City of Bee Cave

COMPREHENSIVE PLAN 2009

ADOPTED JUNE 2009

PREPARED BY
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I M P L E M E N T A T I O N

P L A N

Section Ten

Comprehensive Plan 2009

INTRODUCTION

With the publication and adoption of this Comprehensive Plan document, the City of Bee Cave has taken an important step in shaping the future of the community. The Plan will provide an important tool for City staff and civic leaders to use in making sound planning decisions regarding the long-term growth and development of the community. The various elements of the Plan are based upon realistic growth objectives and goals for City of Bee Cave which resulted from an intense comprehensive planning process involving citizens, City staff, elected and appointed officials, business interests and the development community.

The future quality of life within City of Bee Cave and the environment of the community will be substantially influenced by the manner in which plan recommendations are administered and maintained.

The plan should never be considered a finished product, but rather a broad guide for community growth and development that is always evolving and changing in scope.

Changes in the City's socioeconomic climate and in development trends will, from time to time, occur which were not anticipated during preparation of the Plan, and therefore, subsequent adjustments will be required. Elements of the community that were treated in terms of a general relationship to the overall area may, in the future, require more specific and detailed attention. Planning for the community's future should be a continuing process, and the Comprehensive Plan is designed to be a dynamic tool that can be modified and periodically updated to keep it in tune with changing conditions and trends.

The full benefits of the Plan for the City of Bee Cave can only be realized by maintaining it as a vital, up-to-date document. As changes occur and new facets of the community become apparent, the Plan should be revised rather than ignored. By such action, the Plan will remain current and effective in meeting the community's decision-making needs regarding growth and development.

THE PLAN AS A GUIDE FOR DAILY DECISION-MAKING

The current physical layout of the City is a product of previous efforts put forth by many diverse individuals and groups. In the future, each subdivision that is platted, each home that is built, each new school, church or shopping center represents an addition to the City's physical form. The composite of all such efforts and facilities creates the community as it is seen and experienced by its citizens and visitors. If planning is to be effective, it must guide each individual decision, whether it is that of a private homeowner or of the entire community. The City, in its daily decisions pertaining to whether to surface a street, to approve a subdivision, to amend a zoning ordinance, to enforce the building or other codes or to construct a new utility line, should always refer to the basic proposals outlined within the Comprehensive Plan. The private builder or investor, likewise, should recognize the broad concepts and policies of the Plan so that their efforts become part of a meaningful whole in planning the community. Those investments are, over the years, reinforced and enhanced by the City's form, development pattern and economic vitality.

COMPREHENSIVE PLAN AMENDMENTS AND PERIODIC REVIEW

The Comprehensive Plan for the City of Bee Cave is intended to be a dynamic planning document – one that responds to changing needs and conditions. Plan amendments should not be made without thorough analysis of immediate needs, as well as consideration for long-term effects of amendments to the Plan. The City Council and other City officials should consider each proposed amendment carefully to determine whether or not it is consistent with the Plan's goals and policies, and whether it will be beneficial for the long-term health and vitality of the City of Bee Cave.

At approximately one-year intervals, a periodic review of the comprehensive plan with respect to current conditions and trends should be performed. Such ongoing, scheduled reevaluations will provide a basis for adjusting capital expenditures and priorities, and will reveal changes and additions which should be made to the Plan in order to keep it current and applicable long-term. It would be appropriate to devote one annual meeting to reviewing the status and continued applicability of the plan in light of current conditions, and to prepare a report on these findings to the City Council. City Staff should submit its comments and findings to the

Council at least 60 days prior to the scheduled annual review of the Comprehensive Plan. Those items that appear to need specific attention should be examined in more detail, and changes and/or additions should be made accordingly. By such periodic reevaluations, the plan will remain functional, and will continue to give civic leaders effective guidance in decision-making. Periodic reviews of the plan should include consideration of the following:

- The City's progress in implementing the plan;
- Changes in conditions that form the basis of the plan;
- Community support for the plan's goals, objectives and policies; and,
- Changes in State laws.

In addition to periodic annual reviews, the Comprehensive Plan should undergo a complete, more thorough review and update every five years. The review and updating process should begin with the establishment of a citizen committee, thereby encouraging citizen input from the beginning of the process. Specific input should be sought from various groups, including property owners, neighborhood groups, civic leaders, developers, merchants, and other citizens and individuals who express an interest in the long-term growth and development of the City.

COMMUNITY INVOLVEMENT

An informed, involved citizenry is a vital element of a democratic society. The needs and desires of the public are important considerations in the City of Bee Cave's decision-making process. Citizen participation takes many forms, from educational forums to serving on City boards. A broad range of perspectives and ideas at public hearings helps City leaders and the City Council to make more informed decisions for the betterment of the community as a whole. The City of Bee Cave should continue to encourage as many forms of community involvement as possible as the City implements its Comprehensive Plan.

IMPLEMENTATION STRATEGIES

There are two primary methods of implementing the Comprehensive Plan – proactive and reactive methods. Both must be used in an effective manner in order to successfully achieve the recommendations contained within the Plan.

Proactive methods include:

- Developing a capital improvements program (CIP), by which the City expends funds to finance certain public improvements (e.g., utility lines, roadways, etc.), meeting objectives that are cited within the Plan;
- Revising/enforcing Zoning Ordinances;
- Revising/enforcing Subdivision Ordinances; and,
- Coordinating with/lobbying CAMPO and TxDOT to influence roadway planning, funding, and construction.

Reactive methods include:

- Rezoning because of a development proposal that would enhance the community;
- Site plan review;
- Subdivision review.

Several specific implementation strategies for City of Bee Cave's Comprehensive Plan are described within the following sections.

CAPITAL IMPROVEMENTS PROGRAMMING

The Comprehensive Plan makes recommendations on the various public improvements that will be needed to accommodate growth and development envisioned for the City over the next 20 years or more. Many of the changes involve improvements that will be financed by future improvement programs. It will be a desirable practice to invest regularly in the physical maintenance and enhancement of the City of Bee Cave rather than to undertake large improvement-type programs at longer time intervals. A modest amount of money expended annually and on a regular basis in accordance with Plan recommendations will produce a far greater return to the community than will large expenditures at long intervals.

It is also recommended that the City implement a Capital Improvements Program (CIP) showing a recommended, generalized plan for capital facilities within City of Bee Cave. The CIP should also identify priorities and the approximate cost of improvements over a specific period of time. After voters approve funding for capital improvements, projects should be constructed within three years. Priority projects should be determined annually, and should be

generally scheduled for review on a two- or three-year basis to ensure that their level of priority has not changed.

At least one annual meeting of the City Council should be devoted to reviewing the status of the CIP. A joint review meeting of the City Council, the City Administrator and City staff would be desirable. A report and review meeting with a "citizens' planning committee" would also be desirable. It should be recognized that the City staff's role in the capital improvement programming process is advisory, and that the financing and priority decisions are the City Council's responsibility. In their advisory role, staff should seek to achieve programs which are geographically balanced (equitable) and which include all important aspects of the community's development from parks to transportation and utilities. Capital improvements programming should be viewed as a continuation of the ongoing comprehensive planning process.

ANNEXATION AND EXTRATERRITORIAL JURISDICTION

Annexation is the process by which communities extend municipal services, regulations, voting privileges and taxing authority to new territory with the purpose of protecting the public's health, safety and general welfare. Chapter 43 of the Texas Local Government Code prescribes the process by which communities can annex land within Texas. Annexation is essential to the efficient and logical extension of urban services. Because the City of Bee Cave is a general law municipality, it cannot annex land on a non-consensual basis.

The majority of incorporated entities equal in size to the City of Bee Cave have a one-half-mile ETJ. However, the advocates for incorporation of the City of Bee Cave secured a one-mile ETJ from the state legislature for the City during the process of incorporation in 1987. The ETJ area is shown on the Future Land Use Plan, **Plate 8-1**. In addition, the City ETJ has a large amount of preserve land – entities (i.e., the City of Austin and the Nature Conservancy) have purchased this land for the purposes of maintaining it in a perpetual natural state. As a result, much of the area surrounding the City of Bee Cave within its ETJ will remain permanent open space in the future. However, Bee Cave has several thousand acres that can be developed in the ETJ.

It is in the best interest of the City of Bee Cave, to require areas within the ETJ to be annexed prior to development rather than after development has occurred. Annexation procedures for general law municipalities are outlined in Chapter 43 of the Texas Local Government Code. Prior to development, the City of Bee Cave will be able to affect development in a more meaningful way, especially in terms of ensuring that the City's development standards are met. However, the Texas State statute has established service and other requirements to keep general law municipalities from misusing their annexation power. Until Bee Cave becomes a

home-rule city (meaning until it is over 5,000 in population), the City will not be able to annex ETJ areas on a non-consensual basis. State law requires that property owners must consent before general law cities can annex their property. Annexation is important to the long-term well being of communities; therefore, such action should be carried out in accordance with established policies.

The City of Bee Cave must develop a policy with the support of the Lower Colorado River Authority (LCRA) stating that water and wastewater connections will not be provided to areas in the ETJ unless the property owner requests annexation. Many general law communities in Texas have similar policies, and the City of Bee Cave must incorporate this element into its ordinances in order to ensure the provision of adequate public facilities in the ETJ.

ADMINISTRATIVE PROCESSES

The usual processes for reviewing and processing zoning amendments, development plans, and subdivision plans provide significant opportunities for implementing this *Comprehensive Plan 2009*. Each zoning, development, and subdivision decision should be evaluated and weighed against applicable proposals contained within the Plan. The Plan allows the City to review proposals and requests in light of an officially prepared document adopted through a sound, thorough planning process. If decisions are made that are inconsistent with Plan recommendations, then they should include actions to modify or amend the Plan accordingly to ensure consistency and fairness in future decision-making.

The act of subdividing land to create building sites is one of the most important and significant activities, and therefore will likely have the greatest effect on the overall design and image of the City. Much of the basic physical form of the City is currently created by the layout of streets, easements, alleys, and lots. In the future, the basic physical form will be further affected by elements such as new developments, the creation of the proposed Town Center and the implementation of the park and trail system. As mentioned previously, many of the growth and development proposals contained within the comprehensive plan can be achieved through the exercise of subdivision control and other "reactive" practices. Some elements of the Plan, such as major thoroughfare rights-of-way, drainage easements, and linear parkways, can be influenced, guided and actually achieved during the process of subdividing the land. Once the subdivision has been filed (recorded) and development has begun, the subdivision becomes a permanent, integral part of the community's urban fabric. It can, thereafter, be changed but only through expending great effort and expense.

RECOMMENDATIONS FOR IMPLEMENTATION

Implementation is probably one of the most important, yet most difficult, aspects of the comprehensive planning process. Without viable, realistic mechanisms for implementation, the recommendations contained within the Comprehensive Plan can never be realized. The following points specify ways to implement the various recommendations within the Plan:

Recommendations:

Develop a regular proactive program to coordinate with and lobby CAMPO and TxDOT to promote transportation and roadway planning, funding, and construction.

Adopt an ordinance to mandate periodic updating of this Comprehensive Plan 2009.

Implement a Capital Improvements Program (CIP) for the purposes of funding necessary projects and improvements within the City of Bee Cave. Such projects should be prioritized and reviewed on an annual basis.

Investigate the feasibility of enacting an impact fee (capital recovery fee) ordinance as prescribed by the Texas Local Government Code to assist in financing the Capital Improvements Program (CIP).

Amend the City Zoning Ordinance text to implement the guidelines, proposals, and standards recommended within the Comprehensive Plan.

Amend the City Subdivision Ordinance text to implement the guidelines, proposals, and standards recommended within the Comprehensive Plan.

Adopt recognized review procedures for implementing policies and other guidelines that are not incorporated within current codes and ordinances.

Offer short courses and other educational classes or seminars concerning planning and zoning procedures to the City Council and other interested City staff.

An annual report should be prepared by City Council or City staff recommending any changes or amendments to the Comprehensive Plan, and identifying items for implementation or further study.

B A S E L I N E

A N A L Y S I S

Section Two

Comprehensive Plan 2009

A "CONTEXT" FOR PLANNING

The *Baseline Analysis* section of this *Comprehensive Plan 2009* is intended to provide a context of facts and documentation of the physical and socioeconomic (or demographic) characteristics of the City of Bee Cave. The following sections are designed to facilitate the formulation of goals and objectives, and eventually the recommendations, of this plan:

- Historical Background
- Relationship to the Region
- Physical Factors Influencing Development
- Existing Land Use
- Existing Population and Housing Characteristics
- Existing Zoning Characteristics

Each section contains information pertaining to the subject matter as well as graphic support, as appropriate. The *Baseline Analysis* provides documentation of basic information about the community, which then forms the context for the comprehensive planning process in the City. It presents an overview of the area's physical, social and economic characteristics, as well as general insight into the community's urban pattern. The primary objective of the *Baseline Analysis* is to document current conditions, and to identify opportunities and constraints that the community must consider in addressing and shaping its future form and character. The secondary objective of the *Baseline Analysis* is to ensure that the information being used in the planning process accurately portrays the community and its needs.

HISTORICAL BACKGROUND [2-1]

The City of Bee Cave is rich in history. The City, as we know it today, did not exist until 1987, but the idea of an area where people could live without the influence of "big city" government has been the area's "calling card" for over 140 years.

As early as the 1850s, Dietrich Bohls moved from Austin to his new home at the confluence of Barton Creek and Little Barton Creek. The population of Austin had reached 900 people, and Mr. Bohls was looking for a place to raise his family away from the confines of the city and its influence. At the time, the land west of Austin still had Native American inhabitants, and therefore, other settlers in the area

2-1 This information was obtained from the City of Bee Cave website.

were scarce. The Bohls family was one of the first families to settle on the land that would become the Village of Bee Cave. Some of the original structures still exist today.

