ORDINANCE NO. 2017-__

An Ordinance Amending the City of City of Boerne Subdivision Ordinance No. 2007-56, dated November 13, 2007, Article 1. General Provisions, Section 03. Application of Regulations, Section 04. Definitions, Article 1, In General, Section 07. Categories and Description of Uses, Article 2. Procedures, Section 06. Procedures For Administrative Plat, Article 3. Planning and Community Design Standards, Section 3. Open Space Systems, Section 04. Blocks and Lots, Article 5, Zoning Districts and Use Regulations, Section 03. Permitted Uses, Adding in Article 4, Section 3. Cottage Housing Communities, Article 7. Water and Sewers, Section 3. Water Mains.

WHEREAS, the City Council has received recommendations of the Planning and Zoning Commission concerning matters herein, which recommendations were made after holding a public hearing before said Commission and;

Whereas, the City Council held various workshops and public hearings on this matter and;

Whereas the City Council of Boerne has determined that it is in the best interest of the Boerne community to take into consideration the public health, safety and welfare to adopt the amendments included herein;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOERNE, TEXAS:

Article 1. General Provisions,

Section 03. Application of Regulations
On or after the passage of this ordinance, any person, firm or corporation (subdivider) seeking approval of any plat, plan or replat of any subdivision of land within the City and its extraterritorial jurisdiction as set forth in Section 42.021 (a) of the Texas Local Government Code shall be required to comply with the requirements of this ordinance before such approval may be granted. Any subdivision construction plans that have not been approved by the City before the passage of this ordinance shall be required to comply with the requirements of this ordinance. No transfer of land in the nature of a subdivision as defined herein shall be exempt from the provisions of this ordinance even though the instrument or document of transfer may describe land so subdivided by metes and bounds.

Section 4. Definitions
Clustered parking: Parking for each cottage unit that is clustered together to create more open space. No more than five continuous parking spaces in a cottage development.

Common open space for cottages: An area improved for passive recreational use or gardening. Common open spaces are required to be owned and maintained through a homeowners' association. Parking areas, yard setbacks, private open space and driveways do not qualify as common open space.

Cottage: A tiny home within a Cottage development per Article 5, Section 31 of the City of Boerne Zoning Ordinance

Cottage Cluster: A group of four to ten cottages, arranged around a common open space (See common open space for cottages).

Cottage Housing Development (CHD): A group of separate, small, detached dwelling units that are intended to create a small community oriented through around open space that is pedestrian-oriented and minimizes the visibility of off-street parking. One or more clusters of cottages developed under a single

land development plan, or as part of another land development plan. A cottage housing development must be on at least half an acre and does not have to have street frontage, but must have public access to a utility easement or fire lane access.

Cottage Lot: Cottage lots that have access within 60 feet to pedestrian walkways, walkable distance to driveways, vehicular parking and open green space. The lot does not have to front a public street but must have public access to a utility easement or fire lane access.

Days: Refers to Calendar Days unless otherwise noted.

Subdivider: Any person or any agent thereof, dividing or proposing to divide land so as to constitute a subdivision as that term is defined herein. In any event, the term "subdivider" shall be restricted to include only the owner, equitable owner, developer or authorized agent of such owner or equitable owner, of land sought to be subdivided.

ARTICLE 2. PROCEDURES

Section 01. Pre-Application Conference

Another pre-application meeting may be deemed necessary as determined by staff.

Section 02. Procedures For Preliminary Plat

2.02.001 Submission.

Following a pre-application conference, the subdivider may submit a preliminary plat to the City Manager. In order to be prepared for submission to the Planning and Zoning Commission, the subdivider shall deliver the following at least 30 calendar days prior to the date the plat is to be considered by the Commission.

The initial administratively complete submittal of either the preliminary or the final plat shall be delivered by the subdivider or representative to the Development Assistant's office. Any follow up revisions to the plats shall be delivered directly to the Planning department for review. Each department will review the plat and provide written comments. No revisions shall be submitted until both the Planning and the Public Works departments have provided comments – at that time a new submittal may be delivered to the Planning department.

A. Five separate blue or black line 18" x 24" copies of the preliminary plat for staff review meeting the requirements of sub-section B, ~~one black and white copy 8.5" by 11"~~ ~~suitable for making overhead copies~~ and a pdf.

E. If new streets or connections are being provided as part of the development - Two copies of a Transportation Network Plan meeting the requirements of Article 3, Section 3.02.002, and showing the specific location and street Design Type of all proposed Arterial, Collector, Local, and Access streets, lot access points, and typical and dimensioned drawings of cross-sections for each combination of Functional Classification/Design Type for all segments of the plan ~~(one delivered to Planning – the other delivered to Public Works)~~.

H. For any development that will be constructed in phases/units~~, for any application where only a portion of an original parcel will be developed, or any application that includes more than 20 lots, a conceptual~~ attach an approved master plan for the entire parcel or subdivision shall be submitted~~, including general characteristics of the anticipated outcome for the entire development~~.

I. A tree preservation plan that identifies the location and species of Legacy trees that are Standard (37 TC") or larger and identifying any trees that will be used toward potential mitigation toward tree removal. Clusters of trees may be identified in groups rather than individually. ~~one half the TC for that species as listed in the Texas Forest Services (http://txforestservice.tamu.edu) Champion List in the Texas Big Tree Registry; or a Live Oak tree that has 113 TC inches or larger~~.

K. If determined necessary by the Planning Director, a Slope Map as identified in the Zoning Ordinance Section 3.05.003C.

2.02.002 Form and Content of Plat.

The preliminary plat of a proposed subdivision shall be prepared by a registered public surveyor and bear his/her seal. The plat shall show or be accompanied by the following information:

A. The plat shall be drawn to a legible scale of typically one inch to 100 feet or one inch to 50 feet. The preliminary plat shall generally include the entire tract intended to be developed at one time. When more than one sheet is necessary, an index sheet showing the entire subdivision at a scale of one inch to 400 feet shall be attached to the plat.

L. For commercial developments (which includes multi-family), submit a minimum of two (2) copies and a .pdf of the drainage study per the Subdivision Ordinance, Article 6, Section 02.

~~L. The location of building setback lines demonstrated on each lot or as in inset on the plat (if setbacks are the same for each lot), including front, rear, side and any other setbacks that may be identified in this ordinance or City of Boerne Zoning Ordinance, shown by dashed lines.~~ The appropriate setback note as stated in Exhibit A.

T. Plat note pertaining to the presence of ~~large~~ Heritage Legacy Trees ~~one half the TC for that species as listed in the Texas Forest Service (http://txforestservice.tamu.edu) Champion list for species native or naturalized to Texas in the Texas big Tree Registry, or a Live Oak tree that has a TC 113 inches or larger~~. (Exhibit A)

U. The location of ~~large~~ Heritage Legacy Trees (that has a trunk circumference (TC) larger than 75 inches). ~~one half the TC for that species as listed in the Texas Forest Service (http://txforestservice.tamu.edu) Champion list for species native or naturalized to Texas in the Texas big Tree Registry, or a Live Oak tree that has a TC 113 inches or larger on the property represented by the plat.~~

W. After an initial plat submittal, revisions thereafter shall be identified by highlighting or clouding by hand the changes made on the plat.

2.02.003 Notice of Administratively Complete Application.

After ~~Within 7 calendar days of the~~ initial submittal of the preliminary plat, the City staff will notify the subdivider, developer or engineer of record via email or formal letter if the submittal is administratively complete per Section 2.02.001. Any deficiencies in the submittal shall be specifically identified in the notice. If the subdivider, developer or engineer of record is notified that a submittal is incomplete, review of the plat will be delayed until the ~~the time requirements are suspended until the~~ submittal is deemed complete by City staff. If the submittal is not complete or approved within one year of the initial submittal date, the plat and plans are void.

