the services provided by the proposed facility to the community;
 - (e) The necessity to the facility of a waterfront location as defined under Article 2 of this ordinance as a functionally dependent facility, where applicable;
 - (f) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - (g) The compatibility of the proposed use with existing and anticipated development;
 - (h) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 - (i) The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - (j) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and
 - (k) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.
- (5) A written report addressing each of the above factors shall be submitted with the application for a variance.
- (6) Upon consideration of the factors listed above and the purposes of this ordinance, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes and objectives of this ordinance.
- (7) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the BFE and the elevation to which the structure is to be built and that such construction below the BFE increases risks to life and property, and that the issuance of a variance to construct a structure below the BFE may result in increased premium rates for flood insurance up to \$25 per \$100 of insurance coverage. Such notification shall be maintained with a record of all variance actions, including justification for their issuance.
- (8) The Floodplain Administrator shall maintain the records of all appeal actions and report any variances to the FEMA and the State of North Carolina upon request.
- (9) Conditions for Variances:
- (a) Variances shall not be issued when the variance will make the structure in violation of other federal, state, or local laws, regulations, or ordinances.
 - (b) Variances shall not be issued within any designated floodway or non-encroachment area if the variance would result in any increase in flood levels during the base flood discharge.
 - (c) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (d) Variances shall only be issued prior to development permit approval.
 - (e) Variances shall only be issued upon:
 - (i) A showing of good and sufficient cause;
 - (ii) A determination that failure to grant the variance would result in exceptional hardship; and
 - (iii) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

- (10) A variance may be issued for solid waste disposal facilities or sites, hazardous waste management facilities, salvage yards, and chemical storage facilities that are located in Special Flood Hazard Areas provided that all of the following conditions are met.
- (a) The use serves a critical need in the community.
 - (b) No feasible location exists for the use outside the Special Flood Hazard Area.
 - (c) The reference level of any structure is elevated or floodproofed to at least the Regulatory Flood Protection Elevation.
 - (d) The use complies with all other applicable federal, state and local laws.
 - (e) The Community Name has notified the Secretary of the North Carolina Department of Public Safety of its intention to grant a variance at least thirty (30) calendar days prior to granting the variance.

ARTICLE 5. PROVISIONS FOR FLOOD HAZARD REDUCTION.

SECTION A. GENERAL STANDARDS.

In all Special Flood Hazard Areas the following provisions are required:

- ✓ (1) All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure.
- ✓ (2) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage in accordance with the FEMA Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements*.
- ✓ (3) All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.
- ✓ (4) All new electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall be located at or above the RFPE or designed and installed to prevent water from entering or accumulating within the components during the occurrence of the base flood. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, hot water heaters, and electric outlets/switches.
 - ✓ (a) Replacements part of a substantial improvement, electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall also meet the above provisions.
 - (b) Replacements that are for maintenance and not part of a substantial improvement, may be installed at the original location provided the addition and/or improvements only comply with the standards for new construction consistent with the code and requirements for the original structure.
- ✓ (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- ✓ (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into flood waters.
- ✓ (7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- ~~(8) Any alteration, repair, reconstruction, or improvements to a structure, which is in compliance with the provisions of this ordinance, shall meet the requirements of "new construction" as contained in this ordinance.~~

- (8) Nothing in this ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the Regulatory Flood Protection Elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.
- (9) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in Article 4, Section E(10). A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the Regulatory Flood Protection Elevation and certified in accordance with the provisions of Article 4, Section B(3).
- (10) All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.
- (11) All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- (12) All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.
- (13) All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by federal or state law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
- (14) When a structure is partially located in a Special Flood Hazard Area, the entire structure shall meet the requirements for new construction and substantial improvements.
- (15) When a structure is located in multiple flood hazard zones or in a flood hazard risk zone with multiple base flood elevations, the provisions for the more restrictive flood hazard risk zone and the highest BFE shall apply.
- (16) Fill is prohibited in the SFHA, including construction of buildings on fill. This includes not approving Conditional Letters or Letters of Map Revision - Based on Fill (CLOMR-F or LOMR-F). (maximum 280 CRS points possible) (OPTIONAL) Note: This should be consistent with Article 5, Section G (11)(e) in coastal areas.

SECTION B. SPECIFIC STANDARDS.

In all Special Flood Hazard Areas where BFE data has been provided, as set forth in Article 3, Section B, or Article 5, Section D, the following provisions, in addition to the provisions of Article 5, Section A, are required:

- (1) Residential Construction. New construction and substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in Article 2 of this ordinance.
- (2) Non-Residential Construction. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in Article 2 of this ordinance. Structures located in Zones A, AE, AH, AO, A99 may be floodproofed to the Regulatory Flood Protection Elevation in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the Regulatory Flood Protection Elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. For AO Zones, the floodproofing elevation shall be in accordance with Article 5, Section I (2). A registered professional engineer or architect shall certify that the floodproofing standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Article 4, Section B(3), along with the operational plan and the inspection and maintenance plan.

(3) Manufactured Homes.

- (a) New and replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the Regulatory Flood Protection Elevation, as defined in Article 2 of this ordinance.
- (b) Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by certified engineered foundation system, or in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.
- (c) All enclosures or skirting below the lowest floor shall meet the requirements of Article 5, Section B(4).
- (d) An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the Floodplain Administrator and the local Emergency Management Coordinator.

(4) Elevated Buildings. Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor:

- ✓ (a) Shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;

- ✓ (b) Shall not be temperature-controlled or conditioned; *good idea ...* (OPTIONAL, strongly encouraged)

- (c) Shall be constructed entirely of flood resistant materials at least to the Regulatory Flood Protection Elevation; and

- (d) Shall include, in Zones A, AE, AH, AO, A99 flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the following minimum design criteria:

- (i) A minimum of two flood openings on different sides of each enclosed area subject to flooding;
- (ii) The total net area of all flood openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding;
- (iii) If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;
- (iv) The bottom of all required flood openings shall be no higher than one (1) foot above the higher of the interior or exterior adjacent grade;
- (v) Flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and
- (vi) Enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings as outlined above.

- (f) Fill/Grading (OPTIONAL)

(i) Fill is prohibited in the SFHA (maximum 280 CRS points possible) (OPTIONAL) Note: this should be consistent with Article 5, Section A(17).

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(g) Property owners shall be required to execute and record a non-conversion agreement prior to issuance of a building permit declaring that the area below the lowest floor shall not be improved, finished or otherwise converted to habitable space (30 CRS points); Community Name will have the right to inspect the enclosed area (30 CRS points). Community Name will conduct annual inspections. (30 CRS points). This agreement shall be recorded with the County Name County Register of Deeds and shall transfer with the property in perpetuity. (OPTIONAL for a maximum total of 90 CRS points)

(h) Release of restrictive covenant. If a property which is bound by a non-conversion agreement is modified to remove enclosed areas below BFE, then the owner may request release of restrictive covenant after staff inspection and submittal of confirming documentation. (OPTIONAL)

(5) Additions/Improvements.

(a) Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

✓ (i) Not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and *must not be any more non-conforming than the existing structure.* (non-conforming language is OPTIONAL). *probably a good idea - permits equal non-conf.*

(ii) A substantial improvement, with modifications/rehabilitations/improvements to the existing structure or the common wall is structurally modified more than installing a doorway, both the existing structure and the addition must comply with the standards for new construction.

(b) Additions to pre-FIRM or post-FIRM structures that are a substantial improvement with no modifications/rehabilitations/improvements to the existing structure other than a standard door in the common wall, shall require only the addition to comply with the standards for new construction.

(c) Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

(i) Not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction consistent with the code and requirements for the original structure.

(ii) A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.

✓ (d) Any combination of repair, reconstruction, rehabilitation, addition or improvement of a building or structure taking place during a Insert number of years (One (1) year minimum is required) year period, the cumulative cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started must comply with the standards for new construction. For each building or structure, the Insert number of years (One (1) year minimum is required) year period begins on the date of the first improvement or repair of that building or structure subsequent to the effective date of this ordinance. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred. (The repetitive loss portion is OPTIONAL, but will be required for flood insurance policy holders to be eligible for Increased Cost of Compliance (ICC) benefits for repetitive losses.) If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The requirement does not, however, include either:

(i) Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assume safe living conditions.

