



**NAVARRO COUNTY
RULES, REGULATIONS AND SPECIFICATIONS
FOR SUBDIVISIONS AND MANUFACTURED HOME
RENTAL COMMUNITIES**

**NAVARRO COUNTY COMMISSIONERS COURT
OFFICE OF PLANNING AND DEVELOPMENT
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SECTION A.

The purpose of this Court Order is to provide for the safety, health and well being of the general public by requiring that adequate streets, drainage facilities and sewage facilities are provided in all subdivisions, and to provide facilities which can be maintained without imposing a burden to the taxpayers.

All departments and agencies of Navarro County stand ready to assist individuals, builders, and developers in achieving overall performance standards as outlined in the following chapters.

In specific cases where literal interpretation of any section would work an undue economic hardship, variances may be sought, provided the overall performance standards are met. It should not be inferred, however, that specific requirements may be ignored. Enforcement authority and penalties for violations are outlined and the Commissioners Court will press their legal rights to gain total compliance. If any questions arise as to the interpretation of the language in any sections, the Subdivision Administrator will resolve all differences.

These regulations are in no way intended to restrict residential or commercial development in Navarro County. Rather, it is hoped that through public and private sector cooperation Navarro County can achieve and maintain a quality and standard of life, which reflects the highest traditions, and standards of its citizens.

SECTION B. GENERAL INFORMATION

As a guide to the public in determining when it is necessary to file a plat and comply with these regulations, the Commissioners Court (as an incident of its power to enforce the subdivision laws and regulations under Section 232.003, Texas Local Government Code, and with the specific authority of Section 232.015) has adopted the following policy guidelines stating when the division of an existing tract will be considered by the Court to be a subdivision requiring the filing of a plat by law, and requiring compliance with these regulations.

FORM OF SALE

If a plat is required under these guidelines, it is immaterial that the sale of daughter tracts is by contract, option, long-term lease, or lease-purchase, rather than deed, or that describes the daughter tracts by metes and bounds rather than lot and block.

DEVELOPMENT

Unless otherwise specifically exempted, a plat is always required when two or more daughter tracts are sold from a parent tract as part of a unified plan for development of the property. The existence of such a plan may be inferred from circumstance, such as the form of advertising or the sale of multiple tracts within a one-year period.

A plat is always required, even if all lots are over 10 acres in size or are to be used for agriculture or veteran's tracts, if any daughter tracts is created that does not have at least 100 feet of frontage on and direct access to a public road, or if any streets, alleys, squares, parts, or other parts of the tract are to be dedicated to public use or for the use of purchasers or owners of lots fronting on or adjacent to such parts. Private roads and easements are not public roads; rights-of-way that have been dedicated to the public remain private until accepted by the county for maintenance. A driveway that is owned or used in common with other tracts is a private road. This section requires each separate tract to have 100 feet of separate frontage on a public road, to be used for access by that tract alone. If any daughter tract is out of compliance with these requirements, the sub-divider must plat the entire subdivision. Any tract that has less than 90 feet of frontage to a public road must be restricted from any further subdivision. A plat is not required when a person makes a conveyance of four or fewer tracts, each of which is sold conveyed, given or otherwise transferred to persons who are related to the owner within the third degree of consanguinity (parent, child, grandparent, grandchild, sister, brother, great-grandparent, great-grandchild, aunt, uncle, niece, nephew) or affinity (the spouse of anyone listed above, or so related to the owner's spouse) for their personal use; provided, however, that each daughter tract is either located on a public road or has access to such a road by private easement. However, if the family member sells the land to a non-family member within two years, it will be presumed that the conveyance was not for personal use.

A plat is not required when the tracts have direct access to a public road and all tracts are sold to veteran's through the Texas Veterans Land Board Program.

A plat is not required if a subdivision of any tract of land belongs to the State or any State agency, board or commission or owned by the permanent school fund or any other dedicated funds of the state unless the subdivision lays out a part of the tract described by Section 232.001 (a) (3) of the Local Government Code.

A plat is not required if: (1) the owner of the land is a political subdivision of the state; (2) the land is situated in a floodplain; and (3) the lots are sold to adjoining landowners.

A plat is not required if: (1) the owner does not lay out a part of the tract described by section 232.001 (a) (3); and (2) one new part is to be retained by the owner, and the other new part is to be transferred to another person who will further subdivide the tract subject to the provisions of these regulation.

A plat is not required if: (1) the owner does not lay out a part of the tracts described by Section 232.001 (a) (3); and (2) all parts are transferred to persons who owned an undivided interest in the original tract and a plat is filed before any further development of any part of the tract.

Approval of a plat by the Commissioners Court shall not be deemed an acceptance of the proposed roads and shall not impose any duty upon the County concerning maintenance or improvements. The Commissioners Court determines which roads will be accepted for County maintenance after the two-year owner maintenance period has expired.

Manufactured Home Rental Communities: A property developed as a manufactured home rental community and not subdivided from another tract is not subject to the subdivision regulations established herein. However, the owner who intends to use the land for a manufactured home rental community must have an infrastructure development plan prepared that complies with the minimum infrastructure standards established in Section H (6) of these rules.

A manufactured home rental community is a tract of land that is separated into two or more spaces for lots that are rented, leased or offered for rent or lease for a term of less than 60 months without a purchase option, for the installation of manufactured home, for use and occupancy as residences.

Recreational vehicle rental community: A recreational vehicle rental community is a parcel which has been established for the purpose of providing sites for recreational vehicles on a short-term basis of ninety days or less. At the end of the ninety-day period, the vehicles must be relocated.

Timely approval of plats: Plats are to be reviewed in an expeditious manner by the office of Planning and Development. The following are requirements for timely approval:

All documents and other information identified on the Final Plat Checklist of these regulations shall be provided to the Planning and Development Administrator.

If a person submits a plat application that does not include all of the documentation or other information identified on the Final Plat Checklist, the Planning and Development office shall, not later than the 10th business day after the date of receipt of the plat, notify the applicant of the missing documents. The sixty (60) day window for approval commences when the complete application is presented to the Planning and Development office.

Final action shall be taken on the plat application not later than the 60th day after the date of the completed plat application is received by the Planning and Development office.

If the Commissioners Court disapproved a plat application, the applicant shall be given a complete list of the reasons for the disapproval.

The 60-day period may be extended for a reasonable period, if agreed to in writing by the applicant and approved by the Planning and Development office.

If the Commissioners Court fails to take final action on the plat, in accordance with this section, then: (a) the court shall refund 50% of the plat fee; (b) the plat application is granted by operation of law; and (c) the applicant may apply to a district court in Navarro County for a writ of mandamus to compel the Commissioners Court to issue documents recognizing the plat's approval.

A person may not file for record or have recorded in the county clerk's office a plat, replat, or amended plat or replat of a subdivision of real property unless such plat has attached to it an original tax certificate from each taxing unit with jurisdiction of the real property indicating that no delinquent ad valorem taxes are owed on the real property. If the plat, replat, or amended plat or replat is filed after September 1 of a year, the plat, replat, or amended plat or replat must also have attached to it a tax receipt issued by the collector for each taxing unit with jurisdiction of the property indicating that the taxes imposed by the taxing unit for the current year have been paid or, if the taxes for the current year have not been calculated, a statement from the collector for the taxing unit indicating that the taxes to be imposed by that taxing unit for the current year have not been calculated. If the tax certificate for a taxing unit does not cover the preceding year, the plat, replat, or amended plat or replat must also have attached to it a tax receipt issued by the collector the the taxing unit indicating that the taxes imposed by the taxing unit for the preceding year have been paid.

CONDOMINIUMS:

All condominium plats or plans must comply with Chapter 81 of the Texas Property Code, Condominium Act.

CERTIFICATION THAT ADEQUATE GROUNDWATER IS AVAILABLE:

If groundwater is the source of water supply for the subdivision, the Commissioners Court requires a statement attached to the plat application, prepared and sealed by a licensed professional engineer registered to practice in Texas, that certifies that groundwater is available for the subdivision, according to the certification from and content as promulgated by the Texas Commission on Environmental Quality. See page 47 for form.

NOTICE TO PURCHASERS REQUIRED:

If a person proposes to sell or convey unimproved real property located in a certificated area of a utility service provided, the person must give to the purchaser written notice as prescribed by this section. The notice must be executed by the seller and read as follows:

“The real property, described below, that you are about to purchase if located in the water or sewer service area of _____, which is the utility service provider authorized to provide water or sewer service to your property. There may be special costs or charges that you will be required to pay before you can receive water or sewer service. There may be a period required to construct lines or other facilities necessary to provide water or sewer service to your property. You are advised to contact the utility service provider to determine the cost that you will be required to pay and the period, if any, that is required to provide water or sewer service to your property. The undersigned purchaser hereby acknowledges receipt of the forgoing notice at or before the execution of a binding contract for the purchase of the real property described in the notice or at closing or purchase of the real property.

Signature of Purchaser

Date

The notice must be given to the prospective purchaser before the execution of a binding contract of purchase and sale. The notice may be given separately or as an addendum to or paragraph of the

contract. If the seller fails to provide the notice required by this section, the purchaser may terminate the contract.

SECTION C. ENFORCEMENT

- A. The Commissioners Court of Navarro County shall have the authority to refuse to approve and authorize any map or plat of any such subdivision, unless such map or plat meets the requirements as set forth in these land development rules and regulations; and there is submitted at the time of approval of such map or plat financial security as may be required by these rules.
- B. At the request of the Commissioners Court of Navarro County, the County Attorney or other prosecuting attorney representing the county may file an action in a court of competent jurisdiction to:
 - 1. Enjoin the violation or threatened violation of a requirement established by or adopted by the Commissioners Court under Chapter 232 of the V.T.C.A., Local Government Code; or
 - 2. Recover damages in an amount adequate for the county to undertake any construction or other activity necessary to bring about compliance with a requirement established by the Commissioners Court under Chapter 232 of the V.T.C.A., Local Government Code.
- C. A person who commits an offense if the person knowingly or intentionally violates a requirement established by or adopted by the Commissioners Court under Chapter 232 of the V.T.C.A., Local Government Code. An offense under the subsection is a Class B Misdemeanor.
- D. A requirement that was established by or adopted under Chapter 436, Acts of the 55th Legislature, Regular Session 1957, as amended (Article 6626a, Vernon's Texas Civil Statutes), or Chapter 151, Acts of the 52nd Legislature, Regular Session 1951 (Article 2372k Vernon's Texas Civil Statutes), before September 1, 1983, and that, after that date, continues to apply for subdivision of land is enforceable under Subsection (B). A knowing or intentional violation of the requirement is an offense under subsection C of this Section.

SECTION D. VARIANCES

The Commissioners Court of Navarro County shall have the authority to grant variances from these regulations when the public interest or the requirements of justice demands relaxation of the strict requirements of the rules. Any person who wishes to receive a variance should apply to the precinct commissioners, who will place it on the agenda of the Court and present it with his or her recommendation whether the variance should be granted. The decision of the Court whether to grant or deny a variance is at its complete discretion, and will be final.

SECTION E. DEFINITIONS

1. **BASE FLOOD PLAIN** - that area subject to inundation by flood, having a one percent probability of occurrence in any given year, based on existing conditions of development within the watershed area, as determined by the Flood Insurance Study for Navarro County provided by the Federal Emergency Management Agency (FEMA).
2. **BUILDING LINE OR SETBACK LINE** - A line established, in general, parallel to the front street line. No building or structure may be permitted in the area between the building line and the street right-of-way.
3. **COLLECTOR STREET** - The collector provides passage to country lanes and conveys traffic to major collectors. Through traffic is discouraged. It serves the principal street in a subdivision.
4. **COMMISSIONERS COURT** - The Navarro County Commissioners Court.
5. **Cul-de-sac** - A Street having one outlet to another street With a vehicular turn-around at the other end.

6. **DEVELOPER** - Persons, corporations, organizations, government or governmental subdivision or agency, estates, trust, partnerships, associates, incorporations or other entities, which undertake the activities covered by these regulations.
7. **EASEMENT** - A right given by the owner of a parcel of land to another person, public agency or private corporation for specific and limited use of that parcel.
8. **ENGINEER** - Any person registered and currently licensed to practice engineering by the Texas State Board of Registration for Professional Engineers.
9. **EXTRATERRITORIAL AUTHORITY (ETJ)** - The unincorporated area, not a part of any city, which is contiguous to the corporate limits of any city. The extraterritorial jurisdiction of the various population classes of cities (as defined in Article 974(a) V.A.C.S.) shall be as follows:
 - a. The extraterritorial jurisdiction of any city having a population of less than five thousand (5,000) inhabitants shall consist of all the contiguous unincorporated area, not a part of any other city, within one-half (1/2) mile of the corporate limits of such city.
 - b. The extraterritorial jurisdiction of any city having a population of five thousand (5,000) or more inhabitants, but less than twenty-five thousand (25,000) inhabitants shall consist of all the contiguous unincorporated area, not a part of any other city, within one (1) mile of the corporate limits of such city.
 - c. The extraterritorial jurisdiction of any city having a population of twenty-five thousand (25,000) or more inhabitants, but less than fifty thousand (50,000) inhabitants, shall consist of all the contiguous unincorporated area, not a part of any other city within two (2) miles of the corporate limits of such city.
 - d. The extraterritorial jurisdiction of any city having a population of fifty thousand (50,000) or more inhabitants, but less than one hundred thousand (100,000) inhabitants shall consist of all the contiguous unincorporated area, not a part of any other city, within three and one-half (3 1/2) miles of the corporate limits of such city.
 - e. The extraterritorial jurisdiction of any city having a population of one hundred thousand (100,000) or more inhabitants shall consist of all the contiguous unincorporated area, not a part of any other city, within five (5) miles of the corporate limits of such city.

10. **FEMA** - Federal Emergency Management Agency
11. **FLAG LOTS** A tract of land or lot connected to a public road by a long driveway or frontage less than 100 feet shall not be permitted.
12. **FLOODPLAIN**- The area subject to inundation by a flood event of a magnitude which would be expected to be equaled or exceeded once on the average in any given year based on existing conditions of development within the watershed area.
13. **GATED SUBDIVISION** - A limited access Subdivision. Please see definition below: SUBDIVISION.
14. **G.I.S.** - Geographic Information Systems
15. **G.P.S.** - Global Positioning System
16. **LOT** - An undivided tract or parcel of having frontage on a road, which parcel of land is designated as a separate and distinct tract. All lots, so far as practical, shall have their side lines at right angles to the road on which they face, or radial to curved road lines.
17. **MAY** - is permissive.
18. **PLAT** - a map depicting the division or subdivision of lands into lots, blocks, parcels, tracts, or other portions. A replat or re-subdivision will be considered a plat.
19. **PRELIMINARY PLAT** - one or more drawings showing the physical conditions of a tract of land and the surrounding area intended to be subdivided. This plat shall show the developer's intended development program in order to assure that all regulations are complied with.
20. **FINAL PLAT** - a map or drawing and any accompanying material of a proposed land subdivision prepared in a form suitable for filing in the County records and prepared as described in these regulations.
21. **SHALL** - is mandatory and not discretionary.
22. **STATE PLANE COORDINATE SYSTEM** - A coordinate system used by States to locate spatial information with a high degree of accuracy. This coordinate system is widely used in North Central Texas for GIS purposes.
23. **SUBDIVISION** - Any tract of land that is divided into two or more tracts to lay out: (1) a subdivision of the tract, including an addition; (2) lots; or (3) streets, alleys, squares, parks, or other parts of the tract

intended to be dedicated to public use adjacent to the streets, alleys, squares, parks, or other parts.

24. **SURVEYOR** - any person licensed to practice surveying by the Texas Board of Professional Land Surveying.
25. **TCEQ** - Texas Commission on Environmental Quality
26. **TxDOT** - Texas Department of Transportation

SECTION F. ENFORCEMENT AREA

The provisions of the Court Order shall apply to all of the unincorporated areas of Navarro County, Texas with the exception of the extra territorial jurisdiction of the City of Corsicana.