2.02.004 Staff Review and Comments.

City staff shall review an administratively complete submittal to see that it conforms with all requirements of this ordinance. City staff shall provide written comments via email or formal letter regarding the deficiencies, if any, to the subdivider, developer or engineer of record ~~within 14 calendar days of an administratively complete submittal~~.

2.02.005 Formal Filing with the Planning and Zoning Commission.

Upon receipt of the review comments by staff and upon written notification from staff that the plat may be submitted ~~or upon failure of the City to provide written comments or a notice of extension as provided in sub-section 2.02.004~~., the subdivider may make formal filing to the Planning and Zoning Commission, including any revisions or corrections suggested by staff.

A. The subdivider shall make formal filing for preliminary plat approval in writing to the City Manager no later than ~~7~~ 10 calendar days prior to the Planning and Zoning Commission meeting at which the plat is to be considered.

B. Along with the letter of request the subdivider shall submit twenty (20) folded 18" x 24" copies of the preliminary plat, ~~plus one 8½ x 11 black and white copy suitable for making overheads~~ and a pdf shall be submitted to the Planning Department ~~with the formal filing~~.

2.02.008 Expiration of Plat Approval.

Approval of the preliminary plat shall lapse one year from the date of initial approval. A conditionally approved final plat shall expire two years after the date of approval if the subdivider has not begun construction, which includes infrastructure construction.

SECTION 03. DESIGN AND CONSTRUCTION PLANS

Any time after approval of a preliminary plat, a subdivider may prepare the following: administratively complete design and construction plans, engineer's estimated cost documents, and for residential subdivisions a drainage study for review, comment or filing to the City (hereinafter referred to as the "submittal"). Three complete bound sets of the design and construction plans as identified in Section 8.01.003 and a minimum of two (2) copies of the drainage study as described in Article 6, Section 2 shall be filed with the Department of Public Works, 400 E. Blanco prior to submittal of a final plat. Design and construction plans shall be bound with a copy of the proposed plat which will be submitted for consideration.

2.03.001 Notice of Administratively Complete Application.

After ~~Within 7 calendar days of~~ receipt of the submittal ~~of the design and construction plans~~ to the Department of Public Works, the Department of Public Works will notify the subdivider, developer or engineer of record via email or formal letter if the submittal is administratively complete per Section 2.03.003. If the submittal is incomplete, any deficiencies in the submittal shall be specifically identified in the notice. If the subdivider, developer or engineer of record is notified that a submittal is incomplete, review of the plans will be delayed until the ~~the time requirements are suspended until the~~ submittal is deemed complete by the department of Public Works. If the submittal is not complete or approved within one year of the initial submittal date, the plans are void.

2.03.002 Staff Review and Comments.

The Department of Public Works shall review an administratively complete submittal to see that it conforms with all requirements of this ordinance. The Department of Public Works shall provide written comments via email or formal letter regarding the deficiencies, if any, to the subdivider, developer or engineer of record ~~within 14 calendar days~~ of an administratively complete submittal. Any subsequent submittal by the subdivider, developer, or engineer of record will be reviewed by the Department of Public Works and will be responded to by the City staff ~~within 14 calendar days of the secondary submittal~~. Once the submittal is approved by the Department of Public Works, notice of such approval will be sent to the subdivider, developer or engineer and the Department of Planning ~~so the item may be placed on the following Planning and Zoning Commission meeting agenda~~.

2.03.003 Construction Plans.

Construction plans, engineer's estimated cost, drainage study and certification letters, as required in Section 8.01.003 of this ordinance are required for final plat approval.

SECTION 04. FINAL PLAT APPROVAL

2.04.001 Options.

Following approval of a preliminary plat by the Planning and Zoning Commission AND approval of design and construction plans, the subdivider may submit a final plat to the City Manager. The subdivider, developer or engineer of record may seek unconditional or conditional approval of the final plat by the Planning and Zoning Commission. If conditional approval is sought, the final plat will not be recorded until the condition of approval is satisfied.

SECTION 05. PROCEDURES FOR FINAL PLAT

2.05.001 Procedures for Submission.

Following approval of a preliminary plat by the Planning and Zoning Commission AND approval of design and construction plans and the residential drainage study, the subdivider may submit a final plat to the City Manager. The final plat and accompanying data shall conform to the preliminary plat as conditionally approved by the Commission, incorporating any and all changes, modifications, alterations and corrections required by the Commission.

First administratively complete submittal of either the preliminary or the final plat shall be delivered by the subdivider or representative to the Development Assistant's office. Any follow up revisions to the plats shall be delivered directly to the Planning department for review. Each department will review the plat and provide written comments. No revisions shall be submitted until both the Planning and the Public Works departments have provided comments – at that time a new submittal may be delivered to the Planning department.

The subdivider shall provide to the Department of Planning the following a minimum of 21 calendar days prior to the Commission's consideration of the final plat:

A. Five separate copies of the final plat for staff review meeting the requirements of sub-section 2.04.002.

~~B. If not already submitted, three complete bound sets of design and construction documents required by Section 2.03 each bound with a copy of the plat.~~

C. Formal application and appropriate filing fee established by the City Council. No action shall be taken by the staff or Commission until the filing fee has been paid. The fee shall not be refunded should the subdivider fail to make formal filing of the final plat as provided in sub-section 2.04.006., or should the plat be disapproved.

~~D. A minimum of two (2) copies of the drainage study per Article 6, Section 02.~~

E. Letters/memos from all necessary review agencies having jurisdiction over improvements required or desired in the subdivision, including:

1. City of Boerne Fire Code Official;
2. Bandera Electric Co-op and/or Pedernales Electric Co-op;
3. Texas Department of Transportation, if any state right-of-way is involved in streets or access points;
4. Cow Creek Ground Water Conservation District;

5. Cable and telephone wire services;
6. Kendall County, if located in the ETJ ~~any county right-of-way is involved in streets or access points~~;
7. any other State or public agency approval with jurisdiction over improvements desired in the subdivision.
8. Other Utility Providers

F. An electronic PDF file for all of the required documents submitted.

2.05.002 Form and Content of Plat.

The final plat shall be ~~drawn in India ink on tracing cloth, nylon or comparable substitute sheets,~~ 18 inches by 24 inches, and to a easily readable scale of typically ~~either~~ one inch to 100 feet or one inch to 50 feet. Where more than one sheet is required, an index sheet of maximum size 18 by 24 inches shall be filed showing the entire subdivision, and all scales shall be uniform. The following information must be shown on or must accompany the plat:

E. The total number of lots in the proposed subdivision. Show the number of buildable lots and open space lots separately.

O. The building setback note shown on the plat (See Exhibit A).

2.05.003 Notice of Administratively Complete Application.

After the ~~Within 7 calendar days of~~ submittal of the final plat, the City staff will notify the subdivider, developer or engineer of record via email or formal letter if the submittal is administratively complete per Section 2.05.001. Any deficiencies in the submittal shall be specifically identified in the notice. If the subdivider, developer or engineer of record is notified that a submittal is incomplete, review of the plat will be delayed ~~the time requirements are suspended until the~~ until the submittal is deemed complete by City staff. If the submittal is not complete or approved within one year of the initial submittal date, the submitted plat and plans are void.