In the 1860s, western Travis County was booming; it was becoming a popular place for families to establish their home. They cleared the land with a lot of hard work and sweat. The rocky cedar breaks beneath the Hill Country soil was not the best for farming. Most of the settlers, however, were proud, friendly people who wanted to be left alone on the quiet of their farms to raise their children. As more and more settlers like the Freitags, Ottens, and the Pechts moved to the region, it became known as "the Bee Caves area". The area derived its name from the colonies of Mexican honeybees that lived in the banks of Barton Creek and Little Barton Creek that encompassed a large area of Western Travis County.

In the early 1870s, Mr. Carl Beck arrived in the area and opened his general store at the crossroads of what are now State Highway 71 and Hamilton Pool Road. Settlers and travelers would stop in the Beck Store to buy supplies, mill their cotton, exchange news, and collect their mail. He also built a cigar factory and cotton gin. In 1873, Mr. Beck became postmaster and opened the post office in his store. Needing a name for his post office, Mr. Beck thought about the bees in the banks of the creek behind his property, and of the bee hives (or caves) that the bees would build in the eves of local buildings. As a lark, he named the post office for the surrounding area he called "Bee Cave".

Local people worked together to build a school building on land given to the Bee Cave community by the Freitag family. The area families were a close-knit group, and if a family needed help, the people were eager to assist their neighbor.

As the years passed and more families moved to the area, the Wallace Store was built across from the school, and later the Johnson Store was built to the south of the school. The core of the Bee Cave community was confined to a two-mile section of crossroads that provided connections to Marble Falls, Teck, the Hudson Bend area and several communities to the west. Over one hundred years later, in the 1980s, the community still retained its slow pace and friendly atmosphere.

In the 1980s, the City of Austin began to attempt numerous annexations. In order to avoid being annexed by Austin, several communities in outlying areas, areas such as Creedmoor, Bertram and Mustang Ridge, voted to become incorporated.

Many people who lived in the Bee Cave area were also concerned about possible annexation, and therefore, a group of local citizens formed a board known as the Concerned Landowners and Citizens Organization (CLACO). The five founding members were Judy Figer Allen, Gilbert Wallace, Kenneth Spell, Robert Baldwin, Sr. and Rodney Bohls. The board had to overcome many obstacles that were impeding the process of incorporation, including entities such as Travis County, the City of Austin, the Sierra Club, as well as several other environmentalist groups, but eventually, the Village of Bee Cave incorporated in 1987.

With key support from State Representative Terrell Smith and State Senator Gonzalos Barrientos, the Village was allocated one-mile of extraterritorial jurisdiction, instead of the standard one-half mile extraterritorial jurisdiction (ETJ; explained in future detail in later sections) that incorporated areas equal in size to the Village are allowed by state law. The additional ETJ area prevented the division of four old land grants. In 1987, the Village of Bee Cave administration had its humble, but proud, beginning in a nondescript portable building. The Village encompassed a two-square-mile area with 8,800 acres of extraterritorial jurisdiction. The 1990 population was approximately 214 people, and the establishment of the Village of Bee Cave was official. By 2000, the Village had grown to 656 people.

In 2006, the "Village of Bee Cave" changed its official name to "City of Bee Cave."

RELATIONSHIP TO THE REGION

The City is located in the region of Texas known as the Texas Hill Country, approximately 20 miles west of the City of Austin[2-2], which allows local residents to live outside of the "big city", but at the same time to benefit from the amenities that a larger city can provide -- amenities like diversified employment opportunities, cultural opportunities, and major healthcare facilities. The fact that Bee Cave is located at the center of three major traffic corridors (R.M. 620, State Highway 71, and Bee Cave Road [or F.M. 2244]) also provides local citizens with easy access to such amenities, as well as to other surrounding communities.

Lake Travis is also a significant regional feature of the City. Located approximately 30 miles northwest of Austin, it was formed as a by-product of the Joseph J. Mansfield Dam, which was completed in 1942**.** This lake, which is the fifth lake in the chain of Highland Lakes on the Colorado River, is monitored and managed by the Lower Colorado River Authority. The Colorado River, which borders the City of Bee Cave's ETJ to the north, is the main water source which feeds Lake Travis. Starting in Austin, Lake Travis winds northwest through the central Texas Hill Country for over 60 miles. It is the longest of the seven Highland Lakes, and at its widest point is 4.5 miles wide. Lake Travis provides various recreational opportunities for local residents and visitors, including fishing, sailing, water skiing, jet skiing, and camping.

Little Barton Creek and Barton Creek are also considered significant regional features. Little Barton Creek is a critical natural resource due to its role as a feeder stream for both Barton Creek and Barton Springs. Watershed protection for this creek and the surrounding area is a significant environmental consideration for Bee Cave, as well as for the entire region. Barton Creek has significant presence in the area as an important source of habitat for many species, as well as an important water source for the Edwards Aquifer.

2-2 The distance between the City of Austin and the City of Bee Cave varies depending upon the points from which the distance is calculated.

PHYSICAL FACTORS INFLUENCING DEVELOPMENT

Several of the physical factors in the City of Bee Cave that have the potential to limit development are shown on the Physical Factors Map, **Plate 2-1**.

NATURAL FEATURES

SURFACE GEOLOGY [2-3]

Names exist for the various geologic chapters of the earth's history. The area in which the City exists is characterized by underlying marine limestone and clay formed during the Cretaceous period. Specifically, the Glen Rose Formation provides the basis for the vast majority of the area in and around Bee Cave, and the Fredericksburg Group underlies several small areas in the vicinity of the City.

Glen Rose Formation

This formation is classified as the oldest and most extensive rock unit, and most of the outcrops in the City of Bee Cave are Glen Rose. The formation consists of approximately 380 feet of mostly thinly interbedded hard and soft limestone, dolomite, and marl. These alternating beds vary in their resistance to erosion, and form a distinctive, stair-step topography. The upper and middle members of the formation are highly dolomitic relative to the others. The oldest member outcrops are located in the steep ravines that lead to the Colorado River, and the younger members occupy areas that are successively higher in elevation. Soils developed on this formation are primarily thin, brownish-gray, gravelly clay loams and lesser amounts of yellowish brown, porous, fine-grained dolomite.

Fredericksburg Group

This group consists primarily of Edwards Limestone and Bee Cave Marl. The Edwards Limestone is characterized by limestone, dolomite and chert, and is described as being fine-grained and porous. Chert can be found in varied amounts throughout the formation, and is described as "honeycombed" and mostly white to light gray. The thickness of the Fredericksburg Group can be anywhere from 60 feet to 350 feet. Bee Cave Marl is characterized by being soft and white, with a tendency to exhibit marine megafossils. Its average thickness varies, but is usually between 25 feet and 40 feet.

2-3 All data in this section was obtained from the Geologic Atlas of Texas' Austin Sheet, prepared by the University of Texas, Bureau of Economic Geology (reprinted in 1981), as well as from information in the City of Bee Cave Comprehensive Plan, prepared by students in the Community and Regional Planning Program in the School of Architecture at the University of Texas at Austin in September of 1988.

SOILS [2-4]

The soils in and around the City of Bee Cave can generally be described as shallow, calcareous, and moderately alkaline, and are shown on the Soil Survey Map, **Plate 2-1**. The most prevalent soil types in the area are of the Brackett and Tarrant Series, but others include Volente complex, mixed alluvial land, Purves silty clay, Speck clay loam, and Crawford clay.

Brackett Series

This soil series consists of shallow, well-drained soils with a mostly gravelly surface layer. These soils develop over imbedded limestone and marl, and occupy large areas of gently rolling to steep topography. The texture of the surface layer is gravelly clay loam, gravelly loam, loam, or clay loam. Permeability is moderately slow, and the available water capacity is low. These soils are not well suited for crops, and are better utilized for ranging or wildlife habitat.

Tarrant Series

This soil series consists of shallow, well-drained, stony, clay-like soils overlying limestone. Large limestone rocks cover 25 to 85 percent of the surface. The Tarrant Series occupies primarily nearly level to gently sloping ridges, rolling side slopes, and steep, hilly breaks. Slopes are complex and range from a slight slope of one percent to an extreme slope of 40 percent. The depth of this series ranges from four to 14 inches. Texture of the surface layer is clay loam, silty clay loam, clay, or silty clay. Permeability, like that of the Brackett Series, is slow, and the available water capacity is low. Suitable land uses are the same as those for the Brackett Series soils.

Volente Complex

This soil series consists of deep, well-drained soils that developed in slope alluvium, mainly in valleys. Slopes are concave and are predominately two to seven percent, with the thickness ranging from 34 to 50 inches. Permeability is slow and moderate, and the available water capacity is high. Volente soils are only marginally suitable for crops because of their high erosion factor. More suitable uses are improved pasture or range land.

2-4 Data in this section was obtained primarily from information in the City of Bee Cave Comprehensive Plan, prepared by students in the Community and Regional Planning Program in the School of Architecture at the University of Texas at Austin in September of 1988.

Soil Types

- BLD - Brackett soils, rolling
- BOF - Brackett soils and Rock outcrop, steep
- CRB - Crawford clay, 1 to 2 percent slope
- LN - Lincoln loamy fine sand
- MD - Mixed alluvial land
- PAC - Patrick soils, 2 to 5 percent slopes
- PUC - Purves silty clay, 1 to 5 percent slopes
- SAB - San Saba clay, 1 to 2 percent slopes
- SSC - Spack stony clay loam, 1 to 5 percent slopes
- TAD - Tarrant soils, rolling
- TCA - Tarrant and Spack soils, 0 to 2 percent slopes
- TDF - Tarrant soils and Rock outcrop, steep
- VOD - Volente complex, 1 to 8 percent slopes

Colorado River
Bee Cave ETJ
Bee Cave City Limits
Limekiln Branch
State Hwy. 71 West
Club House
Golf Course
R.R. 620 South
Cedar Hollow
City of Austin Nature Preserve
Bolls Hollow
F.M. 2244 Bee Cave Road
F.M. 3238 Hamilton Pool Rd
Little Barton Creek
Barton Creek
Nature Preserve
Hickson Hollow
Spillman Hollow
Owl Hollow

Plate 2-1

City of Bee Cave

Soil Survey

0.5 0.25 0 0.5 1 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

Freese and Nichols — Sefko Planning Group, Urban Planning Consultants - Dallas, Texas

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Mixed Alluvial Land

This soil type is characterized by gravelly alluvium, beds of gravel, and exposed limestone beds and boulders interspersed with moderately deep to very deep calcareous alluvial materials. Slopes can be up to approximately seven percent, and soil depth ranges from two to four feet. These types of soils are best suited for ranging and wildlife.

Purves Silty Clay

This type of soil is characterized by being shallow and well drained, with slopes ranging from one to five percent, and with depth ranges from 10 to 20 inches. It is best suited for improved pasture, hay, or rangeland.

Speck Stoney Clay Loam

This is a shallow, well-drained soil overlying limestone, and it is characterized by being located in areas of smooth, gently undulating topography. Slopes range from one to five percent, and depth ranges from 14 to 18 inches. It is slowly permeable and the available water capacity is low. This soil is best suited to native grass range.

Crawford Clay

This is a well-drained, moderately deep, non-calcareous soil that developed over hard limestone. Slopes are smooth, usually only one to two percent. Soil depth ranges from 24 to 32 inches. This clay is very slowly permeable, and the available water capacity is high. It is best suited to crops, improved pasture, or hay.

VEGETATION [2-5]

A region of vegetation known as the Edwards Plateau characterizes the area of Texas in which the City of Bee Cave is located. This region covers 24 million acres across the central to western central portion of Texas, from the middle of Travis County, northward approximately to Sterling County, and westward to Upton and Terrell Counties. The combination of grasses, weeds, and small trees is ideal for cattle, sheep, goats, and deer. This area, as aforementioned in the soils discussion, is well suited for rangeland.

2-5 The information for this section was obtained primarily from the 1998-1999 Texas Almanac, the Dallas Morning News.

The principal grasses of the clay soils found in this region include cane bluestem, silver bluestem, little bluestem, sideoats grama, Indiangrass, common curlymesquite, buffalograss, fall witchgrass, plains lovegrass, wildryes, and Texas wintergrass. Throughout the Edwards Plateau area, live oak, shinnery oak, mesquite and cedar dominate the tree vegetation. A large portion of the City of Bee Cave and its ETJ have an abundance of trees, and therefore, a mapping of tree clusters could be important in determining the proper locations for future development. These clusters can be seen in a generalized form on **Plate 2-2**, Tree Cover Map.

AQUIFERS

Major aquifers underlie about 80 percent of Texas. Approximately 56% of the water currently being used in the state is derived from underground sources that occupy nine major and 20 minor aquifers. There are two aquifers that affect Travis County, and therefore the City of Bee Cave, and they are the Edwards (Balcones Fault Zone) Aquifer and the Trinity Aquifer.

The Edwards (Balcones Fault Zone) Aquifer

The Edwards Aquifer forms a narrow belt extending through nine counties from a ground-water divide in Kinney County through the San Antonio area northeastward to the Leon River in Bell County. A groundwater divide in Hays County hydrologically separates the aquifer into the San Antonio and Austin regions. Water in the aquifer occurs in fractures, honeycomb zones and solution channels in the Edwards Aquifer. Nearly 25 percent of the water from the aquifer is used for municipal and military purposes, supplying 1.5 million people in San Antonio and the surrounding area with water. However, irrigation is the primary use in the western segment. The aquifer also feeds several well-known recreational springs and underlies some of the most environmentally sensitive areas in Texas. The Edwards Aquifer underlies Travis County in a thin band (in a north-south direction) across the central portion of the county. Barton Springs discharges into Barton Creek near its confluence with the Colorado River; this is a significant recharge zone for the Edwards Aquifer.

The Trinity Aquifer

This aquifer consists of formations that extend from the Red River in north Texas to the Hill Country of central Texas. Water from the Trinity Aquifer is used for multiple purposes, including irrigation in north and central Texas, and domestic and municipal supply in other parts of the state. This aquifer underlies a large portion of Travis County, and therefore could impact growth in the City of Bee Cave in the future.