SECTION G. PLATTING PROCEDURE

1. PRELIMINARY PLATS:

- a. The submission of a preliminary plat is necessary to:
 - (1) Eliminate the duplication of subdivision names and street names.
 - (2) Assure proper alignments of streets and drainage facilities.
 - (3) Assure that the provisions of the FLOODPLAIN REGULATIONS will be complied with, and that no lot will have a drainage problem.
 - (4) Assure that the provisions of the SEWAGE REGULATIONS will be complied with.
 - (5) Assure that all necessary permits or plan approvals have or will be applied for.
- b. Two (2) {"blue-line copies" or "reproductions"} of the preliminary plats shall be submitted prior to or concurrent with the submission of any preliminary plats to a city exercising its extraterritorial

authority. In the event the subdivision falls within the jurisdiction of both Navarro County and the City, the more stringent of the regulations shall prevail.

- c. Preliminary plats shall be approved by the Navarro County Planning and Development Administrator before a final plat can be submitted.
- d. Preliminary plats shall be drawn on a sheet not less than 18"x24" except in those instances where a city exercising its extraterritorial authority requires a different sheet size and/or scale, or upon prior approval of the Navarro County Planning and Development Administrator. **All plats shall also be submitted in digital format using NAD 1983 State Plane Texas North Central 4202.**
- e. Preliminary plats shall show, or be accompanied by the following information:
 - (1) The name, address and telephone number of the developer, surveyor and/or engineer.
 - (2) The proposed name of the subdivision, and the names, locations, width and dimensions of all proposed and existing streets within the property.
 - (3) The location of the existing boundary lines in sufficient detail to accurately locate the property.
 - (4) The description, location, width and dimensions of proposed and existing utility and pipeline easements within and adjacent to the property.
 - (5) The name, location and dimensions of all adjacent subdivisions and streets. Where there are no adjacent subdivisions, the preliminary plat shall show:
 - (a) The name of all adjacent property owners with the volume and page of recordation.
 - (b) The location and distance to the nearest subdivisions, and how the streets in the proposed subdivision may connect with those in the nearest subdivisions or other roads in the area.
 - (6) Existing and proposed contour lines at the following intervals:

- (a) When the land has less than a five percent (5%) slope, the contour interval shall not be greater than two feet (2').
 - (b) When the land has more than a five percent (5%) slope, the contour interval shall not be greater than five feet (5').
 - (7) The exact location, dimensions, description and flowline of all existing and proposed drainage structures.
 - (8) The location of the 100-year flood plain and all lots, or any part of a lot, that lies within the 100-year floodplain.
 - (9) The existing drainage areas upstream of the proposed subdivision, along with the drainage calculations of the amount of water coming into, across, and leaving the subdivision in sufficient detail to show any changes in the 100-year flood elevation across the proposed subdivision, and on the property both upstream and downstream from the proposed subdivision.
 - (10) The date the plat was prepared.
 - (11) A north arrow and the scale of the plat.
 - (12) A location or vicinity map showing the location of the proposed subdivision within the county and to the nearest incorporated areas with a north arrow and scale of the vicinity map.
 - (13) Preliminary water and sewer plans if applicable.
- f. All information listed in item "e" above is considered to be the minimum amount of information needed to assure compliance with this Court Order. Any deviations from items "a" through "e" shall have the written approval of the Navarro County Subdivision Administrator prior to submittal of the preliminary plat.
- g. If the proposed subdivision is a portion of a tract which is later to be subdivided in its entirety, than a tentative master plan of the entire subdivision shall be submitted with the preliminary plat of the portion first to be subdivided.
- h. The Navarro County Subdivision Administrator will review the preliminary plat and:

- (1) Send written comments to the developer stating the conditions of approval, if any, if the subdivision is outside the extraterritorial authority of a city.
- (2) Send written comments to the city and developer stating the conditions of approval, if any, if the subdivision is in the extraterritorial authority of a city.
- i. Approval of the preliminary plat does not constitute acceptance of the subdivision, but is merely an authorization to proceed with the preparation of the final plat for record. The approval will be in effect for one year.

2. FINAL PLATS:

- a. The submission of final plats is necessary to:
 - (1) Assure proper identification and location of all streets, lots and easements.
 - (2) Assure that the streets will be properly constructed and maintained.
 - (3) Assure that the sewer systems have been approved by the Navarro County Health Department.
 - (4) Assure that all proper dedications have been made for streets, easements and public spaces.
 - (5) Assure that all necessary permits have been obtained or applied for.
- b. For subdivisions outside of the extra territorial authority of any city, the developer shall submit to the Navarro County Subdivision Administrator the original on Mylar, six (6) blue-line copies of the final plat, along with a copy in digital format at least ten (10) calendar days prior to the Commissioners Court approval.
- c. For subdivisions located, in part, within the extraterritorial authority of the City of Corsicana, the developer shall submit to the Navarro County Subdivision Administrator six (6) blue-line copies of the final plat, prior to or concurrent with the submission of the final plat to the city exercising its extraterritorial authority. No final plat will be presented to the Commissioners Court before the plat has been approved by a city exercising its extraterritorial authority.
- d. Final plats shall be drawn on an 18"x24" Mylar sheet except in those instances where a city exercising its extraterritorial authority requires a different sheet size and/or scale, or upon prior approval of the Navarro County Subdivision Administrator.

- e. The following statement shall be noted on the face of the final plat:
1. Blocking the flow of water or construction improvements in drainage easements, and filling or obstruction of the floodway is prohibited.
 2. The existing creeks or drainage channels traversing along or across the addition will remain as open channels and will be maintained by the individual owners of the lot or lots that are traversed by or adjacent to the drainage courses along or across said lots.
 3. Navarro County will not be responsible for the maintenance and operation of said drainage ways for or the control of erosion.
 4. Navarro County will not be responsible for any damage, personal injury or loss of life or property occasioned by flooding or flooding conditions.
- f. In addition to the requirements for preliminary plats, final plats shall show or be accompanied by the following information:
- (1) The name of the subdivision, the names of the streets, the date that the plat was prepared, a north arrow and a graphic scale.
 - (2) Sufficient data to reproduce, on the ground, the bearing and length of all streets, blocks, lots and easements. Curves on streets, blocks and easements shall include the radius, length and central angle of the curve. Curves on lots shall show the radius and length of the curve.
 - (3) The accurate location of adjacent subdivision streets, blocks, lots and easements, or the property owner if the adjacent land is undeveloped.
 - (4) The number of all lots and blocks arranged in a systematic order, and clearly shown on the plat in distinct and legible figures.
 - (5) The 100-year floodplain as identified on the most current Navarro County Flood Insurance Rate Map (FIRM) published by the Federal Emergency Management Agency.
 - (6) A legal description of the property, and locate the same with respect to an original corner of

the original survey of which it is a part, and the number of acres being subdivided. All blocks, corners and angles shall be marked in accordance with minimum standards set forth by the Texas Board of Professional Land Surveyors. All corners shall be marked with caps stamped with the surveyor and/or company name.

- (7) A dedication, by the developer, of all streets, roadways, alleys, utility easements, parks, conservation easements, and other land intended for public use, and the developer's certification that all parties with any interest in the title to the subject property have joined in such dedication, duly executed, acknowledged and sworn to by said developer before a Notary Public.
- (8) The following statement shall appear on any plat containing private streets, drives, emergency access easements, recreation areas and open spaces:

NOTE: All private roads {drives and streets} will be signed in a manner that indicates its private status.

NAVARRO COUNTY SHALL NOT BE RESPONSIBLE FOR MAINTENANCE OF PRIVATE STREETS, DRIVES, EMERGENCY ACCESS EASEMENTS, RECREATION AREAS AND OPEN SPACES; AND THE OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF PRIVATE STREETS, DRIVES, EMERGENCY ACCESS EASEMENTS, RECREATION AREAS AND OPEN SPACES, AND SAID OWNERS AGREE TO INDEMNIFY AND SAVE HARMLESS NAVARRO COUNTY, FROM ALL CLAIMS, DAMAGES AND LOSSES ARISING OUT OF OR RESULTING FROM PERFORMANCE OF THE OBLIGATIONS OF SAID OWNERS SET FORTH IN THIS PARAGRAPH.

- (9) The seal and signature of the surveyor responsible for surveying the subdivision and/or the preparation of the plat.
- (10) A space for the approval of the Commissioners Court of Navarro County.
- (11) A space for the approval of a city exercising its extra-territorial authority.
- (12) A space for the approval of the Navarro County Health Department or the Tarrant Regional Water District, which ever is applicable.
- (13) A space for the approval of the Lake Planning and Zoning Commission exercising its authority in the Richland Chambers Lake Area.

- g. All information listed in item "f" above is considered to be the minimum amount of information needed to assure compliance with this Court Order. Any deviations shall have the written approval of the Navarro County Subdivision Administrator prior to submittal of the final plat.
- h. The Navarro County Subdivision Administrator will review the final plat for its conformance, and place the subdivision on the Commissioners Court Agenda and recommend either approval or denial.
- i. The final plat shall be accompanied by:
 - (1) A surety bond for construction of streets
 - (2) A statement of approval of plans from all conservation districts, municipal utility districts, or drainage districts. The developer shall submit a letter from each of the utility companies (water, electric, gas, etc.) stating that the development can be served and that arrangements have been made with the applicable company for service.
 - (3) A certificate from each Tax Collector of a political subdivision in which the property is located stating that all taxes are paid and not delinquent.
 - (4) A certificate stating the subdivision's water supply and sewerage system plans have approval from the appropriate State agency or designated authority.
 - (5) Two (2) sets of construction plans
- j. After the plat has been approved and signed by the Commissioners Court, the plat will be returned to the developer for recording with the County Clerk. The final plat must be recorded within six months of approval by the Commissioners Court. The Commissioners Court may grant a single six-month extension.
- 1. Commissioners Court may refuse to approve a plat if it does not meet the requirements prescribed by these rules or if any bond required under these rules is not filed with the County.

3. CONSTRUCTION PLANS:

A Registered Professional Engineer licensed to practice in Texas shall seal all construction plans, drawings and calculations.

- a. Two (2) sets of all construction plans must be submitted to and approved by the Navarro County Subdivision Administrator, unless a waiver is granted prior to the start of any construction. The construction plans shall consist of:
 - (1) Street plans
 - (2) Drainage plans, including outfall channels, storm sewers and inlets design.
 - (3) Plans for water system, if any.
 - (4) Plans for sewage treatment and sewer system, if applicable.
 - (5) Plans for adjustment of utility lines and pipelines.
 - (6) Location and description of all easements.
- b. Street construction plans shall show:
 - (1) The plan of the street, in no larger than a 1" = 50' scale, showing the location of the proposed road, ditches and drainage structures within the street right-of-way.
 - (2) The profile of the street in no larger than a 1" = 50' scale horizontal and a 1" = 5' scale vertical.
 - (3) The street grades and elevations.
 - (4) Vertical and horizontal curve information.
 - (5) The ditch grades, design flow of water, design depth of water and design velocity of water.
 - (6) Typical street sections.
 - (7) The seal and signature of the engineer responsible for the design on all sheets.
- c. Drainage construction plans shall show:
 - (1) The plan of the drainage ditches in no larger than a 1" = 50' scale.

- (2) The profile of the drainage ditches in no larger than a 1" = 50' scale horizontal and a 1" = 5' scale vertical.
- (3) The ditch grades, design flow of water, design depth of water and design velocity of water.
- (4) A plan and profile of all culverts under any street with the design flow of water, headwater and tailwater depths and the tailwater velocity.
- (6) Typical ditch sections.
- (7) The seal and signature of the engineer responsible for the design on all sheets.
- (8) The size of each lot shall be indicated on the final plat in square feet and in acres.

d. Water construction plans shall show:

- (1) The location and size of all proposed water lines in relation to the right-of-way or easements in which the lines are to be located.
- (2) The location of all appurtenances proposed to be installed.
- (3) The minimum depth to which the water lines are to be installed.
- (4) The seal and signature of the engineer responsible for the design on all sheets.

e. Sewer construction plans shall show:

- (1) The plan of the sewer line in no larger than a 1" = 50' scale, showing the location and size of all proposed sewer lines in relation to the right-of-way or easements in which the lines are to be located.
- (2) The profile of the sewer line in no larger than a 1" = 50' scale horizontal, and a 1" = 5' scale vertical.
- (3) The location of all appurtenances proposed to be installed.
- (4) The sewer line grades and elevations at all junction points.
- (5) The seal and signature of the engineer responsible for the design on all sheets.

- f. All construction plans shall be submitted with the final plat.
- g. Navarro County will review the construction plans for their conformance, and return one (1) set of the construction plans to the developer stating:
 - (1) That the plans have been approved.
 - (2) The changes that will need to be made before the plans will be approved. If any changes are required, the developer shall have the necessary changes made and submit two (2) copies of the corrected plans to the Navarro County Subdivision Administrator. If all necessary changes have been made, Navarro County will return one (1) set of the corrected plans to the developer stating that the plans have been approved.

H. WATER AND SEPTIC SYSTEM REQUIREMENTS

The owner(s) must submit a plan for providing utility service within the proposed subdivision. The proposed water supply should be clearly indicated, i.e., municipal water, rural water supply corporation, privately owned water system, individual well, etc., including location of fire hydrants, if any. All water supplies must be approved by the TCEQ. In cases where groundwater is indicated as the proposed water source, the developer must submit a Groundwater Availability Certification form. A Texas licensed professional engineer shall certify that adequate groundwater is available for the subdivision.

The plan for sewage disposal should be clearly indicated, i.e., municipal sewer service, privately owned/organized sewage disposal system, private sewage facilities, etc. If it is the Owner's intent that each lot purchaser shall provide private sewage facilities, those facilities must meet the requirements of the Navarro County Health Department.

I. SUBDIVISION REQUIREMENTS

1. Roads or Streets

A registered professional engineer licensed to practice in the State of Texas shall seal all construction plans and certify to Navarro County Commissioners Court that all roads have been built to these specifications. Engineer services shall be provided at owner/developers expense. Residential streets shall have a minimum width of right-of-way of sixty feet (60') unless more is needed for drainage purposes. Minimum road width shall be twenty-four feet (24'). Streets or roads must be paved with Hot Mix asphalt two inches in depth, or two course Chip & Seal with prime coat. The paving material on paved streets or roads must have a thickness of: Not less than two inches of Hot Mix asphalt concrete twenty feet wide or; not less than a Two Course Chip and Seal with prime coat Surface Treatment twenty-one feet wide. The base course of the roadway section shall be a minimum width of twenty-four feet (24') crushed limestone at a compacted depth of six inches (6").

Prior to the start of construction on sub grade (to be determined by soil analysis), a soil analysis shall be made by a certified soil laboratory to determine if a soil stabilizer is required. In lieu of soil stabilization, consideration may be given to increasing the amount of crushed limestone base upon recommendation of engineer. Engineer shall determine frequency of soil sampling. A Plasticity Index range of

not less than 10 or greater than 20 is acceptable. Sub grade shall be 30 feet wide. The sub grade shall be compacted to a density of not less than 95% Standard Procter density. Prior to the placement of any base material, tests from a certified soils laboratory shall be supplied by the owner/developer to the Engineer (Engineer to be provided at owner/developer expense). The base material shall be compacted to not less than 95% Standard Procter density for its full depth. A set of "as built" drawings shall be submitted and sealed by an engineer at completion of construction. The county may at its discretion authorize the spot checking of any and or all segments of the construction completed using the county's choice of geotechnical labs and technician, nuclear density testing equipment shall be used in spot checks.

All roads or streets more than one hundred feet (100') in length shall either be connected at both ends to a dedicated street, or be provided with a turnaround having a minimum paved radius of forty feet (40') and a minimum right of way of sixty feet (60').

All roads or streets shall have a minimum grade of four-tenths percent (0.4%). Grades of more than ten percent (10%) shall only be allowed upon approval of the County.

A proposed subdivision that adjoins or encompasses an existing public street, that does not conform to minimum right-of-way requirements of these regulations, shall provide for the dedication of additional right-of-way along either or both sides of said street so that the minimum right-of-way required by these regulations can be established. If the proposed subdivision abuts only one side of said street, then a minimum of half of the required right-of-way shall be dedicated by such subdivision.

Where any portion of a road or street has been dedicated in an adjoining subdivision, adjacent to and along the common property line of the two subdivisions, enough width of right-of-way must be dedicated in the new subdivision to provide the minimum width specified herein.

Roads or streets, which are a continuation of any existing road or street, shall take the name of the existing road or street.