2.05.004 Formal Filing with the Planning and Zoning Commission.

Upon receipt of the review comments by staff and upon written notification from staff that the plat may be submitted ~~or upon failure of the City to provide written comments or a notice of extension as provided in sub-section 2.02.004~~, the subdivider may make formal filing to the Planning and Zoning Commission, or after completion and acceptance of the submittal including any revisions or corrections suggested by staff. The formal filing shall contain the following:

A. Twenty (20) folded 18" x 24" copies of the final plat ~~plus one 8½ x 11 black and white copy suitable for making overheads~~.

B. At least three (3) original signed and sealed Mylars of the final plat for recording. If the plat is unconditional, ~~plus~~ provide an original notarized affidavit showing the taxes have been paid, including copies of the paid tax statement from the Kendall County Appraisal District. If the plat is conditional, staff will request these documents from the subdivider at time of recordation.

C. If a plat is unconditional, provide a check for recording fees in the amount as determined by Kendall County. If a plat is conditional, the subdivision shall provide the check for recording fees when they provide the affidavit.

2.05.005 Planning and Zoning Commission Review.

C. It conforms with any general plans of the municipality or other public entity for extension of roads, streets, and public highways, taking into account access to and extension of sewer, water, reclaimed water, gas and electric mains and the instrumentalities of public utilities.

2.05.007 Filing for Record.

The City shall file the approved final plat for record and provide the subdivider with one reproducible recorded tracing of the final plat within 14 calendar days of unconditional approval by the Planning and Zoning Commission or upon satisfaction of the conditional approval as identified by the Planning and Zoning Commission.

Section 06. Procedures For Administrative Plat

2.06.002 Submission.

A. Minor Plats:

a. The Minor plat submittal shall be provided on five paper copies 18 inches by 24 inches, at an easily readable scale of typically one inch to 100 feet or one inch to 50 feet. Where more than one sheet is required, an index sheet of maximum size 18 by 24 inches shall be filed showing the entire subdivision, and all scales shall be uniform.

b. The subdivider shall submit a plat with all combined submittal requirements and like form and content found in Section 2.02 and Section 2.05. Some items may be deemed unnecessary by Staff and may be omitted upon direction of Staff.

B. Amending Plats:

a. The Amending plat submittal shall be provided on five paper copies 18 inches by 24 inches, at an easily readable scale of typically one inch to 100 feet or one inch to 50 feet.

b. The lots being amended shall demonstrate before and after amended lot dimensions.

2.06.003 Procedures.

The ~~submittal of an~~ application for an administrative plat shall be submitted ~~made to the Director of Planning,~~ after a pre-application conference.

A. First administratively complete submittal of the Administrative plat shall be delivered by the subdivider or representative to the Development Assistant's office. City staff will notify the subdivider, developer or engineer of record via email or formal letter if the submittal is administratively complete per Section 2.06.001. Any deficiencies in the submittal shall be specifically identified in the notice. If the subdivider, developer or engineer of record is notified that a submittal is incomplete, review of the plat will be delayed until the submittal is deemed complete by City staff. If the submittal is not complete or approved within one year of the initial submittal date, the submitted plat and plans are void.

B. Any follow up revisions to the plat shall be delivered directly to the Planning department for review. Each department will review the plat and provide written comments. No revisions shall be submitted until both the Planning and the Public Works departments have provided comments – at that time a new submittal (five – 18" x 24" paper copies) may be delivered to the Planning department.

C. After an initial plat submittal, revisions thereafter shall be identified by highlighting or clouding by hand the changes made on the plat.

~~A. Upon a determination of eligibility for an administrative plat and a pre-application meeting, the subdivider shall submit a plat with all information required of preliminary plats in Section 2.02, final plats in Section 2.05, plans, financial guarantees and necessary approvals from outside agencies required. The Director shall submit the proposed plat to other City departments or agencies for review and comment.~~

2.06.004 Notice of Administratively Complete Application.

After ~~Within 7 calendar days of~~ initial submittal of the Administrative plat, the City staff shall notify the subdivider, developer or engineer of record via email or formal letter if the submittal is administratively complete per Section 2.06.001. Any deficiencies in the submittal shall be specifically identified in the notice. If the subdivider, developer or engineer of record is notified that a submittal is incomplete, review of the plat

may be delayed until the submittal is deemed complete by City staff. If the submittal is not complete or approved within one year of the initial submittal date, the plat and plans are void.

2.06.005 Formal Filing with the Planning and Zoning Commission.

Upon receipt of the review comments by staff and upon written notification from staff that the plat may be submitted for signature and recordation, the subdivider may make formal filing to the Planning Director.

ARTICLE 3. PLANNING AND COMMUNITY DESIGN STANDARDS

SECTION 03. OPEN SPACE SYSTEMS.

3.03.002 Required Open Space.

E. ***Exceptions.*** The following are exceptions to the open space requirement in Table 3-10:

1. *Small Infill Residential Subdivision:* Any residential subdivision in the City Limits at the date of adoption of this ordinance, and which is less than 10 acres shall be exempt from the open space requirements of Table 3-10.
2. *Cottage developments:* Any cottage development shall provide open space as required by the Zoning Ordinance, Article 5, Section 31.

SECTION 04. BLOCKS AND LOTS.

3.04.001 Specific Intent.

D. To ensure that all lots front on streets with appropriate Design Types that support the anticipated uses and site designs, and create appropriate transitions between public areas and private spaces.

3.04.003 Lot Size and Arrangement.

D. ***Lot lines.***

1. *Frontage:* All lots shall have a frontage on a public right-of-way. Cottage developments may provide frontage on a shared access/utility easement provided at either the front or rear of the lot.
2. *Side Lot Lines:* All side lot lines shall be at right angles to the right-of-way line. On curved rights-of-way or streets, side lot lines shall be radial to that line.

ARTICLE 4. MASTER PLANNED DEVELOPMENTS/SUBDIVISIONS

SECTION 04. COTTAGE SUBDIVISIONS

4.04.004 Blocks and Lots.

A. *Block Sizes and Arrangement.* There are no maximum block sizes, except that no housing cluster shall contain dwelling units without being separated from other housing clusters by at least 1000 feet. However, there shall be at least one connection to an external street, or a newly proposed street.

B. *Cottage Lots.* Cottage lots may provide frontage on a shared access/utility easement provided at either the front or rear of the lot line.

A. *Lot Size and Arrangement.* There shall be a ½ acre overall minimum lot size for Cottage Subdivisions. Cottage Subdivisions shall be allowed to vary the lot sizes on the developed parcel in order to fit the same number of units on the developed parcel. Lots shall be configured so that buildable portions of each lot are located in the area that causes the least disturbance during construction activity.

B. *Lot Yield Bonus.* An extra cottage in each cottage cluster will be permitted if low impact storm water development techniques are approved by the City Manager or City Manager's designee used in the development such as directing roof drains and parking lot runoff to landscape beds, green or living roofs, and rain barrels. If the LID is approved then open space for the development as a whole may not be diminished by more than 5%.

Regardless of the number of lots permitted by this section, all developments proposing a Cottage subdivision in the City of Boerne ETJ shall meet any applicable minimum well spacing requirements of the Cow Creek Underground Water District, and if necessary the TECQ standards for onsite sewage disposal systems.

C. *Impact Fee*: The impact fee for cottage lots can be found in the Impact Fee Ordinance.

4.03.005 Open Space System.

A. Common Open Space for Cottages: All cottage units in a development shall be within 60 feet walking distance measured from the nearest entrance of the cottage along the shortest safe walking route to the nearest point of the common open space. Each cottage lot shall abut a common open space, making the common open space the focal point.

- Parking areas, fenced yard setbacks, private open space, alleys, and driveways do not qualify as common open space.
- Community buildings, parking areas and common open space shall be owned and maintained commonly by the Cottage Housing Development residents, through a homeowners' association, or a similar mechanism.
- There shall be at least a 10' perimeter around the entire development to adjacent residential properties to provide a buffer.
- At least 20% of the property's overall parcel should be used as open space. This includes the common open space.