Freese and Nichols

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Plate 2-2

City of Bee Cave

Tree Coverage

0.5 0.25 0 0.5 1 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

Legend

- Tree Coverage
- Floodplain
- City Limits
- ETJ

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SIGNIFICANT WATER BODIES

Each of the following bodies of water could have significant future land use implications for the City of Bee Cave, and therefore, warrant discussion.

Barton Creek [2-6]

Barton Creek rises in western Travis County and flows eastward for about 35 miles to become a tributary of the Colorado River. The creek is normally an intermittent stream. However, during periods of heavy rainfall it has become considerably larger. Barton Creek flows through the City of Bee Cave's ETJ in the nature preserve located to the east of the City. As aforementioned, this creek has significant presence in the area as an important source of habitat for many species, as well as an important water source for the Edwards Aquifer.

Little Barton Creek

This small creek is located to the south of the Bee Cave primarily in the City's ETJ, with a small portion of the creek within the City limits. Little Barton Creek is a critical natural resource due to its role as a feeder stream for both Barton Creek and Barton Springs. Watershed protection for this creek and the surrounding area is a significant environmental consideration for Bee Cave, as well as for the entire region.

The Colorado River

The Colorado River is one of the principal rivers of Texas. It is the longest river in the United States that flows solely through one state, and is approximately 862 miles (1,390 km) long. Rising in the Llano Estacado region of northwestern Texas, the river flows across the state in a generally southeastern direction, through several counties, including San Saba, Llano, Burnet, Travis, Bastrop, Fayette, Colorado, Wharton, and Matagorda. Eventually, the Colorado River empties into the Gulf of Mexico at Matagorda Bay. The northernmost border of the City's ETJ is actually a small piece of the southern edge of the Colorado River. Such proximity to a major regional water body could have significant land use impacts on the City of Bee Cave.

2-6 Information for this section was obtained through the Texas Parks and Wildlife Department.

TOPOGRAPHY AND SLOPE ANALYSIS

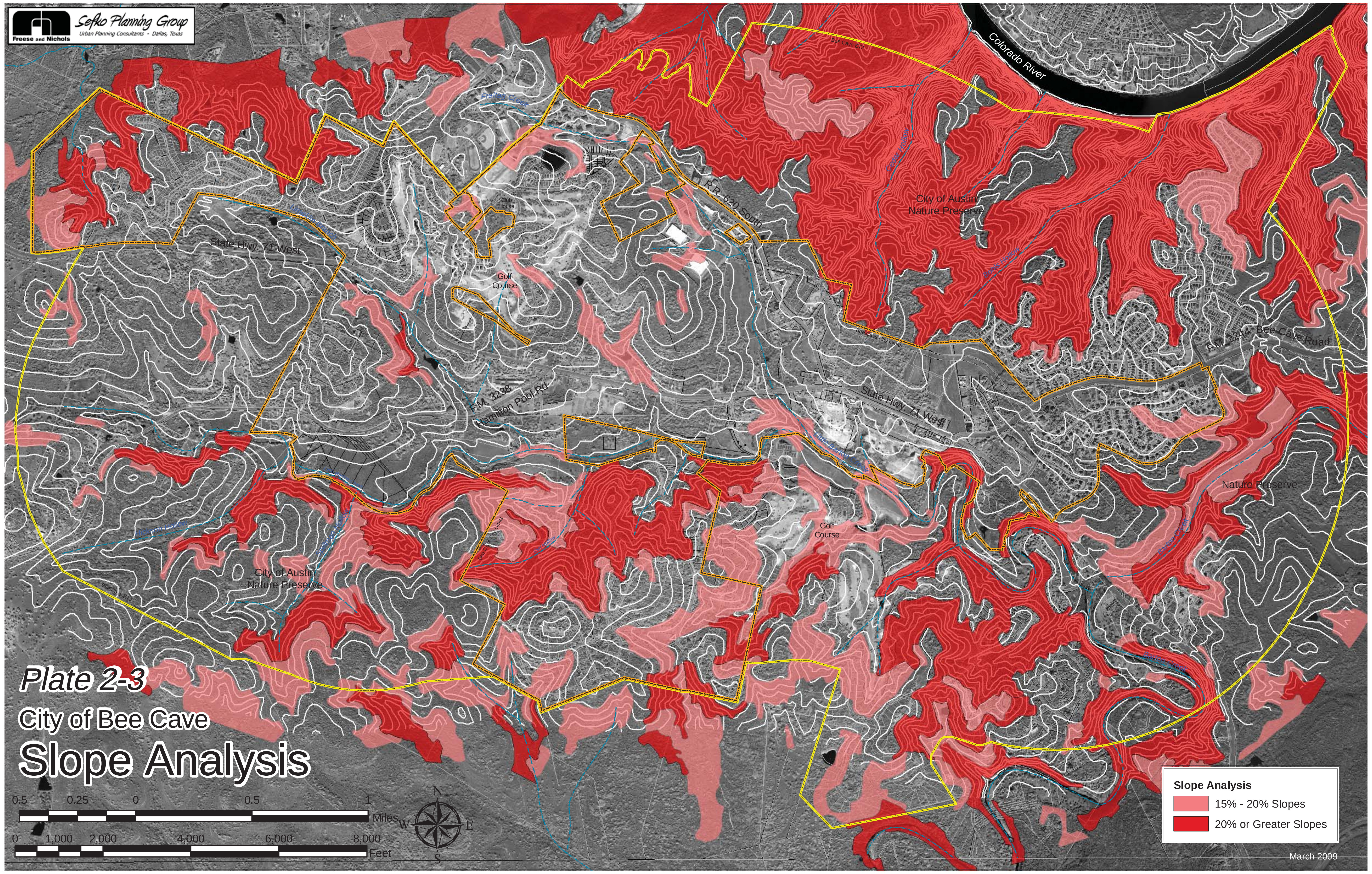
An important factor to consider when making development decisions is the degree of variance in the topography of the land. The City of Bee Cave, as aforementioned, is located in the Texas Hill Country. This part of Texas is known for its hilly terrain, and the area in and around Bee Cave is no exception. The topography varies greatly throughout the City, from a low of approximately 740 feet above sea level along Little Barton Creek in the southeast area of the City to a high of approximately 1100 feet above sea level in the northwestern part of Bee Cave. The terrain in the ETJ of the City varies greatly near the Colorado River in the far northeastern corner of the ETJ. The steep declines are from approximately 860 feet above sea level to approximately 500 feet above sea level, where the land is directly adjacent to the Colorado River. There is an abundance of undeveloped land in the City and in the ETJ, but whether portions of the remaining land can be developed at all may be dependent upon their topography. The City of Bee Cave should establish guidelines relating to development that vary based on differing degrees of slope. This will be discussed further in the *Livability* element; however, it is important to note that development on slopes greater than 20% should be discouraged.

The amount of vacant land remaining within the City limits is approximately 1,134 acres, and within the ETJ is approximately 1,950 acres -- a total of 3,084 vacant acres. **Plate 2-3** shows a slope analysis of the remaining vacant land, and is meant to provide a visual representation of the amount of land that is developable within the City of Bee Cave and its surrounding ETJ area. As shown, this remaining developable land is located sporadically throughout the City of Bee Cave and its ETJ, but a concentrated area of extreme slope is located along the northern portion of the ETJ along the Colorado River.

The amount of vacant residential land with a slope ratio of less than 20%, the recommended maximum allowable slope for residential development, is approximately 903 acres. Taken as a percentage of the total amount of vacant residential land, approximately 90% of the remaining vacant land is developable, compared to about 10% that would be difficult to develop due to its topography. Residential land will be examined in further detail in the *Future Land Use Plan* element.

Floodplain

Another factor to consider when assessing the acceptability of a certain parcel of land for development is the history of flooding on and around that property. The Federal Emergency Management Agency (FEMA) has established areas throughout the United States that are flood-prone. In general, the designation of such areas can help municipalities to determine whether additional development restrictions are necessary to ensure the health, safety and welfare of local citizens.


Freese and Nichols
Sefko Planning Group
Urban Planning Consultants - Dallas, Texas
Plate 2-3
City of Bee Cave
Slope Analysis
0.5
0.25
0
0.5
1
Miles
0
1,000
2,000
4,000
6,000
8,000
Feet
N
S
E
W
Slope Analysis
15% - 20% Slopes
20% or Greater Slopes
March 2009
Colorado River
City of Austin Nature Preserve
City of Austin Nature Preserve
Nature Preserve
State Hwy. 71 West
State Hwy. 71 West
F.M. 3238
Hamilton Pool Rd
R.R. 620 South
F.M. 2244 Bee Cave Road
Golf Course
Golf Course
Club House
Bee Cave City Limits
Bee Cave ETJ
Cedar Hollow
Bohls Hollow
Barton Creek
Freiling Creek
Little Barton Creek
Hudson Hollow
Sweetwater Hollow

As **Plate 2-4**, the Physical Features Map, shows, the floodplain areas in Bee Cave occur intermittently throughout the City. One such area can be found in the northwestern corner of the City, and it continues southeast past Hamilton Pool Road. Another thin floodplain area occurs from the north central portion of the City to the south central portion, and then continues outside of the City limits into the ETJ.

The ETJ contains several areas of floodplain as well. One notable area, shown on **Plate 2-4**, is located along the Colorado River in the far northern portion of the ETJ, with multiple thin, arm-like areas of floodplain that stretch to the south toward the City. Another significant area of floodplain traverses the entire southern portion of the City ETJ. This area is long and thin, and follows Little Barton Creek. The primary floodplain has arm-like areas of floodplain (similar to the previously mentioned floodplain area) that stretch to the north, toward the City, as well as to the south. Approximately 192 acres in the City, and approximately 625 acres in the City ETJ, have been designated as 100-year floodplain. Development should be closely monitored in, as well as adjacent to, these areas.

Sefko Planning Group
Urban Planning Consultants - Dallas, Texas
Freese and Nichols

Plate 2-4

City of Bee Cave

Physical Features

May 2009

Colorado River
Bee Cave ETJ
Cedar Hollow
City of Austin
Nature Preserve
R.R. 620 South
Club House
Golf Course
State Hwy. 71 West
Bone Hollow
F.M. 2244 Bee Cave Road
Central Park
F.M. 3238
Hamilton Pool Rd
Little Barton Creek
Water Treatment Plant
Nature Preserve
Hickson Hollow
Spillman Hollow
Bee Cave City Limits
Barton Creek
City of Austin
Nature Preserve
Golf Course

0.5 0.25 0 0.5 1 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

Legend

- Residential Areas
- Non-Residential Areas
- Nature Preserve
- Parks & Open Space
- Private Recreation
- Public/Semi-Public
- Colorado River
- Utilities
- Cemetery
- Contours
- floodplain
- City Limits
- ETJ

Endangered Species

The following are rare, threatened, or endangered species for Travis County according to the Texas Parks and Wildlife Department as of February 2009 (*italicized* items have been added to the list since 1999):

Amphibians

Austin Blind Salamander
Barton Springs Salamander
Jollyville Plateau Salamander
Pedernales River Springs Salamander

Birds

American Peregrine Falcon
Arctic Peregrine Falcon
Bald Eagle
Black-Capped Vireo
Golden-Cheeked Warbler
Interior Least Tern
Mountain Plover
Peregrine Falcon
Western Burrowing Owl
Whooping Crane

Insects

Kretschmarr Cave Mold Beetle
Leonora's Dancer Damselfly
Rawson's Metalmark
Tooth Cave Blind Rove Beetle
Tooth Cave Ground Beetle

Plants

Basin Bellflower
Bracted Twistflower
Canyon Mock-Orange
Correll's False Dragon-Head
Texabama Croton
Warnock's Coral-Root

Arachnids

Bandit Cave Spider
Bone Cave Harvestman
Reddell Harvestman
Tooth Cave Pseudoscorpion
Tooth Cave Spider
Warton's Cave Meshweaver

Crustaceans

Amphipod
Balcones Cave Amphipod
Bifurcated Cave Amphipod

Fishes

Guadalupe Bass
Smalleye Shiner

Mammals

Cave Myotis Bat
Plains Spotted Skunk
Red Wolf

Mollusks

Creeper (Squawfoot)
False Spike Mussel
Pistolgrip
Rock Pocketbook
Smooth Pimpleback
Texas Fatmucket
Texas Fawnsfoot
Texas Pimpleback

Reptiles

Spot-Tailed Earless Lizard
Texas Garter Snake
Texas Horned Lizard

MAN-MADE FEATURES

MAJOR TRANSPORTATION ROUTES

Further discussion of transportation and thoroughfares will be included later in this plan; this brief summary is included for the purpose of providing a context for such later discussion.

State Highway 71

This highway traverses Texas beginning in the town of Brady, Texas in the central portion of the state. It continues in a southeastern direction through the communities of Llano, Bee Cave, Bastrop, La Grange, and ending near the far southeastern tip of Texas in Midfield.

R.M. 620

This highway provides City citizens with easy access not only to other surrounding communities like Lakeway and Jolleyville, but also to Interstate Highway 35. This thoroughfare begins in the City of Bee Cave and continues in a northeastern semi-loop to Interstate Highway 35 north of the City of Austin.

Bee Cave Road (F.M. 2244)

This is a relatively short road that serves mainly to provide local citizens with access to the City of Austin. Bee Cave Road has its origin in the City, as the name suggests, continues through the City of West Lake Hills to the east, and ends when it intersects with Loop 1, west of the City of Austin.

Hamilton Pool Road (F.M. 3238)

Hamilton Pool Road is the City of Bee Cave's connection to its southwestern neighbor, the town of Dripping Springs. It also serves the citizens of Bee Cave by providing a connection to U.S. Highway 290 to the south. Hamilton Pool Road intersects with Highway 71 from the south in the western portion of Bee Cave.

EXTRATERRITORIAL JURISDICTION

Extraterritorial jurisdiction (ETJ) can be defined as the land that an incorporated area may legally annex for the purpose of future development. The Texas State Legislature has established specific amounts of land for incorporated areas of various sizes. The vast majority of incorporated entities equal in size to the City of Bee Cave have a one-half-mile ETJ. However, the advocates for incorporation of the City of Bee Cave managed to secure a one-mile ETJ from the state legislature for the City during the process of incorporation in 1987.

