

**SANTA FE COUNTY
FLOOD DAMAGE PREVENTION
AND
STORMWATER MANAGEMENT ORDINANCE**

Ordinance No. 2008-10

An Ordinance to Establish Regulations for Stormwater Management and Development Inside and Adjacent to Flood Hazard Areas, Amending Ordinance 1996-10, Article V, Section 5 (Procedures and Submittals) to incorporate Table I, Repealing County Ordinance 1988-1 (Development in Flood Hazard Areas), Repealing Ordinance 1996-10 (Santa Fe County Land Use Code, as amended), Article VII, Sections 1 (Flood Hazards), 3.4.1.b.4, 3.4.1.c.1.b, 3.4.3.i, and 3.4.6, Repealing Ordinance 2000-12 (Community College District), §6.D.3 and §6.E.5.i, Repealing Ordinance 2005-8 (U.S 285 South Highway Corridor Zoning District), §8.8(B)2; Repealing Ordinance 2006-10 (Tres Arroyos de Poniente Zoning District), §9.10(A)(1); Repealing Ordinance 2000-13 (Tesuque Community Zoning District) §3.8.1; Setting Penalties for Non-Compliance, Designating the Floodplain Administrator and Defining the Responsibilities of the Floodplain Administrator, Defining the Lands to Which the Ordinance Applies, Establishing the Requirements and Procedures for Obtaining a Development Permit within A Designated Special Flood Hazard Area, Designating Special Flood Hazard Area Permitted and Prohibited Uses, Setting Standards for Various Zones Within the Special Flood Hazard Area, Setting Standards for Subdivision Proposals, Establishing Procedures for Removal of Land From Floodplain, Regulating Floodproofing, Establish Floodplain Permit Procedural Requirements, Establishing Variance Procedures, Establishing Stormwater Management Analysis and Design Criteria and Submittal Requirements, Defining the Hydrologic Methodology Required, Setting Erosion Setbacks, Setting Standards for Stormwater Detention and Retention, Establishing the Basis for Approval or Denial, and Providing Standard Forms and Tables, and Providing Definitions for Terms and a Glossary of Acronyms.

BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF SANTA FE COUNTY:

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ARTICLE I

STATUTORY AUTHORITY AND PURPOSE

SECTION 1.1

STATUTORY AUTHORITY

NMSA 1978, Section 3-18-7 (2003), delegates to local government units, the responsibility to adopt regulations designed to minimize flood losses. Therefore, Santa Fe County, New Mexico (the County) hereby adopts this Floodplain Ordinance which complies with the rules and regulations of the National Flood Insurance Program so as to maintain the County's eligibility for participation in the National Flood Insurance Program:

SECTION 1.2

STATEMENT OF PURPOSE and METHODS OF REDUCING FLOOD LOSS

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

- A. Protect human life and health;
- B. Restrict or prohibit uses that are dangerous to health, safety or property in times of flood, or cause excessive increases in flood heights or velocities;
- C. Require that uses vulnerable to floods, including facilities which serve such uses, are protected against flood damage at the time of initial construction;
- D. Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of flood waters;
- E. Insure that potential buyers are notified that property is in a flood prone area;
- F. Control filling, grading, dredging and other development which may increase flood damage;
- G. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands;
- H. Restrict alteration or substantial improvements to existing structures located within the floodplain;
- I. Minimize the damage to public facilities such as water mains, sewer lines, streets, roadways, and bridges and therein minimize expenditures of public monies for costly flood control projects;
- J. Minimize rescue and relief efforts generally undertaken at the expense of the tax-paying public;
- K. Minimize prolonged business interruptions which result in the loss of local incomes;
- L. Prevent increases in flood heights that could increase flood damage;

- M. Establish uniform regulations for the control of drainage both within and outside the Federal Emergency Management Agency (FEMA) regulatory Special Flood Hazard Area (SFHA) in Santa Fe County.

SECTION 1.3

COMPLIANCE

No structure or land shall hereafter be located, altered, or have its use changed without full compliance with the terms of this Ordinance and other applicable regulations.

SECTION 1.4

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 ordinance, easement, covenant or deed restriction, conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

SECTION 1.5

INTERPRETATION

- A. 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.
- B. Where interpretation of the boundaries of the SFHA shown on the effective FIRM for Santa Fe County is needed, as for example where there appears to be a conflict between a mapped boundary and actual field conditions, and there is a formal appeal of the decision of the Floodplain Administrator, the Board of County Commissioners (BCC) shall make a final determination. All decisions will be based on the detailed technical evidence and analysis of the area using the most current techniques, principles and practices of engineering and surface water hydrology and hydraulics as submitted by the individual contesting the location of the boundary shown on the effective FIRM and appealing the decision of the Floodplain Administrator, together with any interpretation or supplementation of that data provided by staff.

SECTION 1.6

REPEALS

This Ordinance shall repeal County Ordinance 1988-1 (Development in Flood Hazard Areas), Ordinance 1996-10 (Santa Fe County Land Use Code, as amended), Article VII, Sections 1 (Flood Hazards), 3.4.1.b.4, 3.4.1.c.1.b, 3.4.3.i, and 3.4.6, Ordinance 2000-12 (Community College District), §6.D.3 and §6.E.5.i, Ordinance 2005-8 (U.S 285 South Highway Corridor Zoning District), §8.8(B)2; Ordinance 2006-10 (Tres Arroyos de Poniente Zoning District), §9.10(A)(1); Ordinance 2000-13 (Tesuque Community Zoning District) §3.8.1.

SECTION 1.7 WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection and stormwater management required by this Ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions greater floods can and will occur and flood heights may be increased by man-made or natural causes.

This Ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This Ordinance shall not create liability on the part of Santa Fe County, or any official or employee thereof for any flood damages that result from compliance with this Ordinance or any administrative decision lawfully made hereunder.

SECTION 1.8 PENALTY FOR NON-COMPLIANCE

Violation of the provisions of this Ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. Any person who violates this Ordinance shall be subject to penalties in accordance with NMSA 1978, Section 4-37-3. Nothing herein contained shall prevent Santa Fe County from taking such other lawful action as is necessary to prevent or remedy any violation. Each day that a violation exists shall constitute a separate violation of the Ordinance.

SECTION 1.9 SEVERABILITY

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

ARTICLE 2**ADMINISTRATION****SECTION 2.1 DESIGNATION OF THE FLOODPLAIN ADMINISTRATOR**

The Land Use Administrator (or his/her designee) of Santa Fe County is hereby appointed the Floodplain Administrator to administer and implement the provisions of this Ordinance and other appropriate sections of 44 CFR (Emergency Management and Assistance National Flood Insurance Program Regulations) pertaining to floodplain management. The Land Use Administrator or designee shall be a Certified Floodplain Manager as required by NMSA 1978, Section 3-18-7(C) (2003).

SECTION 2.2 DUTIES OF THE FLOODPLAIN ADMINISTRATOR

The duties and responsibilities of the Floodplain Administrator shall include, but not be limited to the following:

- A. Review all Development Permits to determine:
 - a. Permit requirements of this Ordinance have been satisfied, including determination of substantial improvement and substantial damage to existing structures;
 - b. All other required state and federal permits have been obtained;
 - c. The site is reasonably safe from flooding;
 - d. The proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. This means 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 1 foot at any point within Santa Fe County; and
 - e. All Conditional Letters of Map Revision (CLOMR's) for flood control projects have been approved by FEMA prior to the issuance of building permits.
- B. Development of Substantial Improvement and Substantial Damage Procedures.
 - a. Using FEMA publication FEMA 213, "Answers to Questions About Substantially Damaged Buildings," develop detailed procedures for identifying and administering requirements for substantial improvement and substantial damage, to include defining "Market Value";
 - b. Market Value shall be determined by estimating the cost to replace the structure in new condition and adjusting that cost figure by the amount of depreciation which has accrued since the structure was constructed.
 - c. The cost of replacement of the structure shall be based on a square foot cost factor determined by reference to a building cost estimating guide recognized by the building construction industry.
 - d. The amount of depreciation shall be determined by taking into account the age and physical deterioration of the structure and functional obsolescence as approved by the floodplain administrator, but shall not include economic or other forms of external obsolescence.
 - e. Use of replacement costs or accrued depreciation factors different from those contained in recognized building cost estimating guides may be considered only if

such factors are included in a report prepared by an independent professional appraiser and supported by a written explanation of the differences.

- C. Assure procedures are coordinated with other departments/divisions and implemented by Santa Fe County staff.
- D. Review, Use and Development of Other Base Flood Data.
 - a. When base flood elevation data has not been provided in accordance with Article 3, § 3.2, the Floodplain Administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal or state agency, or other source, in order to administer the provisions and requirements established in Articles 3.
- E. Notify Other Agencies and affected Jurisdictions prior to:
 - a. Alteration or relocation of a watercourse:
 - i. Submit evidence of such notification to the Federal Emergency Management Agency; and
 - ii. Assure that the flood carrying capacity within the altered or relocated portion of said watercourse is maintained.
 - b. Pursuant to 44 CFR § 65.3, on projects which create or experience changes to Base Flood Elevation due to physical alterations:
 - i. Within 6 months of information becoming available or project completion, whichever comes first, the Floodplain Administrator shall submit or assure that the permit applicant submits technical or scientific data to FEMA for a Letter of Map Revision (LOMR).
 - ii. The Floodplain Administrator shall apprise the BCC and general public that such submissions are necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and floodplain management requirements are based on current data.
- F. Communicate changes in jurisdictional boundaries:
 - a. Notify FEMA in writing whenever the County boundaries have been modified by annexation or other means and include a copy of a map of the County clearly delineating the new County boundaries.
- G. Maintain documentation of Floodplain Development, including obtaining and maintaining for public inspection and to make available as needed the following:
 - a. Certification required by Article 3, Section 3.7(b) and Article 3, Section 3.8.C (lowest floor elevations residential and non-residential structures);
 - b. Certification required by Article 3, Section 3.12.A (floodproofing);

- c. Maintain a record of all variance actions, including justification for their issuance and report such variances issued in the Biennial Report submitted to the Federal Emergency Management Agency (FEMA).
- H. Provide Map Determinations by making interpretations of the FIRM, supported by the provisions and requirements of this Ordinance where needed. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Article 2, § 1.6.
- I. Complete and submit Biennial Report to FEMA.
- J. Assure Santa Fe County's General Plan is consistent with floodplain management objectives herein.

ARTICLE 3

GENERAL PROVISIONS

SECTION 3.1 LANDS TO WHICH THIS ORDINANCE APPLIES

This Ordinance shall apply to all:

- A. Special Flood Hazard Areas (SFHA) within the jurisdiction of Santa Fe County;
- B. Lands directly adjacent to, traversed by, or bisected by a SFHA within the jurisdiction of Santa Fe County;
- C. Lands impacted by stormwater runoff within the jurisdiction of Santa Fe County.