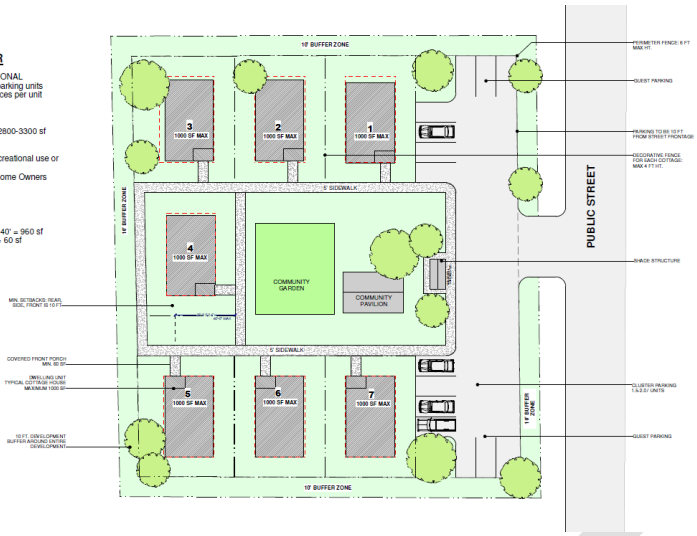
COTTAGE CLUSTER

CLUSTERED PARKING- OPTIONAL
* No more then 5 continuous parking units
* Provide 1.5 to 2 parkings spaces per unit

MINIMUM LOT AREA:
* 2500 sf per cottage lot
* Example spaces range from 2800-3300 sf

COMMON OPEN SPACE
* Improved area for passive recreational use or gardening
* Maintained and owned thru Home Owners Association

COTTAGES: 4 per 1/2 acre
Maximum of 10 Units
Each lot abuts an easement
Typical Structure Shown: 24' x 40' = 960 sf
Typical Porch Shown: 10' x 6' = 60 sf



ARTICLE 5. STREET SPECIFICATIONS AND CONSTRUCTION STANDARDS:

SECTION 02. REQUIRED STREET IMPROVEMENTS

5.02.001 General Specifications.

In the City limits or in the exterritorial jurisdiction (ETJ) of the City of Boerne, the subdivider/developer shall, at his/her sole cost and expense, provide all necessary street grading, pavement, curbing, gutters, sidewalks, bike lanes and storm sewer drains required to service the subdivision as identified by the City of Boerne Thoroughfare Plan, including the perimeter streets contiguous to the subdivision. All street improvements shall meet the Typical street cross-sections specified in Article 3, Planning and Community Design Standards unless an exception has been approved by the Planning and Zoning and City Council.

5.02.002. STREET IMPROVEMENT - TIMING

Streets improvements as set forth in Table 3-4: Street Cross-Section Standards of this ordinance, shall be made at such time as the lot is developed. If a street improvement is required to be made to an existing street, arterial, collector or street identified in the Thoroughfare Plan, the improvement shall be made to the entire length of the development that is contiguous to that street.

SECTION 07. SIDEWALKS - TIMING

Sidewalks, the width set forth in Table 3-4: Street Cross-Section Standards of this ordinance, shall be installed in the appropriate location adjacent to all properties fronting a street at such time as that lot is developed, in the City limits or in the ETJ of the City of Boerne. This includes all lots/tracts or parcels that front any portion of IH-10 right-of-way. Locations of sidewalks within State right-of-way shall be as directed by TXDOT and a sidewalk permit must be approved by TXDOT, prior to construction within State right-of-way. Sidewalks, or trails in lieu of sidewalks that are on a main thoroughfare and do not front on a lot shall be constructed with the street improvements in order to provide safety and connectivity within the development.

SECTION 11. PRIVATE STREETS

5.11.001 Private Streets.

Private streets are allowed in certain subdivisions only under the terms set forth in this section, and pursuant to any other ordinances or guidelines for private street developments as may be adopted for use by the City. All private streets shall be designed and constructed in accordance with this ordinance and applicable Standard Construction Details for publicly dedicated streets. The term Private Street shall be inclusive of alleys, if provided within the subdivision.

5.11.007 Infrastructure and Utilities.

Any public water, reclaimed water, gas, sewer and drainage facilities, street lights, and traffic control devices, such as traffic signs, placed within the private street lot shall be designed and constructed to City standards, and shall be accepted by and dedicated to the City prior to filing the record plat for the subdivision. All private traffic control devices and regulatory signs shall conform to the Texas Manual of Uniform Traffic Control Devices, as may be amended, and to City standards. Should it be necessary that the City erect and place such traffic control signs, signals and devices as may be necessary or appropriate in the application and extension of traffic rules and regulations to the subdivision, all costs of erection, placement, replacement, maintenance and/or removal shall be borne by the Association such sum shall include but not be limited to the acquisition of property for sign placement. The metering for utilities such as water, reclaimed water, gas and electricity shall be located on the individual lots to be served, not grouped together in a centralized location(s), such as “gang-box” style metering stations, which shall not be permitted.

ARTICLE 6. DRAINAGE AND FLOOD HAZARDS

6.01.003 Stormwater Management.

Stormwater management facilities shall be provided prior to site construction or clearing, where design is required at the time of platting.

A. Stormwater management shall be designed and constructed to prevent adverse conditions from arising on property adjoining and downstream of the subdivision site. Adverse conditions include increases in peak flows, water surface elevations and flow velocity. The applicant shall provide a drainage report that shows mitigation of the impacts of development on the existing downstream drainage system will be provided ~~as part of the development.~~ Mitigation may include detention, retention, infiltration, channel improvements, and other means acceptable to the City Manager. Stormwater Management facilities shall be designed to reduce post-development peak flow rates of discharge to pre-development rates for the 2, 5, 10, 25, 50 and 100 year storm events at all points of discharge. The drainage report shall also include an evaluation of downstream conditions.

SECTION 02. REQUIRED DRAINAGE STUDY

6.02.001 Drainage Study Contents.

The subdivider shall submit a drainage study with the final construction plans for residential subdivisions, and wherever stormwater flow management facilities shall be regional and dedicated to the public. The required drainage studies in commercial subdivisions where facilities are site-specific and privately maintained may be submitted with building permit construction documents for each lot. The drainage study shall provide the following information, for both existing and fully developed conditions, for the entire watershed drainage area upstream of the lowest point(s) in the subdivision. In general, all submittals shall include a digital copy of documents, supporting calculations, and models intended for review.