Another unusual characteristic of the City's ETJ is that the City of Austin has set aside preservation land that borders the City on parts of both its northern and southern boundaries. Another entity, the Nature Conservancy, has also acquired some of the land to the east of the City of Bee Cave that is designated as preserve land. Due to these factors, much of the area surrounding the City of Bee Cave will remain permanent open space in the future.

EXISTING LAND USE

The pattern of land use that exists today within the City of Bee Cave has evolved to satisfy the requirements of a growing community. It is the result of the public/private decision-making processes integrated with the area's natural and physical attributes and constraints. The activities of the residents of a city create a need for residential, retail, commercial, recreational, and office areas, as well as an efficient thoroughfare system.

Bee Cave was incorporated in 1987 with approximately 1,280 acres, and has since grown to nearly 3,300 acres. This relatively rapid growth and development occurring within the area is likely to continue, and therefore, the future will require the conversion of vacant and agricultural land to more intensified urban uses, as well as the infilling of certain existing areas. The conversion process and how it occurs will be very important to the City and the surrounding area in that it is one of the factors that will determine the community's future urban form. It will not only have an impact upon how the area develops economically, but the relationships of existing and future land uses will shape the character and livability of the community for many years to come. Likewise, these relationships will have an impact on the provision of services and facilities throughout the community. An orderly and compatible land use arrangement can be served more easily and efficiently than a random and scattered association of unrelated uses. Providing for the orderly and efficient use of land should be a major planning consideration in the City of Bee Cave. To more accurately assess the City's future land use needs, an analysis of past land use trends and present land use patterns is very important.

LAND USE SURVEY METHODOLOGY

In order to analyze current land use trends within Bee Cave, a parcel-by-parcel land use survey was conducted in 1999 during the original preparation of this plan and updated via aerial photography in 2008. **Table 2-1** shows the results of the 1999 and 2008 existing land use survey. Each parcel was color-coded and documented according to the following categories:

RESIDENTIAL USES:

Single Family Residences:

One-family dwellings and related accessory buildings.

Multiple Family Residences:

Apartment dwellings and related accessory buildings.

Manufactured Homes:

A manufactured home located on a lot or parcel and used as a dwelling.

PUBLIC/SEMI-PUBLIC:

Schools, churches, cemeteries and public buildings.

PARKS AND OPEN SPACES:

Public parks, the nature preserve, playgrounds and public open space.

PRIVATE RECREATIONAL USES:

Golf course and private parks within subdivisions.

NATURE PRESERVE:

Preservation land set aside by the City of Austin and the Nature Conservancy that borders Bee Cave on parts of both its northern and southern boundaries within the City's ETJ area.

OFFICE USES:

Professional/administrative offices, including doctors, dentists, realtors, architects, accountants, secretarial services, etc.

RETAIL USES:

Uses which primarily provide goods, including clothing shops, shopping centers, service stations and any associated off-street parking facilities.

COMMERCIAL USES:

Uses which primarily provide services, including automotive repair shops, warehouses, wholesale establishments, and hotels.

INDUSTRIAL USES:

Manufacturing, warehousing, distributing, and assembling.

OPEN STORAGE:

Outside storage of equipment and materials on a permanent basis.

UTILITIES:

Land used for water towers, water treatment plant and sub-stations, electrical towers, etc.

RIGHTS-OF-WAY:

Land dedicated to public use, including roadways, sidewalks, and easements.

VACANT AND AGRICULTURAL USES:

Vacant land having no apparent use or land used for agricultural purposes (ranching or farming).

EXISTING LAND USE ANALYSIS

As in most communities, development has been dependent primarily on location. For example, the majority of the commercial land uses are located along State Highway 71 and R.M. 620, while the majority of the residential land uses are located away from such major thoroughfares. **Plate 2-5** shows a general representation of the existing land use pattern in the City of Bee Cave as of 2008.

The majority of the developed land within the City limits is used for residential purposes; this type of land use represents over 32% of the total acreage. Over 88% of the residential land use is comprised of single family units.

In 1999, retail uses represented the second-largest developed land use in the City at about 59 acres, or approximately 3.6% of the City's total land acreage. By 2008, retail acreage increased to 280 acres mainly due to the completion of the Hill Country Galleria and adjacent retail this year.

Land used for public/semi-public purposes accounts for approximately 81 acres, which is about 2.5% of the land within the City. Parks/open space and private recreation land uses combined total about 9.5% of the acreage within the City limits. The amount of land with commercial uses is about 113 acres, and approximately 3.4% percent of the acreage within Bee Cave. All other land uses, specifically the nature preserve, office, utilities and industrial land uses, each account for less than 2% of the total land acreage.

Perhaps most significant fact to consider is the substantial increase in total acreage since 1999 – 1,570 acres, as shown in **Table 2-1**. It is also important to note that the amount of developed land in 2008 is approximately 2,221 acres, or about 67.4% of the total land acreage in the City, and the amount of vacant land is 1,076 acres, or 32.6% percent of the total land acreage within Bee Cave.

Table 2-1
EXISTING LAND USE – 1999 & 2008
City of Bee Cave, Texas

Land Use Category	1999		2008		2008 Acres / 100 Persons
	Acres	Percent	Acres	Percent	
Residential Use	274	16.8%	1,075	32.6%	23.8
Single Family	*259*	*94.5%*	*952*	*88.6%*	*21.1*
Multiple Family			*121*	*11.3%*	*2.7*
Manufactured Home	*15*	*5.5%*	*1*	*0.1%*	*0.0*
Parks/Open Space	15	0.9%	85	2.6%	1.9
Private Recreation			228	6.9%	5.1
Nature Preserve			4	0.1%	0.1
Public/Semi-Public	43	2.6%	81	2.5%	1.8
Office	9	0.6%	29	0.9%	0.7
Retail	59	3.6%	280	8.5%	6.2
Commercial	42	2.6%	113	3.4%	2.5
Industrial			42	1.3%	0.9
Open Storage	11	0.7%			0.0
Utilities			36	1.1%	0.8
Rights-of-Way	139	8.5%	248	7.5%	5.5
Total Developed	593	36.3%	2,221	67.4%	49.3
Vacant	1,039	63.7%	1,076	32.6%	23.9
Within City Limits	1,632	100.0%	3,297	100.0%	73.1

Note: No entry means that land use was not included in the categories used that year. A City limits population of 4,509 persons was used to calculate Acres / 100 Persons.
Source: Sefko Planning Group/Freese and Nichols, Inc.

The number of vacant residential lots that are within previously subdivided neighborhoods in the City of Bee Cave is also significant to consider; currently that number is 133 lots. The acreage upon which these lots lie is also calculated within the vacant number of acres within the City limits. Due to the fact that these lots are already primed for the construction of residential structures, it can be assumed that development on these acres will eventually occur. However, there is a significant differentiation in topography on the remaining vacant acres throughout the City of Bee Cave, and therefore, all of the remaining vacant land may not be developable due to slope constraints. This will be discussed further in Section Eight, the *Future Land Use Plan* element.

Another method of analyzing land use is relating the number of acres used for each type of land use category to the population. **Table 2-1** also shows land use related to population by acres per 100 persons for the City of Bee Cave. By calculating the amount of acreage consumed by various land uses

and comparing it to the present population, projected in the City limits to be about 4,509 people[2-5], insight can be gained into future land use demand. Assumptions can be made regarding the future consumption of land use based upon these relationships, balanced with the community's own desired goals and objectives. Especially noteworthy is the relationship of retail uses to the overall land use pattern. The majority of the developed land use in the City is residential, and therefore the amount of land used for retail is limited. In general, demand for retail land use ranges from 0.3 to 0.4 acres per 100 persons on the low end to 0.6 to 0.7 acres per 100 persons on the high end; 0.5 acres per 100 persons is generally accepted as average in the state of Texas. As **Table 2-1** shows, the amount of retail land use in Bee Cave's planning area is far above average at 6.2 acres per 100 persons.

The types of land uses that are occurring within the City's extraterritorial jurisdiction (ETJ) are also important to consider (refer to **Plate 2-5**). This is the land that the City of Bee Cave may legally annex for the purpose of future development. As previously mentioned, one significant factor that affects the City's ETJ is that the City of Austin has set aside preservation land that borders the City on parts of both its northern and southern boundaries. Another entity, the Nature Conservancy, has also acquired some of the land to the east of the City of Bee Cave that is designated as preserve land -- land that will likely never be developed. Referring to **Table 2-2**, it is apparent that the nature preserve category is the largest in the ETJ at over 2,600 acres, or nearly 46% of the total acreage within the ETJ.

Vacant land accounts for the second largest acreage within the ETJ, at 1,950 acres, or about 35%. Residential land uses comprise the third largest amount of land acreage in the ETJ, at 456 acres, or 8% of the land in the ETJ. Single family residential is the only residential land use that is currently occurring within the ETJ; no manufactured homes, duplexes, or multiple family dwelling units exist. Private recreation includes slightly less area, at 321 acres or about 6% of the ETJ. About 122 acres, or 2% of the ETJ, are dedicated to commercial uses. All other land uses, including public/semi-public, office, and retail land uses, each account for 0.5% or less of the acreage in the ETJ.

2-5 Sefko Planning Group/Freese and Nichols, Inc. estimate.

Table 2-2

EXISTING LAND USE – 1999 & 2008

Extraterritorial Jurisdiction (ETJ) of the City of Bee Cave, Texas

Land Use Category	1999		2008		2008 Planning Area Acres [1]
	Acres	Percent	Acres	Percent	
Residential Use	487	6.7%	456	8.0%	1,531
Single Family	*487*	*100.0%*	*456*	*100.0%*	*1,409*
Multiple Family					*121*
Manufactured Home					*1*
Parks/Open Space	2,664	36.7%			85
Private Recreation			321	5.6%	549
Nature Preserve			2,610	45.6%	2,614
Public/Semi-Public	4	0.1%	29	0.5%	110
Office	7	0.1%	14	0.2%	43
Retail	4	0.1%	4	0.1%	284
Commercial	20	0.3%	122	2.1%	235
Utilities			5	0.1%	41
Rights-of-Way	232	3.3%	218	4.0%	466
Total Developed	3,187	45.4%	3,561	64.6%	5,783
Vacant	3,831	54.6%	1,950	35.4%	3,026
Within ETJ	7,018	100.0%	5,511	100.0%	8,808

Note: No entry means that land use was not included in the categories used that year

[1] "Planning Area" refers to acreage within City limits and the ETJ combined

Source: Sefko Planning Group/Freese and Nichols, Inc.

As in the City itself, there are residential lots in the ETJ that are currently vacant but are ready for construction to begin, approximately 163 in the ETJ. Again, it is reasonable to assume that these will not remain in a vacant state for a long period of time. Also similar to the City is the fact that development on much of this land that is now vacant and is not already subdivided may be conditioned upon the limitations of the topography.

Freese and Nichols

Sefko Planning Group

Urban Planning Consultants - Dallas, Texas

Plate 2-5

City of Bee Cave

Existing Land Use

May 2009

Colorado River

Bee Cave ETJ

City of Austin
Nature Preserve

City of Austin
Nature Preserve

Nature Preserve

Golf
Course

Golf
Course

Central
Park

Club
House

Prather Creek

Cedar Hollow

Bodie Hollow

Hickson Hollow

Spillman Hollow

Barton Creek

Bee Cave City Limits

R.R. 620 South

State Hwy. 71 West

State Hwy. 71 West

F.M. 3238
Hamilton Pool Rd

F.M. 2244 Bee Cave Road

0.5 0.25 0 0.5 1 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

Existing Land Use

- Single Family Residential
- Town Home
- Two-Family Residential
- Multi-Family
- Manufactured Home
- Commercial
- Office
- Parks & Open Space
- Private Recreation
- Nature Preserve
- Public/Semi-Public
- Retail
- Industrial
- Utilities
- River
- Vacant
- creeks
- City Limits
- ETJ

EXISTING LAND USE PATTERN

The following sections summarize features of the existing land use patterns within the City of Bee Cave:

1. Land that is used for residential purposes accounts for the majority of the land that is currently developed within the City. Vacant land currently accounts for a slightly larger percentage.

2. Inasmuch as the City's residential land use is predominately single family, the distribution of such units occurs toward the eastern, southern and western edges of the City.

3. Manufactured homes comprise less than one acre of the land within the City.

4. Public parks/open space land uses constitute a minimal amount of acreage within the City limits, at 2.6% of the total. However, when combined with private recreation acreage, the park area totals about 9.5% of the land within the City.

5. The amount of land being used for public/semi-public purposes in Bee Cave, which includes activities such as City services, churches, cemeteries, and schools, was calculated to be approximately 81 acres of land, or 2.5% percent of the City's total land acreage.

6. As aforementioned, retail land use in the City of Bee Cave is far above the average retail land use in the State of Texas, at approximately 280 acres and 6.2 acres per 100 persons. The Hill Country Galleria and adjacent retail account for a substantial amount of its increase since 1999.

7. The amount of land being used for nonresidential purposes in the City is approximately 34.8% of the total land acreage. The land that is used for these purposes is primarily located along State Highway 71 and R.M. 620. Some open storage land uses still exist along some portions of both of these major thoroughfares.

8. A very small amount of land is used for the purposes of office land use within the City, at approximately 29 acres, and less than one percent of the total land.

9. Developed land accounts for about 67.4% of the land within City limits, leaving about 32.6% vacant.

10. There are approximately 998 residential lots that are currently in the City limits and ETJ calculated within the vacant category; these lots are primed for construction and are unlikely to remain vacant.

11. The City of Bee Cave has a large amount of land contained within its extraterritorial jurisdiction that is currently undeveloped, but will not develop since it is preserve land.

12. The City is adjacent to large portions of land that are designated as preserve land and will never be developed; this land is located along parts of the City's northern, eastern, and southwestern borders.

EXISTING POPULATION AND HOUSING CHARACTERISTICS

Quality of housing and the appreciation of housing values are important planning considerations. Among the factors influencing the desirability of the City of Bee Cave as a place to live is the condition of existing housing and the quality of the residential neighborhoods they form.