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- (ii) Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

(6) Recreational Vehicles. Recreational vehicles shall either:

(a) Temporary Placement

- (i) Be on site for fewer than 180 consecutive days; or
- (ii) Be fully licensed and ready for highway use. (A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions.)

(b) Permanent Placement. Recreational vehicles that do not meet the limitations of Temporary Placement shall meet all the requirements for new construction.

(7) Temporary Non-Residential Structures. Prior to the issuance of a floodplain development permit for a temporary structure, the applicant must submit to the Floodplain Administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the Floodplain Administrator for review and written approval:

- (a) A specified time period for which the temporary use will be permitted. Time specified may not exceed three (3) months, renewable up to one (1) year;
- (b) The name, address, and phone number of the individual responsible for the removal of the temporary structure;
- (c) The time frame prior to the event at which a structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);
- (d) A copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and
- (e) Designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.

(8) Accessory Structures. When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area, the following criteria shall be met:

- (a) Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);
- (b) Accessory structures shall not be temperature-controlled;
- (c) Accessory structures shall be designed to have low flood damage potential;
- (d) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
- (e) Accessory structures shall be firmly anchored in accordance with the provisions of Article 5, Section A(1);
- (f) All service facilities such as electrical shall be installed in accordance with the provisions of Article 5, Section A(4); and
- (g) Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below Regulatory Flood Protection Elevation in conformance with the provisions of Article 5, Section B(4)(d).

An accessory structure with a footprint less than Insert square foot (150 recommended) or that is a minimal investment

of Insert Cost of Structure ((\$3,000 recommended) or less and satisfies the criteria outlined above is not required to meet the elevation or floodproofing standards of Article 5, Section B (2). Elevation or floodproofing certifications are required for all other accessory structures in accordance with Article 4, Section B(3).

(9) Tanks. When gas and liquid storage tanks are to be placed within a Special Flood Hazard Area, the following criteria shall be met:

- (a) Underground tanks. Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads during conditions of the design flood, including the effects of buoyancy assuming the tank is empty;
- (b) Above-ground tanks, elevated. Above-ground tanks in flood hazard areas shall be elevated to or above the Regulatory Flood Protection Elevation on a supporting structure that is designed to prevent flotation, collapse or lateral movement during conditions of the design flood. Tank-supporting structures shall meet the foundation requirements of the applicable flood hazard area;
- (c) Above-ground tanks, not elevated. Above-ground tanks that do not meet the elevation requirements of Section B (2) of this ordinance shall be permitted in flood hazard areas provided the tanks are designed, constructed, installed, and anchored to resist all flood-related and other loads, including the effects of buoyancy, during conditions of the design flood and without release of contents in the floodwaters or infiltration by floodwaters into the tanks. Tanks shall be designed, constructed, installed, and anchored to resist the potential buoyant and other flood forces acting on an empty tank during design flood conditions.
- (d) Tank inlets and vents. Tank inlets, fill openings, outlets and vents shall be:
- (i) At or above the Regulatory Flood Protection Elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the design flood; and
- (ii) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the design flood.

(10) Other Development.

- (a) Fences in regulated floodways and NEAs that have the potential to block the passage of floodwaters, such as stockade fences and wire mesh fences, shall meet the limitations of Article 5, Section F of this ordinance.
- (b) Retaining walls, sidewalks and driveways in regulated floodways and NEAs. Retaining walls and sidewalks and driveways that involve the placement of fill in regulated floodways shall meet the limitations of Article 5, Section F of this ordinance.
- (c) Roads and watercourse crossings in regulated floodways and NEAs. Roads and watercourse crossings, including roads, bridges, culverts, low-water crossings and similar means for vehicles or pedestrians to travel from one side of a watercourse to the other side, that encroach into regulated floodways shall meet the limitations of Article 5, Section F of this ordinance.

SECTION C. RESERVED.

SECTION D. STANDARDS FOR FLOODPLAINS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS.

Within the Special Flood Hazard Areas designated as Approximate Zone A and established in Article 3, Section B, where no BFE data has been provided by FEMA, the following provisions, in addition to the provisions of Article 5, Section A, shall apply:

- (1) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty (20) feet each side from top of bank or five times the width of the stream, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided

demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

- (2) The BFE used in determining the Regulatory Flood Protection Elevation shall be determined based on the following criteria:
 - (a) When BFE data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this ordinance and shall be elevated or floodproofed in accordance with standards in Article 5, Sections A and B.
 - (b) When floodway or non-encroachment data is available from a Federal, State, or other source, all new construction and substantial improvements within floodway and non-encroachment areas shall also comply with the requirements of Article 5, Sections B and F.
 - (c) All subdivision, manufactured home park and other development proposals shall provide BFE data if development is greater than five (5) acres or has more than fifty (50) lots/manufactured home sites. Such BFE data shall be adopted by reference in accordance with Article 3, Section B and utilized in implementing this ordinance.
 - (d) When BFE data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated or floodproofed (nonresidential) to or above the Regulatory Flood Protection Elevation, as defined in Article 2. All other applicable provisions of Article 5, Section B shall also apply.

SECTION E. STANDARDS FOR RIVERINE FLOODPLAINS WITH BASE FLOOD ELEVATIONS BUT WITHOUT ESTABLISHED FLOODWAYS OR NON-ENCROACHMENT AREAS.

Along rivers and streams where BFE data is provided by FEMA or is available from another source but neither floodway nor non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS report, the following requirements shall apply to all development within such areas:

- (1) Standards of Article 5, Sections A and B; and
- (2) Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the community.

SECTION F. FLOODWAYS AND NON-ENCROACHMENT AREAS.

Areas designated as floodways or non-encroachment areas are located within the Special Flood Hazard Areas established in Article 3, Section B. The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in Article 5, Sections A and B, shall apply to all development within such areas:

- (1) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless:
 - (a) It is demonstrated that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood discharge, based on hydrologic and hydraulic analyses performed in accordance with standard engineering practice and presented to the Floodplain Administrator prior to issuance of floodplain development permit; or
 - (b) A Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A Letter of Map Revision (LOMR) must also be obtained within six months of completion of the proposed encroachment.

- (2) If Article 5, Section F(1) is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this ordinance.
- (3) Manufactured homes may be permitted provided the following provisions are met:
 - (a) The anchoring and the elevation standards of Article 5, Section B(3); and
 - (b) The encroachment standards of Article 5, Section F(1).

SECTION G. STANDARDS FOR AREAS OF SHALLOW FLOODING (ZONE AO).

Located within the Special Flood Hazard Areas established in Article 3, Section B, are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. In addition to Article 5, Sections A and B, all new construction and substantial improvements shall meet the following requirements:

- (1) The reference level shall be elevated at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM), in feet, plus a freeboard of Insert freeboard [two (2), (feet of freeboard selected for Regulatory Flood Protection Elevation definition)] feet, above the highest adjacent grade; or at least Insert feet [Two (2), (A minimum of two (2) feet is required and four (4) feet is recommended where a depth is not provided)] feet above the highest adjacent grade if no depth number is specified.
- (2) Non-residential structures may, in lieu of elevation, be floodproofed to the same level as required in Article 5, Section I(1) so that the structure, together with attendant utility and sanitary facilities, below that level shall be watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required in accordance with Article 4, Section B(3) and Article 5, Section B(2).
- (3) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

SECTION H. STANDARDS FOR AREAS OF SHALLOW FLOODING (ZONE AH).

Located within the Special Flood Hazard Areas established in Article 3, Section B, are areas designated as shallow flooding areas. These areas are subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are one (1) to three (3) feet. Base Flood Elevations are derived from detailed hydraulic analyses are shown in this zone. In addition to Article 5, Sections A and B, all new construction and substantial improvements shall meet the following requirements:

- (1) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

ARTICLE 6. LEGAL STATUS PROVISIONS.

SECTION A. EFFECT ON RIGHTS AND LIABILITIES UNDER THE EXISTING FLOOD DAMAGE PREVENTION ORDINANCE.