A cul-de-sac shall have a maximum length of 600 linear feet. {Measured along the centerline.}

All roads or streets preferably shall intersect at a ninety-degree angle. Where this is not possible, the intersection, on the side of the acute angle, shall be rounded with a curve or a cutback, but in no case, shall the curve have less than a twenty-five foot (25') radius.

New roads or streets, which are a continuation of an existing road or street, shall be a continuation, without off-set, of the existing road or street.

Where roads or streets in an adjoining subdivision end at the property line of the new subdivision, the said roads or streets shall be continued throughout the new subdivision. Where there are no adjacent connections platted, the roads in the new subdivision shall be a reasonable projection of the roads or streets in the nearest subdivisions.

No decorative squares, trees, "islands", ornamental entrances or any other obstruction to traffic shall be constructed or preserved within the right-of-way of a road dedicated to the public without the written permission of the Navarro County Commissioners Court. If landscaping and/or irrigation is proposed within the right of way, the owner shall create a body (municipal utility district, home owners association, neighborhood association, etc.), which will be responsible for the maintenance and liability of the landscaping and/or irrigation system. This body shall have assessment authority to insure the proper funding for maintenance. After completion, the developer shall maintain all roads for a period of two years. The developer may then request County maintenance of the roads. Where the proposed subdivision (10 lots or more) is located adjacent to an unpaved county road and the developer requests it be paved and it is deemed not feasible for the County to improve the road, the subdivider shall either pay the county \$.35 cents per square foot for pavement or be required to pay the cost of the base material. This shall be determined after consultation with the precinct commissioner and upon approval of commissioner's court.

2. PRIVATE ROADS

If a developer wished to create a subdivision utilizing private roads, it must meet the following requirements:

The roads must meet all county road standards, except where specific variances have been granted by Commissioners Court for adequate cause. The subdivision plat and restrictions must contain a statement that Navarro County will never accept or maintain the roads unless they meet the county standards in effect on the date of acceptance. The subdivision plat must contain a statement that the roads will be maintained in perpetuity by the owners in the subdivision, and must contain mechanism for assessing the owners to produce adequate revenue for perpetual maintenance. The plat must contain a

requirement that every deed contain notice to the grantee that all streets are private, that the owners will be perpetually liable for maintenance, and the quality of the roads may affect access by public services such as police, fire and EMS.

All major collector streets must be dedicated to the public and constructed to county standards. Other streets will be dedicated to the homeowners, their assigns and successors, and emergency responders. A sign will be placed at the entrance of the subdivision clearly stating that the roads in this subdivision are private roads. A homeowners association with assessment authority will be formed. Membership in the association will be mandatory for each lot owner. The association will be responsible for the maintenance of the roads in the subdivision. Any owner that gates the entrance to a subdivision shall provide either a crash gate or provide emergency responders with a key or combination.

3. Drainage and Utility Easements

Utility easements shall be a minimum of ten feet (10') in width, located along a side property or lot line and twenty feet (20') located along all front lot lines. It shall be the duty of the developer to insure that all easements are of the proper width and location to serve the using utility companies. It shall also be the duty of the developer to insure that no buildings, fences, trees, shrubs, or other improvements or growths shall be constructed, reconstructed or allowed to remain upon, over or across the easements.

Utility lines crossing a road shall be installed a minimum of 24" below the ditch line or a minimum of 36" below the crown line of the road, whichever is greater. All lines carrying liquid products must be encased in metal or PVC schedule 40 a minimum length of 5' from ditch line to ditch line.

If new roads are constructed over existing petroleum pipeline crossings, the pipelines must meet the following requirements:

1. Encased pipe must be at least 3 feet below the deepest proposed ditch grade.
2. Non-cased pipe (of extra wall thickness meeting Federal Regulations) must be at least 4 feet below the deepest proposed ditch.

No road will be accepted for maintenance by Navarro County, which contains a petroleum pipeline within the right-of-way, other than crossing pipelines.

The County does not provide maintenance for drainage.

The area identified as drainage easement will be subtracted from the raw lot size in determination of acceptable lot size for construction.

Drainage easements shall generally be located along the existing drainage way, and shall meet the following standards:

- a) Open channels with top widths from 0' to 50' require top width plus 25'.
- b) Open channels with top widths greater than 50' require top width plus 25' each side.
- c) Enclosed pipes require 20' minimum width.

All easements shall be so designed to allow maintenance equipment to enter the easement, and be able to perform the necessary work.

4. Lot Sizes and Building setbacks:

Based on the presence of an on-site sewage facility, the net minimum lot size on which development activity will be allowed shall be **1.00 acre**. This net minimum lot size shall not include any right-of-way, drainage easement, and utility easement or floodplain area. Except within 5,000 feet of the Richland Chambers Lake, all lots must have a minimum street frontage of 100 feet unless otherwise specified.

Lots having an individual water supply well and an individual on-site sewage system shall have a minimum lot size of 1.5 usable acres.

Lots served by a public water supply and by a public sewage disposal system shall have an average density of not more than four lots per usable acre.

Multi-family lots served by a public water supply and a public sewage disposal system shall have a minimum lot size of not less than 5,000 square feet of usable acreage. Such lots must have a minimum 30 feet of street frontage.

The minimum street frontage for lots on the turn around of a cul-de-sac shall be 50 feet.

Side lot lines should normally be at a ninety-degree angle to the street.

All straight lines shall clearly show the length of the line, and the plat shall show enough information to readily determine the bearing of all lot lines.

All curved lot lines shall clearly show the length of the arc and radius of the curve, or show enough information on the plat to readily determine the radius of the curve.

Building and setback lines shall be 50 feet from the edge of the right-of-way on all state and federal roads, and 25 feet on all other roads. Building and setback lines shall be shown on both the preliminary and final plats. If the above setback lines differ from those adopted by a municipality with extraterritorial jurisdiction, the setbacks of the municipality shall apply.

5. Floodplains

Subdivisions that are located in a flood zone as shown on the current Flood Insurance Rate Map (FIRM) for Navarro County will have the following requirements:

- (a) Permanent type benchmarks shall be set in appropriate locations with the description and elevation shown on the plat. The elevation of the benchmark shall be tied to a benchmark shown on the FIRM panel.
- (b) A note on the plat stating "A flood permit will be required from Navarro County for any construction in the floodplain."
- (c) All subdivision proposals shall be consistent with Navarro County's Floodplain Regulations.
- (d) Contours at one-foot (1') intervals shall be shown on the plat.
- (e) The finished floor elevation must be shown for each lot located in the floodplain.
- (f) The floodplain area of each lot shall be subtracted from the overall lot size to determine minimum lot size.
- (g) The provision of and maintenance of drainage for the purpose of flood damage reduction on individual private lots is not the responsibility of the County.

Subdivisions that are located in the easement area adjacent to floodwater retarding structures as authorized by the National Flood Control Act of 1944 and designed and constructed by the U.S. Department of Agriculture - Natural Resources Conservation Service (NCRS), will have the following requirements:

See attached "Navarro County Soil and Water Conservation District Policy on Activities Adjacent to Floodwater Retarding Structures."

6. MANUFACTURED HOME RENTAL COMMUNITIES:

All manufactured home rental communities shall meet the following design and construction standards:

1. The developer must submit a development plan. The plan shall include the physical features of the property including watercourses, ravines, bridges, culverts, 100-year flood plain, lot and street layout.

Required information:

- A. The name of the park, scale and north point.
 - B. The names of adjacent property owners, names or numbers of streets within the park, the number of linear feet of roadway to be constructed or maintained, and the lot, block, and section numbers within the park.
 - C. The perimeter boundary of the park shall be shown with bearings and distances referenced to survey lines or fractional survey lines and shall be described by metes and bounds.
 - D. The acreage in each survey must be shown.
 - E. The 100-year flood plain shall be shown and all lots or any part of a lot that lies within the 100-year flood plain shall show the elevation of the said lot and shall show all contour lines on the lot in five-foot increments.
 - F. Location of lots, streets, roads, public highways, utility easements including existing pipelines, parks and other features shall be shown on plan.
 - G. The location of building setback lines on all streets, and the location and dimension of utility and drainage easements and other public right-of-ways or access.
 - H. Certification by the owner of his dedication of all streets, public highways, alleys, utility easements, parks, and other land intended for public use, signed and acknowledged before a Notary Public by said owner.
 - I. Certification by a Registered Public Surveyor or a Registered Professional Engineer to the effect that the development plan correctly represents a survey made by him.
2. The developer shall submit a letter from an approved water supply stating the park can be served and that a funded service agreement has been made with the applicable water supply Company. Where private systems or individual wells are indicated as the source of water, additional information must be provided, including identification of the water source with preliminary study by a qualified engineer as to quantity and quality of supplies, reserves or length of contract to purchase raw or untreated water. If groundwater is the indicate source of water, the developer must submit a "Groundwater Availability

Certification" form as prescribed by chapter 232.0031 of the Texas Local Government Code.

3. The developer shall submit a plan for sewage disposal. If individual septic systems are to be used, copies of percolation tests or percolation profiles performed by a Registered Professional Engineer or approved agency, shall be provided, along with a letter stating recommendations as to the type of septic system to be installed. A copy of the plan shall be filed with the county sanitarian, and they shall review and approve the plan. If individual septic systems are to be used, each lot shall contain an area of not less than $\frac{1}{2}$ acre. Lots must contain not less than 1 acre in individual wells are also to be used. If an existing sewage system or a sanitary sewer system is to be used, it must be approved and licensed by the TNRCC and each lot must contain not less than 12,500 sq. ft.

4. Street design:

- a. Provide for right-of-way on main artery streets or roads within the park of not less than 60 feet nor more than 100 feet.
- b. The street cut on main arteries within the right-of-way shall be not less than 32 feet (24-ft. roadbed, 2-4 ft. shoulders) nor more than 56 feet.
- c. Cul-de-sacs shall be permitted and shall provide property access to all lots, and a turn around shall be provided at the closed end with an outside line radius of at least 50 feet.
- d. The developer shall grade the roadbed to an approved level and said road must have V-type bar ditches sufficient to insure proper drainage.
- e. The roadbed, after they have been graded, compacted and approved in any on-site inspection by the Commissioner or his designated representative will be covered with a minimum of nine inches of crushed limestone after compaction to form a solid base.
- f. All of the grading and gravel must meet the inspection and approval of the Commissioner.
- g. The surface treatment shall meet the requirements set forth in Section G, paragraph 1 of this order.
- h. The drainage requirements shall be the same as required in Section G, paragraph 3 of this order.

SECTION J. DRAINAGE STANDARDS

A Registered Professional Engineer shall size the culvert design and a map or list containing the size of each pipe shall be attached to the plat and approved by the Commissioner. The developer will be held responsible for notifying builders and lot owners of this requirement and ensuring the properly sized culvert is installed.

SECTION K. CONSTRUCTION AND MAINTENANCE BONDS

1. Construction Bonds

All construction shall be complete within 2 years after approval of final plat in a timely manner, and in accordance with the terms and specifications contained in this Order. The developer desiring to construct any of the improvements covered by this order and who has not constructed the streets, drainage structures and utilities required prior to approval of the Final Plat, shall secure proper performance in a manner and amount acceptable to the Commissioners Court.

The construction bond shall be presented to the Subdivision Administrator for submission to the Commissioners Court with the final plat.

The construction bond shall remain in full force and in effect until all the roads, streets, street signs, utilities, required drainage structures and all other construction in the subdivision have been completed to the satisfaction of the Commissioner, and the construction bond has been released by a Court Order from the Commissioners Court.

In the event any or all of the streets, roads, utilities, drainage and drainage structures, as constructed by the Owner, fail to meet the requirements of the foregoing specifications, and the said Owner fails or refuses to correct the defects called to his attention in writing by the Subdivision Administrator, the unfinished improvements shall be completed at the cost and expense of obligees as provided.

2. Maintenance Bond

To insure roads, streets, street signs, underground utilities, required drainage structures and all other construction are maintained to the satisfaction of the Commissioner, a maintenance bond executed by a Surety Company authorized to do business in this state, and made payable to the County Judge of Navarro County, Texas or his successor in office, may (if requested by the Commissioner) be substituted for the construction bond at the time of release of said construction bond.

The maintenance bond amount shall be equal to forty percent of the estimated cost of roads, streets, street signs, underground utilities, required drainage structures and all other construction.

The conditions of the maintenance bond shall be that the Owner shall guarantee to maintain, to the satisfaction of Navarro County, all of the streets, roads, drainage structures and drainage ditches and channels which have been constructed to specifications with construction security released by Court Order from Commissioners Court, in a good state of repair for a period of one year from the date of official release of construction security.

Periodical inspection of roads, streets, street signs, underground utilities, required drainage structures and all other construction for which maintenance security is held, will be made by the Commissioner during the period of liability covered by the maintenance bond. In the event any or all of the roads, streets, street signs, underground utilities, required drainage structures and all other construction are not being maintained in a good state of repair, the Owner will be so advised in writing and, if after a reasonable time, he fails or refuses to repair said items, they shall be maintained at the cost and expense of obligees as in said orders provided.

The release of any bond shall be by order of the Commissioners Court. To request a release the developer who posted the bond in question shall present a written request to release said bond recommends their acceptance by the County. The request shall contain a statement by the Engineer responsible for the design, Attached to his letter shall be one set of "as built" drawings showing the work to be accepted for use by the County. The Navarro County Commissioner shall receive the written request of bond release at least 14 days prior to the next regularly scheduled meeting of Commissioners Court.

3. FINAL INSPECTION

The Developer, upon completion of drainage, roads, streets and other facilities intended for the use of the public, or purchasers or owners of lots fronting or adjacent there to, shall request from the County a final inspection. The Precinct Commissioner or his designee will inspect the completed work for compliance. The Developer will be notified in writing of any work not found in compliance with the Subdivision Regulations.

If substantial patching is required during the two-year maintenance period, roads or streets must be resurfaced with a two-course surface treatment.

4. IRREVOCABLE LETTER OF CREDIT (IN LIEU OF BOND)

An Irrevocable Letter of Credit may be submitted in lieu of bonds, for the purpose of insuring a developer's promise to construct and maintain the roads and drainage of facilities in a subdivision.

Irrevocable Letters of Credit in lieu of Bonds are required under the same conditions as Construction and Maintenance Bonds.

5. OTHER SECURITY

Any type of security for Construction and Maintenance other than Bonds and Irrevocable Letter of Credit shall be by written request to Navarro County, and approval by the Navarro County District Attorney's Office.

SECTION L. SEVERABILITY

If any provision of this Order, or the application thereof, to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the Order which can be given effect without the invalid provision or application, and to this end, the provisions of this Order are declared to be severable.

SECTION M. PLATTING CHECKLIST

Each item on the following checklist is required before an application is considered complete.

Six copies of the plat

Name of the subdivision

Utility easements

Lot sizes

Lot numbers

Drainage easements

Floodplain area

Adjacent landowners

Name, address and phone number of owner and surveyor

Location map

Acreage of Subdivision

Location and width of existing and proposed streets

Outline of adjacent properties for a distance of at least 100 feet

Drainage Planning and Zoning Commissioner Physical features of the property including water courses, the 100-year floodplain, ravines, bridges, culverts, present structures and other features of importance prepared by a Texas Registered Professional Civil Engineer or Surveyor

1. _____ The dimensions of all lots.
2. _____ The numbers of lots and blocks and the name of streets.
3. _____ All survey monuments shown on plat
4. _____ Deed Restrictions
5. _____ An instrument of Dedication showing all restrictions, reservations, and or easements to be imposed or reserved in connection with the subdivision
6. _____ A certificate of dedication of all roads, streets, alleys, parts, or other land intended for public use
7. _____ Certificate of approval by the Navarro County Commissioners Court
8. _____ Certificate of approval by the Navarro County Lake Planning and Zoning Commission (if applicable)
9. _____ Certificate of approval by the Navarro County Health Representative
10. _____ Certificate of approval by the Tarrant Regional Water District (If applicable)
11. _____ Certificate of approval by the Navarro County Clerk
12. _____ Construction of roads and utilities completed or performance bond to cover cost of construction
13. _____ Tax certificates from county and school district
14. _____ Construction plans, including streets, drainage, water and sewer
15. _____ Platting fee paid

SECTION N.