The quality of housing within Bee Cave and its ETJ is an important consideration in the evaluation of the adequacy of the existing housing stock, and in estimating future housing requirements. Many of the elements that are utilized to assess the housing characteristics in a community are not applicable to the City of Bee Cave. The City is a relatively young community, and its overall housing stock is, therefore, relatively new. Due to the fact that most of the housing units were built within the last two decades, a discussion of the current quality of the housing stock is not useful. The City of Bee Cave does not have any blighted areas or aging neighborhoods that need to be addressed.

However, it is important to consider the current standards within the City, and thereby determine the ways in which Bee Cave can continue to grow in a positive manner. The issues will be addressed further in later sections of the Comprehensive Plan. For the purposes of the *Baseline Analysis*, however, the current housing characteristics are as follows.

In 2000, it was determined by the U.S. Census that there were 246 housing units within the City of Bee Cave. During the update of the land use survey, the current number, as shown in **Table 2-3**, was estimated to be about 1,563. It should be noted that this housing unit increase has also been impacted by the acreage increase of 1,665 acres within the City limits since the 2000 Census.

Table 2-3
2008 HOUSING UNITS
City of Bee Cave and ETJ

Housing Type	City Limits	ETJ
Single Family	712	1,079
Manufactured Homes	1	
Multiple Family	850	
Total Units	1,563	1,079

Source: Sefko Planning Group/Freese and Nichols, Inc.

It was also determined by the U.S. Census that there were 656 people living in the City of Bee Cave in 2000 and that there were on average approximately 3.17 persons per household. Based on the number of housing units currently within the City (1,563), the average number of persons per household (3.17), the occupancy rate (91%), the number of people living within the City limits in 2008 can be estimated to be approximately 4,509 people (see **Table 2-4**).

The number of housing units in the extraterritorial jurisdiction (ETJ) of the City is also important in helping to determine future growth. In 1999, there were 641 housing units counted in the ETJ during the land use survey, all of which were single family dwelling units. As shown in **Table 2-3**, it is estimated in 2008 there were approximately 1,080 single family dwelling units, which using the same

calculations as previously explained would result in an ETJ population of about 3,115 residents. Thus, the total 2008 population of the City and its ETJ area is about 7,600 residents.

Table 2-4
POPULATION ESTIMATE
City of Bee Cave and ETJ

Type of Development	Housing Units	Persons per Household [1]	Occupancy Rate [1]	Households	Population
City					**4,509**
Single family Lots	712	3.17	91%	648	2,054
Manufactured Home Lots	1	3.17	91%	1	3
Multiple-Family Units	850	3.17	91%	774	2,452
ETJ					**3,115**
Single family Lots	1,080	3.17	91%	983	3,115
Total					**7,624**

[1] Data from 2000 U.S. Census

Source: Sefko Planning Group/Freese and Nichols, Inc.

EXISTING ZONING CHARACTERISTICS

The ability to zone property for certain uses is one of the most significant regulations in terms of land use management that a city has. Therefore, it is important to document the types of zoning districts that have been established with in Bee Cave. Zoning in the City of Bee Cave is shown graphically on **Plate 2-6**. From this visual picture, it is apparent that the zoning category with the majority of the acreage within the City of Bee Cave is the Rural Residential category. As **Table 2-5** shows, this category comprises about 1,010 acres and over 30% percent of the total land acreage in the City. This is the designation used for the vast majority of the residential zoning in Bee Cave – a total of 1,367 acres, or over 41% of the land within the City limits. This is also an expected characteristic of zoning within the City due to the fact that, as aforementioned, residential land use accounts for the majority of the developed land in the Bee Cave.

The second largest existing zoning category is Mixed Use, covering 765 acres, or over 23% of the land within the City limits. The next largest category is the Town Center development at 295 acres, or 9% of the City.

It is interesting to note that 70 acres are zoned for office uses, but only about 29 acres of office development currently exists (refer to **Plate 2-5**).

Table 2-5
EXISTING ZONING – 2008
City of Bee Cave, Texas

Land Use Category	Acres	Percent
Single Family Residential (Rural)	1,010	30.6%
Single Family Residential	193	5.9%
Single Family Residential (Attached)	124	3.8%
Multiple Family	40	1.2%
Public Use	145	4.4%
Office	70	2.1%
Retail	151	4.6%
Commercial	124	3.8%
Neighborhood Services	119	3.6%
Mixed Use	765	23.2%
Town Center	295	9.0%
Rights-of-Way	261	7.9%
Total Acres in City Limits	3,297	100.0%

Note: Categories have been combined with the Planned Development categories shown on the Zoning Map.
Source: Sefko Planning Group/Freese and Nichols, Inc.

Freese and Nichols

Sefko Planning Group

Urban Planning Consultants - Dallas, Texas

Plate 2-6

City of Bee Cave

Existing Zoning

0.5 0.25 0 0.5 1 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

Zoning Districts

- AG - Agricultural District
- SF-RR - Single-Family Rural Residential
- SF-20 - Single-Family-20 Residential
- SF-A - Single-Family-Attached
- MF-1 Multi-Family-1 Residential
- P - Public Use
- O - Office
- R - Retail
- C - Commercial
- NS - Neighborhood Use
- MU - Mixed Use
- PD-SF-A - Planned Development Single-Family-Attached
- PD-MF-1 - Planned Development Multi-Family-1
- PD-TC - Planned Development District
- PD-R - Planned Development Retail
- PD-NS - Planned Development Neighborhood Services District
- PD-C - Planned Development Commercial
- PD-MU - Planned Development Mixed Use District
- creeks
- City Limits

GOALS & OBJECTIVES

Section Three

Comprehensive Plan 2009

INTRODUCTION

What does the future hold for the City of Bee Cave? What should the City be like in the year 2020 or 2025? This *Comprehensive Plan 2009* establishes goals and objectives that will help shape and direct growth and development for the next ten years and beyond. In addition, the plan will ultimately contain implementation-oriented policies that are based on these goals and objectives, and that directly address how the desired direction of the community can be achieved. The Plan is premised upon a shared vision of the citizenry of what the City of Bee Cave should and will become, a vision in which:

> **The City firmly establishes itself as a progressive community, noted for its scenic Hill Country surroundings complemented by a stable and skilled workforce, vast natural resources, and rich cultural heritage, as well as for its role in the region as a key transportation corridor, all of which enhances the City of Bee Cave's ability to support and manage quality growth while maintaining the integrity and security of a family-oriented, sub-rural or urbi-rural community.**

GENERAL CONCLUSIONS

The following general conclusions are determined to be of primary importance to the future of the community.

- Establishing the feeling that the City of Bee Cave and its ETJ are a unique "Hometown Community" by ensuring that they are:
    - A community with a quality, livable character;
    - Safe;
    - Family-oriented;
    - Recreational;
    - A community with a "helping-one-another" attitude; and
    - Longevity, meaning that citizens want to spend their entire lives here.

- The City of Bee Cave should be a *gateway* to the Hill Country, and can achieve this through:
    - A "Hill Country" atmosphere;

- The presence of a Town Center – a place to interact and celebrate with other people in the community;
- Cohesion – ensuring that developments in Bee Cave look like they belong, like they fit and coexist together and blend into the natural environment; and
- Use of a variety of building materials seen in the Hill County with the appearance of being built over time.

- The City of Bee Cave should be a *unique* place, and therefore should:
  - De-emphasize drive-thru restaurants and shops to encourage community interaction, relaxation and "slowing down";
  - Encourage unique types of businesses, particularly in the arts;
  - Be structured for people who live, work, and shop within the City;
  - Be maintained with a variety of up-scale, housing and compatible land uses;
  - Have a strong sense of community;
  - Be a community with a balance between commercial and other land uses;
  - Emphasize homeowners' needs;
  - Be established as a place to "decompress from stress", yet convenient to basic necessities offered in a relaxed atmosphere; and
  - Emphasize recreational trails and parks for pedestrian and bicycle traffic.

- Traffic within and through the City should be closely monitored, considering that:
  - Traffic flows within the community have historically been heavy due to the crossing of the Colorado River;
  - Better planned areas for residential and nonresidential development, as well as interior driveway connections, may help this; and
  - Proactive involvement with applicable entities (for example, CAMPO and TxDOT) may also help this.

- The City of Bee Cave should be an upscale, low-density community, with amenities such as:
  - Shopping and restaurants;
  - Parks and open spaces for recreation and sports activities;
  - A library;
  - Family-orientation;

- Extensive pedestrian linkages throughout the City to provide an alternative to short automobile trips; and
- Maintaining the friendliness and speed of a rural atmosphere with a unique, hometown feeling is of the utmost importance.

- Honoring the history of the City of Bee Cave by:
  - Showing pride in and educating the public in the history and establishment of the community; and
  - Preserving and protecting sites of historic importance and significance via public and private endeavors (such as the Old Bee Cave Schoolhouse, the Spillman House and cemeteries).

- Ensuring that the City retains its distinct character by:
  - Establishing it as a model for excellent small-town planning and community livability;
  - Maintaining its uniqueness through its history, its people, and its architecture;
  - Designing the City on a human-scale by emphasizing pedestrian traffic, whenever possible;
  - Limiting the size of nonresidential buildings and the density of residential development;
  - Continually ensuring the existence of adequate opportunities to live and work in the community;
  - Encouraging small, independent businesses; and
  - Requiring sufficient architectural modifications to national prototypes for a unique Hill Country look for Bee Cave.

- Ensuring that the City of Bee Cave is convenient for local citizens by:
  - Making it "inclusive" in nature;
  - Allowing people to get what they need within the community;
  - Encouraging professionalism of its administration and focus on serving citizens; and
  - Remaining technologically relevant and accessible.

- Preserving and protecting the health and safety of the local community.

- Maintaining and supporting an efficient and customer focused Police Department with a "firm but friendly" motto.
- Preserving and protecting the ecological health of this area, with an additional emphasis on tree conservation.
- Encouraging and promoting responsible nonresidential growth in order to support local economic development.
- Establishing a community of parks for local families.
- Protecting watershed areas of the City of Bee Cave, especially Little Barton Creek.
- Establishing a greenbelt system along the local creeks, and hike and bike trails within large parks and developments.
- Establishing and maintaining *scenic* roadways throughout the City of Bee Cave.
- Enforcing the use of additional landscaping along medians and in parking lots throughout the City.
- Establishing a mixed-use development area within the City.
- Maintaining fiscal responsibility and reasonably low property taxes.
- Ensuring that building design guidelines reinforce the ideals described in the above statements.

CRITICAL ISSUES

The following are critical issues that are important to consider as they will impact the community in the future:

- Keeping the community safe.
- Maintaining a relatively low density environment.
- Managing local traffic.
- Respecting property rights while protecting the environment, specifically:
    - Trees;
    - Watersheds;
    - View corridors; and
    - Wildlife.

- Ensuring the compatibility of nonresidential and residential uses and development, with the consideration of:
    - Current, as well as pending, development;
    - The necessity of ordinances with updated implementation mechanisms; and
    - The importance of buffering practices and adjacency standards.

- Ensuring that building size and height limitations exist for each category of land use:
    - Especially in terms of "large box retail."

- Beginning the "greenbelt" idea with extensive hike-and-bike trails throughout the City that will:
    - Encourage recreational use, physical fitness, and active social opportunities;
    - Provide a possible alternative to short automobile trips within the City and its ETJ; and
    - Provide convenient linkages between retail, office, schools and residential areas, wherever prudent and feasible.
- Ensuring that a sense of inclusion in the community exists for a diverse range of local residents.

- Ensuring the maintenance of a hometown focus that reflects the desires of the local people.
- Assessing the "tools" that are currently lacking and altering the current Zoning Ordinance accordingly by:
    - Specifying development requirements, especially in terms of overlays and compatibility standards for differing land uses;
    - Specifically limiting the ratio of single family detached and multiple family attached, as well as ownership and rental, 2 to 1; and
    - Enforcing the requirement of a Traffic Impact Analysis and developer financing of required off-site improvements for any new development.

- Adopting an overall targeted blended residential ownership to rentals ratio of 2 to 1.
- Recognizing the importance of the history of the City of Bee Cave.
- Recognizing the fundamental relationships between the environment, quality of life, economics, property values, and land uses.
- Ensuring the adequate consideration of parking and access requirements during the development process, especially in terms of the Americans with Disabilities Act requirements.

GOALS AND OBJECTIVES

Goals are **general statements** concerning an aspect of the City's desired ultimate physical, social and/or economic environment. Goals set the tone for development decisions in terms of the citizens' desired quality of life.

Objectives express the kinds of **action** that are necessary to achieve the stated goals without assigning responsibility to any specific action.

Policies will clarify the **specific position** of the City regarding a specific objective, and will encourage **specific courses of action** for the community to undertake to achieve the applicable stated objective. Policies are often associated with plan recommendations, and they will be developed during that phase of the comprehensive planning process.

Goals and objectives have been developed for the following areas:

- The Environment;
- Physical Form of the Community;
- Transportation and the Roadway Network;
- Public Facilities and Services;
- Fiscal Responsibility and Economic Development; and
- Community Livability and Character

The following goals and objectives have been developed to reinforce the statement of the community's vision of itself as it grows, matures, and ultimately attains its anticipated build-out configuration. They establish a framework for specific actions (i.e. policies) to be conceived during later phases of the comprehensive planning process, that will help the citizens of the City achieve their shared vision of the community's future.

THE ENVIRONMENT

Goal 1: To promote respect, conservation, enhancement and protection of important natural features and resources within the City.

Objectives:

1.01 Conserve and protect ecologically sensitive areas. The City should maintain guidelines that continue to allow water infiltration within areas that are characterized by floodplains (e.g., maximizing permeable surface areas, minimizing paving and building coverage, etc.). The City of Bee Cave should also maintain guidelines to ensure the protection of watershed areas, especially the area in and around Little Barton Creek.