This ordinance in part comes forward by re-enactment of some of the provisions of the Flood Damage Prevention Ordinance enacted insert adoption date of the community's initial Flood Damage Prevention Ordinance as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued thereunder are reserved and may be enforced. The enactment of this ordinance shall not affect any action, suit or proceeding instituted or pending. All provisions of the Flood Damage Prevention Ordinance of Community Name enacted on insert adoption date of the community's initial Flood Damage Prevention Ordinance, as amended, which are not reenacted herein are repealed.

Municipal: The date of the initial Flood Damage Prevention Ordinance for County Name County is insert adoption date of the community's initial Flood Damage Prevention Ordinance.

County: The date of the initial Flood Damage Prevention Ordinance for each municipal jurisdiction within County Name County is as follows:

List each municipality within the County with its initial ordinance date. ✓

SECTION B. EFFECT UPON OUTSTANDING FLOODPLAIN DEVELOPMENT PERMITS.

Nothing herein contained shall require any change in the plans, construction, size, or designated use of any development or any part thereof for which a floodplain development permit has been granted by the Floodplain Administrator or his or her authorized agents before the time of passage of this ordinance; provided, however, that when construction is not begun under such outstanding permit within a period of six (6) months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this ordinance.

SECTION C. SEVERABILITY. ✓

If any section, clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.

SECTION D. EFFECTIVE DATE.

This ordinance shall become effective insert upon adoption or a specific date.

SECTION E. ADOPTION CERTIFICATION.

I hereby certify that this is a true and correct copy of the Flood Damage Prevention Ordinance as adopted by the governing body of Community Name, North Carolina, on the Day (number or text) day of Month, Year.

WITNESS my hand and the official seal of insert Name, Title, this the Day (number or text) day of Month, Year.

(signature)

ARTICLE IX. FLOOD DAMAGE PREVENTION ORDINANCE

ARTICLE 9.1 STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES.

SECTION 10.361 STATUTORY AUTHORIZATION.

Municipal: The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3, 5, and 8 of Article 19 of Chapter 160A; and Article 8 of Chapter 160A of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare.

County: The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3 and 4 of Article 18 of Chapter 153A; and Part 121, Article 6 of Chapter 153A of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare.

Therefore, the City Council of the City of Graham, North Carolina, does ordain as follows:

SECTION 10.362 FINDINGS OF FACT.

- (1) The flood prone areas within the jurisdiction of the City of Graham are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
- (2) These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities and by the occupancy in flood prone areas of uses vulnerable to floods or other hazards.

SECTION 10.363 STATEMENT OF PURPOSE.

It is the purpose of this ordinance to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions within flood prone areas by provisions designed to:

- (1) Restrict or prohibit uses that are dangerous to health, safety, and property due to water or erosion hazards or that result in damaging increases in erosion, flood heights or velocities;
- (2) Require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;
- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters;
- (4) Control filling, grading, dredging, and all other development that may increase erosion or flood damage; and
- (5) Prevent or regulate the construction of flood barriers that will unnaturally divert flood waters or which may increase flood hazards to other lands.

SECTION 10.364 OBJECTIVES.

The objectives of this ordinance are to:

- (1) Protect human life, safety, and health;

- (2) Minimize expenditure of public money for costly flood control projects;
- (3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) Minimize prolonged business losses and interruptions;
- (5) Minimize damage to public facilities and utilities (i.e. water and gas mains, electric, telephone, cable and sewer lines, streets, and bridges) that are located in flood prone areas;
- (6) Minimize damage to private and public property due to flooding;
- (7) Make flood insurance available to the community through the National Flood Insurance Program;
- (8) Maintain the natural and beneficial functions of floodplains;
- (9) Help maintain a stable tax base by providing for the sound use and development of flood prone areas; and
- (10) Ensure that potential buyers are aware that property is in a Special Flood Hazard Area.

ARTICLE 9.2 DEFINITIONS.

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance it's most reasonable application.

"Accessory Structure (Appurtenant Structure)" means a structure located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common urban accessory structures. Pole barns, hay sheds and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building.

"Addition (to an existing building)" means an extension or increase in the floor area or height of a building or structure.

"Alteration of a watercourse" means a dam, impoundment, channel relocation, change in channel alignment, channelization, or change in cross-sectional area of the channel or the channel capacity, or any other form of modification which may alter, impede, retard or change the direction and/or velocity of the riverine flow of water during conditions of the base flood.

"Appeal" means a request for a review of the Floodplain Administrator's interpretation of any provision of this ordinance.

"Area of Shallow Flooding" means a designated Zone AO on a community's Flood Insurance Rate Map (FIRM) with base flood depths determined to be from one (1) to three (3) feet. These areas are located where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

"Area of Special Flood Hazard" see "Special Flood Hazard Area (SFHA)".

"Base Flood" means the flood having a one (1) percent chance of being equaled or exceeded in any given year.

"Base Flood Elevation (BFE)" means a determination of the water surface elevations of the base flood as published in the Flood Insurance Study. When the BFE has not been provided in a "Special Flood Hazard Area", it may be obtained from engineering studies available from a Federal, State, or other source using FEMA approved engineering methodologies. This elevation, when combined with the "Freeboard", establishes the "Regulatory Flood Protection Elevation".

"Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

"Building" see "Structure".

"Chemical Storage Facility" means a building, portion of a building, or exterior area adjacent to a building used for the storage

of any chemical or chemically reactive products.

“Design Flood”: See “Regulatory Flood Protection Elevation.”

“Development” means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

“Development Activity” means any activity defined as Development which will necessitate a Floodplain Development Permit. This includes buildings, structures, and non-structural items, including (but not limited to) fill, bulkheads, piers, pools, docks, landings, ramps, and erosion control/stabilization measures.

“Digital Flood Insurance Rate Map (DFIRM)” means the digital official map of a community, issued by the Federal Emergency Management Agency (FEMA), on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.

“Disposal” means, as defined in NCGS 130A-290(a)(6), the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

“Elevated Building” means a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

“Encroachment” means the advance or infringement of uses, fill, excavation, buildings, structures or development into a special flood hazard area, which may impede or alter the flow capacity of a floodplain.

“Existing building and existing structure” means any building and/or structure for which the “start of construction” commenced before the 5th day of August, 1980.

“Existing Manufactured Home Park or Manufactured Home Subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before the initial effective date of the floodplain management regulations adopted by the community.

“Flood” or “Flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (a) The overflow of inland or tidal waters; and/or
- (b) The unusual and rapid accumulation or runoff of surface waters from any source.

“Flood Boundary and Floodway Map (FBFM)” means an official map of a community, issued by the FEMA, on which the Special Flood Hazard Areas and the floodways are delineated. This official map is a supplement to and shall be used in conjunction with the Flood Insurance Rate Map (FIRM).

“Flood Hazard Boundary Map (FHBM)” means an official map of a community, issued by the FEMA, where the boundaries of the Special Flood Hazard Areas have been defined as Zone A.

“Flood Insurance” means the insurance coverage provided under the National Flood Insurance Program.

“Flood Insurance Rate Map (FIRM)” means an official map of a community, issued by the FEMA, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated. (see also DFIRM)

“Flood Insurance Study (FIS)” means an examination, evaluation, and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data in a community issued by the FEMA. The Flood Insurance Study report includes Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), if published.

“Flood Prone Area” see “Floodplain”

“Flood Zone” means a geographical area shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.

“Floodplain” means any land area susceptible to being inundated by water from any source.

“Floodplain Administrator” is the individual appointed to administer and enforce the floodplain management regulations.

“Floodplain Development Permit” means any type of permit that is required in conformance with the provisions of this ordinance, prior to the commencement of any development activity.

“Floodplain Management” means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

“Floodplain Management Regulations” means this ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power. This term describes federal, state or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

“Floodproofing” means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitation facilities, structures, and their contents.

“Flood-resistant material” means any building product [material, component or system] capable of withstanding direct and prolonged contact (minimum 72 hours) with floodwaters without sustaining damage that requires more than low-cost cosmetic repair. Any material that is water-soluble or is not resistant to alkali or acid in water, including normal adhesives for above-grade use, is not flood-resistant. Pressure-treated lumber or naturally decay-resistant lumbers are acceptable flooring materials. Sheet-type flooring coverings that restrict evaporation from below and materials that are impervious, but dimensionally unstable are not acceptable. Materials that absorb or retain water excessively after submergence are not flood-resistant. Please refer to Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements*, and available from the FEMA. Class 4 and 5 materials, referenced therein, are acceptable flood-resistant materials.