NAVARRO COUNTY

FLOODPLAIN DEVELOPMENT PERMIT

Date: _____ No. _____

Name of Applicant: _____

Mailing Address: _____

Location of Property: _____

Attach Scaled Map: _____

Application Fee: _____ Received by: _____

NATURE OF PROPOSED CONSTRUCTION (check and complete as appropriate):

- Residential Non-Residential Other
- Alteration of a Natural Waterway or Drainage Course
- Placement of Fill

DESCRIPTION OF PROPOSED CONSTRUCTION (check and complete as appropriate):

- New Construction
- Substantial Improvement to Existing Structure (repair, reconstruction, or improvement to existing structure - the cost of which equals or exceeds 50% of the fair market value of existing structure)
- House Mobile Non-residential _____
(Specify)
- Commercial _____
(Name and Type of Business)
- Other _____

TO COMPLY WITH FLOODPLAIN MANAGEMENT STANDARDS, AND TO MINIMIZE POTENTIAL FLOOD DAMAGE, YOU MUST AGREE TO CONSTRUCT YOUR PROPOSED DEVELOPMENT IN ACCORDANCE WITH THE FOLLOWING SPECIAL PROVISIONS:

- For residential structures, the lowest floor (including basement) must be elevated so as to be at or above the flood level expected for any 100-year period in your area.
- For non-residential structures, the building must be flood-proofed to withstand the flood depths, pressures, velocities, impact and uplift forces associates with "100 year" floods, or else the lowest floor must be elevated to be at or above the 100-year flood level for your area.

- () The foundation of the structure and materials used must be able to withstand the pressures, velocities, and impact forces associated with "100 year" floods.
- () The water supply inlet and private sewage facility outlet must have an automatic backflow device installed.
- () All utility supply lines must be so installed as to minimize damage from potential flooding.
- () You must submit a certification to this office from a REGISTERED PROFESSIONAL ENGINEER, ARCHITECT, OR LAND SURVEYOR that the floor elevation and flood proofing requirements have been complied with.
- () You must provide this office with a certified copy of all final plans or as-built drawings. Engineering data must be submitted to FEMA for their map amendment process, so the FIRM can be changed.
- () If the permit applicant is a corporation, partnership or other legal entity other than a natural person, state the name of one or more natural persons who will be responsible to Commissioners Court to see that all provisions of the building permit will be faithfully complied with.

I hereby file this application for the construction in a designated floodplain, and if the permit applied for is granted, acknowledge myself to be bound to Commissioners Court of Navarro County, Texas to see that all provisions of the permit are faithfully performed.

Acknowledgment of Conditions by Permittee

Date

Signature of Administrator

Date



FEMA

NATIONAL FLOOD INSURANCE PROGRAM

ELEVATION CERTIFICATE

AND

INSTRUCTIONS

2019 EDITION

U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
National Flood Insurance Program

ELEVATION CERTIFICATE AND INSTRUCTIONS

Paperwork Reduction Act Notice

Public reporting burden for this data collection is estimated to average 3.75 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and submitting this form. You are not required to respond to this collection of information unless a valid OMB control number is displayed on this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing the burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street SW, Washington, DC 20742, Paperwork Reduction Project (1660-0008). **NOTE: Do not send your completed form to this address.**

Privacy Act Statement

Authority: Title 44 CFR § 61.7 and 61.8.

Principal Purpose(s): This information is being collected for the primary purpose of estimating the risk premium rates necessary to provide flood insurance for new or substantially improved structures in designated Special Flood Hazard Areas.

Routine Use(s): The information on this form may be disclosed as generally permitted under 5 U.S.C. § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/ FEMA-003 – National Flood Insurance Program Files System or Records Notice 73 Fed. Reg. 77747 (December 19, 2008); DHS/ FEMA/NFIP/LOMA-1 – National Flood Insurance Program (NFIP) Letter of Map Amendment (LOMA) System of Records Notice 71 Fed. Reg. 7990 (February 15, 2006); and upon written request, written consent, by agreement, or as required by law.

Disclosure: The disclosure of information on this form is voluntary; however, failure to provide the information requested may result in the inability to obtain flood insurance through the National Flood Insurance Program or the applicant may be subject to higher premium rates for flood insurance. Information will only be released as permitted by law.

Purpose of the Elevation Certificate

The Elevation Certificate is an important administrative tool of the National Flood Insurance Program (NFIP). It is to be used to provide elevation information necessary to ensure compliance with community floodplain management ordinances, to determine the proper insurance premium rate, and to support a request for a Letter of Map Amendment (LOMA) or Letter of Map Revision based on fill (LOMR-F).

The Elevation Certificate is required in order to properly rate Post-FIRM buildings, which are buildings constructed after publication of the Flood Insurance Rate Map (FIRM), located in flood insurance Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO. The Elevation Certificate is not required for Pre-FIRM buildings unless the building is being rated under the optional Post-FIRM flood insurance rules.

As part of the agreement for making flood insurance available in a community, the NFIP requires the community to adopt floodplain management regulations that specify minimum requirements for reducing flood losses. One such requirement is for the community to obtain the elevation of the lowest floor (including basement) of all new and substantially improved buildings, and maintain a record of such information. The Elevation Certificate provides a way for a community to document compliance with the community's floodplain management ordinance.

Use of this certificate does not provide a waiver of the flood insurance purchase requirement. Only a LOMA or LOMR-F from the Federal Emergency Management Agency (FEMA) can amend the FIRM and remove the Federal mandate for a lending institution to require the purchase of flood insurance. However, the lending institution has the option of requiring flood insurance even if a LOMA/LOMR-F has been issued by FEMA. The Elevation Certificate may be used to support a LOMA or LOMR-F request. Lowest floor and lowest adjacent grade elevations certified by a surveyor or engineer will be required if the certificate is used to support a LOMA or LOMR-F request. A LOMA or LOMR-F request must be submitted with either a completed FEMA MT-EZ or MT-1 package, whichever is appropriate.

This certificate is used only to certify building elevations. A separate certificate is required for floodproofing. Under the NFIP, non-residential buildings can be floodproofed up to or above the Base Flood Elevation (BFE). A floodproofed building is a building that has been designed and constructed to be watertight (substantially impermeable to floodwaters) below the BFE. Floodproofing of residential buildings is not permitted under the NFIP unless FEMA has granted the community an exception for residential floodproofed basements. The community must adopt standards for design and construction of floodproofed basements before FEMA will grant a basement exception. For both floodproofed non-residential buildings and residential floodproofed basements in communities that have been granted an exception by FEMA, a floodproofing certificate is required.

Additional guidance can be found in FEMA Publication 467-1, Floodplain Management Bulletin: Elevation Certificate, available on FEMA's website at <https://www.fema.gov/media-library/assets/documents/3539?id=1727>.

ELEVATION CERTIFICATE

Important: Follow the instructions on pages 1-9.

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

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: <input type="checkbox"/> NAD 1927 <input type="checkbox"/> 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 crawlspace or enclosure(s):						
a) Square footage of crawlspace or enclosure(s) _____ sq ft						
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade _____						
c) Total net area of flood openings in A8.b _____ sq in						
d) Engineered flood openings? <input type="checkbox"/> Yes <input type="checkbox"/> No						
A9. For a building with an attached garage:						
a) Square footage of attached garage _____ sq ft						
b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade _____						
c) Total net area of flood openings in A9.b _____ sq in						
d) Engineered flood openings? <input type="checkbox"/> Yes <input type="checkbox"/> No						
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 Date	B7. FIRM Panel Effective/ Revised Date	B8. 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: <input type="checkbox"/> FIS Profile <input type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other/Source: _____						
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other/Source: _____						
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="checkbox"/> Yes <input type="checkbox"/> No Designation Date: _____ <input type="checkbox"/> CBRS <input type="checkbox"/> OPA						

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2022

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 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–h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: _____ Vertical Datum: _____

Indicate elevation datum used for the elevations in items a) through h) below.

NGVD 1929 NAVD 1988 Other/Source: _____

Datum used for building elevations must be the same as that used for the BFE.

Check the measurement used.

- | | | |
|---|-------------------------------|---------------------------------|
| a) Top of bottom floor (including basement, crawlspace, or enclosure floor) _____ | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| b) Top of the next higher floor _____ | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| c) Bottom of the lowest horizontal structural member (V Zones only) _____ | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| d) Attached garage (top of slab) _____ | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| e) Lowest elevation of machinery or equipment servicing the building
(Describe type of equipment and location in Comments) _____ | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| f) Lowest adjacent (finished) grade next to building (LAG) _____ | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| g) Highest adjacent (finished) grade next to building (HAG) _____ | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____ | <input type="checkbox"/> feet | <input type="checkbox"/> meters |

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.

Were latitude and longitude in Section A provided by a licensed land surveyor? Yes No Check here if attachments.

Certifier's Name	License Number	Place Seal Here
Title		
Company Name		
Address		
City	State ZIP Code	

Signature _____ Date _____ Telephone _____ Ext. _____

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

Comments (including type of equipment and location, per C2(e), if applicable)

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2022

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 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, crawlspace, or enclosure) is _____ feet meters above or below the HAG.
- b) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet meters above or below the LAG.
- E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 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 or Owner's Authorized Representative's Name

Address _____ City _____ State _____ ZIP Code _____

Signature _____ Date _____ Telephone _____

Comments

Check here if attachments.

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2022

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 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–G10. In Puerto Rico only, enter meters.

- 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–G10) 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 Datum _____

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

G10. Community's design flood elevation: _____ feet meters Datum _____

Local Official's Name

Title

Community Name

Telephone

Signature

Date

Comments (including type of equipment and location, per C2(e), if applicable)

Check here if attachments.

ELEVATION CERTIFICATE

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

OMB No. 1660-0008

Expiration Date: November 30, 2022

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

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least 2 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." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8. If submitting more photographs than will fit on this page, use the Continuation Page.

Photo One

Photo One

Photo One Caption

Clear Photo One

Photo Two

Photo Two

Photo Two Caption

Clear Photo Two

ELEVATION CERTIFICATE

BUILDING PHOTOGRAPHS

Continuation Page

OMB No. 1660-0008

Expiration Date: November 30, 2022

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

If submitting more photographs than will fit on the preceding page, affix the additional photographs below. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8.

Photo Three

Photo Three

Photo Three Caption

Clear Photo Three

Photo Four

Photo Four

Photo Four Caption

Clear Photo Four

Instructions for Completing the Elevation Certificate

The Elevation Certificate is to be completed by a land surveyor, engineer, or architect who is authorized by law to certify elevation information when elevation information is required for Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, or AR/AO. Community officials who are authorized by law or ordinance to provide floodplain management information may also complete this form. For Zones AO and A (without BFE), a community official, a property owner, or an owner's representative may provide information on this certificate, unless the elevations are intended for use in supporting a request for a LOMA or LOMR-F. Certified elevations must be included if the purpose of completing the Elevation Certificate is to obtain a LOMA or LOMR-F.

The property owner, the owner's representative, or local official who is authorized by law to administer the community floodplain ordinance can complete Section A and Section B. The partially completed form can then be given to the land surveyor, engineer, or architect to complete Section C. The land surveyor, engineer, or architect should verify the information provided by the property owner or owner's representative to ensure that this certificate is complete.

In Puerto Rico only, elevations for building information and flood hazard information may be entered in meters.

SECTION A – PROPERTY INFORMATION

Items A1–A4. This section identifies the building, its location, and its owner. Enter the name(s) of the building owner(s), the building's complete street address, and the lot and block numbers. If the building's address is different from the owner's address, enter the address of the building being certified. If the address is a rural route or a Post Office box number, enter the lot and block numbers, the tax parcel number, the legal description, or an abbreviated location description based on distance and direction from a fixed point of reference. For the purposes of this certificate, "building" means both a building and a manufactured (mobile) home.

A map may be attached to this certificate to show the location of the building on the property. A tax map, FIRM, or detailed community map is appropriate. If no map is available, provide a sketch of the property location, and the location of the building on the property. Include appropriate landmarks such as nearby roads, intersections, and bodies of water. For building use, indicate whether the building is residential, non-residential, an addition to an existing residential or non-residential building, an accessory building (e.g., garage), or other type of structure. Use the Comments area of the appropriate section if needed, or attach additional comments.

Item A5. Provide latitude and longitude coordinates for the center of the front of the building. Use either decimal degrees (e.g., 39.5043°, -110.7585°) or degrees, minutes, seconds (e.g., 39° 30' 15.5", -110° 45' 30.7") format. If decimal degrees are used, provide coordinates to at least 5 decimal places or better. When using degrees, minutes, seconds, provide seconds to at least 1 decimal place or better. The latitude and longitude coordinates must be accurate within 66 feet. When the latitude and longitude are provided by a surveyor, check the "Yes" box in Section D and indicate the method used to determine the latitude and longitude in the Comments area of Section D. If the Elevation Certificate is being certified by other than a licensed surveyor, engineer, or architect, this information is not required. Provide the type of datum used to obtain the latitude and longitude. FEMA prefers the use of NAD 1983.

Item A6. If the Elevation Certificate is being used to obtain flood insurance through the NFIP, the certifier must provide at least 2 photographs showing the front and rear of the building taken within 90 days from the date of certification. The photographs must be taken with views confirming the building description and diagram number provided in Section A. To the extent possible, these photographs should show the entire building including foundation. If the building has split-level or multi-level areas, provide at least 2 additional photographs showing side views of the building. In addition, when applicable, provide a photograph of the foundation showing a representative example of the flood openings or vents. All photographs must be in color and measure at least 3" × 3". Digital photographs are acceptable.

Item A7. Select the diagram on pages 7–9 that best represents the building. Then enter the diagram number and use the diagram to identify and determine the appropriate elevations requested in Items C2.a–h. If you are unsure of the correct diagram, select the diagram that most closely resembles the building being certified.

Item A8.a. Provide the square footage of the crawlspace or enclosure(s) below the lowest elevated floor of an elevated building with or without permanent flood openings. Take the measurement from the outside of the crawlspace or enclosure(s). Examples of elevated buildings constructed with crawlspace and enclosure(s) are shown in Diagrams 6–9

Instructions for Completing the Elevation Certificate (continued)

on pages 8–9. Diagrams 2A, 2B, 4, and 9 should be used for a building constructed with a crawlspace floor that is below the exterior grade on all sides.

Items A8.b–d. Enter in Item A8.b the number of permanent flood openings in the crawlspace or enclosure(s) that are no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. (A permanent flood opening is a flood vent or other opening that allows the free passage of water automatically in both directions without human intervention.) If the interior grade elevation is used, note this in the Comments area of Section D. Estimate the total net area of all such permanent flood openings in square inches, excluding any bars, louvers, or other covers of the permanent flood openings, and enter the total in Item A8.c. If the net area cannot be reasonably estimated, provide the size of the flood openings without consideration of any covers and indicate in the Comments area the type of cover that exists in the flood openings. Indicate in Item A8.d whether the flood openings are engineered. If applicable, attach a copy of the Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES), if you have it. If the crawlspace or enclosure(s) have no permanent flood openings, or if the openings are not within 1.0 foot above adjacent grade, enter "N/A" for not applicable in Items A8.b–c.

Item A9.a. Provide the square footage of the attached garage with or without permanent flood openings. Take the measurement from the outside of the garage.

Items A9.b–d. Enter in Item A9.b the number of permanent flood openings in the attached garage that are no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. (A permanent flood opening is a flood vent or other opening that allows the free passage of water automatically in both directions without human intervention.) If the interior grade elevation is used, note this in the Comments area of Section D. This includes any openings that are in the garage door that are no higher than 1.0 foot above the adjacent grade. Estimate the total net area of all such permanent flood openings in square inches and enter the total in Item A9.c. If the net area cannot be reasonably estimated, provide the size of the flood openings without consideration of any covers and indicate in the Comments area the type of cover that exists in the flood openings. Indicate in Item A9.d whether the flood openings are engineered. If applicable, attach a copy of the Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES), if you have it. If the garage has no permanent flood openings, or if the openings are not within 1.0 foot above adjacent grade, enter "N/A" for not applicable in Items A9.b–c.

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Complete the Elevation Certificate on the basis of the FIRM in effect at the time of the certification.

The information for Section B is obtained by reviewing the FIRM panel that includes the building's location. Information about the current FIRM is available from the Federal Emergency Management Agency (FEMA) by calling 1-800-358-9616. If a Letter of Map Amendment (LOMA) or Letter of Map Revision (LOMR-F) has been issued by FEMA, please provide the letter date and case number in the Comments area of Section D or Section G, as appropriate.