1.02 Conserve natural areas of vegetation, especially those along flood plains.

1.03 Promote and provide public access to open space and natural areas.

1.04 Conserve and respect areas with scenic views.

1.05 Maintain high standards for ground and surface water quality.

1.06 Restrict development in flood prone areas.

1.07 Establish and/or enhance green space and natural areas along existing floodways and within the 100-year flood plain.

1.08 Encourage public and private streetscape enhancement strategies (i.e., medians with street trees, screening or disguising of parking lots, necessary utilities, communication towers, loading docks, etc.).

PHYSICAL FORM OF THE CITY

Goal 2: To provide opportunities for coordinated, well-planned growth and development that are consistent with the Comprehensive Plan, while retaining the Hill Country and "small-town" character of the City.

Objectives:

2.01 Maintain a continuous and coordinated planning process that involves citizens, the City Council, other municipal boards/commissions, municipal departments, and local

public and private entities in policy development and decision-making.

2.02 Facilitate quality future development of a variety of land uses.

2.03 Maintain companion policies and guidelines to assist in the review of zoning and development requests.

2.04 Utilize this *Comprehensive Plan 2009* and its *Future Land Use Plan* in daily decision-making regarding zoning, land use and development proposals. Determine appropriate locations for future residential and nonresidential development, while considering existing neighborhoods and natural features.

2.05 Separate and/or create transitions or buffer areas between conflicting or incompatible land uses.

2.06 Maintain design guidelines that steer away from typical prototypes for nonresidential frontage along State Highway 71, R.M. 620, and Bee Cave Road, Bee Cave Parkway, and Hamilton Pool Road**.**

2.07 Maintain separate zoning districts for nonresidential uses that will allow the City of Bee Cave to best utilize its highway frontage.

2.08 Establish clear guidelines and regulations for future development.

Goal 3: Preserve the inviting character of the City, and encourage the development of high quality, low density residential neighborhoods that promote public health, safety and welfare and that meet the various housing market needs of the community.

Objectives:

3.01 Maintain design guidelines for future residential developments to encourage the provision of safe, attractive places for people to live.

3.02 Establish a target goal of homeowners to renters of 2 to 1.

3.03 Identify a variety of residential densities (e.g., low, medium, and high) while maintaining a ratio of 2 to 1 for single family detached to multiple family attached and ownership to rental.

3.04 Preserve and protect single family neighborhoods from high traffic volumes, congestion and through traffic.

3.05 Reinforce the City's neighborhood concept, in the emotional and sociological sense as

well as the physical sense, in the design of new residential areas (e.g., connections between neighborhoods, pedestrian linkages to schools, parks, neighborhood retail areas, and between neighborhoods, inclusive neighborhood design techniques, maximizing social interaction between neighbors, the provision of a limited number of neighborhood-oriented shopping areas, etc.).

3.06 Maintain and improve design guidelines (and possibly overlay zoning districts) for nonresidential properties fronting along major thoroughfares, specifically State Highway 71, R.M. 620, and Bee Cave Road, Bee Cave Parkway and Hamilton Pool Road, (e.g., addressing signage, building materials, articulations, landscaping, parking, building orientation and setbacks, etc.).

Goal 4: Identify areas suitable for future retail and nonresidential, and/or business park development within the City.

Objectives:

4.01 Plan for growth and development that improves the community's overall quality of life and economic viability.

4.02 Plan for future development that is compatible with the City's natural features and existing residential neighborhoods.

4.03 Improve and enforce zoning regulations which are intended to protect the public health, safety and welfare and to keep the community attractive.

TRANSPORTATION AND THE ROADWAY NETWORK

Goal 5: Provide a balanced transportation system that will effectively serve the existing and projected travel needs of the City in a safe, expeditious, economical and environmentally sensitive manner, especially as it is impacted by growth in surrounding communities.

Objectives:

5.01 Maintain a continuous, coordinated transportation planning process which addresses long-term needs while emphasizing short-term problem solving.

5.02 Focus on studies and solutions to improve safety on heavily traveled roadways, as needed.

5.03 Meet "adequacy" standards (i.e., acceptable levels of service) for the transportation system in the City.

5.04 Plan the thoroughfare system such that roadways have sufficient capacity for anticipated traffic volumes generated by future development densities and land uses (e.g., traffic impact analysis for larger projects, provision of a continuous left turn lane along certain major roadways, etc.).

5.05 Promote compatibility between roadway alignments/improvements and land use patterns, community character, and the environment.

5.06 Minimize disruption of residential areas in the City of Bee Cave by minimizing traffic volumes and by planning for the efficient diversion of traffic from neighborhoods.

5.07 Develop a unifying theme or other visual concepts for the consistent and attractive treatment of appropriate roadway rights-of-way and/or medians.

5.08 Consider design standards for street construction to ensure durability, safety, lower maintenance, and long-term cost efficiency in roadway facilities, as well as to ensure that such facilities are consistent with the Hill Country character of the City.

Goal 6: Encourage the organization and development of land uses in a manner that facilitates an efficient and cost-effective transportation system.

Objectives:

6.01 Promote both on-site and off-site transportation efficiency in new development proposals.

6.02 Include transportation system considerations in the development review process for the planning and alignment of future roadways, and to promote safe, efficient on- and off-site access and vehicular circulation.

6.03 Promote minimization of curb cuts onto major roadways, by revising internal cross circulation.

Goal 7: Recognize the impact of the regional transportation system upon the City of Bee Cave, and the importance of maintaining improved coordination with the various entities involved in planning and/or improving the system.

Objectives:

7.01 Develop a local transportation planning process that ensures coordination with the regional planning goals.

7.02 Initiate regular dialogue and coordination with surrounding municipalities, CAMPO, and the Texas Department of Transportation (TxDOT) on roadway planning issues.

7.03 Oppose elevated highways from being constructed in our community. Consider and plan for a recessed underpass instead.

PUBLIC FACILITIES AND SERVICES

Goal 8: Ensure that public services and facilities will adequately serve the needs of residents and businesses within the City of Bee Cave, and that such services and facilities are adaptable to future growth.

Objectives:

8.01 Define standards for adequate response/service levels for public services and facilities, such as:

1. Municipal government;
2. Cultural growth;
3. Recreational opportunities;
4. Community assembly; and,
5. Utilities/infrastructure and solid waste management.

8.02 Develop a coordinated public facilities plan that addresses future community service needs.

8.03 Provide public services and facilities for all residents and businesses in a manner that is efficient, equitable and fiscally responsible.

8.04 Use the *Future Land Use Plan* and future land use projections to aid in determining locations where public service and/or administrative facilities may be needed.

8.05 Encourage new development to occur within areas that are already served by necessary public services and facilities, or where services can be realistically provided by other entities.

8.06 Encourage off-site wastewater treatment for new development to ensure the health, safety and welfare of local citizens, as well as to protect the environment.

8.07 Ensure that public utility and infrastructure systems (e.g., water supply, storm drainage, etc.) will adequately serve the health, safety and general welfare of residents and businesses within the City.

8.08 Encourage the commitment to maintain, improve and upgrade the existing water distribution system at a fair and reasonable cost, and to promote informed citizen involvement on utility-related issues.

8.09 Encourage utilization of recycling and other solid waste management techniques which are financially feasible and environmentally responsible.

8.10 Facilitate implementation and use of Wi-Fi throughout the city.

Goal 9: Realize that the character of the City is primarily that of a small town, and that public facilities should provide a sense of community identity, both functionally and aesthetically.

Objectives:

9.01 Provide adequate office and administrative space for the regular business conducted by the municipal government.

9.02 Encourage the preservation of the "Hill Country" character of the City in the planning, design, construction, and/or remodeling of community facilities.

9.03 Utilize advanced technology to communicate and manage public affairs within reasonable fiscal limits.

FISCAL RESPONSIBILITY AND ECONOMIC DEVELOPMENT

Goal 10: Ensure that future community facility and service needs are met through sound long-range and fiscal planning.

Objectives:

10.01 Utilize recommendations contained within this *Comprehensive Plan 2009* to assist in decision-making on short- and long-range capital improvement projects (e.g., streets, water, stormwater management, purchase of major equipment, construction of public facilities, etc.).

10.02 Ensure that staffing, real property acquisitions, infrastructure improvements, and facility construction/maintenance are based upon priorities set forth within this *Comprehensive Plan 2009* and upon fiscal prudence.

10.03 Strive for a fiscal balance of land uses that will create a positive impact upon the City of Bee Cave's budget and overall tax base.

10.04 Preserve the integrity of existing property values, and help to ensure the future economic stability of the community by encouraging the attraction of targeted nonresidential land uses to help support and subsidize the overall tax base.

10.05 Develop an economic development strategy that is consistent with land use objectives, environmental protection, and the City's desire to manage local growth.

COMMUNITY LIVABILITY AND CHARACTER

Goal 11: Be a full life-cycle community.

Objectives:

11.01 Provide housing and residential facilities for people to live their entire life span within the City of Bee Cave, if they so desire.

11.02 Encourage home ownership and long-term residency.

11.03 Develop a neighborhood enhancement/integrity program that bolsters civic pride and encourages reinvestment within the City of Bee Cave.

11.04 Develop a policy that encourages "infill" development of vacant residential lots.

Goal 12: Preserve the existing low density (i.e., "small-town"), sub-rural or urbi-rural character of the community.

Objectives:

12.01 Maintain density and locational criteria for new single family residential uses within the City of Bee Cave which recognize the potential effects on land use compatibility, traffic generation, noise levels and aesthetics.

12.02 Establish and maintain a target ratio of two (2) ownership units per rental unit for residential properties within the community.

Goal 13: Promote a more livable community and high quality of life through good urban design practices and through a proactive approach to the visual image of the community.

Objectives:

13.01 Create and promote a stronger sense of community through urban design criteria. Also reinforce the City of Bee Cave's charm and integrity as that of a small town in spite of the Big City (i.e., Austin), and continue efforts to instill a stronger sense of civic pride and involvement among citizens.

13.02 Consider development of streetscape/urban design guidelines to enhance the community's visual and aesthetic appeal (e.g., landscaping, signage, building facades, entryway treatments, special streetscape amenities such as holiday decorations, sidewalks in business areas along major arterials, and screening visually unattractive uses and outside storage areas).

13.03 Develop a design theme for visual gateways at principal entry points into and throughout the community.

13.04 Enhance neighborhood streets and other pedestrian ways to be more pedestrian-oriented.

13.05 Encourage public/private participation and cooperation in beautification efforts. Explore assistance that may be available from private/volunteer groups to perform urban design related projects and to help maintain enhanced public and community gatherings areas (e.g., street medians, small landscaped areas, etc.).

13.06 Maintain Downtown Bee Cave (Town Center) and Bee Cave Central Park as central focal points and activity centers for the community to increase opportunities for social interaction among residents. This could not only provide a sense of place within a

special area of the community for residents, but could also assist in orientation and wayfinding for visitors, and could increase opportunities for commerce and tourism.

13.07 Encourage underground utility wiring and arm mast traffic signals, wherever possible.

13.08 Insist upon use of appropriate colors, textures, materials, articulations in building designs.

Goal 14: Local residents and visitors should feel safe from crime, injury and other physical and psychological harm.

Objectives:

14.01 Encourage the design of safe neighborhoods.

14.02 Provide adequate lighting and visibility to enhance safety in public places.

14.02 Make provisions for persons with special needs through careful design of public places and facilities.

14.03 Encourage the establishment of a healthcare facility that could provide local citizens with emergency care.

Goal 15: Provide a comprehensive system of greenbelts and open space that is compatible with the environment and conducive to residential neighborhoods.

Objectives:

15.02 Encourage greenbelt and open space dedication during the development review process.

Goal 16: Create linkages between residential neighborhoods, linear greenbelts, schools, public administrative facilities, nonresidential centers, and other activity centers, wherever physically and financially possible.

Objectives:

16.01 Utilize trails, wherever possible, to connect residential areas with nonresidential centers, schools and parks.

16.02 Encourage the provision of pedestrian, equestrian and/or bicycle pathways within private developments.

THOROUGHFARE PLAN

Section Four

Comprehensive Plan 2009

INTRODUCTION

One of the most important aspects of a community's urban structure is the efficient movement of people and goods. An essential tool cities can use to accomplish this goal is a comprehensive, carefully conceived thoroughfare plan which shows the existing roadway network as well as future thoroughfares that will be needed to ensure efficient movement of traffic within and through the community. The *Thoroughfare Plan* is intended to provide an efficient, structured framework for the smooth flow of traffic throughout the area in and around the City of Bee Cave that will result from future growth and development. It also ensures that existing traffic movement can be accommodated by improving certain aspects of the system. The *Thoroughfare Plan* is an overall guide that will enable individual developments and roadways within the City to be coordinated into an integrated, unified transportation system. The plan encourages the creation of neighborhoods with a minimal amount of through traffic, while providing high capacities for routes that are intended to move both regional and local traffic through the community. In addition, because of the relationship the City has to various regional roadways, including State Highway 71, R.M. 620, and F.M. 2244 (Bee Cave Road), people live in surrounding areas and travel into or through the City of Bee Cave to work, to conduct business, or to buy goods and services. While this relationship benefits the community in a number of ways, it also tends to have a tremendous impact upon the area's traffic circulation system.

The thoroughfare system is one of the most visible and permanent elements of the urban structure. The alignments and rights-of-way of the major transportation facilities are already established and adjacent properties are developed, therefore it will be a continuing challenge for the City of Bee Cave to make significant changes to the thoroughfare system. It is important that the roadways in the City are interconnected in order to provide local citizens with alternative routes, thereby allowing local people to bypass the major thoroughfares and ensuring that the majority of the traffic generated along the major thoroughfares is comprised of regional traffic. In addition, in making transportation decisions, consideration should be given to the preservation of scenic vistas, as well as to the fact that the City of Bee Cave desires a pedestrian-oriented community.

Particular attention should be given to preserving and enhancing the overall system's capacity and efficiency. In many ways, Bee Cave's regional circulation system is already established and, primarily due to existing physical factors, is unlikely to substantially change. A significant element to maintaining the integrity of the City of Bee Cave as a rural, Hill Country community will be the ability to work within the parameters set by these major roadways – to make them assets to the community, not barriers to the City's growth and vitality.