“Floodway” means the channel of a river or other watercourse, including the area above a bridge or culvert when applicable, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

“Floodway encroachment analysis” means an engineering analysis of the impact that a proposed encroachment into a floodway or non-encroachment area is expected to have on the floodway boundaries and flood levels during the occurrence of the base flood discharge. The evaluation shall be prepared by a qualified North Carolina licensed engineer using standard engineering methods and models.

“Freeboard” means the height added to the BFE to account for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, blockage of bridge or culvert openings, and the hydrological effect of urbanization of the watershed. The BFE plus the freeboard establishes the “Regulatory Flood Protection Elevation”.

“Functionally Dependent Facility” means a facility which cannot be used for its intended purpose unless it is located in close proximity to water, limited to a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair. The term does not include long-term storage, manufacture, sales, or service facilities.

“Hazardous Waste Management Facility” means, as defined in NCGS 130A, Article 9, a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.

“Highest Adjacent Grade (HAG)” means the highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.

“Historic Structure” means any structure that is:

- (a) Listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register;
- (b) Certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (c) Individually listed on a local inventory of historic landmarks in communities with a “Certified Local Government (CLG) Program”; or
- (d) Certified as contributing to the historical significance of a historic district designated by a community with a “Certified Local Government (CLG) Program.”

Certified Local Government (CLG) Programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the State Historic Preservation Officer as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

“Letter of Map Change (LOMC)” means an official determination issued by FEMA that amends or revises an effective Flood Insurance Rate Map or Flood Insurance Study. Letters of Map Change include:

- (a) Letter of Map Amendment (LOMA): An official amendment, by letter, to an effective National Flood Insurance Program map. A LOMA is based on technical data showing that a property had been inadvertently mapped as being in the floodplain, but is actually on natural high ground above the base flood elevation. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property, portion of a property, or structure is not located in a special flood hazard area.
- (b) Letter of Map Revision (LOMR): A revision based on technical data that may show changes to flood zones, flood elevations, special flood hazard area boundaries and floodway delineations, and other planimetric features.
- (c) Letter of Map Revision Based on Fill (LOMR-F): A determination that a structure or parcel of land has been elevated by fill above the BFE and is, therefore, no longer located within the special flood hazard area. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community’s floodplain management regulations.
- (d) Conditional Letter of Map Revision (CLOMR): A formal review and comment as to whether a proposed project complies with the minimum NFIP requirements for such projects with respect to delineation of special flood hazard areas. A CLOMR does not revise the effective Flood Insurance Rate Map or Flood Insurance Study; upon submission and approval of certified as-built documentation, a Letter of Map Revision may be issued by FEMA to revise the effective FIRM.

“Light Duty Truck” means any motor vehicle rated at 8,500 pounds Gross Vehicular Weight Rating or less which has a vehicular curb weight of 6,000 pounds or less and which has a basic vehicle frontal area of 45 square feet or less as defined in 40 CFR 86.082-2 and is:

- (a) Designed primarily for purposes of transportation of property or is a derivation of such a vehicle, or
- (b) Designed primarily for transportation of persons and has a capacity of more than 12 persons; or
- (c) Available with special features enabling off-street or off-highway operation and use.

“Lowest Adjacent Grade (LAG)” means the elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

“Lowest Floor” means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or limited storage in an area other than a basement area is not considered a building’s lowest floor, provided that such an enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

“Manufactured Home” means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term “manufactured home” does not include a “recreational vehicle”.

“Manufactured Home Park or Subdivision” means a parcel (or contiguous parcels) of land divided into two or more

manufactured home lots for rent or sale.

“Market Value” means the building value, not including the land value and that of any accessory structures or other improvements on the lot. Market value may be established by independent certified appraisal; replacement cost depreciated for age of building and quality of construction (Actual Cash Value); or adjusted tax assessed values.

“New Construction” means structures for which the “start of construction” commenced on or after the effective date of the initial floodplain management regulations and includes any subsequent improvements to such structures.

“Non-Conversion Agreement” means a document stating that the owner will not convert or alter what has been constructed and approved. Violation of the agreement is considered a violation of the ordinance and, therefore, subject to the same enforcement procedures and penalties. The agreement must be filed with the recorded deed for the property. The agreement must show the clerk’s or recorder’s stamps and/or notations that the filing has been completed.

“Non-Encroachment Area (NEA)” means the channel of a river or other watercourse, including the area above a bridge or culvert when applicable, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot as designated in the Flood Insurance Study report.

“Post-FIRM” means construction or other development for which the “start of construction” occurred on or after the 5th of August, 1980, the effective date of the initial Flood Insurance Rate Map.

“Pre-FIRM” means construction or other development for which the “start of construction” occurred before the 5th of August, 1980, the effective date of the initial Flood Insurance Rate Map.

“Principally Above Ground” means that at least 51% of the actual cash value of the structure is above ground.

“Public Safety” and/or “Nuisance” means anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

“Recreational Vehicle (RV)” means a vehicle, which is:

- (a) Built on a single chassis;
- (b) 400 square feet or less when measured at the largest horizontal projection;
- (c) Designed to be self-propelled or permanently towable by a light duty truck;
- (d) Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use, and
- (e) Is fully licensed and ready for highway use.

“Reference Level” is the top of the lowest floor for structures within Special Flood Hazard Areas designated as Zones A, AE, AH, AO, A99. The reference level is the bottom of the lowest horizontal structural member of the lowest floor for structures within Special Flood Hazard Areas designated as Zone VE.

(Alternative acceptable language for Reference Level) “Reference Level” is the bottom of the lowest horizontal structural member of the lowest floor for structures within all Special Flood Hazard Areas.

“Regulatory Flood Protection Elevation” means the “Base Flood Elevation” plus the “Freeboard”. In “Special Flood Hazard Areas” where Base Flood Elevations (BFEs) have been determined, this elevation shall be the BFE *plus* two (2) feet *feet freeboard*). In “Special Flood Hazard Areas” where no BFE has been established, this elevation shall be at least two (2) feet feet above the highest adjacent grade.

“Remedy a Violation” means to bring the structure or other development into compliance with state and community floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing federal financial exposure with regard to the structure or other development.

“Riverine” means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

“Salvage Yard” means any non-residential property used for the storage, collection, and/or recycling of any type of equipment, and including but not limited to vehicles, appliances and related machinery.

“Solid Waste Disposal Facility” means any facility involved in the disposal of solid waste, as defined in NCGS 130A-290(a)(35).

“Solid Waste Disposal Site” means, as defined in NCGS 130A-290(a)(36), any place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.

“Special Flood Hazard Area (SFHA)” means the land in the floodplain subject to a one percent (1%) or greater chance of being flooded in any given year, as determined in Article 3, Section B of this ordinance.

“Start of Construction” includes substantial improvement, and means the date the building permit was issued provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

“Structure” means a walled and roofed building, a manufactured home, or a gas, liquid, or liquefied gas storage tank that is principally above ground.

“Substantial Damage” means damage of any origin sustained by a structure during any one-year period whereby the cost of restoring the structure to it's before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. See definition of “substantial improvement”.

“Substantial Improvement” means any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one-year period for which the cost equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage”, regardless of the actual repair work performed. The term does not, however, include either:

- (a) Any correction of existing violations of state or community health, sanitary, or safety code specifications which have been identified by the community code enforcement official and which are the minimum necessary to assure safe living conditions; or
- (b) Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure and the alteration is approved by variance issued pursuant to Article 4 Section E of this ordinance.

“Technical Bulletin and Technical Fact Sheet” means a FEMA publication that provides guidance concerning the building performance standards of the NFIP, which are contained in Title 44 of the U.S. Code of Federal Regulations at Section 60.3. The bulletins and fact sheets are intended for use primarily by State and local officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders. New bulletins, as well as updates of existing bulletins, are issued periodically as needed. The bulletins do not create regulations; rather they provide specific guidance for complying with the minimum requirements of existing NFIP regulations.