For a building in an area that has been annexed by one community but is shown on another community's FIRM, enter the community name and 6-digit number of the annexing community in Item B1, the name of the county or new county, if necessary, in Item B2, and the FIRM index date for the annexing community in Item B6. Enter information from the actual FIRM panel that shows the building location, even if it is the FIRM for the previous jurisdiction, in Items B4, B5, B7, B8, and B9.

If the map in effect at the time of the building's construction was other than the current FIRM, and you have the past map information pertaining to the building, provide the information in the Comments area of Section D.

Item B1. NFIP Community Name & Community Number. Enter the complete name of the community in which the building is located and the associated 6-digit community number. For a newly incorporated community, use the name and 6-digit number of the new community. Under the NFIP, a "community" is any State or area or political subdivision thereof, or any Indian tribe or authorized native organization, that has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction. To determine the current community number, see the *NFIP Community Status Book*, available on FEMA's web site at <https://www.fema.gov/national-flood-insurance-program/national-flood-insurance-program-community-status-book>, or call 1-800-358-9616.

Instructions for Completing the Elevation Certificate (continued)

Item B2. County Name. Enter the name of the county or counties in which the community is located. For an unincorporated area of a county, enter "unincorporated area." For an independent city, enter "independent city."

Item B3. State. Enter the 2-letter state abbreviation (for example, VA, TX, CA).

Items B4–B5. Map/Panel Number and Suffix. Enter the 10-character "Map Number" or "Community Panel Number" shown on the FIRM where the building or manufactured (mobile) home is located. For maps in a county-wide format, the sixth character of the "Map Number" is the letter "C" followed by a 4-digit map number. For maps not in a county-wide format, enter the "Community Panel Number" shown on the FIRM.

Item B6. FIRM Index Date. Enter the effective date or the map revised date shown on the FIRM Index.

Item B7. FIRM Panel Effective/Revised Date. Enter the map effective date or the map revised date shown on the FIRM panel. This will be the latest of all dates shown on the map. The current FIRM panel effective date can be determined by calling 1-800-358-9616.

Item B8. Flood Zone(s). Enter the flood zone, or flood zones, in which the building is located. All flood zones containing the letter "A" or "V" are considered Special Flood Hazard Areas. The flood zones are A, AE, A1–A30, V, VE, V1–V30, AH, AO, AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO. Each flood zone is defined in the legend of the FIRM panel on which it appears.

Item B9. Base Flood Elevation(s). Using the appropriate Flood Insurance Study (FIS) Profile, Floodway Data Table, or FIRM panel, locate the property and enter the BFE (or base flood depth) of the building site. If the building is located in more than 1 flood zone in Item B8, list all appropriate BFEs in Item B9. BFEs are shown on a FIRM or FIS Profile for Zones A1–A30, AE, AH, V1–V30, VE, AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO; flood depth numbers are shown for Zone AO. Use the AR BFE if the building is located in any of Zones AR/A, AR/AE, AR/A1–A30, AR/AH, or AR/AO. In A or V zones where BFEs are not provided on the FIRM, BFEs may be available from another source. For example, the community may have established BFEs or obtained BFE data from other sources for the building site. For subdivisions and other developments of more than 50 lots or 5 acres, establishment of BFEs is required by the community's floodplain management ordinance. If a BFE is obtained from another source, enter the BFE in Item B9. In an A Zone where BFEs are not available, complete Section E and enter N/A for Section B, Item B9. Enter the BFE to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico).

Item B10. Indicate the source of the BFE that you entered in Item B9. If the BFE is from a source other than FIS Profile, FIRM, or community, describe the source of the BFE.

Item B11. Indicate the elevation datum to which the elevations on the applicable FIRM are referenced as shown on the map legend. The vertical datum is shown in the Map Legend and/or the Notes to Users on the FIRM.

Item B12. Indicate whether the building is located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA). (OPAs are portions of coastal barriers that are owned by Federal, State, or local governments or by certain non-profit organizations and used primarily for natural resources protection.) Federal flood insurance is prohibited in designated CBRS areas or OPAs for buildings or manufactured (mobile) homes built or substantially improved after the date of the CBRS or OPA designation. For the first CBRS designations, that date is October 1, 1983. Information about CBRS areas and OPAs may be obtained on the FEMA web site at <https://www.fema.gov/national-flood-insurance-program/coastal-barrier-resources-system>.

SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

Complete Section C if the building is located in any of Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, or AR/AO, or if this certificate is being used to support a request for a LOMA or LOMR-F. If the building is located in Zone AO or Zone A (without BFE), complete Section E instead. To ensure that all required elevations are obtained, it may be necessary to enter the building (for instance, if the building has a basement or sunken living room, split-level construction, or machinery and equipment).

Surveyors may not be able to gain access to some crawlspaces to shoot the elevation of the crawlspace floor. If access to the crawlspace is limited or cannot be gained, follow one of these procedures.

- Use a yardstick or tape measure to measure the height from the floor of the crawlspace to the "next higher floor," and then subtract the crawlspace height from the elevation of the "next higher floor." If there is no access to the

Instructions for Completing the Elevation Certificate (continued)

crawlspace, use the exterior grade next to the structure to measure the height of the crawlspace to the "next higher floor."

- Contact the local floodplain administrator of the community in which the building is located. The community may have documentation of the elevation of the crawlspace floor as part of the permit issued for the building.
- If the property owner has documentation or knows the height of the crawlspace floor to the next higher floor, try to verify this by looking inside the crawlspace through any openings or vents.

In all 3 cases, use the Comments area of Section D to provide the elevation and a brief description of how the elevation was obtained.

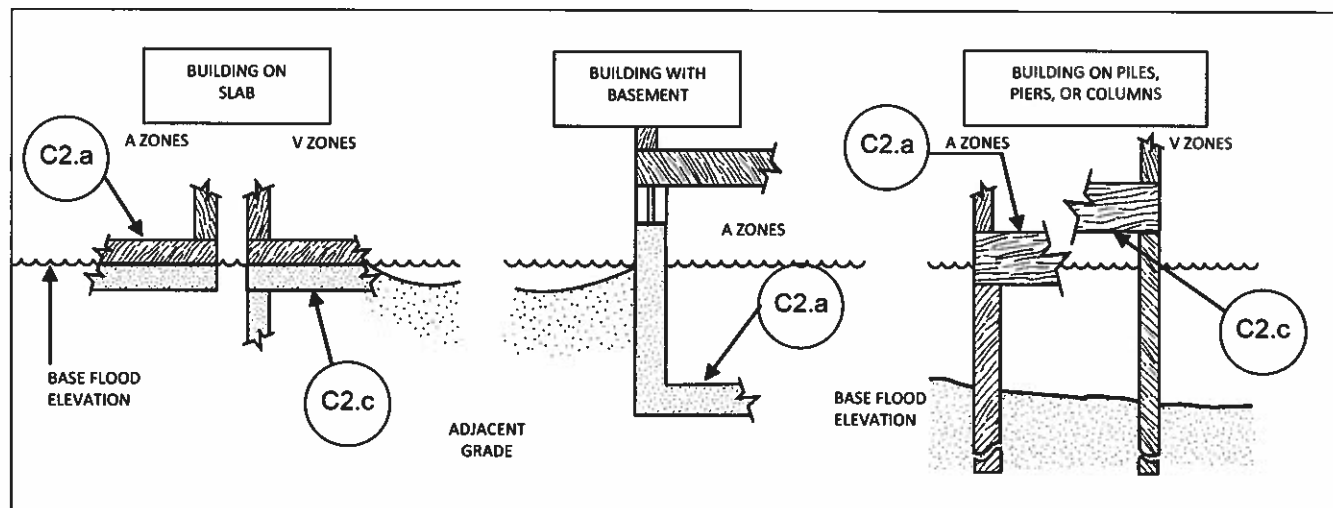
Item C1. Indicate whether the elevations to be entered in this section are based on construction drawings, a building under construction, or finished construction. For either of the first 2 choices, a post-construction Elevation Certificate will be required when construction is complete. If the building is under construction, include only those elevations that can be surveyed in Items C2.a–h. Use the Comments area of Section D to provide elevations obtained from the construction plans or drawings. Select "Finished Construction" only when all machinery and/or equipment such as furnaces, hot water heaters, heat pumps, air conditioners, and elevators and their associated equipment have been installed and the grading around the building is completed.

Item C2. A field survey is required for Items C2.a–h. Most control networks will assign a unique identifier for each benchmark. For example, the National Geodetic Survey uses the Permanent Identifier (PID). For the benchmark utilized, provide the PID or other unique identifier assigned by the maintainer of the benchmark. For GPS survey, indicate the benchmark used for the base station, the Continuously Operating Reference Stations (CORS) sites used for an On-line Positioning User Service (OPUS) solution (also attach the OPUS report), or the name of the Real Time Network used.

Also provide the vertical datum for the benchmark elevation. All elevations for the certificate, including the elevations for Items C2.a–h, must use the same datum on which the BFE is based. Show the conversion from the field survey datum used if it differs from the datum used for the BFE entered in Item B9 and indicate the conversion software used. Show the datum conversion, if applicable, in the Comments area of Section D.

For property experiencing ground subsidence, the most recent reference mark elevations must be used for determining building elevations. However, when subsidence is involved, the BFE should not be adjusted. Enter elevations in Items C2.a–h to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico).

Items C2.a–d. Enter the building elevations (excluding the attached garage) indicated by the selected building diagram (Item A7) in Items C2.a–c. If there is an attached garage, enter the elevation for top of attached garage slab in Item C2.d. (Because elevation for top of attached garage slab is self-explanatory, attached garages are not illustrated in the diagrams.) If the building is located in a V zone on the FIRM, complete Item C2.c. If the flood zone cannot be determined, enter elevations for all of Items C2.a–h. For buildings in A zones, elevations a, b, d, and e should be measured at the top of the floor. For buildings in V zones, elevation c must be measured at the bottom of the lowest horizontal structural member of the floor (see drawing below). For buildings elevated on a crawlspace, Diagrams 8 and 9, enter the elevation



Instructions for Completing the Elevation Certificate (continued)

of the top of the crawlspace floor in Item C2.a, whether or not the crawlspace has permanent flood openings (flood vents). *If any item does not apply to the building, enter "N/A" for not applicable.*

Item C2.e. Enter the lowest platform elevation of at least 1 of the following machinery and equipment items: elevators and their associated equipment, furnaces, hot water heaters, heat pumps, and air conditioners in an attached garage or enclosure or on an open utility platform that provides utility services for the building. Note that elevations for these specific machinery and equipment items are required in order to rate the building for flood insurance. Local floodplain management officials are required to ensure that all machinery and equipment servicing the building are protected from flooding. Thus, local officials may require that elevation information for all machinery and equipment, including ductwork, be documented on the Elevation Certificate. If the machinery and/or equipment is mounted to a wall, pile, etc., enter the platform elevation of the machinery and/or equipment. Indicate machinery/equipment type and its general location, e.g., on floor inside garage or on platform affixed to exterior wall, in the Comments area of Section D or Section G, as appropriate. *If this item does not apply to the building, enter "N/A" for not applicable.*

Items C2.f–g. Enter the elevation of the ground, sidewalk, or patio slab immediately next to the building. For Zone AO, use the natural grade elevation, if available. This measurement must be to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico) if this certificate is being used to support a request for a LOMA or LOMR-F.

Item C2.h. Enter the lowest grade elevation at the deck support or stairs. For Zone AO, use the natural grade elevation, if available. This measurement must be to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico) if this certificate is being used to support a request for a LOMA or LOMR-F.

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

Complete as indicated. This section of the Elevation Certificate may be signed by only a land surveyor, engineer, or architect who is authorized by law to certify elevation information. Place your license number, your seal (as allowed by the State licensing board), your signature, and the date in the box in Section D. You are certifying that the information on this certificate represents your best efforts to interpret the data available and that you understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001. Use the Comments area of Section D to provide datum, elevation, openings, or other relevant information not specified elsewhere on the certificate.

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

Complete Section E if the building is located in Zone AO or Zone A (without BFE). Otherwise, complete Section C instead. Explain in the Section F Comments area if the measurement provided under Items E1–E4 is based on the "natural grade."

Items E1.a and b. Enter in Item E1.a the height to the nearest tenth of a foot (tenth of a meter in Puerto Rico) of the top of the bottom floor (as indicated in the applicable diagram) above or below the highest adjacent grade (HAG). Enter in Item E1.b the height to the nearest tenth of a foot (tenth of a meter in Puerto Rico) of the top of the bottom floor (as indicated in the applicable diagram) above or below the lowest adjacent grade (LAG). For buildings in Zone AO, the community's floodplain management ordinance requires the lowest floor of the building be elevated above the highest adjacent grade at least as high as the depth number on the FIRM. Buildings in Zone A (without BFE) may qualify for a lower insurance rate if an engineered BFE is developed at the site.

Item E2. For Building Diagrams 6–9 with permanent flood openings (see pages 8–9), enter the height to the nearest tenth of a foot (tenth of a meter in Puerto Rico) of the next higher floor or elevated floor (as indicated in the applicable diagram) above or below the highest adjacent grade (HAG).

Item E3. Enter the height to the nearest tenth of a foot (tenth of a meter in Puerto Rico), in relation to the highest adjacent grade next to the building, for the top of attached garage slab. (Because elevation for top of attached garage slab is self-explanatory, attached garages are not illustrated in the diagrams.) *If this item does not apply to the building, enter "N/A" for not applicable.*

Item E4. Enter the height to the nearest tenth of a foot (tenth of a meter in Puerto Rico), in relation to the highest adjacent grade next to the building, of the platform elevation that supports the machinery and/or equipment servicing the building. Indicate machinery/equipment type in the Comments area of Section F. *If this item does not apply to the building, enter "N/A" for not applicable.*

Instructions for Completing the Elevation Certificate (continued)

Item E5. For those communities where this base flood depth is not available, the community will need to determine whether the top of the bottom floor is elevated in accordance with the community's floodplain management ordinance.

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

Complete as indicated. This section is provided for certification of measurements taken by a property owner or property owner's representative when responding to Sections A, B, and E. The address entered in this section must be the actual mailing address of the property owner or property owner's representative who provided the information on the certificate.

SECTION G – COMMUNITY INFORMATION (OPTIONAL)

Complete as indicated. The community 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. Section C may be filled in by the local official as provided in the instructions below for Item G1. If the authorized community official completes Sections C, E, or G, complete the appropriate item(s) and sign this section.

Check **Item G1** if Section C is completed with elevation data 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 of the elevation data and the date obtained in the Comments area of Section G. If you are both a community official and a licensed land surveyor, engineer, or architect authorized by law to certify elevation information, and you performed the actual survey for a building in Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/A1–A30, AR/AE, AR/AH, or AR/AO, you must also complete Section D.

Check **Item G2** if information is entered in Section E by the community for a building in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.

Check **Item G3** if the information in Items G4–G10 has been completed for community floodplain management purposes to document the as-built lowest floor elevation of the building. Section C of the Elevation Certificate records the elevation of various building components but does not determine the lowest floor of the building or whether the building, as constructed, complies with the community's floodplain management ordinance. This must be done by the community. Items G4–G10 provide a way to document these determinations.

Item G4. Permit Number. Enter the permit number or other identifier to key the Elevation Certificate to the permit issued for the building.

Item G5. Date Permit Issued. Enter the date the permit was issued for the building.

Item G6. Date Certificate of Compliance/Occupancy Issued. Enter the date that the Certificate of Compliance or Occupancy or similar written official documentation of as-built lowest floor elevation was issued by the community as evidence that all work authorized by the floodplain development permit has been completed in accordance with the community's floodplain management laws or ordinances.

Item G7. New Construction or Substantial Improvement. Check the applicable box. "Substantial Improvement" means any reconstruction, rehabilitation, addition, or other improvement of a building, the cost of which equals or exceeds 50 percent of the market value of the building before the start of construction of the improvement. The term includes buildings that have incurred substantial damage, regardless of the actual repair work performed.

Item G8. As-built lowest floor elevation. Enter the elevation of the lowest floor (including basement) when the construction of the building is completed and a final inspection has been made to confirm that the building is built in accordance with the permit, the approved plans, and the community's floodplain management laws or ordinances. Indicate the elevation datum used.