SECTION 3.2 BASIS FOR ESTABLISHING SPECIAL FLOOD HAZARD AREAS

The Special Flood Hazard Areas identified by the Federal Emergency Management Agency in the current scientific and engineering report entitled, "The Flood Insurance Study for Santa Fe County, New Mexico," dated June 17, 2008, with Flood Insurance Rate Maps and/or Flood Boundary-Floodway Maps (FIRM and FBFM) and all subsequent amendments and/or revisions, are hereby adopted by reference and declared to be a part of this Ordinance. This FIS and attendant mapping represent the minimum area of applicability of this Ordinance and may be supplemented by studies for other areas which allow implementation of this Ordinance and which are recommended to the Board of County Commissioners by the Floodplain Administrator. The FIS, and FIRMs are on file at Santa Fe County, Growth Management Department, Land Use Division at 102 Grant Avenue, Santa Fe, New Mexico.

SECTION 3.3 ESTABLISHMENT OF DEVELOPMENT PERMITS

- A. It is recognized by Santa Fe County that the FIRM is meant for the establishment of flood risk, and that risk to properties is also present outside the FEMA mapped floodplain as indicated on

the FIRM, therefore all land disturbance activity, both within and outside the limits of the SFHA must provide a Stormwater Management Analysis, pursuant to Article 5, §5.1, in order to evaluate flooding potential and to reduce risk to development from flooding.

- B. For development within a designated SFHA, including lands which are traversed by, bisected by, or directly adjacent to the SFHA (Zone A, A1-30, AO, AH, AR, AE, D and Zone AE regulatory floodways) designated on the effective FIRM, a Floodplain Development Permit (Standard Form 1) issued by the Floodplain Administrator in conformity with the provisions of the Ordinance shall be secured prior to:
- a. Creation of new residential lots through family transfer, land division or subdivision of land;
 - b. Any alteration or relocation of a watercourse including placement of structures, culverts, embankments, utilities or grading activity of any kind;
 - c. The erection, addition, modification, rehabilitation, or alteration of any building, structure, or portion thereof;
 - d. The use or change of use of a building, structure, or land;
 - e. The construction of a dam, fence, or on-site septic system;
 - f. The change or extension of a nonconforming use;
 - g. Repair or replacement of a structure that has been damaged by flood, fire, tornado or any other source; and
 - h. The placement of fill, excavation of materials, or the storage of materials or equipment within the limits of the SFHA designated on the effective FIRM.
- C. A Stormwater Management Analysis, prepared in accordance with the criteria outlined in Article 5, shall be required prior to the issuance of any Floodplain Development Permit, Development Permit, or Building Permit in order to ensure conformance with the provisions of this Ordinance for all development in Santa Fe County.

SECTION 3.4 SPECIAL FLOOD HAZARD AREA DEVELOPMENT GENERAL PROVISIONS

In special flood hazard areas the following provisions are required for all new construction and substantial improvements:

- A. All requests to place fill or other improvements in the floodplain must be accompanied by a detailed analysis prepared by a qualified professional engineer and must contain the specific data and documentation required in Article 4, Article 5 and as required in FEMA 44 CFR §60.3 and must be submitted on FEMA's application forms.
- B. In the event that a property was platted prior to the adoption of this Ordinance, or a legal non-conforming or historic use was in place prior to the adoption of this Ordinance, or buildable area

outside the SFHA is not available, a Floodplain Development Permit, prepared pursuant to Article 4, Section 4.1, will be required and development or alteration of the property and construction including placement of fill, shall adhere to the submittal and design criteria established in Article 5, and all criteria set forth in FEMA 44 CFR §60.3 and §65.6.

- C. No development or substantial improvement of any kind shall be allowed which will:
 - a. Cause an obstruction to flow, defined as any development which physically blocks or redirects the conveyance of floodwaters by itself or in conjunction with future similar development causing an increase in flood height; or
 - b. Cause an increase in flood height due to floodplain storage area lost, at any point in the community, when combined with other cumulative changes, which are equal to or exceed one (1) foot, without first obtaining a Conditional Letter of Map Revision from FEMA
- D. In areas where FEMA has identified the minimum conveyance area for the base flood by identifying a regulatory floodway on the FIRM, no development, fill, or obstruction of any kind may be placed which creates or causes any rise (0.0 feet) to the base flood elevation (BFE) without first obtaining a Conditional Letter of Map Revision (CLOMR) from FEMA pursuant 44 CFR § 65.12 and as described in Article 4, § 4.5, and the project must adhere to the process defined in Article 5, and compliance with submittal requirements outlined in tabular format in Article 6 must be demonstrated and approved by FEMA and the Community Acknowledgement Form as required by FEMA must be signed by the Floodplain Administrator.
- E. No draining or reclamation of land; altering, widening, deepening or filling of watercourses, drainage channels, or arroyos including construction of ponds, lakes, levees, or dams; or any other physical changes or improvements of watercourses, drainage channels or arroyos shall be undertaken in Santa Fe County, regardless of the location of said facilities in proximity to the SFHA, unless first approved by the Floodplain Administrator and any other local, state or federal agencies having jurisdiction over such activity.
- F. New residential construction or substantial improvements in the floodplain shall be:
 - a. Designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
 - b. Constructed by methods and practices that minimize flood damage;
 - c. Constructed with materials resistant to flood damage;
 - d. Constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

- e. Elevated so that the lowest floor including basement is a minimum of two (2) feet above the base flood elevation.
- G. Utility and infrastructure in the floodplain shall be designed and demonstrate that:
 - a. New and replacement water supply systems are designed to minimize or eliminate infiltration of flood waters into the system;
 - b. New and replacement sanitary sewage systems are designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into flood waters;
 - c. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding;
 - d. Placed in accordance with Article VII, Table 7.3 of the Land Use Code as amended.

SECTION 3.5 SPECIAL FLOOD HAZARD AREA PERMITTED USES

- A. Development may occur in or adjacent to the SFHA only when it has been demonstrated through a detailed analysis prepared by a qualified professional engineer licensed in the State of New Mexico, that the provisions of Article 3, the standards of Article 4, and the submittals in Article 5, as well as compliance with the criteria for development in SFHA as required in FEMA 44 CFR §60.3 have been met.
- B. The following uses can be permitted in the regulatory SFHA (Zone A, Zone AE, Zone AO, Zone D, Zone AH, Zone AR, Zone A1-30) provided that such uses are designed and constructed in compliance with Article 3, § 3.5, a Floodplain Development Permit is obtained as required in Article 3, §3.3 and a detailed technical analysis is performed by a licensed professional engineer pursuant to the criteria established in Article 5, submittals are compliant with the criteria established in tabular format in Article 6, and all local, state and federal criteria governing such facilities or structures are met:
 - a. Restoration or enhancement of environmental areas;
 - b. Repair and maintenance of existing uses and structures;
 - c. Emergency action to mitigate a hazard and measures to remove nuisances or other violations of law;
 - d. Planting and tilling of gardens, flower beds, shrubs, trees and other common uses and minor landscaping of land appurtenant to residences;
 - e. Repairs, and minor modification of existing single family dwellings;
 - f. Cutting of firewood for personal use;
 - g. Natural water quality treatment or purification;
 - h. Pedestrian, equestrian and bike trails provided signs are clearly posted at all entrances warning of the flood hazard and the procedures for evacuation when flooding is eminent.

- i. Public and private campgrounds provided
 - i. The campground shall have signs clearly posted at all entrances warning of the flood hazard and the procedures for evacuation when flooding is eminent
 - ii. All service facilities, including but not limited to refuse collection, electrical service, natural gas lines, propane tanks, sewage systems and wells shall be properly anchored and placed at or floodproofed to two (2) feet above the base flood elevation.
- j. New stormwater pretreatment facilities provided no other feasible located is available;
- k. Cultivation of agricultural land including tilling, construction of minor open ditches and crop irrigation, agricultural production and management;
- l. Sand and gravel extraction operations, provided
 - i. stockpiles associated with these operations are sited outside the SFHA or protected from inundation or erosion by floodwaters
 - ii. crushers, shakers, scales, fuel storage and other equipment are sited outside the SFHA or protected from inundation, floatation, or erosion by floodwater
- m. Parks, golf course greens, bunkers, and driving ranges, soccer and baseball fields, tennis courts and other athletic facilities provided
 - i. signs are clearly posted at all pertinent entrances warning of the flood hazard and the procedures for evacuation when flooding is eminent
 - ii. Parking is provided outside the area subject to inundation and all weather access is available
- n. Corrals, fences, barns and other accessory structures provided
 - i. The structure shall not be used for human habitation.
 - ii. The structure shall be designed to have low flood damage potential
 - iii. The structure shall be constructed and placed on the building site so as to offer minimum resistance to the flow of floodwaters
 - iv. The structure shall be firmly anchored to prevent flotation which may result in damage to other structures
 - v. The structure's service facilities such as electrical and heating equipment shall be elevated or floodproofed to at least two (2) feet above the 100-year base flood elevation, per Article 3, §3.12
- o. Wildlife sanctuaries, nature preserves, forest preserves, fishing areas;
- p. Orchards, vineyards and plant nurseries;
- q. Passive open space areas;

- r. Roadways, bridges and other transportation facilities;
- s. Stormwater conveyance facilities;
- t. Functionally dependant uses such as boat launches and docks;
- u. Non-residential commercial and industrial facilities floodproofed in accordance with Article 3, § 3.12, and FEMA 44 CFR, §60.3;
- v. Utility infrastructure, including transmission and distribution systems for water, liquid waste, electricity, fiberoptics, and communication facilities, provided such infrastructure is protected from inundation by or infiltration of floodwaters pursuant to Article 3, §3.4.G of this Ordinance and FEMA 44 CFR §60.3(a)(4), (5), and (6);.
- w. Construction of new dwelling units or placement of manufactured homes on lots created before the effective date of this Ordinance and only when such structures meet the requirements for development in a SFHA outlined in Article 3 § 3.4, and in FEMA 44 CFR § 60.3(c), and when no buildable area outside the floodplain is available on the lot, tract or parcel.

SECTION 3.6 SPECIAL FLOOD HAZARD AREA PROHIBITED USES

- A. The following are considered prohibited uses, and will not be permitted in the FEMA regulatory SFHA (Zone A, Zone AE, Zone AO, Zone AH, Zone AR, Zone A1-30, and Zone D) except as described in Article 3, §3.4.B:
 - a. Construction or placement of single family residential dwellings, guest houses, factory built or manufactured homes, including basements;
 - b. Storage or production of hazardous waste;
 - c. Storage of materials that are buoyant, flammable, explosive, injurious to property, water quality, or human, animal, plant, fish or other aquatic life;
 - d. Public or private charter schools, academies, high schools, middle schools, elementary or primary schools and private or public daycare centers;
 - e. Critical structures including hospitals, medical centers, convalescent care facilities, police and fire stations unless all alternative locations in Zone X have been considered and rejected;
 - f. Landfills, dumps, or transfer stations;
 - g. Private liquid waste disposal structures;

- h. Below grade parking facilities unless floodproofed in accordance with FIA Technical Bulletin 6.