It should be noted that Technical Bulletins and Technical Fact Sheets provide guidance on the minimum requirements of the NFIP regulations. State or community requirements that exceed those of the NFIP take precedence. Design professionals should contact the community officials to determine whether more restrictive State or local regulations apply to the building or site in question. All applicable standards of the State or local building code must also be met for any building in a flood hazard area.

“Temperature Controlled” means having the temperature regulated by a heating and/or cooling system, built-in or appliance.

“Variance” is a grant of relief from the requirements of this ordinance.

“Violation” means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Articles 4 and 5 is presumed to be in violation until such time as that documentation is provided.

“Water Surface Elevation (WSE)” means the height, in relation to NAVD 1988, of floods of various magnitudes and frequencies in the floodplains of riverine areas.

“Watercourse” means a lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

ARTICLE 9.3 GENERAL PROVISIONS.

SECTION 10.365 LANDS TO WHICH THIS ORDINANCE APPLIES.

This ordinance shall apply to all Special Flood Hazard Areas within the jurisdiction, *including Extra-Territorial Jurisdictions (ETJs),[if applicable]* of the City of Graham.

SECTION 10.366 BASIS FOR ESTABLISHING THE SPECIAL FLOOD HAZARD AREAS.

The Special Flood Hazard Areas are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its FIS dated November 17, 2017 for Alamance County and associated DFIRM panels, including any digital data developed as part of the FIS, which are adopted by reference and declared a part of this ordinance. Future revisions to the FIS and DFIRM panels that do not change flood hazard data within the jurisdictional authority of the City of Graham are also adopted by reference and declared a part of this ordinance. Subsequent Letter of Map Revisions (LOMRs) and/or Physical Map Revisions (PMRs) shall be adopted within 3 months.

SECTION 10.367 ESTABLISHMENT OF FLOODPLAIN DEVELOPMENT PERMIT.

A Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities within Special Flood Hazard Areas determined in accordance with the provisions of Article 3, Section B of this ordinance.

SECTION 10.368 COMPLIANCE.

No structure or land shall hereafter be located, extended, converted, altered, or developed in any way without full compliance with the terms of this ordinance and other applicable regulations.

SECTION 10.369 ABROGATION AND GREATER RESTRICTIONS.

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

SECTION 10.370 INTERPRETATION.

In the interpretation and application of this ordinance, all provisions shall be:

- (a) Considered as minimum requirements;
- (b) Liberally construed in favor of the governing body; and
- (c) Deemed neither to limit nor repeal any other powers granted under State statutes.

SECTION 10.371 WARNING AND DISCLAIMER OF LIABILITY.

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur. Actual flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the Special Flood Hazard Areas or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of the City of Graham or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

SECTION 10.372 PENALTIES FOR VIOLATION.

Violation of the provisions of this ordinance or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a Class 1 misdemeanor pursuant to NC G.S. § 143-215.58. . Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$100.00 or imprisoned for not more than thirty (30) days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the City of Graham from taking such other lawful action as is necessary to prevent or remedy any violation.

ARTICLE 9.4 ADMINISTRATION.

SECTION 10.373 DESIGNATION OF FLOODPLAIN ADMINISTRATOR.

The Planning Director, hereinafter referred to as the “Floodplain Administrator”, is hereby appointed to administer and implement the provisions of this ordinance. In instances where the Floodplain Administrator receives assistance from others to complete tasks to administer and implement this ordinance, the Floodplain Administrator shall be responsible for the coordination and community’s overall compliance with the National Flood Insurance Program and the provisions of this ordinance.

SECTION 10.374 FLOODPLAIN DEVELOPMENT APPLICATION, PERMIT AND CERTIFICATION REQUIREMENTS.

- (1) **Application Requirements.** Application for a Floodplain Development Permit shall be made to the Floodplain Administrator prior to any development activities located within Special Flood Hazard Areas. The following items shall be presented to the Floodplain Administrator to apply for a floodplain development permit:
 - (a) A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:
 - (i) The nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, utility systems, grading/pavement areas, fill materials, storage areas, drainage facilities, and other development;
 - (ii) The boundary of the Special Flood Hazard Area as delineated on the FIRM or other flood map as determined in Article 3, Section B, or a statement that the entire lot is within the Special Flood Hazard Area;
 - (iii) Flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Article 3, Section B;

- (iv) The boundary of the floodway(s) or non-encroachment area(s) as determined in Article 3, Section B;
 - (v) The Base Flood Elevation (BFE) where provided as set forth in Article 3, Section B; Article 4, Section C; or Article 5, Section D;
 - (vi) The old and new location of any watercourse that will be altered or relocated as a result of proposed development; and
 - (vii) *The certification of the plot plan by a registered land surveyor or professional engineer. (OPTIONAL)*
- (b) Proposed elevation, and method thereof, of all development within a Special Flood Hazard Area including but not limited to:
- (i) Elevation in relation to NAVD 1988 of the proposed reference level (including basement) of all structures;
 - (ii) Elevation in relation to NAVD 1988 to which any non-residential structure in Zones A, AE, AH, AO, A99 will be floodproofed; and
 - (iii) Elevation in relation to NAVD 1988 to which any proposed utility systems will be elevated or floodproofed.
- (c) If floodproofing, a Floodproofing Certificate (FEMA Form 086-0-34) with supporting data, an operational plan, and an inspection and maintenance plan that include, but are not limited to, installation, exercise, and maintenance of floodproofing measures.
- (d) A Foundation Plan, drawn to scale, which shall include details of the proposed foundation system to ensure all provisions of this ordinance are met. These details include but are not limited to:
- (i) The proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls); and
 - (ii) Openings to facilitate automatic equalization of hydrostatic flood forces on walls in accordance with Article 5, Section B(4)(d) when solid foundation perimeter walls are used in Zones A, AE, AH, AO, A99.
- (e) Usage details of any enclosed areas below the lowest floor.
- (f) Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage.
- (g) Certification that all other Local, State and Federal permits required prior to floodplain development permit issuance have been received.
- (h) Documentation for placement of Recreational Vehicles and/or Temporary Structures, when applicable, to ensure that the provisions of Article 5, Section B, subsections (6) and (7) of this ordinance are met.
- (i) A description of proposed watercourse alteration or relocation, when applicable, including an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation.
- (2) **Permit Requirements.** The Floodplain Development Permit shall include, but not be limited to:
- (a) A complete description of all the development to be permitted under the floodplain development permit (e.g. house, garage, pool, septic, bulkhead, cabana, pier, bridge, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials, etc.).

- (b) The Special Flood Hazard Area determination for the proposed development in accordance with available data specified in Article 3, Section B.
- (c) The Regulatory Flood Protection Elevation required for the reference level and all attendant utilities.
- (d) The Regulatory Flood Protection Elevation required for the protection of all public utilities.
- (e) All certification submittal requirements with timelines.
- (f) A statement that no fill material or other development shall encroach into the floodway or non-encroachment area of any watercourse unless the requirements of Article 5, Section F have been met.
- (g) The flood openings requirements, if in Zones A, AE, AH, AO, A99.
- (h) *Limitations of below BFE enclosure uses (if applicable). (i.e., parking, building access and limited storage only).*
- (i) *A statement, that all materials below BFE/RFPE must be flood resistant materials.*

(3) **Certification Requirements.**

(a) Elevation Certificates

- (i) *An Elevation Certificate (FEMA Form 086-0-33) is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, in relation to NAVD 1988. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder prior to the beginning of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit.*
- (ii) *An Elevation Certificate (FEMA Form 086-0-33) is **recommended** after the reference level is established. Within seven (7) calendar days of establishment of the reference level elevation, it shall be **an option for** the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, in relation to NAVD 1988. Any work done within the seven (7) day calendar period and prior to submission of the certification shall be at the permit holder's risk. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further work being permitted to proceed. Failure to make required corrections shall be cause to issue a stop-work order for the project.*
- (iii) *A final Finished Construction Elevation Certificate (FEMA Form 086-0-33) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy. The Finished Construction Elevation Certificate certifier shall provide at least 2 photographs showing the front and rear of the building taken within 90 days from the date of certification. The photographs must be taken with views confirming the building description and diagram number provided in Section A. To the extent possible, these photographs should show the entire building including foundation. If the building has split-level or multi-level areas, provide at least 2 additional photographs showing side views of the building. In addition, when applicable, provide a photograph of the foundation showing a representative example of the flood openings or vents. All photographs must be in color and measure at least 3" x 3". Digital photographs are acceptable.*