General

A. Project Location depicted on a 7.5 minute series U.S.G.S. or aerial map.
    a. Include land plan and limit of downstream drainage assessment
B. Digital Flood Insurance Rate Map (DFIRM) with site superimposed.
C. Onsite Drainage Area Map (to scale) including the following:
    a. Time of Concentration flow paths
    b. Overall drainage areas for the site and indicate area for each
    c. Points of discharge to directly correlate with discharge summary tables
    d. Landuse type data
    e. Land plan, when applicable
    f. Two-foot contour intervals
D. Provide Overall Drainage Area Map (to scale) including the following, when applicable:
    a. Time of Concentration flow paths
    b. Overall drainage areas for the site and indicate area for each
    c. Points of discharge to directly correlate with discharge summary tables
    d. Approximate location of downstream drainage assessment limit
    e. Landuse type data
    f. Land plan, when applicable
    g. Two-foot contour intervals
E. Provide Soil Type Map (to scale) for the project site, when applicable.
    a. Include project area, land plan, and drainage areas
F. Grading Plan (Also required in construction plans).
    a. Lots grading properly, including lot grading type (A, B, C)
    b. All storm drain, channel and/or pond facilities

c. All proposed drainage easements, including width of easement

G. Hydraulic Work Map including the following, when applicable
   a. Land plan
   b. Proposed drainage systems including storm drains, channels, and ponds
   c. Cross sections associated with supporting models
   d. Points of discharge/flow change locations
   e. Appropriate flood plain limits
   f. Approximate location of downstream drainage assessment limit
   g. Two-foot contour intervals

Hydrology

A. Detailed Time of concentration/Lag Time calculations.
B. Surface runoff coefficient calculations.
   a. Soil Type Map to be included when SCS curve number (CN) calculations provided
C. Percent Impervious Cover detailed calculations.
D. Peak flow summary table including:
   a. All storm events defined in Section 6.01.003
   b. Associated rainfall intensity factors, when applicable
E. Detailed calculations for hydrologic routing as stated in 6.04.002, when applicable.
F. Table comparing peak flows for specified conditions and storm events

Hydraulics

A. 25- and 100-year flow quantities with the 25- and 100-year flood plain limits for the existing and fully developed watershed shown on the preliminary plat.
B. Preliminary street grades and directional flow paths sufficient to determine high points, low point, and intended drainage patterns.
   a. Provide typical street section
   b. Provide summary of street capacities with supporting calculations for minimum and maximum grades along all streets proposed
C. Proposed locations of inlets, storm drains, channels, and culvert along with supporting calculations.
D. All proposed drainage easements, including width of easement and configuration of channel.
E. Calculations to determine the volume of proposed detention/retention/sedimentation ponds.
   a. Verify if pond qualifies as a Texas Commission of Environmental Quality (TCEQ) pond
F. Summary of discharges and velocities at all major outlets, outfall, and at the downstream drainage assessment limit.
   a. Specify proposed energy dissipation type and provide detailed calculations and supporting references

~~A. The entire watershed drainage area(s) depicted on a 7.5 minute series U.S.G.S. map.~~

~~B. The drainage area(s) within the subdivision, depicted on a topographic map with two-foot contour intervals.~~

~~C. Composite runoff factors.~~

~~D. Times of concentration.~~

~~E. Related rainfall intensity factors.~~

~~F. 25- and 100-year flood flow quantities with the 25- and 100-year flood plain limits for the existing and fully developed watershed shown on the preliminary plat.~~

~~G. Preliminary street grades sufficient to determine high points, low points, and direction of runoff flows.~~

~~H. Proposed locations of inlets, storm sewers and culverts.~~

~~I. Proposed routing of drainage ways.~~

~~J. All proposed drainage easements, including width of easement and configuration of channel.~~

~~K. The calculations to determine the volume of proposed detention/retention/sedimentation ponds.~~

The above information shall be supplemented with narrative text describing the watershed and the subdivision, including their general soil conditions, downstream channel conditions, and all weather access. ~~and the presence of special flood hazard areas within the subdivision.~~ In general, all deviations from the Boerne Subdivision Ordinance shall be included in the narrative with justification for deviation. The study shall be prepared by a professional engineer registered in the State of Texas. The drainage study shall be submitted along with the ~~preliminary plat~~ administratively complete design and construction plans per Section 2.03 prior to submittal of the final plat. The City Manager shall review the submission, verify that all ordinance requirements have been met, and forward his/her recommendations to the Planning and Zoning Commission.

6.02.002 Downstream Drainage Assessment.

3. Using a hydrologic model determine the pre-development peak flows and velocities at each junction beginning at the development outfall and ending at the next junction beyond the preliminary lower limit of the zone of influence (10% point). Model undeveloped off-site areas as "fully built-out" for both the pre- and post-development analyses. Use the City of Boerne Master Plan to determine future land uses for the model. Evaluate discharges and velocities for the 2-year, 5-year, 10-year, 25-year, 50-year and 100-year storms. Use storm durations equal to 24-hours. ~~and two times the time of concentration calculated for the outfall of the subdivision.~~

6. Add proposed storm water management facilities to the model designed so that the model shows that adverse effects are mitigated. Adverse effects can be shown to be mitigated if flooding is not increased off site, velocities do not exceed the greater of Table 6-11 allowable maximum velocities or pre-development velocities, and that the peak flow at the downstream limit of the zone of influence is not increased.

6.04.002 Method of Computing Runoff.

The method of computing runoff shall be the Rational Method for watersheds of 200 acres or less in area and with time of concentration of 60 minutes or less. For watersheds with an area greater than 200 acres or time of concentration greater than 60 minutes, a computer model acceptable to the City Manager or a hydrograph method as shown in the Texas Department of Transportation (TXDOT) Hydraulic Design Manual (HDM) shall be prepared. Also when designing detention facilities or determining downstream impacts, a similar approach shall be used. In all cases, ~~wet~~ normal antecedent conditions shall be assumed unless otherwise determined by the City Manager.

Note: Use $C_f = 1$ for 10-year form frequency or less. ~~$CC_f = 1.0$ when $CC_f > 1.0$.~~

A. *Computer Models.* Computer models shall be prepared using the HEC-HMS software developed by the US Army Corps of Engineers Hydrologic Engineering Center. Parameters for the model shall be determined as described herein. Rainfall and runoff relationships shall be based on the methodology and parameters provided in TR-55 Urban Hydrology for Small Watersheds (TR-55) published by the Natural Resource Conservation Service (NRCS) except as modified herein. All

published Hydrology and Hydraulic models shall be used if available (FEMA, San Antonio River Authority).

a. Runoff: The TR-55 ~~option~~ methodology ~~in HEC-HMS~~ shall be used for runoff calculations in HEC-HMS. Curve numbers shall be determined from the values given in TR-55 or pre-approved references by the City Manager. In addition, impervious cover values shall be estimated from aerial photos for existing conditions. For post-development conditions, the maximum anticipated impervious cover shall be used with the appropriate curve number for the development. An assumption that the initial abstraction is equal to 0.2 times the maximum soil retention per TR-55 shall be used unless calibration data is available to justify other figures to the satisfaction of the City Manager.

d. Use the following to compute the basin lag time developed by the Tulsa District Corps of Engineers and used by the San Antonio River Authority in the hydraulic modeling of the Cibolo Creek Watershed:

$$t_{lag} = C_t \left(\frac{L \cdot L_{ca}}{\sqrt{S}} \right)^{0.39}$$

Where:
t_{lag} = basin lag time (hours).
L = ~~the main stream distance from the outlet to the divide~~ length of longest flow path in the watershed(miles).
L_{ca} = ~~the main stream distance from the outlet to a point opposite the basin centroid~~ length to the centroid along the longest flow path (miles).
C_t = ~~Basin lag~~ coefficient, ~~use 0.15 to 0.18 depending~~ based upon level of ~~watershed~~ development in the watershed.
S = average ~~watershed~~ slope of the longest flow path (ft. / ft.)
~~n = basin exponent coefficient, use 0.34.~~

The C_t coefficient is defined based on the percentage of development within the watershed by:

$$C_t = 1.4224\, e^{-0.0088x}$$

Where:
x = is the percentage of development (in percent form)

The peak discharge of the unit hydrograph shall be calculated by:

$$q_p = 380 t_{lag}^{-0.92}$$

$$C_p = \frac{q_p t_{lag}}{640} \text{ or } C_p = 0.594 t_{lag}^{0.08}$$

Where:
q_p = peak discharge of the unit hydrograph (cfs).
C_p = Snyder's peaking coefficient~~, per Table 6-6~~.
A = watershed size (sq. mi.).
t_{lag} = basin lag time (hours).