Item G9. BFE. Using the appropriate FIRM panel, FIS Profile, or other data source, locate the property and enter the BFE (or base flood depth) of the building site. Indicate the elevation datum used.

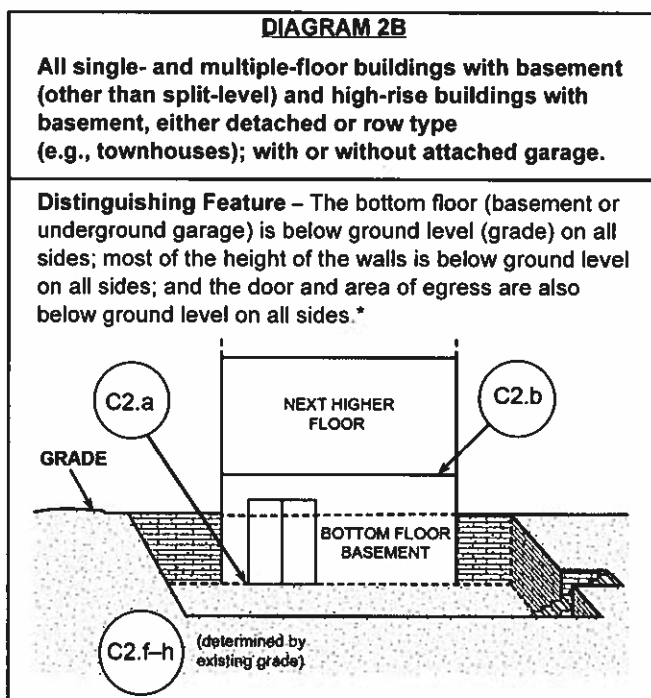
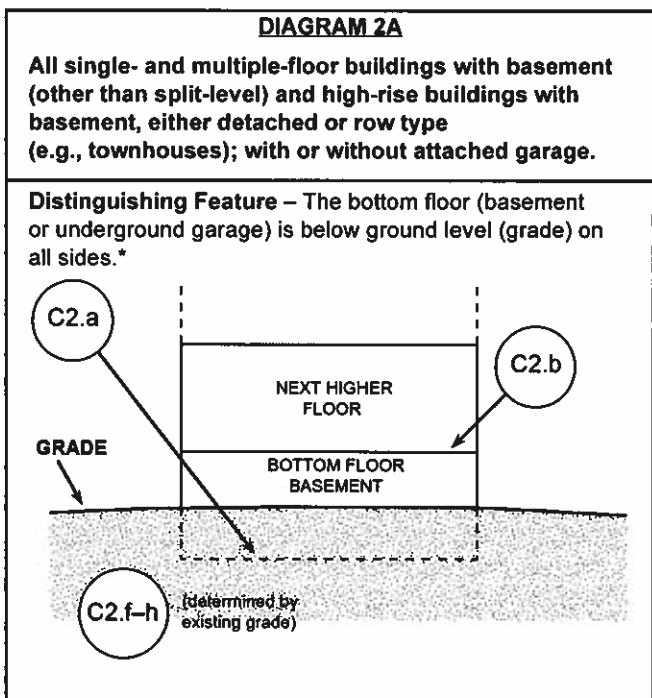
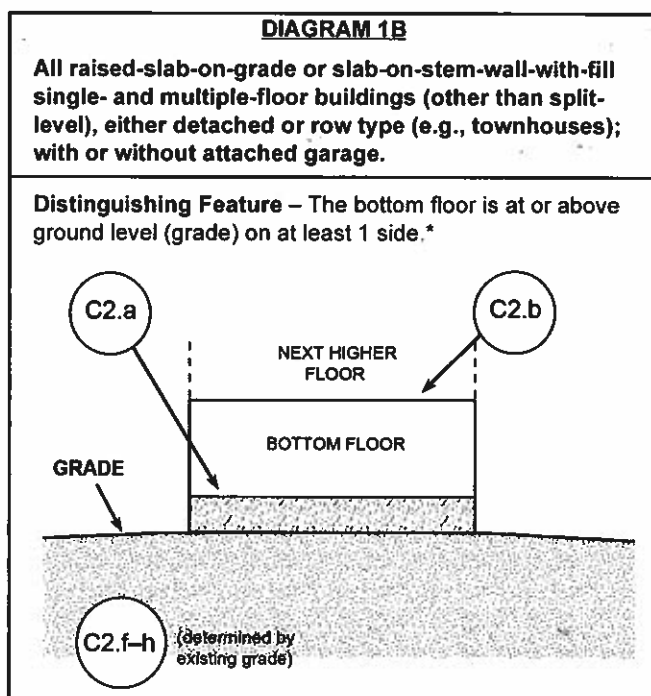
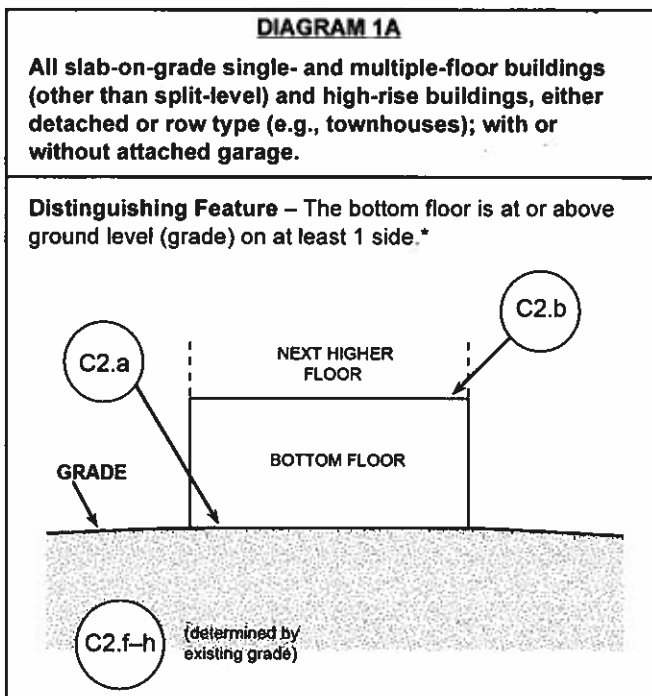
Item G10. Community's design flood elevation. Enter the elevation (including freeboard above the BFE) to which the community requires the lowest floor to be elevated. Indicate the elevation datum used.

Enter your name, title, and telephone number, and the name of the community. Sign and enter the date in the appropriate blanks.

Building Diagrams

The following diagrams illustrate various types of buildings. Compare the features of the building being certified with the features shown in the diagrams and select the diagram most applicable. Enter the diagram number in Item A7, the square footage of crawlspace or enclosure(s) and the area of flood openings in square inches in Items A8.a–c, the square footage of attached garage and the area of flood openings in square inches in Items A9.a–c, and the elevations in Items C2.a–h.

In A zones, the floor elevation is taken at the top finished surface of the floor indicated; in V zones, the floor elevation is taken at the bottom of the lowest horizontal structural member (see drawing in instructions for Section C).



* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

Building Diagrams

DIAGRAM 3

All split-level buildings that are slab-on-grade, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor (excluding garage) is at or above ground level (grade) on at least 1 side.*

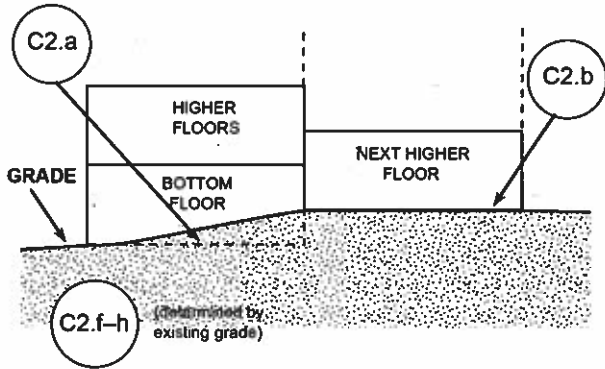


DIAGRAM 4

All split-level buildings (other than slab-on-grade), either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor (basement or underground garage) is below ground level (grade) on all sides.*

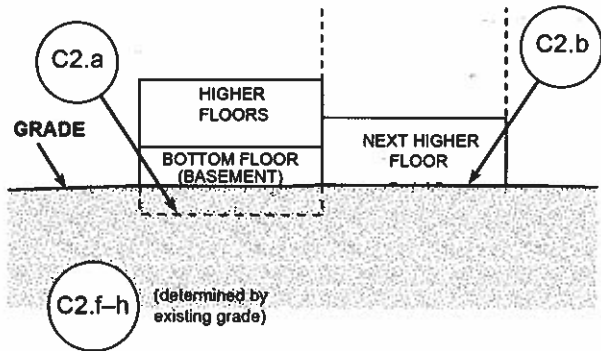


DIAGRAM 5

All buildings elevated on piers, posts, piles, columns, or parallel shear walls. No obstructions below the elevated floor.

Distinguishing Feature – For all zones, the area below the elevated floor is open, with no obstruction to flow of floodwaters (open lattice work and/or insect screening is permissible).

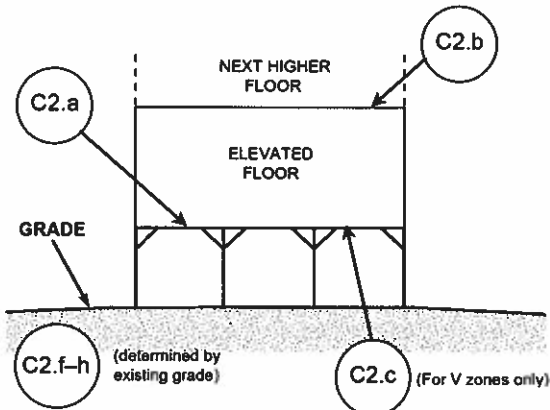
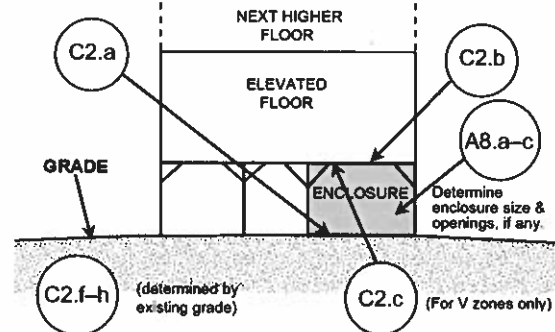


DIAGRAM 6

All buildings elevated on piers, posts, piles, columns, or parallel shear walls with full or partial enclosure below the elevated floor.

Distinguishing Feature – For all zones, the area below the elevated floor is enclosed, either partially or fully. In A Zones, the partially or fully enclosed area below the elevated floor is with or without openings** present in the walls of the enclosure. Indicate information about enclosure size and openings in Section A – Property Information.



* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

** An "opening" is a permanent opening that allows for the free passage of water automatically in both directions without human intervention. Under the NFIP, a minimum of 2 openings is required for enclosures or crawlspaces. The openings shall provide a total net area of not less than 1 square inch for every square foot of area enclosed, excluding any bars, louvers, or other covers of the opening. Alternatively, an Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES) must be submitted to document that the design of the openings will allow for the automatic equalization of hydrostatic flood forces on exterior walls. A window, a door, or a garage door is not considered an opening; openings may be installed in doors. Openings shall be on at least 2 sides of the enclosed area. If a building has more than 1 enclosed area, each area must have openings to allow floodwater to directly enter. The bottom of the openings must be no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. For more guidance on openings, see NFIP Technical Bulletin 1.

Building Diagrams

DIAGRAM 7

All buildings elevated on full-story foundation walls with a partially or fully enclosed area below the elevated floor. This includes walkout levels, where at least 1 side is at or above grade. The principal use of this building is located in the elevated floors of the building.

Distinguishing Feature – For all zones, the area below the elevated floor is enclosed, either partially or fully. In A Zones, the partially or fully enclosed area below the elevated floor is with or without openings** present in the walls of the enclosure. Indicate information about enclosure size and openings in Section A – Property Information.

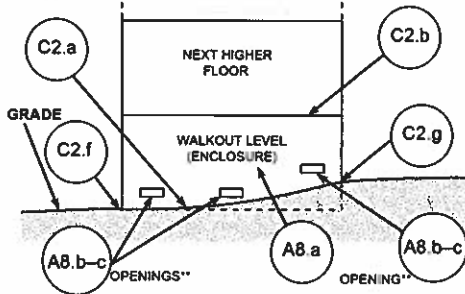


DIAGRAM 8

All buildings elevated on a crawlspace at or above grade on at least 1 side, with or without an attached garage.

Distinguishing Feature – For all zones, the area below the first floor is enclosed by solid or partial perimeter walls. In all A zones, the crawlspace is with or without openings** present in the walls of the crawlspace. Indicate information about crawlspace size and openings in Section A – Property Information.

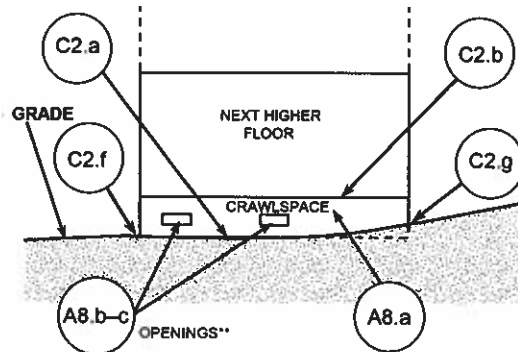
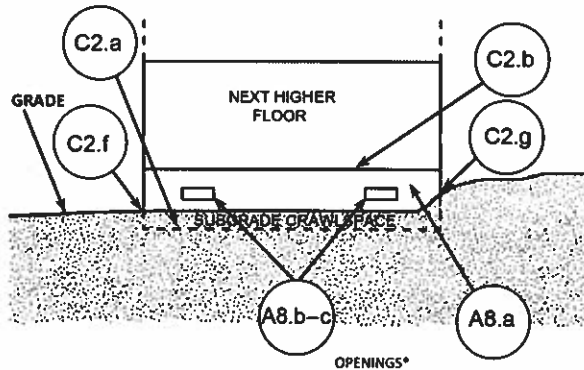


DIAGRAM 9

All buildings (other than split-level) elevated on a sub-grade crawlspace, with or without attached garage.

Distinguishing Feature – The bottom (crawlspace) floor is below ground level (grade) on all sides.* (If the distance from the crawlspace floor to the top of the next higher floor is more than 5 feet, or the crawlspace floor is more than 2 feet below the grade [LAG] on all sides, use Diagram 2A or 2B.)



* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

** An "opening" is a permanent opening that allows for the free passage of water automatically in both directions without human intervention. Under the NFIP, a minimum of 2 openings is required for enclosures or crawlspaces. The openings shall provide a total net area of not less than 1 square inch for every square foot of area enclosed, excluding any bars, louvers, or other covers of the opening. Alternatively, an Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES) must be submitted to document that the design of the openings will allow for the automatic equalization of hydrostatic flood forces on exterior walls. A window, a door, or a garage door is not considered an opening; openings may be installed in doors. Openings shall be on at least 2 sides of the enclosed area. If a building has more than 1 enclosed area, each area must have openings to allow floodwater to directly enter. The bottom of the openings must be no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. For more guidance on openings, see NFIP Technical Bulletin 1.

Texas Administrative Code

TITLE 30 ENVIRONMENTAL QUALITY

PART 1 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CHAPTER 230 GROUNDWATER AVAILABILITY CERTIFICATION FOR PLATTING

RULE §230.1 Applicability

(a) Subdivisions utilizing groundwater as the source of water supply. In the plat application and approval process, municipal and county authorities may require certification that adequate groundwater is available for a proposed subdivision if groundwater under that land is to be the source of water supply. The municipal or county authority is not required to exercise their authority under Texas Local Government Code, §212.0101 or §232.0032. However, if they do exercise their authority, the form and content of this chapter must be used.

(b) Use of this chapter. If required by the municipal or county authority, the plat applicant and the Texas licensed professional engineer or the Texas licensed professional geoscientist shall use this chapter and the attached form to certify that adequate groundwater is available under the land of a subdivision subject to platting under Texas Local Government Code, §212.004 and §232.001. These rules do not replace other state and federal requirements applicable to public drinking water supply systems. These rules do not replace the authority of counties within designated priority groundwater management areas under Texas Water Code, §35.019, or the authority of groundwater conservation districts under Texas Water Code, Chapter 36.