(b) Floodproofing Certificate

- (i) A final Finished Construction Floodproofing Certificate (FEMA Form 086-0-34), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the issuance of a Certificate of Compliance/Occupancy. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988. Floodproofing certificate shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to Certificate of Occupancy. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. Failure to construct in accordance with the certified design shall be cause to deny a Certificate of Compliance/Occupancy.
- (c) If a manufactured home is placed within Zones A, AE, AH, AO, A99 and the elevation of the chassis is more than 36 inches in height above grade, an engineered foundation certification is required in accordance with the provisions of Article 5, Section B(3)(b).
- (d) If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; a professional engineer's certified report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a floodplain development permit.
- (e) Certification Exemptions. The following structures, if located within Zones A, AE, AH, AO, A99, are exempt from the elevation/floodproofing certification requirements specified in items (a) and (b) of this subsection:
 - (i) Recreational Vehicles meeting requirements of Article 5, Section B(6)(a);
 - (ii) Temporary Structures meeting requirements of Article 5, Section B(7); and
 - (iii) Accessory Structures that are 150 square feet or less or \$3,000 or less and meeting requirements of Article 5, Section B(8).

(4) **Determinations for existing buildings and structures.**

For applications for building permits to improve buildings and structures, including alterations, movement, enlargement, replacement, repair, change of occupancy, additions, rehabilitations, renovations, substantial improvements, repairs of substantial damage, and any other improvement of or work on such buildings and structures, the Floodplain Administrator, in coordination with the Building Official, shall:

- (a) Estimate the market value, or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building or structure before the start of construction of the proposed work; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made;
- (b) Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure;
- (c) Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage; and
- (d) Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the NC Building Code and this ordinance is required.

SECTION 10.375 DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR.

The Floodplain Administrator shall perform, but not be limited to, the following duties:

- (1) Review all floodplain development applications and issue permits for all proposed development within Special Flood Hazard Areas to assure that the requirements of this ordinance have been satisfied.
- (2) Review all proposed development within Special Flood Hazard Areas to assure that all necessary local, state and federal permits have been received, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
- (3) Notify adjacent communities and the North Carolina Department of Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).
- (4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is maintained.
- (5) Prevent encroachments into floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of Article 5, Section F are met.
- (6) Obtain actual elevation (in relation to NAVD 1988) of the reference level (including basement) and all attendant utilities of all new and substantially improved structures, in accordance with the provisions of Article 4, Section B(3).
- (7) Obtain actual elevation (in relation to NAVD 1988) to which all new and substantially improved structures and utilities have been floodproofed, in accordance with the provisions of Article 4, Section B(3).
- (8) Obtain actual elevation (in relation to NAVD 1988) of all public utilities in accordance with the provisions of Article 4, Section B(3).
- (9) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with the provisions of Article 4, Section B(3) and Article 5, Section B(2).
- (10) Where interpretation is needed as to the exact location of boundaries of the Special Flood Hazard Areas, floodways, or non-encroachment areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.
- (11) When BFE data has not been provided in accordance with the provisions of Article 3, Section B, obtain, review, and reasonably utilize any BFE data, along with floodway data or non-encroachment area data available from a federal, state, or other source, including data developed pursuant to Article 5, Section D(2)(c), in order to administer the provisions of this ordinance.
- (12) When BFE data is provided but no floodway or non-encroachment area data has been provided in accordance with the provisions of Article 3, Section B, obtain, review, and reasonably utilize any floodway data or non-encroachment area data available from a federal, state, or other source in order to administer the provisions of this ordinance.
- (13) *When the lowest floor and the lowest adjacent grade of a structure or the lowest ground elevation of a parcel in a Special Flood Hazard Area is above the BFE, advise the property owner of the option to apply for a Letter of Map Amendment (LOMA) from FEMA. Maintain a copy of the LOMA issued by FEMA in the floodplain development permit file. (OPTIONAL)*
- (14) Permanently maintain all records that pertain to the administration of this ordinance and make these records available for public inspection, recognizing that such information may be subject to the Privacy Act of 1974, as amended.
- (15) Make on-site inspections of work in progress. As the work pursuant to a floodplain development permit progresses, the Floodplain Administrator shall make as many inspections of the work as may be necessary to ensure that the work

is being done according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the Floodplain Administrator has a right, upon presentation of proper credentials, to enter on any premises within the jurisdiction of the community at any reasonable hour for the purposes of inspection or other enforcement action.

- (16) Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance, the Floodplain Administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing or in charge of the work. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.
- (17) Revoke floodplain development permits as required. The Floodplain Administrator may revoke and require the return of the floodplain development permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, and specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any floodplain development permit mistakenly issued in violation of an applicable State or local law may also be revoked.
- (18) Make periodic inspections throughout the Special Flood Hazard Areas within the jurisdiction of the community. The Floodplain Administrator and each member of his or her inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement action.
- (19) Follow through with corrective procedures of Article 4, Section D.
- (20) Review, provide input, and make recommendations for variance requests.
- (21) Maintain a current map repository to include, but not limited to, historical and effective FIS Report, historical and effective FIRM and other official flood maps and studies adopted in accordance with the provisions of Article 3, Section B of this ordinance, including any revisions thereto including Letters of Map Change, issued by FEMA. Notify State and FEMA of mapping needs.
- (22) Coordinate revisions to FIS reports and FIRMs, including Letters of Map Revision Based on Fill (LOMR-Fs) and Letters of Map Revision (LOMRs).

SECTION 10.376 CORRECTIVE PROCEDURES.

- (1) Violations to be corrected: When the Floodplain Administrator finds violations of applicable state and local laws; it shall be his or her duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law cited in such notification.
- (2) Actions in Event of Failure to Take Corrective Action: If the owner of a building or property shall fail to take prompt corrective action, the Floodplain Administrator shall give the owner written notice, by certified or registered mail to the owner's last known address or by personal service, stating:
 - (a) That the building or property is in violation of the floodplain management regulations;
 - (b) That a hearing will be held before the Floodplain Administrator at a designated place and time, not later than ten (10) days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and
 - (c) That following the hearing, the Floodplain Administrator may issue an order to alter, vacate, or demolish the building; or to remove fill as applicable.
- (3) Order to Take Corrective Action: If, upon a hearing held pursuant to the notice prescribed above, the Floodplain Administrator shall find that the building or development is in violation of the Flood Damage Prevention Ordinance, he or she shall issue an order in writing to the owner, requiring the owner to remedy the violation within a specified

time period, not less than sixty (60) calendar days, nor more than least one-hundred-eighty (180) calendar days. Where the Floodplain Administrator finds that there is imminent danger to life or other property, he or she may order that corrective action be taken in such lesser period as may be feasible.

- (4) **Appeal:** Any owner who has received an order to take corrective action may appeal the order to the local elected governing body by giving notice of appeal in writing to the Floodplain Administrator and the clerk within ten (10) days following issuance of the final order. In the absence of an appeal, the order of the Floodplain Administrator shall be final. The local governing body shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.
- (5) **Failure to Comply with Order:** If the owner of a building or property fails to comply with an order to take corrective action for which no appeal has been made or fails to comply with an order of the governing body following an appeal, the owner shall be guilty of a Class 1 misdemeanor pursuant to NC G.S. § 143-215.58 and shall be punished at the discretion of the court.

SECTION 10.377 VARIANCE PROCEDURES.