~~For channel routing, use the Muskingum-Cunge method. For reservoirs and other structures, use the actual stage-storage-outflow curves.~~ Modified Puls methodology shall be used when detailed hydraulic models are available, but Muskingum-Cunge may be used for all other methods.

e. For watersheds greater than 10 square miles, the effects of storm centering must be taken into account. Consult with city staff prior to completing the model. (TXDOT HDM Chapter 4 Section 13).

6.04.003 Hydraulic Calculations.

c. Detention and Retention Ponds: Detention ponds shall be analyzed using commercially available software approved by the City Manager or HEC-HMS. Inflow hydrographs developed in accordance with Section 6.04.002B, above shall be used with the design depth-volume-discharge rating curve for the pond to determine the outflow hydrograph. An outflow hydrograph shall be plotted for each of the design storms. The pond may use a combination of culverts, weirs and spillways to control the outflow from the pond. Culverts used as outflow structures must be designed for inlet control. The pond embankment shall include one foot of freeboard above the 100-year maximum depth and embankment shall have a 4' minimum top width for maintenance purposed. A spillway shall be provided to prevent breach of the pond embankment.

ARTICLE 7. WATER AND SEWERS

SECTION 01. GENERAL REQUIREMENTS FOR WATER SYSTEMS

7.01.001 Service Required.

Each lot within a new subdivision within the corporate limits of the City shall be provided with domestic water service from the City of Boerne Water System. Each lot within a subdivision outside the corporate limits of the City, but within the limits of the City's extraterritorial jurisdiction, shall be provided with domestic water service from a community water system meeting the design requirements of the Texas Commission on Environmental Quality (TCEQ) or may be served by an individual private well that is permitted and approved by Cow Creek Groundwater District. ~~and approved by the City Manager~~, ~~except that lots in subdivisions in which all lots~~ have street frontage in excess of 150 feet and total lot area greater than 6 acres ~~may be served by individual private wells~~ with the approval of the Planning and Zoning Commission ~~at preliminary plat approval~~. The water distribution system required under this section shall include all pumping station production facilities, elevated storage tanks, fire hydrants and other appurtenances required to adequately serve the area being subdivided.

SECTION 03. WATER MAINS

7.03.001 General Specifications.

Piping for water mains and connections shall be in accordance with the City of Boerne Standard Specifications for Public Works Construction. ~~poly-wrapped ductile iron AWWA C151/C105 or Polyvinyl Chloride (PVC) AWWA C900, with either mechanical or single rubber gasket joints. Polyethylene pipe conforming to AWWA standards may be used in new construction when approved by the City Manager. All pipe and accessories shall be of new materials only.~~

Article 7. Water and Sewers, Section 3. Water Mains

7.03.005 Location.

All water mains shall be located in dedicated streets or fire lanes, or in the community open space in a planned unit development or cottage development. On streets with curbs and sidewalks, all water mains shall be located in the public right-of-way between the curb and the sidewalk.

7.03.007 Valve Locations.

The distribution system ~~in mercantile and industrial areas~~ shall be equipped with a sufficient number of valves and the valves shall be so located that no case of accident, breakage or repair to the water distribution system mains will necessitate shutting from service a length of water main greater than either one side of a single block or a maximum of 500 feet. A minimum of 2 valves are required at all tees and 3 valves at all crosses. ~~The distribution system in residential areas shall be equipped with a sufficient number of valves and the valves shall be so located that no case of accident, breakage or repair to the water distribution system mains will necessitate shutting from service a length of water main greater than either two sides of a single block or a maximum of 600 feet.~~

SECTION 06. ON-SITE SEWAGE FACILITIES

When specifically authorized by the Planning and Zoning Commission, on-site sewage facilities in the city limits may be utilized for wastewater disposal. All lots in the subdivision which utilize private wells and on-site sewage facilities shall obtain approval from and adhere to the regulations provided by Cow Creek Groundwater District and TCEQ (Texas Commission on Environmental Quality). Lots in subdivisions being served with water provided by a public or other community water system may utilize individual on-site sewage facilities provided all lots within the subdivision have a minimum area of 45,000 square feet ~~and a street frontage of at least 150 feet~~ unless the water system is providing water from a source that is outside the jurisdiction of the Cow Creek Underground water District then the standards set forth in Section 3.04.003.B shall be followed. ~~Any method of on-site wastewater disposal other than conventional on-site sewage facilities shall require the specific approval of the Planning and Zoning Commission on a lot by lot basis.~~ On-site sewage facilities shall be installed on each lot concurrent with any development thereon and the design of such system and the method of installation shall conform in all respects to the requirements of the Kendall County Office of Development Management.

7.07.002 Sewer Location.

All sewer mains are to be located in the right-of-way as designated by the City Manager. Separation distances between sewer mains or laterals and potable waterlines shall be in ~~Where the location of the sewer is not clearly defined by dimensions on drawings, the sewer shall not be closer horizontally than 10 feet, or closer vertically than six feet, to a water supply main or service line. Gravity sewer lines passing over water lines shall be constructed for a distance of at least 10 feet on each side of the crossing with cast iron pipe with no joints within three feet of the crossing, or they shall be encased in concrete in~~ accordance with regulations of the Texas Commission on Environmental Quality.

7.07.003 Materials.

Materials shall be in accordance with the City of Boerne Standard Specifications for Public Work Construction. ~~Sewer lines shall be of PVC plastic, SDR 35/ASTM 3034, or another type pipe as approved in writing by the City Manager.~~

7.07.007 Lift Stations and Force Mains.

Lift station capacity shall be no less than 100 gallons per minute per pump. Lift station force mains shall be designed and sized to produce a complete exchange of wastewater every other cycle of the pumps. Force mains and fittings shall be of epoxy lined ductile iron, Polyethylene or PVC pipe, pressure class 150, minimum. The pipe shall have either mechanical joints or rubber gasket joints as approved by the City Manager. The minimum force main size shall be four inches. Lift stations shall be enclosed, for noise and odor control, in a building that matches the general architecture of the subdivision.

ARTICLE 8. UTILITY EXTENSIONS AND GENERAL SUBDIVISION REQUIREMENTS

SECTION 01. GENERAL REQUIREMENTS

8.01.001 Obligations of Subdivider.

The subdivider shall install at his/her own cost and expense all of the improvements required by this ordinance. It shall be the subdividers responsibility to ensure that all improvements are constructed in accordance with this ordinance, City of Boerne Standard Specifications for Public Construction, the approved final design plans and all applicable regulatory rules and requlations. The subdivider shall comply with all other provisions of this ordinance prior to acceptance of the subdivision by the City.

8.01.002 Engineer Responsible.

The subdivider shall retain the services of a ~~registered~~ licensed professional engineer, licensed in the State of Texas, whose seal shall be placed on each sheet of the construction plans, and who shall be responsible for the design and supervision of all public infrastructure improvements constructed for the subdivision.

8.01.003 Construction Plans.

The construction plans and drainage study shall be submitted as provided in Article 2~~. Constructions Plans~~ and shall meet the following requirements.

E. A minimum of two (2) copies of the drainage study as described in Article 6, Section 2.

8.01.005 Inspection of Improvements.

The City Manager shall from time to time inspect the construction of all utility facilities, drainage infrastructure and streets in the subdivision during the course of construction to see that they comply with the standards governing them. In this regard, free access to the subdivision shall be accorded to the City Manager by the subdivider and the subdivider's agents and employees.