SECTION 3.7 STANDARDS FOR ZONE A, ZONE AE WHERE A REGULATORY FLOODWAY HAS NOT BEEN ESTABLISHED

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Article 2, §2.2C, Article 3, §3.2 and Article 3, §3.10 and a regulatory floodway has not been established, and the development is not otherwise prohibited by Article 3, §3.6, the following provisions are required:

- A. Residential Construction or substantial improvement on legal lots created by approved Plat prior to the adoption date of this Ordinance; or residential construction where no buildable area outside the floodplain is available pursuant to Article 3 §3.5B(x), and residential construction directly adjacent to the SFHA shall have the lowest floor including basement:
 - a. Elevated to a minimum of one (1) foot above the base flood elevation;
 - b. Protected from erosion hazard as defined in Article 5, Section 5.7.
 - c. A registered professional engineer, architect, or land surveyor shall submit a certification to the Floodplain Administrator that the standards of this subsection as stated in Article 3, §3.4 are satisfied.
- B. Nonresidential Construction
 - a. New construction and substantial improvements of any commercial, industrial or other nonresidential structure shall:
 - i. either have the lowest floor (including basement) elevated to a minimum of two (2) foot above the base flood level or,
 - ii. together with attendant utility and sanitary facilities, be floodproofed per Article 3, §3.12
 - b. A registered professional engineer or architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice as outlined in this Ordinance. A record of such certification which includes the specific elevation (in relation to mean sea level) to which such structures are flood-proofed shall be included with the Floodplain Development Permit (Standard Form 1).
- C. New, Substantially Improved Structures
 - a. New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed

to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters, and shall meet the requirements established in Article 3, §3.9D.

- b. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:
 - i. A minimum of two openings having total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
 - ii. The bottom of all openings shall be no higher than one foot above grade.
 - iii. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of flood waters.

D. Manufactured Homes on legal lots created by approved Plat prior to the adoption date of this Ordinance; where no buildable area outside the floodplain is available, and for placement of manufactured homes directly adjacent to the SFHA:

- a. All manufactured homes to shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement manufactured homes must be elevated a minimum of two (2) feet above the base flood elevation and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.
- b. Manufactured homes that are placed on legal non-conforming lots, tracts or parcels, or that are substantially improved on sites:
 - i. outside of a manufactured home park or subdivision;
 - ii. in a new manufactured home park or subdivision;
 - iii. in an expansion to an existing manufactured home park or subdivision;or
 - iv. in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage;" as a result of a flood, must be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to two (2) feet above the base flood elevation and must be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

E. Recreational Vehicles

- a. Recreational vehicles placed on sites within Zone A, Zones A1-30, Zone AR, Zone AO, Zone AH, Zone D and Zone AE on the effective FIRM must either be:
 - i. On the site for fewer than 180 consecutive days, or
 - ii. Fully licensed and ready for highway use, or
 - iii. Meet the permit requirements of Article 3, §3.3, and the elevation and anchoring requirements for manufactured homes in paragraph (D) of this Section.
- b. 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 security devices, and has no permanently attached additions.

SECTION 3.8

STANDARDS FOR ZONE AO AND ZONE AH

Areas of special flood hazard depicted on the effective FIRM as Zone AO or Zone AH, and as established in Article 2, §2.2C, Article 3, §3.2 and §3.10 where a regulatory floodway has not been established, and where the development is not otherwise prohibited by Article 3, §3.6, the following provisions apply:

- A. All new construction and substantial improvements of residential structures have the lowest floor (including basement) elevated above the highest adjacent grade at least two (2) feet above the depth number specified in feet on the FIRM (at least three feet above highest adjacent grade if no depth number is specified);
- B. All new construction and substantial improvements of nonresidential structures shall:
 - a) have the lowest floor (including basement) elevated above the highest adjacent grade at least two (2) feet above the depth number specified in feet on the FIRM (at least three (3) feet if no depth number is specified), or;
 - b) together with attendant utility and sanitary facilities be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy.
- C. A registered professional engineer or architect shall submit a certification to the Floodplain Administrator that the standards of this Ordinance are satisfied; and
- D. Require within Zones AH or AO adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures.

SECTION 3.9**STANDARDS FOR ZONE AE WITH FLOODWAY**

Areas of special flood hazard depicted on the effective FIRM as Zone AE Regulatory Floodway, and as established in Article 3, §3.2 are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and erosion potential, and due to these extreme hazards the following provisions apply:

- A. Encroachments are prohibited, including fill, new construction, substantial improvements and other development unless certification by a professional registered engineer or architect is provided demonstrating that encroachments shall not result in any increase (0.0 feet) in flood levels within the community during the occurrence of the base flood discharge.
- B. New habitable structures of any kind are prohibited
- C. Fill or deposition of materials will only be allowed if:
 - a. No material is deposited in the channel or arroyo unless a Floodplain Development Permit is issued by Santa Fe County pursuant to Article 4 and a permit pursuant to Section 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1344 has been issued, if applicable, and the other requirements of this Ordinance are met;
 - b. The fill or other materials will be protected against erosion by riprap, vegetative cover, sheet piling or bulkheading; and;
 - c. The fill is not classified as a solid or hazardous material.
- D. No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use in a floodway area, unless such modification, addition or development is not otherwise prohibited by Article 3, §3.6, and
 - a. Has been granted a permit or variance which meets all Ordinance requirements, and:
 - ii. Will not increase the obstruction to flood flows or regional flood height;
 - iii. Any addition to the existing structure shall be floodproofed, pursuant to Article 3, Section 3.8 by means other than the use of fill, to 2 feet above the base flood elevation;
 - iv. If any part of the foundation below the base flood elevation is enclosed, the following standards shall apply:
 - 1. The enclosed area shall be designed by a registered architect or engineer to allow for the efficient entry and exit of flood waters without human intervention. A minimum of two openings must be provided with a minimum net area of at least one square inch for every one square foot of the enclosed area. The lowest part of the opening can be no more than 12 inches above the adjacent grade;

2. The parts of the foundation located below the flood protection elevation must be constructed of flood-resistant materials;
 3. Mechanical and utility equipment must be elevated or floodproofed to or above the flood protection elevation; and
 4. The use must be limited to parking or limited storage.
- E. No new well or modification to an existing well used to obtain potable water shall be allowed in a floodway area. Any replacement, repair or maintenance of an existing well in a floodway area shall meet the applicable requirements of all Santa Fe County Ordinances and other federal, state or local agency criteria.
 - F. No new on-site sewage disposal system, or addition to an existing on-site sewage disposal system, except where an addition has been ordered by a government agency to correct a hazard to public health, shall be allowed in a floodway area. Any replacement, repair or maintenance of an existing on-site sewage disposal system in a floodway area shall meet the applicable requirements of all Santa Fe County Ordinances and other federal, state or local agency criteria.
 - G. Under the provisions of 44 CFR, Chapter 1, § 65.12, of the National Flood Insurance Program Regulations, Santa Fe County may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that all of the provisions required by Article 4, §4.5 and 44 CFR, Section 65.12 are met.

SECTION 3.10 STANDARDS FOR SUBDIVISION PROPOSALS

- A. All subdivision proposals including manufactured home parks and subdivisions shall be consistent with Article 1, § 1.2 and Article 1, § 1.3 of this Ordinance.
- B. All proposals for the development of subdivisions including manufactured home parks and manufactured home subdivisions shall meet the requirements of Article 3, §3.3, Article 5, §5.3 and all other applicable provisions of this Ordinance.
- C. Base flood elevation data shall be generated for subdivision proposals and other proposed development including placement of manufactured home parks and manufactured home subdivisions greater than 50 lots or 5 acres, whichever is lesser, if not otherwise provided pursuant to Article 3, §3.2, or Article 2, §2.2C(a), of this Ordinance.
- D. All subdivision proposals including manufactured home parks and manufactured home subdivisions shall have adequate drainage provided to reduce exposure to flood hazards.
- E. All subdivision proposals including manufactured home parks and manufactured home subdivisions shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage per Article 3, §3.4G.

- F. A Stormwater Management Analysis, prepared pursuant to Article 3, §3.3 and Article 5, §5.1 must be submitted and approved by the Floodplain Administrator prior to recordation of the Final Development Plan.

SECTION 3.11 REMOVAL OF LAND FROM FLOODPLAIN

Compliance with the provisions of this Ordinance shall not be grounds for removing lands from the floodplain unless they are removed through the Letter of Map Amendment (LOMA) or Letter of Map Revision (LOMR) process per Article 4, §4.5 or the FIRM is reissued by FEMA pursuant to 44 CFR, §65.6.

SECTION 3.12 FLOODPROOFING

- A. No permit or variance shall be issued based on floodproofing until the Applicant submits a plan certified by a registered professional engineer or architect that the floodproofing measures will protect the structure or development to the flood protection elevation, and meet current FEMA criteria for floodproofing.
- B. Floodproofing measures shall be designed to:
- a. Withstand flood pressures, depths, velocities, uplift and impact forces and other regional flood factors;
 - b. Protect structures to 2' above the base flood elevation;
 - c. Anchor structures to foundations to resist flotation and lateral movement; and
 - d. Insure that structural walls and floors are watertight to the flood protection elevation, and the interior remains completely dry during flooding without human intervention.
- C. The following floodproofing measures may be required without limitation because of specific enumeration:
- a. Anchorage to resist flotation and lateral movement;
 - b. Installation of watertight doors, bulkheads and shutters or similar methods of construction;
 - c. Reinforcement of walls to resist water pressures;
 - d. Use of paints, membranes or mortars to reduce seepage of water through walls.
 - e. Addition of mass or weight to structures to resist flotation;
 - f. Installation of pumps to lower water level in structures;
 - g. Construction of water supply and waste treatment systems so as to prevent the entrance of floodwaters;
 - h. Pumping facilities or comparable practices for subsurface drainage systems for buildings or structures to relieve external foundation wall and basement flood pressures;

- i. Construction to resist rupture or collapse caused by water pressure or floating debris;
- j. Installation of valves or controls on sanitary and storm drains which will permit the drains to be closed to prevent backup of sewage and storm waters into the building or structure;
- k. Location of all electrical equipment, circuits and installed electrical appliances in a manner which will assure they are not subject to flooding and to provide protection from inundation by the base flood.

ARTICLE 4

FLOODPLAIN DEVELOPMENT PERMIT PROCEDURAL REQUIREMENTS

SECTION 4.1 AREAS REQUIRING A FLOODPLAIN DEVELOPMENT PERMIT

- A. For development within a designated SFHA, including lands which are traversed by, bisected by, or directly adjacent to the SFHA designated on the effective FIRM as described in Article 2, §2.2C, Article 3, §3.2 and Article 3, §3.10, a Floodplain Development Permit issued by the Floodplain Administrator in conformity with the provisions of the Ordinance shall be secured pursuant to Article 3, §3.3(B) prior to commencement of construction.