(c) Transmittal of data. If use of this chapter is required by the municipal or county authority, the plat applicant shall:

(1) provide copies of the information, estimates, data, calculations, determinations, statements, and certification required by §230.8 of this title (relating to Obtaining Site-Specific Groundwater Data), §230.9 of this title (relating to Determination of Groundwater Quality), §230.10 of this title (relating to Determination of Groundwater Availability), and §230.11 of this title (relating to Groundwater Availability and Usability Statements and Certification) to the executive administrator of the Texas Water Development Board and to the applicable groundwater conservation district or districts; and

(2) using the attached form, attest that copies of the information, estimates, data, calculations, determinations, statements, and the certification have been provided to the executive administrator of the Texas Water Development Board and the applicable groundwater conservation district or districts. The executive director may make minor changes to this form that do not conflict with the requirements of these rules.

Attached Graphic

Source Note: The provisions of this §230.1 adopted to be effective July 9, 2000, 25 TexReg 6345; amended to be effective February 13, 2003, 28 TexReg 1206; amended to be effective July 31, 2008, 33 TexReg 5933

TRANSMITTAL OF DATA

Use of this form: If required by a municipal authority pursuant to Texas Local Government Code, §212.0101, or a county authority pursuant to Texas Local Government Code, §232.0032 the plat applicant shall use this form to attest that information has been provided in accordance with the requirements of 30 TAC Chapter 230. This form shall be provided to the municipal or county authority, the executive administrator of the Texas Water Development Board, and the applicable groundwater conservation district or districts.

Name of Proposed Subdivision: _____

Property Owner's Name(s): _____

Address: _____

Phone: _____ Fax: _____

Plat Applicant's Name: _____

Address: _____

Phone: _____ Fax: _____

I, _____, the Plat Applicant, attest that the following information has been provided in accordance with 30 TAC Chapter 230.

Has the Certification of Groundwater Availability for Platting Form (Figure: 30 TAC §230.3(c)) been provided to the:		(Please Circle One)
1. Municipal or County authority?	Yes	No
2. Executive administrator of the Texas Water Development Board?	Yes	No
3. Applicable Groundwater Conservation District or Districts?	Yes	No
Name of Groundwater Conservation District or Districts:		
Have copies of the information, estimates, data, calculations, determinations, and statements been provided to the:		
4. Executive administrator of the Texas Water Development Board?	Yes	No
5. Applicable Groundwater Conservation District or Districts?	Yes	No
Name of Groundwater Conservation District or Districts:		

Note: Mail the required information to the executive administrator of the Texas Water Development Board at the following address:

Executive Administrator
Texas Water Development Board
Groundwater Resources Division
P.O. Box 13231
Austin, Texas 78711-3231

Contact and other information for the Groundwater Conservation Districts within the state may be accessed on the following Internet pages:

- http://www.tceq.state.tx.us/permitting/water_supply/groundwater/districts.html
- <http://www.twdb.state.tx.us/GwRD/pages/gwrdindex.html>
- <http://www.texasgroundwater.org/index.htm>

RULE §230.2 Definitions

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise. If a word or term used in this chapter is not contained in this section, it shall have the same definition and meaning as used in the practices applicable to hydrology and aquifer testing.

(1) **Applicable groundwater conservation district or districts**--Any district or authority created under Texas Constitution, Article III, Section 52, or Article XVI, Section 59, that:

- (A) has the authority to regulate the spacing of water wells, the production from water wells, or both, and
- (B) which includes within its boundary any part of the plat applicant's proposed subdivision.

(2) **Aquifer**--A geologic formation, group of formations, or part of a formation that contains water in its voids or pores and may be used as a source of water supply.

(3) **Aquifer test**--A test involving the withdrawal of measured quantities of water from or addition of water to a well and the measurement of resulting changes in water level in the aquifer both during and after the period of discharge or addition for the purpose of determining the characteristics of the aquifer. For the purposes of this chapter, bail and slug tests are not considered to be aquifer tests.

(4) **Certification**--A written statement of best professional judgement or opinion as attested to on the Certification of Groundwater Availability for Platting Form contained under §230.3(c) of this title (relating to Certification of Groundwater Availability for Platting).

(5) **Drinking water standards**--As defined in commission rules covering drinking water standards contained in Chapter 290, Subchapter F of this title (relating to Drinking Water Standards Governing Drinking Water Quality and Reporting Requirements for Public Water Systems).

(6) **Executive administrator**--The executive administrator of the Texas Water Development Board.

(7) **Full build out**--The final expected number of residences, businesses, or other dwellings in the proposed subdivision.

(8) **Licensed professional engineer**--An engineer who maintains a current license through the Texas Board of Professional Engineers in accordance with its requirements for professional practice.

(9) **Licensed professional geoscientist**--A geoscientist who maintains a current license through the Texas Board of Professional Geoscientists in accordance with its requirements for professional practice.

(10) **Plat applicant**--The owner or the authorized representative or agent seeking approval of a proposed subdivision plat application pursuant to municipal or county authority.

(11) **Requirements applicable to public drinking water supply systems**--The requirements contained in commission rules covering public drinking water supply systems in Chapter 290, Subchapter D of this title (relating to Rules and Regulations for Public Water Systems).

Source Note: The provisions of this §230.2 adopted to be effective July 9, 2000, 25 TexReg 6345; amended to be effective February 13, 2003, 28 TexReg 1206; amended to be effective July 31, 2008, 33 TexReg 5933

RULE §230.3 Certification of Groundwater Availability for Platting

(a) Certification. The certification required by this chapter must be prepared by a Texas licensed professional engineer or a Texas licensed professional geoscientist.

(b) Submission of information. The plat applicant shall provide to the municipal or county authority, the executive administrator of the Texas Water Development Board, and the applicable groundwater conservation district or districts the certification of adequacy of groundwater under the subdivision required by this chapter.

(c) Form required. This chapter and the following form shall be used and completed if plat applicants are required by the municipal or county authority to certify that adequate groundwater is available under the land to be subdivided. The executive director may make minor changes to this form that do not conflict with the requirements of these rules.

Attached Graphic

Source Note: The provisions of this §230.3 adopted to be effective July 9, 2000, 25 TexReg 6345; amended to be effective February 13, 2003, 28 TexReg 1206; amended to be effective July 31, 2008, 33 TexReg 5933

Figure: 30 TAC §230.3(c)

CERTIFICATION OF GROUNDWATER AVAILABILITY FOR PLATTING FORM

Use of this form: If required by a municipal authority pursuant to Texas Local Government Code, §212.0101, or a county authority pursuant to §232.0032, Texas Local Government Code, the plat applicant and the Texas licensed professional engineer or Texas licensed professional geoscientist shall use this form based upon the requirements of Title 30, TAC, Chapter 230 to certify that adequate groundwater is available under the land to be subdivided (if the source of water for the subdivision is groundwater under the subdivision) for any subdivision subject to platting under Texas Local Government Code, §212.004 and §232.001. The form and Chapter 230 do not replace state requirements applicable to public drinking water supply systems or the authority of counties or groundwater conservation districts under either Texas Water Code, §35.019 or Chapter 36.

Administrative Information (30 TAC §230.4)		
1. Name of Proposed Subdivision:		
2. Any Previous Name Which Identifies the Tract of Land:		
3. Property Owner's Name(s):		
Address:		
Phone:		
Fax:		
4. Plat Applicant's Name:		
Address:		
Phone:		
Fax:		
5. Licensed Professional Engineer or Geoscientist:		
Name:		
Address:		
Phone:		
Fax:		
Certificate Number:		
6. Location and Property Description of Proposed Subdivision:		
7. Tax Assessor Parcel Number(s).		
Book:		
Map:		
Parcel:		

Proposed Subdivision Information (30 TAC §230.5)		
8. Purpose of Proposed Subdivision (single family/multi-family residential, non-residential, commercial):		
9. Size of Proposed Subdivision (acres):		
10. Number of Proposed Lots:		
11. Average Size of Proposed Lots (acres):		
12. Anticipated Method of Water Distribution.		
Expansion of Existing Public Water Supply System?	Yes	No

New (Proposed) Public Water Supply System?	Yes	No
Individual Water Wells to Serve Individual Lots?	Yes	No
Combination of Methods?	Yes	No
Description (if needed):		
13. Additional Information (if required by the municipal or county authority):		
Note: If public water supply system is anticipated, written application for service to existing water providers within a 1/2-mile radius should be attached to this form (30 TAC §230.5(f) of this title).		

Projected Water Demand Estimate (30 TAC §230.6)		
14. Residential Water Demand Estimate at Full Build Out (includes both single family and multi-family residential).		
Number of Proposed Housing Units (single and multi-family):		
Average Number of Persons per Housing Unit:		
Gallons of Water Required per Person per Day:		
Water Demand per Housing Unit per Year (acre feet/year):		
Total Expected Residential Water Demand per Year (acre feet/year):		
15. Non-residential Water Demand Estimate at Full Build Out.		
Type(s) of Non-residential Water Uses:		
Water Demand per Type per Year (acre feet/year):		
16. Total Water Demand Estimate at Full Build Out (acre feet/year):		
17. Sources of Information Used for Demand Estimates:		

General Groundwater Resource Information (30 TAC §230.7)		
18. Identify and describe, using Texas Water Development Board names, the aquifer(s) which underlies the proposed subdivision:		
Note: Users may refer to the most recent State Water Plan to obtain general information pertaining to the state's aquifers. The State Water Plan is available on the Texas Water Development Board's Internet website at: www.twdb.state.tx.us		

Obtaining Site-Specific Groundwater Data (30 TAC §230.8)		
19. Have all known existing, abandoned, and inoperative wells within the proposed subdivision been located, identified, and shown on the plat as required under §230.8(b) of this title?	Yes	No
20. Were the geologic and groundwater resource factors identified under §230.7(b) of this title considered in planning and designing the aquifer test required	Yes	No

under §230.8(c) of this title?		
21. Have test and observation wells been located, drilled, logged, completed, developed, and shown on the plat as required by §230.8(c)(1) - (4) of this title?	Yes	No
22. Have all reasonable precautions been taken to ensure that contaminants do not reach the subsurface environment and that undesirable groundwater has been confined to the zone(s) of origin (§230.8(c)(5) of this title)?	Yes	No
23. Has an aquifer test been conducted which meets the requirements of §230.8(c)(1) and (6) of this title?	Yes	No
24. Were existing wells or previous aquifer test data used?	Yes	No
25. If yes, did they meet the requirements of §230.8(c)(7) of this title?	Yes	No
26. Were additional observation wells or aquifer testing utilized?	Yes	No

Note: If expansion of an existing public water supply system or a new public water supply system is the anticipated method of water distribution for the proposed subdivision, site-specific groundwater data shall be developed under the requirements of 30 TAC, Chapter 290, Subchapter D of this title (relating to Rules and Regulations for Public Water Systems) and the applicable information and correspondence developed in meeting those requirements shall be attached to this form pursuant to §230.8(a) of this title.

Determination of Groundwater Quality (30 TAC §230.9)		
27. Have water quality samples been collected as required by §230.9 of this title?	Yes	No
28. Has a water quality analysis been performed which meets the requirements of §230.9 of this title?	Yes	No

Determination of Groundwater Availability (30 TAC §230.10)		
29. Have the aquifer parameters required by §230.10(c) of this title been determined?	Yes	No
30. If so, provide the aquifer parameters as determined.		
Rate of yield and drawdown:		
Specific capacity:		
Efficiency of the pumped well:		
Transmissivity:		
Coefficient of storage:		
Hydraulic conductivity:		

Were any recharge or barrier boundaries detected?	Yes	No
If yes, please describe:		
Thickness of aquifer(s):		
31. Have time-drawdown determinations been calculated as required under §230.10(d)(1) of this title?	Yes	No
32. Have distance-drawdown determinations been calculated as required under §230.10(d)(2) of this title?	Yes	No
33. Have well interference determinations been made as required under §230.10(d)(3) of this title?	Yes	No
34. Has the anticipated method of water delivery, the annual groundwater demand estimates at full build out, and geologic and groundwater information been taken into account in making these determinations?	Yes	No
35. Has the water quality analysis required under §230.9 of this title been compared to primary and secondary public drinking water standards as required under §230.10(e) of this title?	Yes	No
Does the concentration of any analyzed constituent exceed the standards?	Yes	No
If yes, please list the constituent(s) and concentration measure(s) which exceed standards:		

Groundwater Availability and Usability Statements (30 TAC §230.11(a) and (b))	
36. Drawdown of the aquifer at the pumped well(s) is estimated to be _____ feet over a 10-year period and _____ feet over a 30-year period.	
37. Drawdown of the aquifer at the property boundary is estimated to be _____ feet over a 10-year period and _____ feet over a 30-year period.	
38. The distance from the pumped well(s) to the outer edges of the cone(s)-of-depression is estimated to be _____ feet over a 10-year period and _____ feet over a 30-year period.	
39. The recommended minimum spacing limit between wells is _____ feet with a recommended well yield of _____ gallons per minute per well.	
40. Available groundwater is / is not (circle one) of sufficient quality to meet the intended use of the platted subdivision.	
41. The groundwater availability determination does not consider the following conditions (identify any assumptions or uncertainties that are inherent in the groundwater availability determination):	

Certification of Groundwater Availability (30 TAC §230.11(c))

Must be signed by a Texas Licensed Professional Engineer or a Texas Licensed Professional Geoscientist.

42. I, _____, Texas Licensed Professional Engineer or Texas Licensed Professional Geoscientist (circle which applies), certificate number _____, based on best professional judgment, current groundwater conditions, and the information developed and presented in this form, certify that adequate groundwater is available from the underlying aquifer(s) to supply the anticipated use of the proposed subdivision.

Date: _____ (affix seal)

RULE §230.4 Administrative Information

At a minimum, the following general administrative information as specified in §230.3(c) of this title (relating to Certification of Groundwater Availability for Platting), shall be provided for a proposed subdivision for which groundwater under the land will be the source of water supply:

- (1) the name of the proposed subdivision;
- (2) any previous or other name(s) which identifies the tract of land;
- (3) the name, address, phone number, and facsimile number of the property owner or owners;
- (4) the name, address, phone number, and facsimile number of the person submitting the plat application;
- (5) the name, address, phone number, facsimile number, and registration number of the licensed professional engineer or the licensed professional geoscientist preparing the certification as required in this chapter;
- (6) the location and property description of the proposed subdivision; and
- (7) the tax assessor parcel number(s) by book, map, and parcel.

Source Note: The provisions of this §230.4 adopted to be effective July 9, 2000, 25 TexReg 6345; amended to be effective February 13, 2003, 28 TexReg 1206

RULE §230.5 Proposed Subdivision Information

At a minimum, the following information pertaining to the proposed subdivision shall be provided as specified in §230.3(c) of this title (relating to Certification of Groundwater Availability for Platting):

- (1) the purpose of the proposed subdivision, for example, single family residential, multi-family residential, non-residential, commercial, or industrial;
- (2) the size of the proposed subdivision in acres;
- (3) the number of proposed lots within the proposed subdivision;
- (4) the average size (in acres) of the proposed lots in the proposed subdivision;
- (5) the anticipated method of water distribution to the proposed lots in the proposed subdivision including, but not limited to:
 - (A) an expansion of an existing public water supply system to serve the proposed subdivision (if groundwater under the subdivision is to be the source of water supply);
 - (B) a new public water supply system for the proposed subdivision;
 - (C) individual water wells to serve individual lots; or
 - (D) a combination of methods;
- (6) if the anticipated method of water distribution for the proposed subdivision is from an expansion of an existing public water supply system or from a proposed public water supply system, evidence required under §290.39(c)(1) of this title (relating to Rules and Regulations for Public Water Systems) which shall be provided demonstrating that written application for service was made to the existing water providers within a 1/2-mile radius of the subdivision; and
- (7) any additional information required by the municipal or county authority as part of the plat application.