8.01.006 Final Plans and Acceptance

D. Two certified copies of all improvement costs, itemized as follows:

1. Streets, alleys, curbs, sidewalks and drainage features.
2. Water mains, valves, hydrants and services.
3. Sewer mains, lift stations, force mains, manholes and services.
4. Reclaimed water mains, valves, and services.
5. Electric distribution and services (excluding transformers) not constructed by the City.
6. Natural gas mains, valves and services not constructed by the City.

E. Letter of certification, signed and sealed by the subdividers engineer certifying that the improvements have been constructed and tested in accordance with all applicable Texas Administrative Codes and this ordinance, the final design plans, and City of Boerne Specifications for Public Works.

F. Prior to acceptance of the subdivision improvements, the subdivider shall provide the City with either 1.) A release of lien from all subcontractors and contractors verifying that all contractors have been paid and that no liens will be filed on the subdivision or 2.) A form of an Affidavit as to Debts and Liens signed by the owner. No acceptance shall be given until all verification is made.

G. One (1) copy each of the completion notices submitted to the TCEQ executive director in accordance with TCEQ 30 TAC 217.14 and 30 TAC 290.39.

SECTION 03. COSTS OF UTILITY EXTENSIONS

8.03.001 Water and Sewer Main Extensions.

The subdivider shall install water and sewer mains from their present locations to the boundaries of the subdivision at his/her own cost and expense, subject to the provisions of this ordinance.

8.03.002 Reclaimed Water Main Extensions.

The subdivider shall either (a) reimburse the City for the cost of extension of the reclaimed water distribution system from their present locations to the perimeter of the subdivision or (b), with the City Manager's approval, extend the distribution system at the subdivider's own expense.

SECTION 05. MINIMUM SIZES FOR OVER-SIZING CALCULATIONS

When calculations are made for oversizing requirements, the minimum sizes assumed to be necessary to serve the subdivision itself shall not be less than those in the following table:

TABLE 8-1: MINIMUM SIZES FOR OVERSIZING CALCULATIONS	
Water and Sewer Main	8 inches
Reclaimed Water Main	4 inches
Sewer Force Main	6 inches
Lift Station Capacity	100 gallons per minute per pump
Residential Street Width	Per TIA in Article 3, an approved Major Thoroughfare plan of the City, or programmed in a Capital Improvements Plan.
Non-Residential Street Width	Per TIA in Article 3, an approved Major Thoroughfare plan of the City, or programmed in a Capital Improvements Plan.

SECTION 06. WATER, RECLAIMED WATER AND SEWER MAIN REIMBURSEMENTS

8.06.001 Eligibility for Reimbursement.

When a subdivider must extend water, reclaimed water and/or sewer mains through previously unserviced and unsubdivided areas of a drainage basin, the City may reimburse the subdivider for that proportional cost of the extension by those entities who plat property between the original subdivider's subdivision and the point of connection to existing City utilities and connect pipelines directly to that water/sewer main extension.

8.06.004 New Subdivider's Contribution for Trunk Main Extension.

When water, reclaimed water and sewer mains for a new subdivision are to be connected to trunk mains installed per the requirements of this section to prior subdivisions, the subdivider shall deliver to the City Manager, prior to final plat approval, a check for his/her portion of the trunk main based on the formula in Subsection 8.06.002. The contribution shall be based on the trunk main unit cost per acre multiplied by the number of acres in the subject subdivision. It shall be the responsibility of the subdivider to provide the City staff with evidence of the acreage involved.

ARTICLE 10. RECLAIMED WATER

SECTION 01. GENERAL REQUIREMENTS FOR RECLAIMED WATER SYSTEMS

10.01.001 Service Requirements.

New subdivisions or platted properties within the corporate limits of the City or within the limits of the City's extraterritorial jurisdiction may request reclaimed water service from the City of Boerne Reclaimed Water System. In the event the City approves the request, the Subdivider shall provide reclaimed water system improvements. System improvements shall include the extension of reclaimed water mains, design and installation of distribution system within property and all required appurtenances. The City may require the extension of lines across the entire length (frontage) of all newly established lots adjacent to a public right of way and/or to the perimeter of the subdivision for future extension into undeveloped areas, or for connections to the systems in adjoining developed areas.

A reclaimed water master meter or individual service meters are required for the measurement of the quantity of reclaimed water.

10.01.002 Provision of Reclaimed Water Service.

A. Upon the Utility Director's recommendation that the provision of Reclaimed Water is feasible, the City Manager may enter into an Agreement for the provision of Reclaimed Water to properties within the City's Reclaimed Water Service Area upon application, and in compliance with this Article and all applicable laws and regulations.

B. Requests for Reclaimed Water Service from the City must meet all requirements provided in this Article and all minimum design, construction and operation standards for Reclaimed Water systems.

C. The request for Reclaimed Water Service, must come from the owner or authorized agent of the property for which the service is to be provided.

10.01.003 Obligations of the City.

The City and its authorized agents, employees, or contractors are responsible for the operation, management, and control and the oversight of the Reclaimed Water System.

10.01.004 Obligations of Subdivider.

Within the proposed Reclaimed Water Service Area, the Subdivider shall install, at their own cost and expense, all necessary booster pumps, mains, valves and appurtenances to properly serve the subdivision as approved by the City.

Subdivider shall:

A. Provide an engineering report documenting the existing and/or new reclaimed water facilities can supply the required demand at the desired pressure. Report shall include calculations for proposed system demands.

B. Be responsible for the design and construction of new reclaimed water facilities to proposed service areas

in accordance with TCEQ Design Criteria in Chapter 210 and other applicable chapters of the Texas Administrative Code, as amended;

C. Provide construction supervision of work to assure compliance with this Article;

D. Provide access to work during construction for inspections by the City;

E. Train all City operations personnel on any constructed facilities;

F. Submit a certificate to the City Manager certifying that the system has been designed in accordance with the requirements of the Texas Administrative Code and this ordinance. Certificate shall be sealed by a Professional Engineer licensed in the State of Texas.

SECTION 02 RECLAIMED WATER SYSTEM DESIGN STANDARDS

10.02.001 General Specifications.

Piping and appurtenances for reclaimed water mains and connections shall meet the minimum criteria as required by the City of Boerne, “Standard Specifications for Public Works Construction” as currently amended.

10.02.002 Sizing of Reclaimed Water Mains.

All reclaimed water production and distribution facilities shall be designed and sized to meet the minimum design standards and be based on the Subdivider’s expected average and peak reclaimed water consumption as identified in the design report. All reclaimed water mains shall be installed at locations designated by the City. Computer modeling is preferred for sizing reclaimed water mains based on Subdivider’s expected reclaimed water consumption; however, for reclaimed water mains less than sixteen (16) inches in diameter other engineering calculation methods may be accepted. All reclaimed water mains shall be sized to provide necessary service to the subdivision being developed and per the minimum standards indicated in Table 10-1.

TABLE 10-1: RECLAIMED WATER SYSTEM MINIMUM DESIGN STANDARDS	
Demand Assumptions	
Annual Average Irrigation Application Rate	1,987 GPD / Irrigated Acres
Peaking Factors	Summer – 1.37
	Winter – 0.66
Peak Flow Rate	Maximum Summer Irrigation Volume over 14-Hour Period

Subdivider shall specify the total irrigated areas and percent impervious cover in accordance with the land use category. Additional demands for reclaimed water shall be clearly defined in the report. The City may require oversizing of certain mains in accordance with City Ordinance Article 8.

Reclaimed water mains smaller than four (4) inches shall not be permitted.

Maximum static pressure – one-hundred (100) psi unless otherwise approved by the City. If the maximum static pressure exceeds eighty (80) psi, a PRV will be required on the property owner's side of the reclaimed water meter and should be shown on the plan view.