SECTION 4.2 NON-ELIGIBLE NEW DEVELOPMENT OR CONSTRUCTION

At no time shall a Floodplain Development Permit be issued for a new dwelling unit site, lot, parcel or tract of land intended for placement of a habitable structure including single family homes, residential subdivisions, modular home sites and modular home subdivisions where the site is:

- i. An alternative buildable area located outside the limits of the SFHA is available;
- ii. Unable to be removed from the SFHA through the formal FEMA map revision process described in Article 4, § 4.4;
- iii. Absent all weather access.

SECTION 4.3 PROCEDURES FOR SUBDIVISION PROPOSALS

All subdivision proposals which include area traversed by, bisected by, or directly adjacent to SFHA, including manufactured home parks and manufactured home subdivisions shall be required to secure a Floodplain Development Permit per Article 4, §4.4, and:

- A. SFHA may be used in computation of density;
- B. SFHA may be utilized to meet open space criteria;
- C. Primary and secondary subdivision access as required by County Code must be all weather access;
- D. For phased subdivisions, an overall Master Drainage Analysis shall be provided which demonstrates that floodplain management policies and stormwater management criteria will be compliant with this Ordinance and function independently in each phase, or construction of the entire conveyance system will be required in the first phase of construction.

SECTION 4.4 FLOODPLAIN DEVELOPMENT PERMIT ISSUANCE

A Floodplain Development Permit shall be issued by the Floodplain Administrator and recorded with the Plat, Warranty Deed and/or Development Permit only after:

- A. A detailed Stormwater Management Analysis prepared pursuant to the criteria outlined in Article 5 is submitted and approved by all local, state and federal agencies as required.
- B. Approval or denial of a Floodplain Development Permit by the Floodplain Administrator shall be based on all of the provisions of this Ordinance and the following relevant factors:
 - a. The danger to life and property due to flooding or erosion damage;
 - b. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - c. The danger that materials may be swept onto other lands to the injury of others;
 - d. The compatibility of the proposed use with existing and anticipated development;
 - e. The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - f. The costs of providing governmental services during and after flood conditions including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems;
 - g. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site;
 - h. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - i. All necessary state and federal permits have been attained.

SECTION 4.5 MAP REVISION/AMENDMENT PROCEDURES

In the event that development of any kind alters the width, height, location or character of the SFHA, or if an applicant makes a request to FEMA to remove a parcel, tract, lot, or structure from the SFHA, National Flood Insurance Program (NFIP) regulations provide procedures to remove property from the 100-year floodplain (SFHA). These procedures must be followed prior to issuance of permits per Article 2, § 2.2A(e).

- A. The Federal Insurance Administrator (FIA) will review information from the community, an owner, or a lessee of property where it is believed the property should not be included in a Special Flood Hazard Area. Submissions to FEMA for revisions to effective Flood Insurance Studies (FIS) by individual and community requesters will require the signing of FEMA application/certification forms by the Floodplain Administrator. These forms will provide FEMA

with assurance that all pertinent data relating to the revision is included in the submittal. They will also assure that:

- a. The data and methodology are based on current conditions;
- b. Qualified professionals have assembled data and performed all necessary computations; and
- c. All individuals and organizations impacted by proposed changes are aware of the changes and will have an opportunity to comment on them.

B. FEMA procedures as defined in 44 CFR § 65 permits the following types of requests:

- a. A revision to the effective FIS information (FIRM, FBFM, and / or FIS report) is usually a request that FEMA replace the effective floodplain boundaries, flood profiles, floodway boundaries, etc., with those determined by the requester. Before FEMA will replace the effective FIS information with the revised, the requester must:
 - i. provide all of the data used in determining the revised floodplain boundaries, flood profiles, floodway boundaries, etc.;
 - ii. provide all data using detailed methods necessary to demonstrate that the physical modifications to the floodplain have been adequately designed to withstand the impacts of the 1% annual chance flood event and will be adequately maintained;
 - iii. Demonstrate that the revised information (e.g., hydrologic and hydraulic analyses and the resulting floodplain and floodway boundaries) are consistent with the effective FIS information.

C. Applicant's requests for amendments or revisions to FEMA maps must be reviewed and submitted to FEMA by Santa Fe County. The Applicant for a map amendment or revision is required to prepare all the supporting information and appropriate FEMA forms, obtain necessary signatures and remit all review fees to Santa Fe County for review and submission to FEMA. The scientific or technical information to be submitted with these requests must be based on current FEMA requirements and may include, but is not limited to the following:

- a. An actual copy of the recorded Plat bearing the seal of the County Clerk indicating the official recordation and proper citation, Deed or plat book volume and page number, or an equivalent identification where annotation of the deed or plat book is not the practice.
- b. A topographical map showing:
 - i. Ground elevation contours in relation to North American Datum 1983 (NAD 83).
 - ii. The total area of the property in question.

- iii. The location of the structure or structures located on the property in question.
 - iv. The elevation of the lowest adjacent grade to a structure or structures.
 - v. An indication of the curvilinear line which represents the area subject to inundation by a base flood. The curvilinear line should be based upon information provided by an appropriate authoritative source, such as a Federal Agency, a County or City Engineer, a Federal Emergency Management Agency Flood Insurance Study, or a determination by a Registered Professional Engineer.
- c. A copy of the FIRM indicating the location of the property in question.
 - d. A certification by a Registered Professional Engineer or Licensed Land Surveyor that the lowest grade adjacent to the structure is equal to or greater than the base flood elevation.
 - e. The completion of the appropriate forms in the Federal Emergency Management Agency's Packets, Amendments and Revisions To National Flood Insurance Program Maps (MT-1 FEMA FORM 81-87 Series and MT-2 FEMA FORM 81-89 Series or latest revision).
- D. The NFIP does not allow for the removal of land from the floodplain based on the placement of fill (LOMR-F) in alluvial fan flood hazard areas. The NFIP will credit a major structural flood control project, through the LOMR process, that will effectively eliminate alluvial fan flood hazards from the protected area. Details about map revisions for alluvial fan areas can be found in the 44 CFR, § 65.13.

SECTION 4.6

VARIANCE PROCEDURES

- A. The BCC after recommendation by the County Development Review Committee (CDRC), shall hear and render judgment on a request for variance from the requirements of this Ordinance.
- B. The CDRC may recommend and the BCC take action on an appeal of the Floodplain Administrator's decision only when it is alleged there is an error in any requirement, decision, or determination made by the Floodplain Administrator in the enforcement or administration of this Ordinance.
- C. Any person or persons aggrieved by the decision of the BCC may appeal such decision to a court of competent jurisdiction within thirty days of the BCC decision.
- D. The Floodplain Administrator shall maintain a record of all actions involving an appeal and shall report variances to the Federal Emergency Management Agency upon request.

- E. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this Ordinance.
- F. Variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the relevant factors in Section C(2) of this Article have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.
- G. Upon consideration of the factors noted above and the intent of this Ordinance, the BCC may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this Ordinance (Article 1, Section C).
- H. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- I. Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- J. Prerequisites for granting variances:
 - a. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - b. Variances shall only be issued upon, (i) showing a good and sufficient cause; (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, the creation of a nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
 - c. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
 - d. Variances may be issued by the BCC for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that:
 - i. the criteria outlined in Article 4, Section D (1)-(9) are met, and

- ii. the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

ARTICLE 5

Stormwater Management Analysis and Design Criteria

SECTION 5.1 DETERMINATION OF SUBMITTAL REQUIREMENTS

- A. The land disturbance process and complexity of the site and surrounding area will determine submittal requirements for a Stormwater Management Analysis for land disturbance activity or activities. The minimum information required is tabulated in Article 6, Table I.
- B. The submittal and review process does not relieve the design engineer of the responsibility to provide a correct and safe drainage design nor relieve the developer from properly constructing the designed drainage facilities.
- C. By reviewing and approving drainage designs for given developments neither Santa Fe County nor its employees will assume liability for improper drainage design nor guarantee that the final drainage design review will absolve the developer or designer of future liability for improper design.

SECTION 5.2 GENERAL FORMAT OF NARRATIVE

- A. A Stormwater Management Analysis will be required for all land disturbance activity, regardless of the nature of the activity. This analysis is required to assess potential hazard to the development from the effects of onsite and offsite stormwater runoff, and to assess the potential impact of the development on adjacent properties and on the regulatory floodplain, and must be prepared pursuant to Article 5, §5.2 and must be sealed by a professional engineer licensed in the State of New Mexico.
- B. The Stormwater Management Analysis shall be submitted with the following information included therein:
 - a. Comprehensive narrative describing:
 - i. the nature of the disturbance,
 - ii. impacts on adjacent parcels,
 - iii. impacts on the SFHA,
 - iv. offsite contributing hydrologic basin areas,

- v. onsite contributing hydrologic basin areas,
 - vi. hydrologic and hydraulic methodology,
 - vii. all weather access,
 - viii. phasing, and
 - ix. conclusions
- b. Computations and calculations supporting conclusions
- c. Exhibits and mapping
- d. Conceptual, preliminary or final improvement plans
- C. The post-development peak discharge shall be quantified at all design points and points of inflow and compared to the pre-development peak discharge and the quantity of stormwater released from the development shall not exceed the pre-development peak discharge;
- D. Historic drainage patterns must be maintained at points of inflow and discharge from the subject property;
- E. Incorporation of landscaped areas in the storm drainage design is encouraged;
- F. Dedication of areas impacted by stormwater as open space is encouraged.

SECTION 5.3 ADDITIONAL REQUIREMENTS FOR SFHA SUBMITTALS

For all land disturbance activity including substantial improvements to existing structures proposed with the regulatory SFHA the analyses shall include:

- A. A graphic depiction of the location of the SFHA from the effective FIRM or as defined by a professional engineer;
- B. Base flood elevation (BFE) from the effective FIRM; or if a BFE is not provided on the FIRM, the Floodplain Development Permit shall not be issued until the base flood elevation has been determined through a detailed analysis prepared and sealed by a professional engineer licensed in the State of New Mexico using the most current principles and practices available and acceptable to FEMA in the establishment of regulatory floodplains (Zone A, A1-30, AO, AH, AR, AE and D) and regulatory floodways (Zone AE with floodway);
- C. Elevation (in relation to mean sea level), of the lowest floor (including basement) of all new and substantially improved structures;
- D. Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed;

- E. A certificate from a registered professional engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of Article 5, Section B (2);
- F. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development;
- G. A statement on the Plat that all or a portion of the land is in the SFHA with a reference to the effective FIRM;
- H. A statement in the Subdivision Disclosure that the project is encumbered by floodplain and that flood insurance may be required by lenders to secure a federally insured loan;
- I. Reference to the FEMA Elevation Certificate (Form 81-31 as amended) as filed along with the Plat in the Office of the County Clerk.

SECTION 5.4 DESIGN STORM EVENT

Peak storm discharge (Q) used for quantification of stormwater in Santa Fe County shall be based upon the following:

- A. 100-year, 24-hour recurrence interval storm event (1%) with precipitation values as quantified by:
 - a. Isopluvial maps or output from the National Oceanic and Atmospheric Association (NOAA) website.
- B. FEMA FIS for Santa Fe County.