- (1) The Board of Adjustment as established by the City of Graham, hereinafter referred to as the “appeal board”, shall hear and decide requests for variances from the requirements of this ordinance.
- (2) Any person aggrieved by the decision of the appeal board may appeal such decision to the Court, as provided in Chapter 7A of the North Carolina General Statutes.
- (3) Variances may be issued for:
 - (a) The repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure;
 - (b) Functionally dependent facilities if determined to meet the definition as stated in Article 2 of this ordinance, provided provisions of Article 4, Section E(9)(b), (c), and (e) have been satisfied, and such facilities are protected by methods that minimize flood damages during the base flood and create no additional threats to public safety; or
 - (c) Any other type of development provided it meets the requirements of this Section.
- (4) In passing upon variances, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:
 - (a) The danger that materials may be swept onto other lands to the injury of others;
 - (b) The danger to life and property due to flooding or erosion damage;
 - (c) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - (d) The importance of the services provided by the proposed facility to the community;
 - (e) The necessity to the facility of a waterfront location as defined under Article 2 of this ordinance as a functionally dependent facility, where applicable;
 - (f) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - (g) The compatibility of the proposed use with existing and anticipated development;

- (h) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 - (i) The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - (j) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and
 - (k) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.
- (5) A written report addressing each of the above factors shall be submitted with the application for a variance.
- (6) Upon consideration of the factors listed above and the purposes of this ordinance, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes and objectives of this ordinance.
- (7) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the BFE and the elevation to which the structure is to be built and that such construction below the BFE increases risks to life and property, and that the issuance of a variance to construct a structure below the BFE may result in increased premium rates for flood insurance up to \$25 per \$100 of insurance coverage. Such notification shall be maintained with a record of all variance actions, including justification for their issuance.
- (8) The Floodplain Administrator shall maintain the records of all appeal actions and report any variances to the FEMA and the State of North Carolina upon request.
- (9) Conditions for Variances:
- (a) Variances shall not be issued when the variance will make the structure in violation of other federal, state, or local laws, regulations, or ordinances.
 - (b) Variances shall not be issued within any designated floodway or non-encroachment area if the variance would result in any increase in flood levels during the base flood discharge.
 - (c) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (d) Variances shall only be issued prior to development permit approval.
 - (e) Variances shall only be issued upon:
 - (i) A showing of good and sufficient cause;
 - (ii) A determination that failure to grant the variance would result in exceptional hardship; and
 - (ii) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
- (10) A variance may be issued for solid waste disposal facilities or sites, hazardous waste management facilities, salvage yards, and chemical storage facilities that are located in Special Flood Hazard Areas provided that all of the following conditions are met.
- (a) The use serves a critical need in the community.
 - (b) No feasible location exists for the use outside the Special Flood Hazard Area.
 - (c) The reference level of any structure is elevated or floodproofed to at least the Regulatory Flood Protection

Elevation.

- (d) The use complies with all other applicable federal, state and local laws.
- (e) The City of Graham has notified the Secretary of the North Carolina Department of Public Safety of its intention to grant a variance at least thirty (30) calendar days prior to granting the variance.

ARTICLE 9.5 PROVISIONS FOR FLOOD HAZARD REDUCTION.

SECTION 10.378 GENERAL STANDARDS.

In all Special Flood Hazard Areas the following provisions are required:

- (1) All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure.
- (2) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage in accordance with the FEMA Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements*.
- (3) All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.
- (4) All new electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall be located at or above the RFPE or designed and installed to prevent water from entering or accumulating within the components during the occurrence of the base flood. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, hot water heaters, and electric outlets/switches.
 - (a) Replacements part of a substantial improvement, electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall also meet the above provisions.
 - (b) Replacements that are for maintenance and not part of a substantial improvement, may be installed at the original location provided the addition and/or improvements only comply with the standards for new construction consistent with the code and requirements for the original structure.
- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into flood waters.
- (7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- (8) Nothing in this ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the Regulatory Flood Protection Elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.
- (9) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in Article 4, Section E(10). A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the Regulatory Flood Protection Elevation and certified in accordance with the provisions of

Article 4, Section B(3).

- (10) All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.
- (11) All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- (12) All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.
- (13) All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by federal or state law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
- (14) When a structure is partially located in a Special Flood Hazard Area, the entire structure shall meet the requirements for new construction and substantial improvements.
- (15) When a structure is located in multiple flood hazard zones or in a flood hazard risk zone with multiple base flood elevations, the provisions for the more restrictive flood hazard risk zone and the highest BFE shall apply.

SECTION 10.379 SPECIFIC STANDARDS.

In all Special Flood Hazard Areas where BFE data has been provided, as set forth in Article 3, Section B, or Article 5, Section D, the following provisions, in addition to the provisions of Article 5, Section A, are required:

- (1) Residential Construction. New construction and substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in Article 2 of this ordinance.
- (2) Non-Residential Construction. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in Article 2 of this ordinance. Structures located in Zones A, AE, AH, AO, A99 may be floodproofed to the Regulatory Flood Protection Elevation in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the Regulatory Flood Protection Elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. For AO Zones, the floodproofing elevation shall be in accordance with Article 5, Section I (2). A registered professional engineer or architect shall certify that the floodproofing standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Article 4, Section B(3), along with the operational plan and the inspection and maintenance plan.
- (3) Manufactured Homes.
 - (a) New and replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the Regulatory Flood Protection Elevation, as defined in Article 2 of this ordinance.
 - (b) Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by certified engineered foundation system, or in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.
 - (c) All enclosures or skirting below the lowest floor shall meet the requirements of Article 5, Section B(4).
 - (d) An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or

substantially damaged manufactured home parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the Floodplain Administrator and the local Emergency Management Coordinator.

(4) Elevated Buildings. Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor:

- (a) Shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;
- (b) Shall not be temperature-controlled or conditioned;
- (c) Shall be constructed entirely of flood resistant materials at least to the Regulatory Flood Protection Elevation; and
- (d) Shall include, in Zones A, AE, AH, AO, A99 flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the following minimum design criteria:
 - (i) A minimum of two flood openings on different sides of each enclosed area subject to flooding;
 - (ii) The total net area of all flood openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding;
 - (iii) If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;
 - (iv) The bottom of all required flood openings shall be no higher than one (1) foot above the higher of the interior or exterior adjacent grade;
 - (v) Flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and
 - (vi) Enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings as outlined above.
- (e) Property owners shall be required to execute and record a non-conversion agreement prior to issuance of a building permit declaring that the area below the lowest floor shall not be improved, finished or otherwise converted to habitable space; the City of Graham will have the right to inspect the enclosed area. This agreement shall be recorded with the Alamance County Register of Deeds and shall transfer with the property in perpetuity.

(5) Additions/Improvements.

- (a) Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:
 - (i) Not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and *must not be any more non-conforming than the existing structure.*
 - (ii) A substantial improvement, with modifications/rehabilitations/improvements to the existing structure or the common wall is structurally modified more than installing a doorway, both the existing structure and the addition must comply with the standards for new construction.

- (b) Additions to pre-FIRM or post-FIRM structures that are a substantial improvement with no modifications/rehabilitations/improvements to the existing structure other than a standard door in the common wall, shall require only the addition to comply with the standards for new construction.
 - (c) Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:
 - (i) Not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction consistent with the code and requirements for the original structure.
 - (ii) A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
 - (d) Any combination of repair, reconstruction, rehabilitation, addition or improvement of a building or structure taking place during a one (1) year period, the cumulative cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started must comply with the standards for new construction. For each building or structure, the one (1) year period begins on the date of the first improvement or repair of that building or structure subsequent to the effective date of this ordinance. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The requirement does not, however, include either:
 - (i) Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assume safe living conditions.
 - (ii) Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.
- (6) Recreational Vehicles. Recreational vehicles shall either:
- (a) Temporary Placement
 - (i) Be on site for fewer than 180 consecutive days; or
 - (ii) Be fully licensed and ready for highway use. (A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions.)
 - (b) Permanent Placement. Recreational vehicles that do not meet the limitations of Temporary Placement shall meet all the requirements for new construction.
- (7) Temporary Non-Residential Structures. Prior to the issuance of a floodplain development permit for a temporary structure, the applicant must submit to the Floodplain Administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the Floodplain Administrator for review and written approval:
- (a) A specified time period for which the temporary use will be permitted. Time specified may not exceed three (3) months, renewable up to one (1) year;
 - (b) The name, address, and phone number of the individual responsible for the removal of the temporary structure;
 - (c) The time frame prior to the event at which a structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);

- (d) A copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and
 - (e) Designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.
- (8) Accessory Structures. When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area, the following criteria shall be met:
- (a) Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);
 - (b) Accessory structures shall not be temperature-controlled;
 - (c) Accessory structures shall be designed to have low flood damage potential;
 - (d) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
 - (e) Accessory structures shall be firmly anchored in accordance with the provisions of Article 5, Section A(1);
 - (f) All service facilities such as electrical shall be installed in accordance with the provisions of Article 5, Section A(4); and
 - (g) Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below Regulatory Flood Protection Elevation in conformance with the provisions of Article 5, Section B(4)(d).