10.02.003 Looping Requirements.

In all areas, reclaimed water mains shall be looped between reclaimed water mains whose inside diameter is four inches or larger, except dead end mains in cul-de-sacs up to 600 ft shall be allowed.

10.02.004 Location.

All reclaimed water mains are to be located in the right-of-way as designated by the City Manager.

10.02.005 Valve Locations.

The distribution system shall be equipped with a sufficient number of valves and the valves shall be so located that no case of accident, breakage or repair to the reclaimed water distribution system mains will necessitate shutting from service a length of reclaimed water main greater than either one side of a single block or a maximum of 500 feet. A minimum of 2 valves are required at all tees and 3 valves at all crosses.

SECTION 03. RECLAIMED WATER SYSTEM COMPLIANCE

10.03.001 Proof of Compliance with the Minimum Design and Operation Standards.

The Subdivider making an application for Reclaimed Water Service shall submit the information as required by Article 8 for the construction plans, inspection, and final acceptance of the reclaimed water system improvements.

ARTICLE 11. GAS DISTRIBUTION

SECTION 01. GENERAL REQUIREMENTS FOR GAS DISTRIBUTION

11.01.001 Service Requirements.

New subdivisions or platted properties within the corporate limits of the City or within the limits of the City's extraterritorial jurisdiction may request natural gas service from the City of Boerne. In the event the City approves the request, the Subdivider shall provide gas distribution system improvements. System improvements shall include the extension of gas mains, design and installation of distribution system within property and all required appurtenances. The City may require the extension of lines across the entire length (frontage) of all newly established lots adjacent to a public right of way and/or to the perimeter of the subdivision for future extension into undeveloped areas, or for connections to the systems in adjoining developed areas.

11.01.002 Provision of Gas Service.

A. Upon the Utility Director's recommendation that the provision of natural gas is feasible, the City Manager may approve the provisions for natural gas to properties within the City's Gas Service Area upon application, and in compliance with this Article and all applicable laws and regulations.

B. Requests for Natural Gas Service from the City must meet all requirements provided in this Article, the International Fuel Gas Code (IFGC) latest edition, and all minimum design, construction and operation standards for the gas distribution system.

C. The request for gas service, must come from the owner or authorized agent of the property for which the service is to be provided.

11.01.003 Obligations of the City.

The City and its authorized agents, employees, or contractors are responsible for the operation, management, and control and the oversight of the Gas Distribution System.

The City's standard gas service shall be provided to all customers at 4 ounces per square inch, except that the City may provide gas service at a nonstandard pressure only upon request from the customer and where the customer's facilities in place prior to the effective date of this ordinance are inadequate to properly operate at the City's standard service pressure.

11.01.004 Obligations of Subdivider.

Within the proposed Gas Service Area, the Subdivider shall install, at their own cost and expense, all necessary mains, valves and appurtenances to properly serve the subdivision as approved by the City.

Subdivider shall:

A. Provide an engineering report documenting the existing and/or new gas system can supply the required demand at the desired pressure.

B. Be responsible for the design and construction of new gas facilities and service lines to proposed service areas;

C. Provide construction supervision of work to assure compliance with this Article;

D. Provide access to work during construction for inspections by the City;

E. Train all City operations personnel on any constructed facilities;

F. Submit a certificate to the City Manager certifying that the system has been designed in accordance with the requirements of the Title 16 of the Texas Administrative Code and this ordinance. The certificate shall be sealed by a Professional Engineer licensed in the State of Texas.

SECTION 02. GAS MAIN DESIGN STANDARDS

All natural gas production and distribution facilities shall be designed and sized to meet the minimum design standards in accordance with the projected demand load provided by the Subdivider and approved by the City.

11.02.001 General Specifications.

Piping and appurtenances for gas systems and services shall meet the minimum criteria as required by the City of Boerne, “Standard Specifications for Public Works Construction” as currently amended. All materials that will become a permanent part of the gas distribution system must be approved by the City with written assurance that minimum requirements are being satisfied for the selection and qualification as established by Federal and State Regulations. All components used in the construction of a gas pipeline and related facilities must be to withstand operating pressures and temperatures without impairment.

11.02.002 Sizing of Natural Gas Mains.

All natural gas mains shall be installed in accordance with this article or as required by the City. All natural gas mains shall be sized to provide necessary service to the subdivision being developed with the minimum diameter being 1 inch.

The City's standard pipe diameters for providing gas services are 1 and 2 inches. The City shall determine the appropriate service size after consideration of service requirement information provided by the Applicant or Customer.

The maximum gas pressure provided to a Customer shall be 2 psi, unless authorized by the City.

The City may require oversizing of certain mains in accordance with City Ordinance Article 8.

11.02.003 Looping Requirements.

In all areas, natural gas mains shall be looped between natural gas mains, except dead end mains in cul-de-sacs up to 600 ft. shall be allowed.

11.02.004 Location.

All natural gas mains are to be located in the right-of-way as designated by the City Manager.

11.02.005 Valve Locations.

The distribution system shall be equipped with a sufficient number of valves and the valves shall be so located that no case of accident, breakage or repair to the gas distribution system mains will necessitate shutting from service a length of gas main greater than either one side of a single block or a maximum of 500 feet. A minimum of 2 valves are required at all tees and 3 valves at all crosses.

The City reserves the right to specify additional valves or less spacing between valves as necessary to reduce the time to shut down a section of pipeline in an emergency. Spacing determined by size of pipe, operating pressures, and local conditions.

11.02.006 Gas Service Stubs.

Stubs for future Customers may be installed when installing gas main. Stubs will be sized for anticipated usage and should terminate 1 foot inside the property line or 1 inch past electric utility easement if applicable. Service stubs may cross beneath streets and sidewalks and can be installed to serve residential lots on either side of a street. Each service shall be provided its own tap off of the distribution main.

SECTION 03. GAS SYSTEM COMPLIANCE

11.03.001 Proof of Compliance with the Minimum Design and Operation Standards.

The subdivider making an application for Gas Service shall submit the information as required by Article 8 for the construction plans, inspection, and final acceptance of the gas system improvements.

Exhibit "A" Plat Certificates and Notes

STATE OF TEXAS
COUNTY OF KENDALL

The owner of land shown on this plat, in person or through a duly authorized agent, dedicates to the use of the public forever all streets, alleys, parks, watercourses, drains, easements and public places thereon shown for the purpose and consideration therein expressed.

_____
Name of Owner and Address

_____
Duly Authorized Agent

Add Setback Note:
Setbacks in the ETJ: Lot setbacks are determined by the City of Boerne Zoning Ordinance enforced at the time of development. The use that is being constructed and the lot size shall determine which setback shall apply.

Setbacks in City Limits: Lot setbacks are determined by the City of Boerne Zoning Ordinance enforced at the time of development and are based on zoning/lot size. Unless otherwise identified, the front setback for a pie shaped lot or a lot on a curvilinear street or cul-de-sac is measured wherever the lot width meets frontage requirements for the lot category.

HERITAGE LEGACY TREE:

There are ___ Heritage Legacy Trees, as defined in subsection 2.02.002, identified on this plat.

Specific Notes for plat in the ETJ:

Setbacks in the ETJ: Lot setbacks are determined by the City of Boerne Zoning Ordinance enforced at the time of development. The use that is being constructed and the lot size shall determine which setback shall apply.

Fire Marshall Approval: At time of development of the lot, the owner/developer shall obtain a development permit for Kendall County; submit a site plan for the proposed development, and a letter of approval from the Kendall County Fire Marshall.

Detention shall be provided for each lot unless approved otherwise by the County. Prior to any improvements being made on the lot, Kendall County shall review and approve detention for the site.