SECTION 5.5 HYDROLOGIC METHODOLOGY

- A. The hydrologic analysis prepared to analyze the impact of stormwater runoff on the proposed development shall consider variable factors that affect the nature of stormwater runoff reaching and leaving the site. Factors that must be considered include:
 - a. rainfall amount and storm distribution;
 - b. drainage area size, shape, and orientation;
 - c. ground cover and soil type;
 - d. slopes of terrain and stream channel(s);
 - e. antecedent moisture condition;
 - f. storage potential (floodplains, ponds, wetlands, reservoirs, channels, etc.);
 - g. watershed development potential; and
 - h. characteristics of the contributing basins and local drainage system.

- C. The following methods have been selected by Santa Fe County to support hydrologic site analysis for the design methods and procedures readily accepted by FEMA for use in this region:
- a. For sites with offsite contributing drainage areas less than 50-acres, the Rational Method or TR-55 may be utilized to quantify flows.
 - b. For sites with offsite contributing drainage areas in an urban setting from 50-acres to 100-acres, TR-55 may be utilized.
 - c. For sites with offsite contributing drainage areas in rural setting greater than 50-acres or with contributing offsite areas greater than 100-acres the Soil Conservation Service (SCS) Unit Hydrograph Method or United States Geological Survey (USGS) Regression Equations TR-20, HEC-1, HEC-HMS must be utilized,
 - d. All project sites with on-site areas greater than 100-acres must use TR-20, HEC-1, or HEC-HMS, or alternate program acceptable to FEMA and approved by the Floodplain Administrator.
- D. Curve numbers utilized in hydrologic calculations shall be tabulated in the narrative of the analysis and shall be submitted on Standard Form 3, and based on:
- a. The SCS Curve Number Method as it relates to hydrologic soil group (A, B, C, or D), land use, cover and antecedent moisture condition;
 - b. An SCS Type II antecedent moisture condition (AMCII)
 - c. Composite CN values representative of prevalent soil and surface types
- E. Time of Concentration Calculations for both urban and non urban hydrologic basins shall be based on the following equations and submitted on Standard Form 2, as provided in Article 6:
- a. For smaller hydrologic basins (less than one square mile) the following equation is recommended:

$$t_c = t_i + t_t$$

Wherein:

t_c = Time of Concentration

t_i = Initial, Inlet, or Overland Flow Time

t_t = Travel time in the ditch, arroyo, channel, gutter, storm sewer, etc, in minutes

$$TLAG = 0.6t_c \quad (\text{source: SCS, 1985})$$

- b. For larger hydrologic basins, the following equation (United States Bureau of Reclamation, 1989) is recommended:

$$TLAG = 20 K_n (LL_c/S^{0.5})^{0.33}$$

Wherein:

K_n = Roughness Factor for the basin's channels

Urbanized Areas (watercourse primarily impervious) = .015

Natural Areas (watercourse is well defined, unimproved channels or arroyos, watershed has minimal vegetation) = .030

Natural Areas (watercourses are not well defined, and consist of small rills and braided areas. Runoff combines slowly into channel. Includes mountainous channels with large boulders and flow restrictions) = .050

(source: USACE, 1982)

L = Length of the longest watercourse (miles)

L_c = Length along the longest watercourse measured upstream to a point opposite the basin centroid (miles)

S = representative average slope of the longest watercourse (feet per mile)

- c. The minimum recommended time of concentration for urbanized areas is five minutes.
- d. The minimum recommended time of concentration for non-urbanized areas is ten minutes.
- e. When time of concentration is computed internally to a hydrologic analysis program, the model input and output shall be provided.

SECTION 5.6

HYDRAULIC METHODOLOGY

Methods for establishing the hydraulic properties including flow regime, hydraulic grade line and energy grade in arroyos, culverts, open channels and closed systems such as storm drains, shall be based on methods acceptable to FEMA pursuant to Article 3, § 3.5, and:

- A. Computation of uniform flow and normal depth shall be based upon Manning's formula and Manning's roughness coefficients;
- B. Hydraulic analysis will be required for all conveyances where the contributing area exceeds 25-acres (refer to Article 6, Table 1). The analysis must be prepared utilizing a numeric model

approved pursuant to 44CFR, §65.6(a)(6) (i.e. HEC2, HECRAS, WSPRO, CulvertMaster, etc). Input and output files must be submitted for review and approval by the Floodplain Administrator;

- C. Where the contributing area is less than 25-acres, or a SFHA is not mapped by FEMA, culvert design shall be based on FHWA (Federal Highway Administration), publication No. FHWA-NHI-01.020, HDSN5 "Hydraulic Design of Highway Culverts".

SECTION 5.7 EROSION SETBACK REQUIREMENTS

- A. Erosion setbacks shall be provided for structures adjacent to natural arroyos, channels, or streams. The Detailed computations based on current principals and practices in determining the potential for lateral migration of channels are required. Erosion setbacks shall be contained within an easement and shall be established based on the following:
- a. A minimum setback of 75' must be provided from all unstudied SFHA
 - b. A minimum setback of 50' must be provided from all arroyos not mapped as SFHA with flow rates in excess of 25 cubic feet per second (CFS)
- B. Setback distances must be measured from the top of bank on incised channels, with the top of bank based on a slope of 3:1 from the channel bottom (toe)
- C. Setbacks may be reduced if engineered bank stabilization is designed by the engineer and approved by the Floodplain Administrator,
- D. Setbacks may be reduced if a detailed analysis is provided by the engineer and approved by the Floodplain Administrator which demonstrates that the setback can be reduced based on stream bed and stream bank stability.
- E. In no case shall any structure be sited closer than 25' to any non-structurally stabilized conveyance.

SECTION 5.8 STORMWATER DETENTION AND RETENTION

Detention and/or retention of post development peak discharge is required per Article 5, § 5.1 and these storage facilities must be equipped and designed based on the following:

- A. Coincident peaks due to site detention shall be regulated through detention facility design and shall not be allowed to increase the volume of the peak anticipated at the point of discharge;
- B. An emergency spillway must be provided;
- C. Detention or retention facilities which impound a volume of 10 acre feet, or facilities that have and embankment height of greater than 10-feet will require the approval of the State Engineer;
- D. Detention facilities shall be designed to drain within a 48-hour period;

- E. A minimum of one foot of freeboard must be provided.
- F. Detention and Retention facilities shall be designed with sideslopes not exceeding 3:1;
- G. Facilities where overall depth is greater than four feet must be fenced;
- H. Maintenance access must be provided;
- I. Retention facilities that cannot be designed to drain within a 24-hour period shall be designed to accommodate twice (2x) the calculated volume required to retain the post development peak;
- J. A soil survey which demonstrates permeability and percolation rate must be submitted for all retention facilities that are designed with a volume greater than 500 cubic feet;
- K. Detention and retention pond areas shall be landscaped with native vegetation;
- L. Detention and retention facilities shall be contained in private drainage easement(s) or privately maintained public drainage easements;
- M. Joint use detention facilities are encouraged, but must incorporate signage warning users to vacate in the event of inclement weather per Article 3, § 3.5, and must be designed in a manner to facilitate evacuation.

SECTION 5.9 CULVERTS, OPEN CHANNELS AND STORMDRAIN SYSTEMS

Channels, stormdrain systems and combinations of these systems shall be designed to convey the design storm based on current engineering principals and practices and shall:

- A. Have sufficient capacity to prevent roadway overtopping in the 100-year event—all properties must have all weather access as stated in Article 4, §4.2;
- B. Be designed to safely pass the 100-year storm without adversely impacting upstream or downstream property;
- C. Be designed, in the case of open channels, to convey the 100-year storm with a minimum of one (1) foot of freeboard; and
 - a. Maximum velocity in open channels shall be based upon Table IV, Article 6 and;
 - b. Velocity in unlined channels shall not exceed 4 feet per second unless it can be demonstrated by a licensed professional engineer that through soil stabilization and revegetation measures that erosion will not occur;
 - c. Energy dissipation will be required at all conveyance outlets where velocity exceeds 4 feet per second;

- d. Acequias are not to be used for stormwater conveyance or storage;
- D. Protect cut slopes from rill erosion through construction of a berm and trainer ditch at the top of the slope to direct flow away from the cut area, velocity in the trainer ditch shall not exceed 4 feet per second and shall be revegetated;
- E. Drop structures and energy dissipation shall be provided to maintain velocity as required.
- F. Stormdrain systems include pipes, drop inlets, manholes, shall be designed to maintain a 12-foot dry lane in the road or street for the passage of emergency vehicles, and shall be based on current engineering principals and practices and shall as a minimum:
 - a. Be sized so that the HGL is 1' below the surface
 - b. Have the EGL and HGL calculated to include all hydraulic losses including, friction, expansion, contraction, bend and junction losses
 - c. Be designed with a maximum velocity of 25 fps
 - d. Have a minimum cover of 1', or concrete encasement may be required
 - e. Be located a minimum of 18" below water mains where crossings occur
 - f. Be located a minimum of 12" clear vertically above or below any sanity sewer main
- G. Computations and calculations associated with the design of these systems shall be submitted as an exhibit in the comprehensive narrative report as required in Article 5, §5.2.
- H. Be placed with sufficient bedding based on soil conditions to assure maximum lifetime.

SECTION 5.10

FLOODPROOFING

- A. Where floodproofing of a new or existing commercial structure is proposed as a means of compliance with Article 3, or FEMA 44 CFR §60.3, the following minimum information must be submitted:
 - a. Technical data demonstrating that the floodproofing measures can demonstrate that:
 - i. such use or improvements will not impede drainage,
 - ii. will not cause ponding,
 - i. will not obstruct a floodway,
 - ii. will not increase flood flow velocities,
 - iii. will not increase the flood stage,
 - iv. will not retard the movement of floodwaters.
 - v. will be constructed so as not to catch or collect debris nor be damaged by floodwaters.

- b. Elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures (FEMA Form 81-31; Elevation Certificate);
- c. Elevation in relation to mean sea level to which any nonresidential structure shall be flood-proofed;
- d. Certification from a registered professional engineer or architect that finished fill and building elevations were accomplished in compliance with the provisions of this Ordinance and certification from a registered professional engineer that any nonresidential flood-proofed structure meets the floodproofing criteria of Article 3, Section 3.11 and must include a FEMA Floodproofing Certificate (Form 81-65) signed by a registered professional engineer or architect certifying that the design and methods of construction will be in accordance with accepted standards of practice for meeting the provisions of NFIP 44 CFR 60.3(c)(3)

SECTION 5.11**BASIS FOR APPROVAL OR DENIAL**

Approval or denial of a Stormwater Management Analysis by the Floodplain Administrator shall be based on all of the provisions of this Ordinance, the provisions of FEMA 44 CFR and the following relevant factors:

- A. The danger to life and property due to flooding or erosion damage;
- B. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- C. The danger that materials may be swept onto other lands to the injury of others;
- D. The compatibility of the proposed use with existing and anticipated development;
- E. The safety of access to the property in times of flood for ordinary and emergency vehicles;
- F. The costs of providing governmental services during and after flood conditions including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems;
- G. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site;
- H. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
- I. Demonstration that all necessary state and federal permits have been attained.