An accessory structure with a footprint less than 150 or that is a minimal investment of \$3,000 or less and satisfies the criteria outlined above is not required to meet the elevation or floodproofing standards of Article 5, Section B (2). Elevation or floodproofing certifications are required for all other accessory structures in accordance with Article 4, Section B(3).

- (9) Tanks. When gas and liquid storage tanks are to be placed within a Special Flood Hazard Area, the following criteria shall be met:
- (a) Underground tanks. Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads during conditions of the design flood, including the effects of buoyancy assuming the tank is empty;
 - (b) Above-ground tanks, elevated. Above-ground tanks in flood hazard areas shall be elevated to or above the Regulatory Flood Protection Elevation on a supporting structure that is designed to prevent flotation, collapse or lateral movement during conditions of the design flood. Tank-supporting structures shall meet the foundation requirements of the applicable flood hazard area;
 - (c) Above-ground tanks, not elevated. Above-ground tanks that do not meet the elevation requirements of Section B (2) of this ordinance shall be permitted in flood hazard areas provided the tanks are designed, constructed, installed, and anchored to resist all flood-related and other loads, including the effects of buoyancy, during conditions of the design flood and without release of contents in the floodwaters or infiltration by floodwaters into the tanks. Tanks shall be designed, constructed, installed, and anchored to resist the potential buoyant and other flood forces acting on an empty tank during design flood conditions.
 - (d) Tank inlets and vents. Tank inlets, fill openings, outlets and vents shall be:
 - (i) At or above the Regulatory Flood Protection Elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the design flood; and
 - (ii) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the

effects of buoyancy, during conditions of the design flood.

(10) Other Development.

- (a) Fences in regulated floodways and NEAs that have the potential to block the passage of floodwaters, such as stockade fences and wire mesh fences, shall meet the limitations of Article 5, Section F of this ordinance.
- (b) Retaining walls, sidewalks and driveways in regulated floodways and NEAs. Retaining walls and sidewalks and driveways that involve the placement of fill in regulated floodways shall meet the limitations of Article 5, Section F of this ordinance.
- (c) Roads and watercourse crossings in regulated floodways and NEAs. Roads and watercourse crossings, including roads, bridges, culverts, low-water crossings and similar means for vehicles or pedestrians to travel from one side of a watercourse to the other side, that encroach into regulated floodways shall meet the limitations of Article 5, Section F of this ordinance.

SECTION 10.380 RESERVED.

SECTION 10.381 STANDARDS FOR FLOODPLAINS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS.

Within the Special Flood Hazard Areas designated as Approximate Zone A and established in Article 3, Section B, where no BFE data has been provided by FEMA, the following provisions, in addition to the provisions of Article 5, Section A, shall apply:

- (1) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty (20) feet each side from top of bank or five times the width of the stream, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- (2) The BFE used in determining the Regulatory Flood Protection Elevation shall be determined based on the following criteria:
 - (a) When BFE data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this ordinance and shall be elevated or floodproofed in accordance with standards in Article 5, Sections A and B.
 - (b) When floodway or non-encroachment data is available from a Federal, State, or other source, all new construction and substantial improvements within floodway and non-encroachment areas shall also comply with the requirements of Article 5, Sections B and F.
 - (c) All subdivision, manufactured home park and other development proposals shall provide BFE data if development is greater than five (5) acres or has more than fifty (50) lots/manufactured home sites. Such BFE data shall be adopted by reference in accordance with Article 3, Section B and utilized in implementing this ordinance.
 - (d) When BFE data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated or floodproofed (nonresidential) to or above the Regulatory Flood Protection Elevation, as defined in Article 2. All other applicable provisions of Article 5, Section B shall also apply.

SECTION 10.382 STANDARDS FOR RIVERINE FLOODPLAINS WITH BASE FLOOD ELEVATIONS BUT WITHOUT ESTABLISHED FLOODWAYS OR NON-ENCROACHMENT AREAS.

Along rivers and streams where BFE data is provided by FEMA or is available from another source but neither floodway nor

non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS report, the following requirements shall apply to all development within such areas:

- (1) Standards of Article 5, Sections A and B; and
- (2) Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the community.

SECTION 10.383 FLOODWAYS AND NON-ENCROACHMENT AREAS.

Areas designated as floodways or non-encroachment areas are located within the Special Flood Hazard Areas established in Article 3, Section B. The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in Article 5, Sections A and B, shall apply to all development within such areas:

- (1) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless:
 - (a) It is demonstrated that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood discharge, based on hydrologic and hydraulic analyses performed in accordance with standard engineering practice and presented to the Floodplain Administrator prior to issuance of floodplain development permit; or
 - (b) A Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A Letter of Map Revision (LOMR) must also be obtained within six months of completion of the proposed encroachment.
- (2) If Article 5, Section F(1) is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this ordinance.
- (3) Manufactured homes may be permitted provided the following provisions are met:
 - (a) The anchoring and the elevation standards of Article 5, Section B(3); and
 - (b) The encroachment standards of Article 5, Section F(1).

SECTION 10.384 STANDARDS FOR AREAS OF SHALLOW FLOODING (ZONE AO).

Located within the Special Flood Hazard Areas established in Article 3, Section B, are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. In addition to Article 5, Sections A and B, all new construction and substantial improvements shall meet the following requirements:

- (1) The reference level shall be elevated at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM), in feet, plus a freeboard of two (2) feet, above the highest adjacent grade; or at least a minimum of two (2) feet is required and four (4) feet is recommended where a depth is not provided feet above the highest adjacent grade if no depth number is specified.
- (2) Non-residential structures may, in lieu of elevation, be floodproofed to the same level as required in Article 5, Section I(1) so that the structure, together with attendant utility and sanitary facilities, below that level shall be watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required in accordance with Article 4,

Section B(3) and Article 5, Section B(2).

- (3) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

SECTION 10.385 STANDARDS FOR AREAS OF SHALLOW FLOODING (ZONE AH).

Located within the Special Flood Hazard Areas established in Article 3, Section B, are areas designated as shallow flooding areas. These areas are subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are one (1) to three (3) feet. Base Flood Elevations are derived from detailed hydraulic analyses are shown in this zone. In addition to Article 5, Sections A and B, all new construction and substantial improvements shall meet the following requirements:

- (1) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

ARTICLE 9.6 LEGAL STATUS PROVISIONS.

SECTION 10.386 EFFECT ON RIGHTS AND LIABILITIES UNDER THE EXISTING FLOOD DAMAGE PREVENTION ORDINANCE.

This ordinance in part comes forward by re-enactment of some of the provisions of the Flood Damage Prevention Ordinance enacted the 5th of August, 1980 as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued thereunder are reserved and may be enforced. The enactment of this ordinance shall not affect any action, suit or proceeding instituted or pending. All provisions of the Flood Damage Prevention Ordinance of the City of Graham enacted on the 5th of August, 1980, as amended, which are not reenacted herein are repealed.

The date of the initial Flood Damage Prevention Ordinance for Alamance County is the 15th day of August, 1994.

SECTION 10.387 EFFECT UPON OUTSTANDING FLOODPLAIN DEVELOPMENT PERMITS.

Nothing herein contained shall require any change in the plans, construction, size, or designated use of any development or any part thereof for which a floodplain development permit has been granted by the Floodplain Administrator or his or her authorized agents before the time of passage of this ordinance; provided, however, that when construction is not begun under such outstanding permit within a period of six (6) months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this ordinance.

SECTION 10.388 SEVERABILITY.

If any section, clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.

SECTION 10.389 EFFECTIVE DATE.

This ordinance shall become effective upon adoption.
(Article 9 amended 9/5/2017)

ADOPTION CERTIFICATION.

I hereby certify that this is a true and correct copy of the Flood Damage Prevention Ordinance as adopted by the City Council of the City of Graham, North Carolina, on the 5th day of September, 2017.

WITNESS my hand and the official seal of Darcy Sperry, City Clerk, this the 5th day of September, 2017.

(signature)