It is essential that a comprehensive thoroughfare system be developed for the City of Bee Cave that is capable of accommodating the expanding vehicular traffic volumes which future local and regional growth will create, and also provide for alternative routes between various areas within the City in order to allow local residents to bypass regional roadways.

The *Thoroughfare Plan* also considers multi-modal transportation options, such as bicycle and pedestrian trails. It is the intention of the *Thoroughfare Plan* to provide safe and enjoyable circulation for vehicles, bicyclists and pedestrians alike.

FUNCTIONS OF THOROUGHFARE PLANNING

The Thoroughfare Plan defines a hierarchy of roadway functions that provide for both traffic movement and property access. The plan also provides a clear statement of future roadway alignments, capacities (i.e., number of lanes), and right-of-way requirements within the City and its extraterritorial jurisdiction (ETJ). It has been developed to support the Future Land Use Plan by providing adequate capacity on the City's roadways to move both people and goods.

The Thoroughfare Plan is the basic element for ensuring the orderly implementation of roadways in conjunction with economic growth, and it facilitates the preservation of necessary rights-of-way during the development review process. It is one of the few planning elements cities in Texas can implement in their ETJ. The plan provides guidance for determining appropriate land uses by identifying the ultimate configuration of the thoroughfare network. It also serves as a guide for the programming of projects and allows for rational and systematic provision of roadway capacity. The plan should reflect community goals, provide efficient, continuous traffic routes, complement expected land use patterns and characteristics, integrate with both the regional freeway/highway and arterial system, as well as the roadway systems of surrounding local jurisdictions, be sensitive to topographical features and constraints, and be adaptable to accommodate changing conditions and trends.

The Thoroughfare Plan creates a comprehensive approach by which the various departments and agencies responsible for thoroughfare development can coordinate their individual efforts. Examples of these agencies include the Texas Department of Transportation (TxDOT), Capital Area Metropolitan Planning Organization (CAMPO), Travis County, and the City of Bee Cave itself. The standards and criteria contained within this element are intended to ensure consistent design practices in new roadway development or the redevelopment of certain roadways, as may be appropriate. This element was prepared by analyzing the existing system of thoroughfares and by proposing changes and recommendations for future thoroughfares based upon goals and objectives formulated during the comprehensive planning process.

REGIONAL AND LOCAL TRAFFIC CIRCULATION SYSTEM

Several major highways provide nearly all of the access to and through the City of Bee Cave. State Highway 71 serves as the major regional travel corridor through the area in an east-west direction, R.M. 620 provides access in a northwestern direction, and F.M. 2244 (Bee Cave Road) provides access in a northeastern direction. Hamilton Pool Road provides access for the southwest from the city of Dripping Springs. The recent completion of Bee Cave Parkway also provides important relief around the Galleria area.

The Colorado River is one of the region's greatest treasures. It is one reason that many people are attracted to the Austin area. While the river is a tremendous asset, it is also a physical barrier to roadway construction. Because few, if any, possibilities are foreseen to cross the river in the west Austin area, R.M. 620 and Bee Cave Road are important roadways that will continue to support growth. The confluence of roadway networks in the City is similar in form to an hourglass – all regional accesses must flow through Bee Cave. This condition exists because there are many environmental and physical constraints to roadway construction in the region. Consequently, traffic through Bee Cave will certainly increase, not solely because of the growth in Bee Cave, but because of regional growth. Therefore, the City of Bee Cave must resign itself to addressing regional traffic concerns while ensuring the least amount of negative impact on Bee Cave residents. Taking all of these factors into account, the area has a sufficient number of major thoroughfares that provide transportation for regional traffic. The main challenges, therefore, are to ensure that the existing thoroughfares continue to provide adequate regional access through the City of Bee Cave, and to provide additional roadways in order to accommodate local traffic.

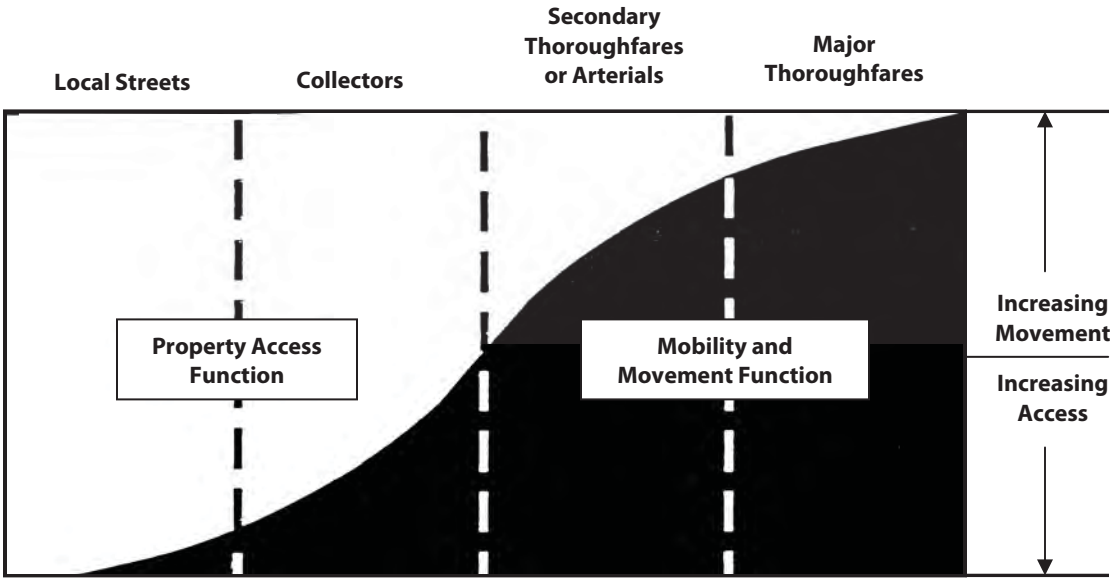
FUNCTIONAL CLASSIFICATION SYSTEM AND THOROUGHFARE STANDARDS

To prevent functional obsolescence of the transportation facilities, the City's hierarchical system, which defines the role of each major thoroughfare, needs to be updated. This system, called a functional classification system, establishes the physical design features concerning thoroughfare cross-sections, pavement standards, pavement widths, and access management standards. The *Thoroughfare Plan* element within this Comprehensive Plan is based upon this system. These functional classifications are intended to reflect the role or function of each roadway within the overall thoroughfare system (see **Table 4-1**).

This commonly used functional classification system consists of a hierarchy of streets that range from those which provide for traffic movement to those whose function is access to adjacent properties. **Illustration 4-1** helps to depict the functional street classification system for the community as a whole. The ***mobility and movement function*** refers to the accessibility of adjacent properties from a particular street or thoroughfare. As the illustration indicates, local streets provide the most access to the adjacent properties, but function very poorly in mobility. Principal arterials or major thoroughfares function very well mobility-wise but, because of speeds and volumes, they serve very poorly as access to adjacent roads and properties. With this in mind, streets that carry a higher volume of traffic should have a limited number of intersections and "curb cuts" (driveway openings) so traffic movement will not be impeded. This concept is referred to as the ***property access function***. Collectors are intended to distribute traffic between the arterial system and individual land uses within the area. Arterial or major thoroughfares carry longer trips and should, therefore, form continuous links to carry traffic throughout areas. Collectors supplement the arterial system and should not be continuous for long distances.

Illustration 4-1

FUNCTIONAL CLASSIFICATION SYSTEM



Neighborhoods should be developed between arterials and major collector streets so that traffic is routed around, not through, these areas. In order to further the vision of a pedestrian-oriented community, the City of Bee Cave should ensure the incorporation of the trail system in nonresidential development, and walkways should be included within the rights-of-way of most public streets. Minor collectors should penetrate the neighborhoods to collect and distribute traffic, but not provide convenient cut-through routes. Land use planning efforts should attempt to encourage compatible land uses adjacent to streets. Commercial and retail activities should be developed in such a manner that the primary mobility function of arterial or major thoroughfares is not compromised due to poor access management.

Wherever concentrations of traffic occur on collector streets, consideration should be given to prohibit houses from fronting on these types of streets or thoroughfares. A clustered subdivision design can allow ample lot yield while orienting houses to local streets and not to collectors (refer to the "Cluster Design" concepts described in the *Livability* element of the Comprehensive Plan).

Table 4-1

ROADWAY FUNCTIONAL CLASSIFICATIONS AND GENERAL PLANNING GUIDELINES

CLASSIFICATIONS	FUNCTION	CONTINUITY	SPACING (MILES)	DIRECT LAND ACCESS	MINIMUM ROADWAY INTERSECTION SPACING	SPEED LIMIT (MPH)	PARKING	COMMENTS
Freeway and Expressway	Traffic Movement	Continuous	4	None	1 mile	45 to 55	Prohibited	Supplements capacity and arterial street system, and provides high-speed mobility.
Arterial or Major Thoroughfare	Moderate distance inter-community traffic movement.	Continuous	1/2 to 1 1/2[1]	Restricted - some movement may be prohibited; number and spacing of driveways controlled.	1/8 mile	35 to 45	Prohibited	"Backbone" of the street system.
	Minor function - land access should primarily be at intersections.				1/4 mile on regional route.			
Collector	Primary - collect/distribute traffic between local streets and arterial systems.	Not necessarily continuous; may not extend across arterials	1/4 to 1/2[2]	Safety controls; limited regulation.	300 feet	30	Limited	Through traffic should be discouraged.
	Secondary - land access.			Residential access prohibited; commercial access allowed with shared driveways.				
	Tertiary - inter-neighborhood traffic movement.							
Local	Land Access/Sidewalk	None	As needed	Safety controls only.	300 feet	30	Permitted	Through traffic should be discouraged.

[1] Spacing determination should also include consideration of travel projections within the area or corridor based upon anticipated development.

[2] Denser spacing needed for commercial and high density residential districts.

The City street system should consist of arterials (the major thoroughfares are already in place), collectors and local streets. Freeways and highways are generally under the jurisdiction of the Texas Department of Transportation (TxDOT). Application of a functional classification system and design principles can help produce an optimized traffic circulation system. Major advantages include preservation of residential neighborhoods, long-term stability of land use patterns, increased values of nonresidential properties, fewer traffic accidents, and a decreased portion of urban land devoted to streets. **Table 4-1** describes the most important characteristics of functional classifications. The arterial classification includes major arterials and major secondary thoroughfares. The collector classification system includes major and minor collector streets.

The following recommended cross-sections have been developed to reduce the chance of obsolescence of the area's thoroughfare system. The sections outline the various recommended standards of streets and thoroughfare cross-sections appropriate for the City of Bee Cave, as well as for the region.

FREEWAYS AND HIGHWAYS

Freeways are high capacity highways in which direct access from adjacent properties is eliminated or significantly reduced, and where ingress and egress to the traffic lanes is controlled by widely spaced access ramps and interchanges. No new freeways/highways are expected to be constructed within the City of Bee Cave and its ETJ in the near future.

MAJOR THOROUGHFARES OR ARTERIALS

The primary urban traffic carrying system is made up of principal arterials or major thoroughfares. The primary function of major thoroughfares is to provide for continuity and high traffic volume movement between major activity centers (neighborhoods, commercial centers, etc.). These thoroughfares are usually spaced at approximately one-mile intervals unless terrain or other physical barriers create a need for deviation. The minimum major thoroughfare cross-section contains four moving lanes, two in each direction. Right-of-way requirements for major thoroughfares typically range from 100 to 120 feet.

Often, four lanes are constructed within the full right-of-way, leaving a wider median than for a six-lane thoroughfare. This concept allows for an interim solution until traffic volumes warrant the construction of the additional two inside lanes. Due to the fact that these thoroughfares will carry high traffic volumes (15,000 to 42,000 vehicles per day), it is essential that they have continuous and direct alignment and that they interconnect with highways.

TYPE AA: MAJOR REGIONAL ARTERIAL

A Type AA major regional arterial provides three 12-foot wide lanes in either direction with a 16-foot wide median, with a total right-of-way minimum of 120 feet. **Illustration 4-2** shows an example of this type of thoroughfare. Although the existing State Highway 71 is labeled a "highway", its local function is termed "major regional arterial". Currently, however, State Highway 71 provides two lanes in either direction with a turning lane in the center that is not divided with a median. The efficiency of this thoroughfare would be increased with the addition of one lane in both directions, and with a median dividing the three lanes, thereby providing for additional control of where and when left turns are allowed. These and other recent improvements are helping improve the circulation around the Galleria. It should be noted that landscaping within this median would greatly contribute to the overall community image of the City of Bee Cave, especially due to the fact that there are numerous travelers on this thoroughfare on a daily basis (refer to the "Design Criteria for Nonresidential Development" section within the *Livability* element of the Comprehensive Plan).

The primary concern in regard to State Highway 71 is that if ingress and egress are not controlled in the future, the Texas Department of Transportation (TxDOT) may feel it necessary to expand the thoroughfare in such a way that would likely have an adverse affect on the City of Bee Cave, especially in terms of the desired aesthetics and atmosphere of the community. The TxDOT 2007 traffic counts in the vicinity of F.M. 2244 (Bee Cave Road) and State Highway 71 show that there are approximately 42,000 vehicles per day in this area. It will be significant, therefore, for the City of Bee Cave to address this roadway, and to ensure that adequate, efficient access controls are provided along State Highway 71. Another thoroughfare of this type is not anticipated in the future. Due to the nature of State Highway 71, a right-of-way of approximately 200 feet is recommended.