ARTICLE 6

Standard Forms and Tables

The following Standard Forms and Tables are provided to assist in the interpretation of the Ordinance and to establish minimum submittal requirements in a comprehensive format:



SANTA FE COUNTY GROWTH MANAGEMENT DEPARTMENT
FLOODPLAIN DEVELOPMENT PERMIT
STANDARD FORM 1—Page One

<i>For Internal Use Only</i>		
Date: _____	Case No: _____	
Case Planner: _____	Hearing Date: _____	
Signature of FP Administrator: _____		
PROJECT INFORMATION:		
Project Address: _____	Plat Reference: _____	
	Subdivision: _____	
	Section: ____ Township ____ Range ____	
OWNER INFORMATION:		
Property Owner(s): _____	_____	
Telephone: _____	_____	
Fax: _____	_____	
Address: _____	_____	
Signature of Owner(s) listed above: _____		
APPLICANT INFORMATION:		
Applicant(s): _____	_____	
Telephone: _____	_____	
Fax: _____	_____	
Address: _____	_____	
PROJECT TYPE:		
☐ New Structure	☐ Addition to Structure	☐ Residential
☐ Non-residential	☐ Change in watercourse	☐ Directly adjacent
Description of Work (i.e.: first floor addition of 750 square feet; or construction of bike path, etc.):		
Floodplain Information:		
☐ Zone AE w/regulatory floodway	☐ Zone A	☐ Zone D
☐ Zone AE w/out regulatory floodway	☐ Zone AO	☐ Zone AH
☐ Zone X (shaded)	☐ Zone AR	☐ Directly Adjacent



SANTA FE COUNTY GROWTH MANAGEMENT DEPARTMENT
FLOODPLAIN DEVELOPMENT PERMIT
STANDARD FORM 1—Page Two

STRUCTURE INFORMATION:

100-Year Water Surface Elevation Defined on FIRM: ☐ Yes ☐ No
 If "yes": Upstream X-Section Number: _____ Downstream X-Section Number.: _____
 Predicted 100-year Water surface elevation: _____
 If "no": What is the location of the highest grade adjacent to the structure? _____
 Elevation of Highest Adjacent Grade: _____
 Is there buildable area outside the SFHA shown on the FIRM: ☐ Yes ☐ No
 Has an analysis been prepared for unstudied Zone A to determine WSEL? ☐ Yes ☐ No

Additions Only:

Construction Year: _____
 Approximate year(s) previous additions built: _____
 Existing habitable floor area: _____
 Habitable floor area proposed: _____

FLOODPROOFING INFORMATION:

Is floodproofing proposed?: ☐ Yes ☐ No
 Describe floodproofing measures: _____

Engineer/Surveyor Certification:

I, _____, a registered professional _____ in the State of
 New Mexico hereby certify that the information provided hereon is true and correct to
 the best of my knowledge and belief, signed this _____ day of _____,
 200_____.

Professional Seal:



Submittal Information:

Submittal contains all information required per Table 1	☐ Yes	☐ No
Submittal contains all information required per Table II	☐ Yes	☐ No
Submittal contains all information required per Table IIa	☐ Yes	☐ No
Improvement Plans as required by Table III	☐ Yes	☐ No
Elevation Certificate submitted	☐ Yes	☐ No
CLOMR Required	☐ Yes	☐ No
LOMR Required	☐ Yes	☐ No



SANTA FE COUNTY GROWTH MANAGEMENT DEPARTMENT
STANDARD FORM 2

SUBBASIN DATA					INITIAL/OVERLAND TIME (Ti)		TRAVEL TIME							Tc Check		TOC Total/TLAG	
Basin Number	Area (sq. mi.)	Area (acres)	K value	CN	Length	Slope %	Ti min.	Length	Slope	Velocity	Tt min	Total	Total length (ft)	$t_c = (l/180) + 10$ (min)	Use lowest total min	Tag	
					EXISTING CONDITIONS												
EXAMPLE1	0.019	11.91	0.015	86	150	1	23.92	1650.7	0.56	4	6.88	30.80	1800.68	20.00	20.00	0.20	
					DEVELOPED CONDITIONS												



SANTA FE COUNTY GROWTH MANAGEMENT DEPARTMENT
STANDARD FORM 3

COMPOSITE CN VALUE TABULATION

Subbasin	Area (sq. mi.)	Area (acres)	% HSG A	% HSG B	%HSG C	% HSG D	Land Use Description	CN B	CN C	Composite CN	
example1	0.670	428.67	0	44	56	0	pinon/juniper woodland--poor	44% CN75	56% CN85	44%CN75=33.00 56%CN85=47.60 USE CN 81	

SANTA FE COUNTY GROWTH MANAGEMENT DEPARTMENT

Table 1

STORMWATER MANAGEMENT SUBMITTAL REQUIREMENTS

LAND DEVELOPMENT OR LAND DISTURBANCE PROCESS	Upstream Contributing Drainage Area less than 25 acres	Upstream Contributing Drainage Area greater than 25 acres	FEMA Designated Special Flood Hazard Area—Regulatory Floodplain
DEVELOPMENT PERMIT			
Single Family Home	3,6	2,3,6	1,3,4,5,6
Modular Home	3,6	2,3,6	1,3,4,5,6
Accessory Structure	3,6	2,3,6	1,3,4,5,6
Fence	3,6	2,3,6	2,3,4,5,6
Driveways/Roads	3,6	2,3,6	1,3,4,5,6
Grading	3,6	2,3,6	1,3,4,5,6
Interior Remodel/Tenant Improvement	n/a	n/a	*provide copy of Elevation Certificate
Utility	3,6	2,3,6	1,3,4,5,6
LAND DIVISIONS, FAMILY TRANSFERS, LOT LINE ADJUSTMENTS			
Lot Line Adjustment	3	2,3	1,3,4,5
Family Transfer Land Division	3	2,3	1,3,4,5
Land Division- 2 lots	3	2,3	1,3,4,5
Re-Plat	3	2,3	1,3,4,5
MASTER PLAN			
Subdivision-25 or more lots-Residential	2,3,6	2,3,6	2,3,4,5
Commercial-single lot	3,6	2,3,6	2,3,4,5
Commercial-6 or more lots-Subdivision	2,3,6	1,3,6	2,3,4,5
Community Service Facility	3,6	2,3,6	2,3,4,5,7
PRELIMINARY DEVELOPMENT PLAN			
Subdivision-3 or more lots-Residential	2,3,6	1,3,6	2,3,4,5,6
Commercial-single lot	3,6	2,3,6	2,3,4,5,6
Commercial-2 or more lots-Subdivision	1,3,6	1,3,6	2,3,4,5,6
Community Service Facility	3,6	2,3,6	2,3,4,5,6,7
FINAL DEVELOPMENT PLAN			
Subdivision-3 or more lots-Residential	1,3,6	1,3,6	1,3,4,5,6
Commercial-single lot	2,3,6	1,3,6	1,3,4,5,6
Commercial-2 or more lots-Subdivision	1,3,6	2,3,6	1,3,4,5,6
Community Service Facility	2,3,6	2,3,6	1,3,4,5,6,7

- 1) Detailed Technical Drainage Analysis Per Table IIa
- 2) Conceptual Drainage Analysis Per Table I—a detailed analysis may be required in some cases if required by County staff. The requirement for a Conceptual Drainage Analysis may also be waived by staff based on site conditions.
- 3) Compliance with Terrain Management Guidelines must be demonstrated
- 4) Elevation Certificate and/or Floodplain Development Permit required
- 5) Compliance with 44CFR§60.3 and Ordinance 2008- ____ required
- 6) Construction Improvement Plans Per Table III
- 7) Fire Stations, Schools, Critical Care Facilities must be located outside the limits of the 500-year floodplain per FEMA

All projects must be submitted with a topographic map indicating the location and estimated area of the contributing watershed in order to determine the required stormwater management submittal process.

SANTA FE COUNTY GROWTH MANAGEMENT DEPARTMENT
Table II

CONCEPTUAL DRAINAGE ANALYSIS

Report Narrative:	Drainage Plan (minimum 8-1/2"x11"):
Introduction: • Project Name • Date • Preparer's Name, Professional Seal, Address, Contact Information • Description of Project including area in acres • Existing Site Conditions • Proposed Site Conditions	○ Locate and label development boundary ○ Identify adjacent streets ○ Delineate 100-year floodplain from FIRM on Site Plan ○ Indicate existing and/or planned flood control facilities including detention/retention location ○ Using flow arrows, clearly indicate flow paths and patterns support with topography ○ Indicate design inflow points and design outflow points and corresponding design storm flow rates. ○ Delineate Erosion Setback ○ Horizontally locate buildable areas ○ Easement locations and widths ○ North Arrow ○ Scale ○ Benchmark ○ Engineer's Seal and Signature ○ Area in acres ○ Onsite basin subareas ○ Reference to Plat Book and Page, and FEMA FIRM ○ Owner's name ○ Project name
Hydrology/Hydraulics: • Discuss existing and proposed drainage basin boundaries • Discuss existing and proposed drainage patterns • Discuss FEMA Floodplain	
Proposed Drainage Facilities: • Discuss routing of flow in and/or around site and location of drainage facilities • Discuss mitigation measures • Discuss floodplain modifications • Present preliminary calculations for proposed facilities and typical sections for stormwater conveyance	
Conclusions: • Compliance with applicable Code, Ordinance, Federal Emergency Management Agency criteria (if applicable) • Discuss ability to provide emergency all weather access • Discuss effect of development on adjacent properties	
Required Exhibits and Calculations:	A Conceptual Drainage Analysis is a short letter type report which addresses existing and proposed drainage conditions from sites which generally have minor impact on local drainage facilities. The Conceptual Drainage Analysis documents the existing drainage conditions of the property as well as presents the overall concept of the proposed drainage system. The Conceptual Drainage Study shall address all applicable Code and Ordinance criteria, with preliminary hydrology and hydraulics. Detailed hydrology and hydraulics shall be addressed in the Technical Drainage Analysis. The Conceptual Drainage Analysis shall contain a brief narrative letter, a Calculation Appendix, and a Drainage Plan in accordance with the outline shown hereon.
Exhibits: • Site Vicinity Map • FEMA FIRM or FIRMETTE with Site depicted thereon • Contributing Watershed Map with Offsite and Onsite drainage subareas delineated • Soil Map with site depicted thereon • Drainage Plan Calculations Appendix: • Runoff calculations (existing and proposed) • Street and drainage facility capacity calculations, existing and proposed flood limit calculations • Detention calculations (if applicable) • Drainage Plan	