Source Note: The provisions of this §230.5 adopted to be effective July 9, 2000, 25 TexReg 6345

RULE §230.6 Projected Water Demand Estimate

(a) Residential water demand estimate. Residential water demand estimates at full build out shall be provided as specified in §230.3(c) of this title (relating to Certification of Groundwater Availability for Platting). Residential demand estimates shall, at a minimum, be based on the current demand of any existing residential well including those identified under §230.8(b) of this title (relating to Obtaining Site-Specific Groundwater Data), or §290.41(c) of this title (relating to Rules and Regulations for Public Water Systems), and:

- (1) the number of proposed housing units at full build out;
- (2) the average number of persons per housing unit;
- (3) the gallons of water required per person per day;
- (4) the water demand per housing unit per year (acre feet per year); and
- (5) the total expected residential water demand per year for the proposed subdivision (acre feet per year).

(b) Non-residential water demand estimate. Water demand estimates at full build out shall be provided for all non-residential uses as specified in §230.3(c) of this title. Non-residential uses shall be specified by type of use and groundwater demand per year (acre feet per year) for each type of use. The estimate shall also include the existing non-residential demand of any well including those identified under §230.8(b) of this title or §290.41(c) of this title.

(c) Total annual water demand estimate. An estimate of the total expected annual groundwater demand, including residential and non-residential estimates at full build out (acre feet per year), shall be provided as specified in §230.3(c) of this title.

(d) Submission of information. The sources of information used and calculations performed to determine the groundwater demand estimates as required by this section shall be made available to the municipal or county authority if requested. The plat applicant shall provide any additional groundwater demand information required by the municipal or county authority as part of the plat application.

Source Note: The provisions of this §230.6 adopted to be effective July 9, 2000, 25 TexReg 6345

RULE §230.7 General Groundwater Resource Information

(a) Aquifer identification. Using Texas Water Development Board aquifer names, the aquifer(s) underlying the proposed subdivision which is planned to be used as the source of water for the subdivision shall be identified and generally described as specified in §230.3(c) of this title (relating to Certification of Groundwater Availability for Platting).

(b) Geologic and groundwater information. To meet the requirements of this chapter, the following geologic and groundwater information shall be considered in planning and designing the aquifer test under §230.8(c) of this title (relating to Obtaining Site-Specific Groundwater Data):

- (1) the stratigraphy of the geologic formations underlying the subdivision;
- (2) the lithology of the geologic strata;
- (3) the geologic structure;
- (4) the characteristics of the aquifer(s) and their hydraulic relationships;
- (5) the recharge to the aquifer(s), and movement and discharge of groundwater from the aquifer(s); and
- (6) the ambient quality of water in the aquifer(s).

Source Note: The provisions of this §230.7 adopted to be effective July 9, 2000, 25 TexReg 6345

RULE §230.8 Obtaining Site-Specific Groundwater Data

(a) Applicability of section. This section is applicable only if the proposed method of water distribution for the proposed subdivision is individual water wells on individual lots. If expansion of an existing public water supply system or installation of a new public water supply system is the proposed method of water distribution for the proposed subdivision, site-specific groundwater data shall be developed under the requirements of Chapter 290, Subchapter D of this title (relating to Rules and Regulations for Public Water Systems) and the information developed in meeting these requirements shall be attached to the form required under §230.3 of this title (relating to Certification of Groundwater Availability for Platting).

(b) Location of existing wells. All known existing, abandoned, and inoperative wells within the proposed subdivision shall be identified, located, and mapped by on-site surveys. Existing well locations shall be illustrated on the plat required by the municipal or county authority.

(c) Aquifer testing. Utilizing the information considered under §230.7(b) of this title (relating to General Groundwater Resource Information), an aquifer test shall be conducted to characterize the aquifer(s) underlying the proposed subdivision. The aquifer test must provide sufficient information to allow evaluation of each aquifer that is being considered as a source of residential and non-residential water supply for the proposed subdivision. Appropriate aquifer testing shall be based on typical well completions. An aquifer test conducted under this section utilizing established methods shall be reported as specified in §230.3(c) of this title and shall include, but not be limited to, the following items.

(1) Test well and observation well(s). At a minimum, one test well (i.e., pumping well) and one observation well, shall be required to conduct an adequate aquifer test under this section. Additional observation wells shall be used for the aquifer test if it is practical or necessary to confirm the results of the test. The observation well(s) shall be completed in the same aquifer or aquifer production zone as the test well. The locations of the test and observation well(s) shall be shown on the plat required by the municipal or county authority.

(2) Location of wells. The test and observation well(s) must be placed within the proposed subdivision and shall be located by latitude and longitude. The observation well(s) shall be located at a radial distance such that the time-drawdown data collected during the planned pumping period fall on a type curve of unique curvature. In general, observation wells in unconfined aquifers should be placed no farther than 300 feet from the test well, and no farther than 700 feet in thick, confined aquifers. The observation well should also be placed no closer to the test well than two times the thickness of the aquifer's production zone. The optimal location for the observation well(s) can be determined by best professional judgement after completion and evaluation of the test well as provided in paragraph (4) of this subsection.

(3) Lithologic and geophysical logs. The test and observation wells shall be lithologically and geophysically logged to map and characterize the geologic formation(s) and the aquifer(s) in which the aquifer test(s) is to be performed.

(A) A lithologic log shall be prepared showing the depth of the strata, their thickness and lithology (including size, range, and shape of constituent particles as well as smoothness), occurrence of water bearing strata, and any other special notes that are relevant to the drilling process and to the understanding of subsurface conditions.

(B) Geophysical logs shall be prepared which provide qualitative information on aquifer characteristics and groundwater quality. At a minimum, the geophysical logs shall include an electrical log with shallow and deep-investigative curves (e.g., 16-inch short normal/64-inch long normal resistivity curves or induction log) with a spontaneous potential curve.

(C) The municipal or county authority may, on a case-by-case basis, waive the requirement of geophysical logs as required under this section if it can be adequately demonstrated that the logs are not necessary to characterize the aquifer(s) for testing purposes.

(4) Well development and performance. The test and observation well(s) shall be developed prior to conducting the aquifer test to repair damage done to the aquifer(s) during the drilling operation. Development shall insure that the hydraulic properties of the aquifer(s) are restored as much as practical to their natural state.

(A) Well development procedures applied to the well(s) may vary depending on the drilling method used and the extent of the damage done to the aquifer(s).

(B) During well development, the test well shall be pumped for several hours to determine the specific capacity of the well, the maximum anticipated drawdown, the volume of water produced at certain pump speeds and drawdown, and to determine if the observation well(s) are suitably located to provide useful data.

(C) Water pumped out of the well during well development shall not be allowed to influence initial well performance results.

(D) Aquifer testing required by this section shall be performed before any acidization or other flow-capacity enhancement procedures are applied to the test well.

(5) Protection of groundwater. All reasonably necessary precautions shall be taken during construction of test and observation wells to ensure that surface contaminants do not reach the subsurface environment and that undesirable groundwater (water that is injurious to human health and the environment or water that can cause pollution to land or other waters) if encountered, is sealed off and confined to the zone(s) of origin.

(6) Duration of aquifer test and recovery. The duration of the aquifer test depends entirely on local and geologic conditions. However, the test shall be of sufficient duration to observe a straight-line trend on a plot of water level versus the logarithm of time pumped. Water pumped during the test shall not be allowed to influence the test results. Aquifer testing shall not commence until water levels (after well development) have completely recovered to their pre-development level or at least to 90% of that level.

(A) At a minimum, a 24-hour uniform rate aquifer test shall be conducted. Testing shall continue long enough to observe a straight-line trend on a plot of water level versus the logarithm of time pumped. If necessary, the duration of the test should be extended beyond the 24-hour minimum limit until the straight-line trend is observed.

(i) If it is impractical to continue the test until a straight-line trend of water level versus the logarithm of time pumped is observed within the 24-hour limit, the test shall continue at least until a consistent pumping-level trend is observed. In such instances, failure to observe the straight-line trend shall be recorded.

(ii) If the pumping rates remain constant for a period of at least four hours and a straight-line trend is observed on a plot of water level versus the logarithm of time pumped before the 24-hour limit has been reached, the pumping portion of the test may be terminated.

(iii) The frequency of water level measurements during the aquifer test shall be such that adequate definition of the time-drawdown curve is made available. As much information as possible shall be obtained in the first ten minutes of testing (i.e., pumping).

(B) Water-level recovery data shall be obtained to verify the accuracy of the data obtained during the pumping portion of the test. Recovery measurements shall be initiated immediately at the conclusion of the pumping portion of the aquifer test and shall be recorded with the same frequency as those taken during the pumping portion of the aquifer test. Time-recovery measurements shall continue until the water levels have recovered to pre-pumping levels or at least to 90% of that level. If such recovery is not possible, time-recovery measurements should continue until a consistent trend of recovery is observed.

(7) Use of existing wells and aquifer test data.

(A) An existing well may be utilized as an observation well under this section if sufficient information is available for that well to demonstrate that it meets the requirements of this section.

(B) The municipal or county authority may accept the results of a previous aquifer test in lieu of a new test if:

(i) the previous test was performed on a well located within a 1/4-mile radius of the subdivision;

(ii) the previous test fully meets all the requirements of this section;

(iii) the previous test was conducted on an aquifer which is being considered as a source of water supply for the proposed subdivision; and

(iv) aquifer conditions (e.g., water levels, gradients, etc.) during the previous test were approximately the same as they are presently.

(8) Need for additional aquifer testing and observation wells. Best professional judgement shall be used to determine if additional observation wells or aquifer tests are needed to adequately demonstrate groundwater availability. The Theis and Cooper-Jacob nonequilibrium equations, and acceptable modifications thereof, are based on well documented assumptions. To determine if additional information is needed, best professional judgement shall be used to consider these assumptions, the site-specific information derived from the aquifer test required by this section, the size of the proposed subdivision, and the proposed method of water delivery.

(d) Submission of information. The information, data, and calculations required by this section shall be made available to the municipal or county authority, if requested, to document the requirements of this section as part of the plat application.

Source Note: The provisions of this §230.8 adopted to be effective July 9, 2000, 25 TexReg 6345

RULE §230.9 Determination of Groundwater Quality

(a) Water quality analysis. Water samples shall be collected near the end of the aquifer test for chemical analysis. Samples shall be collected from each aquifer being considered for water supply for the proposed subdivision and reported as specified in §230.3(c) of this title (relating to Certification of Groundwater Availability for Platting).

(1) For proposed subdivisions where the anticipated method of water delivery is from an expansion of an existing public water supply system or a new public water supply system, the samples shall be submitted for bacterial and chemical analysis as required by Chapter 290, Subchapter F of this title (relating to Drinking Water Standards Governing Drinking Water Quality and Reporting Requirements For Public Water Systems).

(2) For proposed subdivisions where the anticipated method of water delivery is from individual water supply wells on individual lots, samples shall be analyzed for the following:

- (A) chloride;
- (B) conductivity;
- (C) fluoride;
- (D) iron;
- (E) nitrate (as nitrogen);
- (F) manganese;
- (G) pH;
- (H) sulfate;
- (I) total hardness;
- (J) total dissolved solids; and
- (K) presence/absence of total coliform bacteria.

(3) Conductivity and pH values may be measured in the field, and the other constituents shall be analyzed in a laboratory accredited by the agency according to Chapter 25, Subchapters A and B of this title (relating to General Provisions and Environmental Testing Laboratory Accreditation, respectively) or certified by the agency according to Chapter 25, Subchapters A and C of this title (relating to General Provisions and Environmental Testing Laboratory Certification, respectively).

(b) Submission of information. The information, data, and calculations required by this section shall be made available to the municipal or county authority, if requested, to document the requirements of this section as part of the plat application.

Source Note: The provisions of this §230.9 adopted to be effective July 9, 2000, 25 TexReg 6345; amended to be effective July 31, 2008, 33 TexReg 5933

RULE §230.10 Determination of Groundwater Availability

(a) Time frame for determination of groundwater availability. At a minimum, both a short- and long-term determination of groundwater availability shall be made, each considering the estimated total water demand at full build out of the proposed subdivision. Groundwater availability shall be determined for ten years and 30 years and for any other time frame(s) required by the municipal or county authority.

(b) Other considerations in groundwater availability determination. Groundwater availability determinations shall take into account the anticipated method of water delivery as identified under §230.5 of this title (relating to Proposed Subdivision Information) and will be compared to annual demand estimates at full build out as determined under §230.6 of this title (relating to Projected Water Demand Estimate).

(c) Determination of aquifer parameters. The parameters of the aquifer(s) being considered to supply water to the proposed subdivision shall be determined utilizing the information considered under §230.7 of this title (relating to General Groundwater Resource Information) and data obtained during the aquifer test required under §230.8 of this title (relating to Obtaining Site-Specific Groundwater Data) for individual water wells or under Chapter 290, Subchapter D of this title (relating to Rules and Regulations for Public Water Systems) and reported as specified in §230.3(c) of this title (relating to Certification of Groundwater Availability for Platting). The time-drawdown and time-recovery data obtained during the aquifer test shall be used to determine aquifer parameters utilizing the nonequilibrium equations developed by Theis or Cooper-Jacob, or acceptable modifications thereof. The following aquifer parameters shall be determined:

- (1) rate of yield and drawdown;
- (2) specific capacity;
- (3) efficiency of the pumped (test) well;
- (4) transmissivity;
- (5) coefficient of storage;
- (6) hydraulic conductivity;
- (7) recharge or barrier boundaries, if any are present; and
- (8) thickness of the aquifer(s).

(d) Determination of groundwater availability. Using the information and data identified and determined in subsections (b) and (c) of this section, the following calculations shall be made.

(1) Time-drawdown. The amount of drawdown at the pumped well(s) and at the boundaries of the proposed subdivision shall be determined for the time frames identified under subsection (a) of this section.

(2) Distance-drawdown. The distance(s) from the pumped well(s) to the outer edges of the cone(s)-of-depression shall be determined for the time frames identified under subsection (a) of this section.

(3) Well interference. For multiple wells in a proposed subdivision, calculations shall be made to:

(A) determine how pumpage from multiple wells will affect drawdown in individual wells for the time frames identified under subsection (a) of this section; and

(B) determine a recommended minimum spacing limit between individual wells and well yields from the wells that will allow for the continued use of the wells for the time frames identified under subsection (a) of this section.

(e) Determination of groundwater quality. The water quality analysis required under §230.9 of this title (relating to Determination of Groundwater Quality) shall be compared to primary and secondary public drinking water standards and the findings documented as specified in §230.3(c) of this title.

(f) Submission of information. The information, data, and calculations required by this section shall be made available to the municipal or county authority, if required, to document the requirements of this section as part of the plat application.

Source Note: The provisions of this §230.10 adopted to be effective July 9, 2000, 25 TexReg 6345

RULE §230.11 Groundwater Availability and Usability Statements and Certification

(a) Groundwater availability and usability statements. Based on the information developed under §230.10 of this title (relating to Determination of Groundwater Availability), the following information shall be provided as specified in §230.3(c) of this title (relating to Certification of Groundwater Availability for Platting):

- (1) the estimated drawdown of the aquifer at the pumped well(s) over a ten-year period and over a 30-year period;
- (2) the estimated drawdown of the aquifer at the subdivision boundary over a ten-year period and over a 30-year period;
- (3) the estimated distance from the pumped well(s) to the outer edges of the cone(s)-of-depression over a ten-year period and over a 30-year period;
- (4) the recommended minimum spacing limit between wells and the recommended well yield; and
- (5) the sufficiency of available groundwater quality to meet the intended use of the platted subdivision.

(b) Groundwater availability determination conditions. The assumptions and uncertainties that are inherent in the determination of groundwater availability should be clearly identified as specified in §230.3(c) of this title. These conditions must be identified to adequately define the bases for the availability and usability statements. These bases may include, but are not limited to, uncontrollable and unknown factors such as:

- (1) future pumpage from the aquifer or from interconnected aquifers from area wells outside of the subdivision or any other factor that cannot be predicted that will affect the storage of water in the aquifer;
- (2) long-term impacts to the aquifer based on climatic variations; and
- (3) future impacts to usable groundwater due to unforeseen or unpredictable contamination.

(c) Certification. Based on best professional judgement, current groundwater conditions, and the information developed and presented in the form specified by §230.3(c) of this title, the licensed professional engineer or licensed professional geoscientist certifies by signature, seal, and date that adequate groundwater is available from the underlying aquifer(s) to supply the estimated demand of the proposed subdivision.

Source Note: The provisions of this §230.11 adopted to be effective July 9, 2000, 25 TexReg 6345; amended to be effective February 13, 2003, 28 TexReg 1206