SANTA FE COUNTY GROWTH MANAGEMENT DEPARTMENT

Table IIa

DETAILED TECHNICAL DRAINAGE ANALYSIS	
Report Narrative:	Required Calculations:
Introduction: - Project Name - Preparer's Name, Professional Seal, Address, Contact Information - Description of Project including area in acres - Existing Site Conditions - Proposed Site Conditions Hydrology/Hydraulics: - Discuss existing and proposed drainage basin boundaries - Discuss existing drainage patterns, including methodology of hydrologic and hydraulic analysis - Discuss offsite and onsite flows, downstream capacity, impacts of project on historic drainage patterns - Discuss pre and post project FEMA floodplain Existing/Proposed Drainage Facilities: - Discuss routing of flow in and/or around site and location of drainage facilities - Discuss mitigation measures - Discuss floodplain modifications Conclusions: - Compliance with applicable Code, Ordinance, Federal Emergency Management Agency criteria - Hydrologic Summary Table (existing and proposed) - Hydraulic Summary Table (existing and proposed) - Discuss ability to provide emergency all weather access - Discuss effect of development on adjacent properties - Phasing of all drainage facilities must be discussed	- Composite CN calculations - Time of Concentration calculations - Street capacity calculations, (25-year and 100-year) - Detention calculations including: - Emergency Spillway Design 100-year volume, Drain Time - Discharge volume - Outlet velocity - Freeboard - Storm Sewer System Hydraulics including: - Energy Grade Line (EGL) and Hydraulic Grade Line (HGL) calculations - Inlet and outlet condition assumptions - Stormdrain Inlet Capacity Calculations - Other hydraulic structure flow calculations - Channel Routing (must use Muskingum-Cunge procedure) - Reservoir Routing - Arroyo, Channel, Culvert, Bridge Capacity Calculations - Arroyo / channel stability addressed including: - Scour Calculations - Superelevation Calculations - Sediment Yield/Sediment Transport (aggradation/degradation analysis) - Freeboard - Downstream Capacity Operations and Maintenance: - Operations / Maintenance requirements including maintenance procedures for privately maintained facilities, with projected annual maintenance costs for incorporation into homeowners association documents and subdivision disclosure statement - Easement requirements for the proposed drainage facilities
Required Exhibits:	
- Site Vicinity Map - FEMA FIRM or FIRMETTE with site depicted thereon - Site plan with buildable areas indicated thereon - Scaleable Contributing Watershed Map with Offsite and Onsite drainage subareas delineated - Rainfall Distribution 100-yr. /24 hr. recurrence interval - Modeling Schematic - NRCS Soil Map with site depicted thereon - SCS CN Values used - Hydrologic and Hydraulic Models Input and Output files (paper and digital copy) - Drainage and Construction Improvement Plans - Elevation Certificate(s) for all sites traversed by or directly adjacent to FEMA floodplain	The Technical Drainage Analysis discusses at a detailed level the existing site hydrologic conditions and the proposed drainage plan to accommodate or modify these site drainage conditions in conformity with the Final Development Plan for the site. The Technical Drainage Analysis addresses both on-site and off-site drainage analysis and improvements necessary to mitigate the impact of the proposed development on adjacent properties in accordance with current Federal and local drainage criteria. The Technical Drainage Analysis shall contain a comprehensive narrative report with detailed exhibits, a Calculation Appendix, and final Construction Improvement Plans in accordance with the outline shown hereon. Failure to provide this information may result in a submittal being rejected.

SANTA FE COUNTY GROWTH MANAGEMENT DEPARTMENT

Table III

DRAINAGE AND CONSTRUCTION IMPROVEMENT PLANS**MINIMUM INFORMATION AND DETAILS:
ALL SHEETS:**

- Project Name
- Date
- Preparer's Name, Address, Contact Information
- Professional Seal,
- North Arrow,
- Graphic scale,
- Benchmark
- Basis of bearings
- Legend
- 24"X36" Plan Sheets
- Usable and reproducible scale
(1" = 20' to 1" = 200' recommended)

Off Site DRAINAGE PLAN:

- A map, provided at a usable scale, showing the drainage boundary of the proposed project and its relationship with existing drainage patterns
- Existing drainage basin boundaries and sub-boundaries with areas, soil types, CN values and Pre and Post Q100 concentration points, and flow patterns
- Limits of existing floodplains based on the FIRM or based on the best available information; include existing and proposed BFE's or water surface elevations for areas outside the SFHA

Improvement PLAN:

- Plan and profiles for Storm sewers, inlets, outlets and manholes with pertinent elevations, dimensions, type and horizontal control
- Culverts, end sections and inlet/outlet protections with dimensions, type elevations, and horizontal control
- Plans and profiles of channels, ditches, and swales with lengths, widths, cross-sections, grades and erosion control measures
- Details of all checkdams, channel drops and erosion control facilities
- HGL's for storm sewers and channels including flow rates
- Profiles for all outfall pipes and channels,
- Maintenance Access

Note: Details show on Improvement Plans must be cross referenced to the Drainage Plans to facilitate review.

OnSite DRAINAGE PLAN:

- The property description including total acreage as well as the location of the proposed project by means of a small location map.
- Property lines and roadways including right-of-way widths, include Plat references
- Existing contours and proposed elevations sufficient to analyze drainage patterns extending 100' past property lines
- The location and description of all on-site and adjacent off-site features including: adjoining roads and subdivisions; railroads; high tension power lines and/or underground transmission lines; cemeteries; parks; natural and artificial watercourses, wetlands and wetland boundaries, designated natural areas and significant natural features,
- Proposed and existing drains, sewers, water mains, septic fields, and wells;
- Lot layout and acreage, including proposed streets, roads and alleys.
- Buildable areas must be dimensioned, horizontally located with an area in square feet shown thereon
- Existing and proposed easements with dimensions
- Proposed drainage basin boundaries and sub-boundaries with areas, soil types, CN values and Pre and Post Q100 concentration points, and flow patterns
- Existing and proposed drainage facilities and structures, including ditches, storm sewers, channels, and culverts. Include pertinent information such as material, size, shape, slope and location
- Limits of existing and proposed floodplains based on the FIRM or based on the best available information; include existing and proposed BFE's or water surface elevations for areas outside the SFHA
- If the project is to be completed in phases, the number of acres in each phase shall also be included.
- Spot elevations at all design points, including lot corners, top and bottom of retaining walls, top and flowline of curbs, intersection grades, channel inverts, storm drain facilities, etc.
- Inlet and outlet invert elevations for all drainage structures and facilities, with headwater pools indicated within easement
- Pond capacity in cubic feet and acre feet, 100-year water surface elevation, drain time, outlet details, emergency overflow location and details, landscaping.
- Erosion Setbacks

SANTA FE COUNTY GROWTH MANAGEMENT DEPARTMENT
Table IV

MAXIMUM PERMISSIBLE CHANNEL VELOCITIES

NATURAL AND IMPROVED UNLINED CHANNELS:

Fine Sand, colloidal.....	1.50
Sandy Loam, noncolloidal.....	1.75
Silt loam, noncolloidal.....	2.00
Alluvial silts, noncolloidal.....	2.00
Ordinary firm loam.....	2.50
Volcanic ash.....	2.50
Stiff clay, very colloidal.....	3.75
Alluvial silts, colloidal.....	3.75
Shales and hardpans.....	6.00
Fine gravel.....	2.50
Graded loam to cobbles, when non colloidal.....	3.75
Graded silts to cobbles, when colloidal	4.00
Coarse gravel, noncolloidal.....	4.00
Cobbles and shingles.....	5.00
Sandy Silt.....	2.00
Silty Clay.....	2.50
Clay	6.00
Poor sedimentary rock.....	10.0

FULLY LINED CHANNELS:

Unreinforced Vegetation.....	5.0
Loose riprap.....	10.0
Grouted riprap.....	15.0
Gabions.....	15.0
Soil Cement.....	15.0
Concrete.....	35.0

Reference: Natural-Fortier and Scobey Fully Lined: CCRFCD HC&DDM

Table V
ELEVATION CERTIFICATEOMB No. 1660-0008
Expires February 28, 2009Federal Emergency Management Agency
National Flood Insurance Program

Important: Read the instructions on pages 1-8.

CLERK
RECORDED
0618
2009**SECTION A - PROPERTY INFORMATION**

For Insurance Company Use:

A1. Building Owner's Name

Policy Number

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.

Company NAIC Number

City State ZIP Code

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.)

A5. Latitude/Longitude: Lat. Long.

Horizontal Datum: ☐ NAD 1927 ☐ NAD 1983

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

A7. Building Diagram Number

A8. For a building with a crawl space or enclosure(s), provide

a) Square footage of crawl space or enclosure(s) sq ft

b) No. of permanent flood openings in the crawl space or enclosure(s) walls within 1.0 foot above adjacent grade

c) Total net area of flood openings in A8.b sq in

A9. For a building with an attached garage, provide:

a) Square footage of attached garage sq ft

b) No. of permanent flood openings in the attached garage walls within 1.0 foot above adjacent grade

c) Total net area of flood openings in A9.b sq in

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number

B2. County Name

B3. State

B4. Map/Panel Number

B5. Suffix

B6. FIRM Index
DateB7. FIRM Panel
Effective/Revised DateB8. Flood
Zone(s)B9. Base Flood Elevation(s) (Zone
AO, use base flood depth)

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9.

☐ FIS Profile ☐ FIRM ☐ Community Determined ☐ Other (Describe)Indicate elevation datum used for BFE in Item B9: ☐ NGVD 1929 ☐ NAVD 1988 ☐ Other (Describe)

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)?

☐ Yes ☐ NoDesignation Date ☐ CBRS ☐ OPA**SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)**C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☐ Finished Construction

*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations - Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO. Complete Items C2.a-g below according to the building diagram specified in Item A7.

Benchmark Utilized Vertical Datum

Conversion/Comments

Check the measurement used.

a) Top of bottom floor (including basement, crawl space, or enclosure floor)

☐ feet☐ meters (Puerto Rico only)

b) Top of the next higher floor

☐ feet☐ meters (Puerto Rico only)

c) Bottom of the lowest horizontal structural member (V Zones only)

☐ feet☐ meters (Puerto Rico only)

d) Attached garage (top of slab)

☐ feet☐ meters (Puerto Rico only)e) Lowest elevation of machinery or equipment servicing the building
(Describe type of equipment in Comments)☐ feet☐ meters (Puerto Rico only)

f) Lowest adjacent (finished) grade (LAG)

☐ feet☐ meters (Puerto Rico only)

g) Highest adjacent (finished) grade (HAG)

☐ feet☐ meters (Puerto Rico only)**SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION**

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

☐ Check here if comments are provided on back of form.

Certifier's Name

License Number

Title

Company Name

Address

City

State

ZIP Code

Signature

Date

Telephone

IMPORTANT: In these spaces, copy the corresponding information from Section A.

For Insurance Company Use:

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.

Policy Number

City State ZIP Code

Company NAIC Number

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments

Signature

Date

☐ Check here if attachments

SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zones AO and A (without BFE), complete Items E1-E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1-E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

- E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
- a) Top of bottom floor (including basement, crawl space, or enclosure) is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.
- b) Top of bottom floor (including basement, crawl space, or enclosure) is _____ ☐ feet ☐ meters ☐ above or ☐ below the LAG.
- E2. For Building Diagrams 6-8 with permanent flood openings provided in Section A Items 8 and/or 9 (see page 8 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.
- E3. Attached garage (top of slab) is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.
- E4. Top of platform of machinery and/or equipment servicing the building is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.
- E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown. The local official must certify this information in Section G.

SECTION F - PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. *The statements in Sections A, B, and E are correct to the best of my knowledge.*

Property Owner's or Owner's Authorized Representative's Name

Address

City

State

ZIP Code

Signature

Date

Telephone

Comments

☐ Check here if attachments

SECTION G - COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8. and G9.

- G1. ☐ The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)
- G2. ☐ A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.
- G3. ☐ The following information (Items G4.-G9.) is provided for community floodplain management purposes.

G4. Permit Number

G5. Date Permit Issued

G6. Date Certificate Of Compliance/Occupancy Issued

G7. This permit has been issued for: ☐ New Construction ☐ Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building: _____ ☐ feet ☐ meters (PR) Datum _____

G9. BFE or (in Zone AO) depth of flooding at the building site: _____ ☐ feet ☐ meters (PR) Datum _____

Local Official's Name

Title

Community Name

Telephone

Signature

Date

Comments

Building Photographs

See Instructions for Item A6.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.			For Insurance Company Use:
			Policy Number
City	State	ZIP Code	Company NAIC Number
If using the Elevation Certificate to obtain NFIP flood insurance, affix at least two building photographs below according to the instructions for Item A6. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." If submitting more photographs than will fit on this page, use the Continuation Page, following.			

SE
CLERK RECORDED 06/18/2008

ARTICLE 7

DEFINITIONS AND COMMON TERMS

SECTION 7.1

INTERPRETATION OF DEFINITIONS

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

SECTION 7.2

STANDARD DEFINITIONS

ALL WEATHER ACCESS – means a vehicular access route which is above the regional flood elevation and which connects land located in the floodplain to land outside the floodplain, such as a road with its surface above regional flood elevation and wide enough for wheeled rescue and relief vehicles

ALLUVIAL FAN FLOODING - means flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition; and unpredictable flow paths.

APPEAL - means a request for a review of the Floodplain Administrator's interpretation of any provision of this Ordinance or a request for a variance.

APEX - means a point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

APPURTENANT STRUCTURE – means a structure which is on the same parcel or property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.

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.

AREA OF SHALLOW FLOODING - means a designated AO, AH, AR/AO, or VO zone on a community's Flood Insurance Rate Map (FIRM) with a one percent chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

AREA OF SPECIAL FLOOD HAZARD (SFHA) - Land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. The area may be designated as Zone A on the Flood Hazard Boundary Map (FHBM). After detailed ratemaking has been completed in preparation for publication of the FIRM, Zone A usually is refined into Zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-20, VE or V.

BASE FLOOD - means the flood having a one percent chance of being equaled or exceeded in any given year.

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

BREAKAWAY WALL – means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

CRITICAL FEATURE - means an integral readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

DEVELOPMENT- means any man-made change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or substantial improvements to building, structures or accessory structures; the placement of buildings or structures; mining, dredging, filling, grading, paving, excavation or drilling operations; and the storage, deposit or extraction of materials, public or private sewage disposal systems or water supply facilities

DIRECTLY ADJACENT—means any development, planned or existing, that lies within 100 feet of any SFHA (studied or unstudied) defined on the effective FIRM for Santa Fe County.

ELEVATED BUILDING – means, for insurance purposes, a non-basement building, which has its lowest elevated floor, raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

ELEVATION CERTIFICATE—means the required FEMA form used by the community to maintain a record of all post-FIRM structures located in the special flood hazard area.

ENCROACHMENT—means any fill, structure, building, use or development in the regulatory floodway.

EXISTING CONSTRUCTION - means for the purposes of determining rates, structures for which the "start of construction" commenced before the effective date of the FIRM, or before January 1, 1975, for FIRMs effective before that date. "Existing construction" may also be referred to as "existing structures."

EXISTING 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 pads) is completed before the effective date of the floodplain management regulations adopted by a community.

EXPANSION TO AN EXISTING MANUFACTURED HOME PARK OR SUBDIVISION – means the preparation of additional sited 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 pads).

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;
- (2) the unusual and rapid accumulation or runoff of surface waters from any source.

FLOOD ELEVATION STUDY – means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

FLOOD INSURANCE RATE MAP (FIRM) - means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

FLOOD INSURANCE STUDY (FIS)—means the detailed report based on engineering analyses prepared by FEMA to accompany the FIRM, which develops flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates.

FLOOD HAZARD BOUNDARY MAP (FHBM) - means an official map of a community on which the Federal Emergency Management Agency has delineated the boundaries of the flood, mudslide (i.e., mudflow) related erosion areas having special hazards have been designated as Zone A, AE, M, and/or E.

FLOODPLAIN OR FLOOD-PRONE AREA - means any land area susceptible to being inundated by water from any source (see definition of flooding).

FLOODPLAIN MANAGEMENT – means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

FLOODPLAIN MANAGEMENT REGULATIONS – means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

FLOOD PROTECTION SYSTEM - means those physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to a "special flood hazard" and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

FLOODPROOFING – means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

FLOODWAY – see *Regulatory Floodway*

FLOODWAY FRINGE- means the area between the floodway and the 1-percent-annual chance floodplain boundary. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water surface elevation (WSEL) of the base flood more than one foot at any point within the community.

FUNCTIONALLY DEPENDENT USE - means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities,

that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

HIGHEST ADJACENT GRADE - means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

HISTORIC STRUCTURE - means any structure that is:

(1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

(2) Certified or preliminarily determined by the Secretary of the 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;

(3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or

(4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

- a. By an approved state program as determined by the Secretary of the Interior or;
- b. Directly by the Secretary of the Interior in states without approved programs.

LEEVE - means a man-made 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.

LEEVE 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 FLOOR - means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking or vehicles, building access, or storage in an area other than a basement area is not considered a building's lowest floor; provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirement of Section 60.3 of the National Flood Insurance Program regulations.

MANUFACTURED HOME - means a structure transportable in one or more sections, which is built on a permanent chassis and is designed for use 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.

MEAN SEA LEVEL - means, for flood purposes of the National Flood Insurance Program, the national Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

NEW CONSTRUCTION - means, for the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structure.

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 pads) is completed on or after the effective date of floodplain management regulations adopted by a community.

RECREATIONAL VEHICLE - means a vehicle which is (i) built on a single chassis; (ii) 400 square feet or less when measured at the largest horizontal projections; (iii) designed to be self-propelled or permanently towable by a light duty truck; and (iv) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

REGIONAL FLOOD - means a flood determined to be representative of large floods known to have occurred in Santa Fe County or which may be expected to occur on a particular lake, river or stream following a 1% recurrence interval (1-percent-annual-chance) storm event in any given year (a.k.a. the 100-year flood)

REGULATORY 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 a designated height.

RIVERINE - means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc

SPECIAL FLOOD HAZARD AREA - see Area of Special Flood Hazard.

START OF CONSTRUCTION - (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348)), 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 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 a building, whether or not the alteration affects the external dimension of the building.

STRUCTURE – means, for floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured home.

SUBSTANTIAL DAMAGE – means damage of any origin sustained by a structure 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.

SUBSTANTIAL IMPROVEMENT - means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure before "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: (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or (2) Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

VARIANCE - is a grant of relief by a community from the terms of a floodplain management regulation (for full requirements see 60.6 of the National Flood Insurance Program regulations).

VIOLATION - means the failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Section 60.3 (b) (5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

WATER SURFACE ELEVATION - means the height, in relation to the North American Datum of 1983 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

ZONE A-means the flood insurance rate zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS report by approximate methods.

ZONE AE—means the flood insurance rate zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS report by detailed methods.

ZONE D—means the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

ZONE X-means the flood insurance rate zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain and to areas of 1-percent-annual-

chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than one square mile, and areas protected from the 1-percent-annual-chance flood by levees.

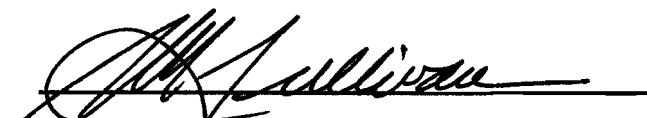
SECTION 7.3

GLOSSARY OF ACRONYMS

BCC Board of County Commissioners
BFE Base Flood Elevation
CAC Community Assistance Contact
CAV Community Assistance Visit
CCO Claims Coordinating Office
CLOMR Conditional Letter of Map Revision
CRS Community Rating System of the National Flood Insurance Program
FECC Federal Emergency Communications Coordinator
FEMA Federal Emergency Management Agency
FERC FEMA Emergency Response Capability
FESC Federal Emergency Response Coordinator
FHBM Flood Hazard Boundary Map
FIA Flood Insurance Administration
FICO Flood Insurance Claims Office
FIRM Flood Insurance Rate Map
FIS Flood Insurance Study
FRCM FEMA Regional Communications Manager
FRO Flood Response Office
HAG Highest Adjacent Grade
LFE Lowest Floor Elevation
LOMA Letter of Map Amendment
LOMR Letter of Map Revision
MOA Memorandum of Agreement
MOU Memorandum of Understanding
MPPP Mortgage Portfolio Protection Program
MSL Mean Sea Level
NFIP National Flood Insurance Program
NGVD National Geodetic Vertical Datum
SFHA Special Flood Hazard Area
OPA Otherwise Protected Area
PA Public Affairs
PAO Public Affairs Officer
WYO Write Your Own Program

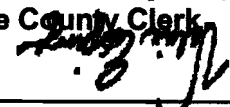
PASSED, APPROVED AND ADOPTED, on this 10th day of June, 2008

SANTA FE COUNTY BOARD OF COUNTY COMMISSIONERS


JACK SULLIVAN, CHAIRMAN

CERTIFICATE

I, the undersigned, County Clerk, do hereby certify that the above is the ordinance which was duly adopted by the Santa Fe County Board of County Commissioners at a regular meeting duly convened on JUNE 10, 2008.


Santa Fe County Clerk

Valerie Espinoza



Approved as to form:

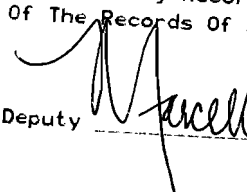
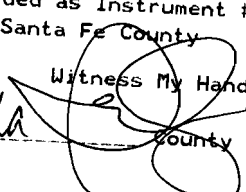
County Attorney


Stephen C. Ross



COUNTY OF SANTA FE)
STATE OF NEW MEXICO) ss BCC ORDINANCE
PAGES: 56

I Hereby Certify That This Instrument Was Filed for Record On The 18TH Day Of June, A.D., 2008 at 10:14 And Was Duly Recorded as Instrument # 1529324 Of The Records Of Santa Fe County

 Witness My Hand And Seal Of Office
Deputy  Valerie Espinoza
County Clerk, Santa Fe, NM