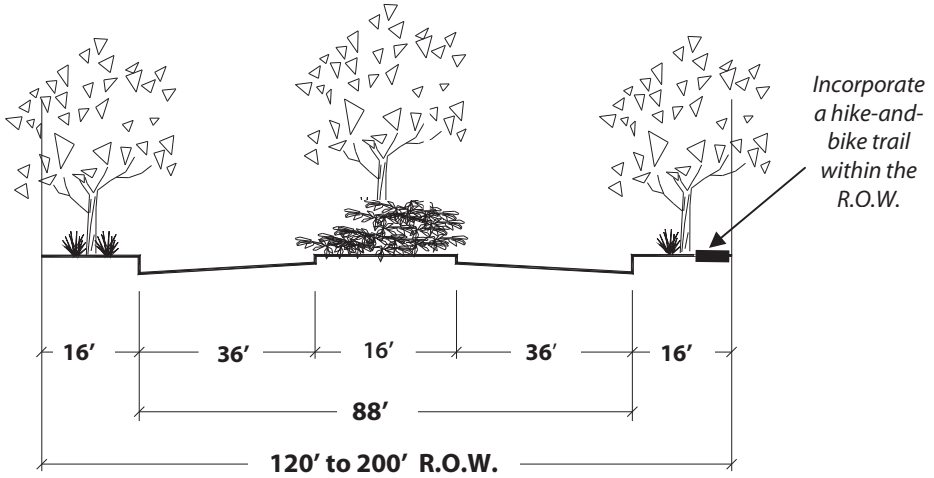


Illustration 4-2
TYPE AA: MAJOR REGIONAL ARTERIAL

TYPE A: MAJOR ARTERIAL

Existing R.M. 620 and F.M. 2244 (Bee Cave Road) are the thoroughfares that would be considered Type A in the area. In addition, the existing Hamilton Pool Road, as well as its proposed extension (refer to **Plate 4-1**), are considered major arterials. A Type A major arterial (see **Illustration 4-3**) also provides three lanes in either direction (i.e., six lanes total) with a 20-foot center median for a total right-of-way of 116 feet. The median should also be raised (i.e., with a curb and a landscaped center) to create a divided roadway. Currently, both R.M. 620 and F.M. 2244 are roadways with two lanes in either direction and with painted center medians. Hamilton Pool Road is a roadway with one lane in either direction, also with a painted center median. However, with the additional growth that is expected, these thoroughfares should be expanded to provide for more efficient traffic flow, and for safer, more controlled turning.

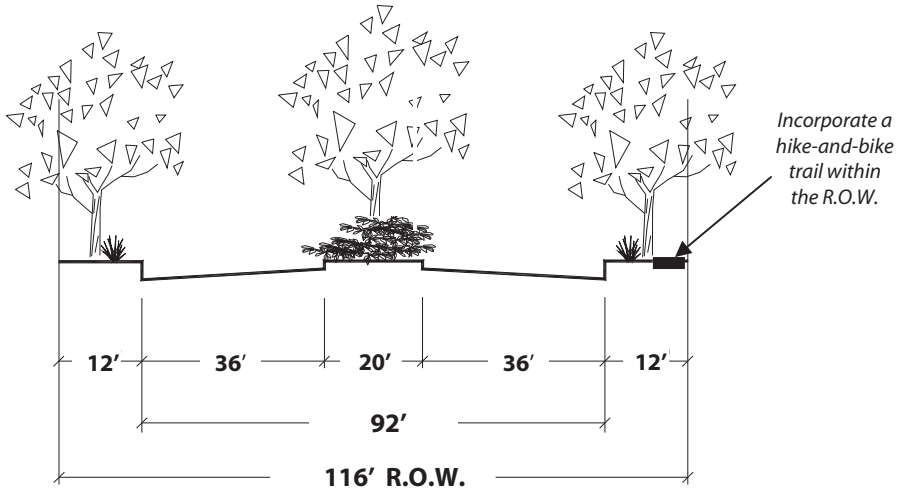


Illustration 4-3
TYPE A: MAJOR ARTERIAL

Divided roadways are generally considered safer than undivided roadways due to the fact that a raised median tends to minimize the number of potential head-on traffic conflicts in the middle of the roadway. As previously mentioned, raised medians also provide an opportunity for landscaping or other aesthetic enhancements within the road right-of-way. The minimum right-of-way for a principal arterial is 116 feet, and 120 feet is preferred; these widths would allow either a divided or undivided street cross-section.

TYPE B: MINOR ARTERIAL

Where traffic volumes are expected to be more moderate (less than 20,000 to 25,000 vehicles per day), it should be possible to use a four-lane, divided or undivided thoroughfare, indicated as Type B. This arterial has 26-foot wide pavement sections and a 16-foot wide median that can either be raised (i.e., with a curb) or painted to serve as a dual (i.e., flush) left-turn lane, with a total right-of-way of 92 feet. The Type B standard may also be utilized for divided minor arterials or major collector streets that may be appropriate for a specific area with special parkway and landscape treatments. **Illustration 4-4** shows the cross-section for Type B minor arterials with 92 feet of right-of-way.

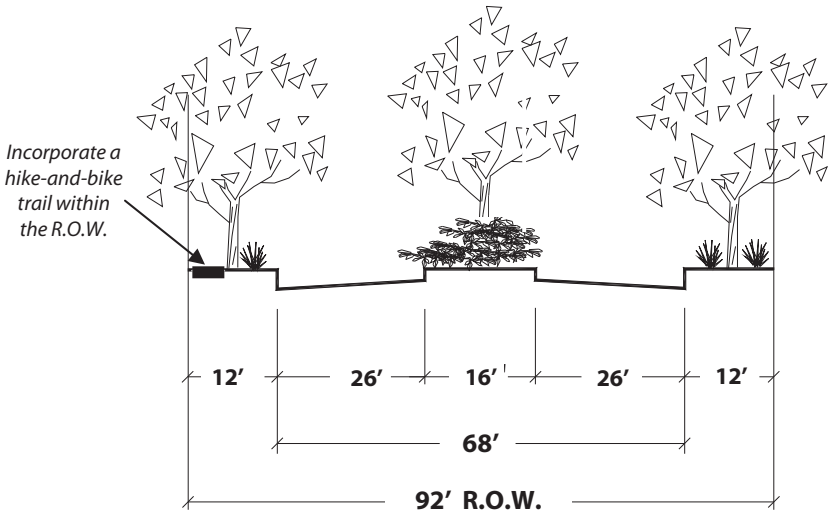


Illustration 4-4
TYPE B: MINOR ARTERIAL

Two proposed minor arterials are within the City. One is the proposed roadway located south of State Highway 71, which is intended to provide for alternative access for local citizens. Specifically, this road intersects State Highway 71 between Hamilton Pool Road and R.M. 620, and then intersects State Highway 71 again east of F.M. 2244 (Bee Cave Road). The other is the Hamilton Pool Road extension north of State Highway 71, and connecting to R.M. 620.

COLLECTOR STREETS

A collector street's primary function is to collect and distribute traffic from local access streets, as in residential neighborhoods, to a major arterial or the major street system. Collector streets should be located in a manner that discourages through traffic movement. To discourage such movements, these traffic-collecting streets are typically disrupted at some point by offsetting intersections or by incorporating curvilinear design. The collector street may also be used as a local street internal to nonresidential areas or adjacent to multiple-family areas, as well as an access route to amenities such as neighborhood playgrounds.

For these types of developments, 60 to 80 feet is the minimum right-of-way requirement with a minimum pavement width of 48 feet. The minimum right-of-way requirement for collectors within a typical residential neighborhood setting is 60 feet, which will generally accommodate two moving lanes of traffic plus any on-street parking.

TYPE C MAJOR COLLECTOR

Type C major collector streets are low to moderate volume facilities whose primary purpose is to collect traffic from smaller streets within an area and to convey it to the nearest principal or secondary arterial. The average daily traffic volumes for these types of streets should not exceed 10,000 trips per day. Hamilton Pool Road is an example of a major collector street. The Type C major collector street provides for 80 feet of right-of-way with 48 feet of paving for four lanes. This standard may be used as a traffic collection facility within nonresidential areas. **Illustration 4-5** shows the cross-section for Type C major collectors.

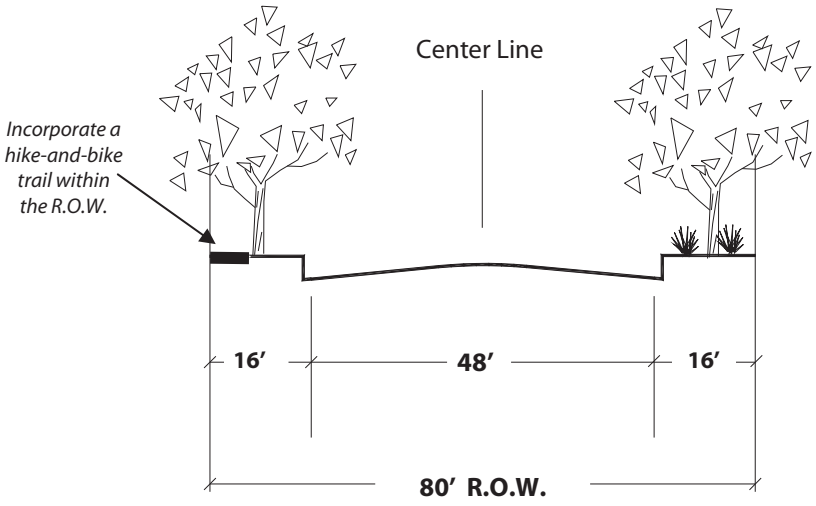


Illustration 4-5
TYPE C: MAJOR COLLECTOR

TYPE D MINOR COLLECTOR

Type D minor collector streets are low- to moderate-volume facilities whose primary purpose is to collect traffic from residential streets and to transport it to the nearest principal or secondary arterial. The Type D street standard generally provides for two moving lanes of traffic and incidental on-street parking on 36 to 40 feet of pavement, with 60 feet of right-of-way. In general, minor collector streets should be shorter than one mile in length, and are expected to collect moderate volumes (less than 10,000 vehicles per day) of traffic from the internal neighborhood and convey it to a principal or secondary arterial on the neighborhood periphery. Uplands Ridge Boulevard (in the Uplands development) and Great Divide Drive (in the Homestead development) are examples of minor collectors.

As with the Type C collector, the Type D collector street may also be used as a "local" street within nonresidential areas. Where heavy turning movements can be expected at intersections with principal or secondary arterials, the right-of-way width could be flared at intersections (and then transitioned back down to the normal width) to provide for a short length of greater pavement width to accommodate higher traffic volumes and/or larger vehicles through the intersection. **Illustration 4-6** shows the cross-section for Type D minor collector streets.

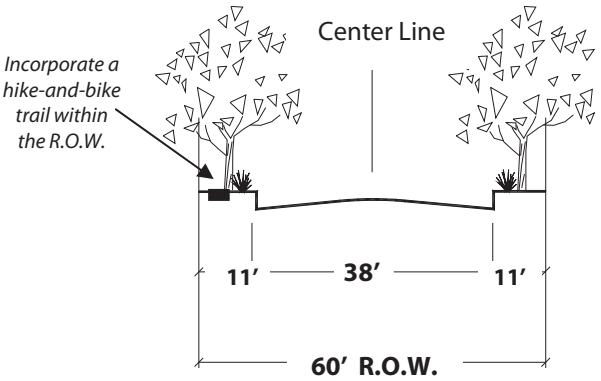


Illustration 4-6
TYPE D: MINOR COLLECTOR

TYPE E LOCAL/RESIDENTIAL STREET

The internal streets within a neighborhood which provide access to residential lots and building sites should be arranged to discourage most through traffic, except that which is directly related to the area. The alignment of residential streets should be either of a curvilinear, discontinuous, looped, or court configuration. Because only limited traffic is attracted to residential streets, they may have more narrow rights-of-way and pavement widths than other types of streets. The usual minimum paving width of a residential street is 30 feet, and the right-of-way requirements are usually a minimum of 50 feet of right-of-way. Residential streets are usually designed to accommodate up to 500 vehicles per day.

Streets no smaller than 22 feet in paving width may be approved by the City in areas that utilize special residential design concepts that put specific emphasis on environmental integrity. This width should not be approved unless it contributes to the clustering technique, or to sound planning concepts such as Traditional Neighborhood Design and New Urbanism (these concepts are described in further detail within the *Livability* element), and must be based on sound traffic engineering analysis (i.e., traffic impact analysis).

TYPE F RURAL STREET

The City should consider a rural street standard cross section for large-lot residential areas. The following standards should be followed to determine if rural streets are appropriate:

- Minimum lot size of 30,000 square feet;
- Runoff coefficients of 5 cubic feet per second or less;
- Proper swale design; and,
- No curb-and-gutter.

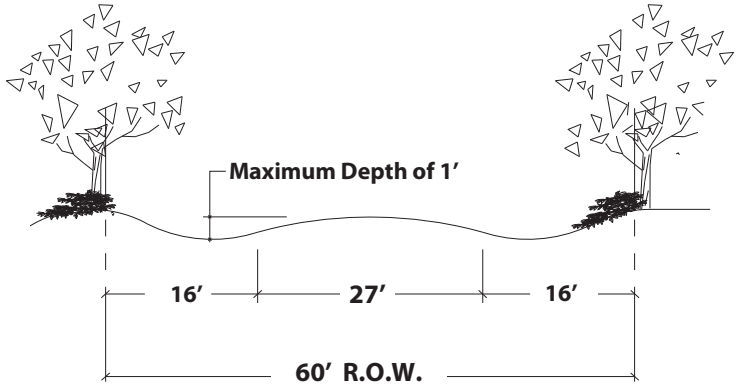


Illustration 4-7
TYPE F: RURAL STREET

OTHER TRANSPORTATION ELEMENTS

Roadways should be designated to include extra pavement and/or right-of-way width to accommodate bicycle lanes/routes/walkways. The City of Bee Cave has several natural drainage and creek areas that could be used for an off-street trail system, but it will likely be necessary to utilize roadway rights-of-way in many locations in order to create a trail system that connects various areas of the community. In many areas, the use of street pavement and/or right-of-way for bicycle transportation purposes will be possible in the future if the roadways are properly sized and designed. For collectors or arterials that are designated as part of the bicycle route system, extra right-of-way may be required to accommodate bike lanes.

Illustration 4-8
TYPE A: EXCLUSIVE BIKEWAY

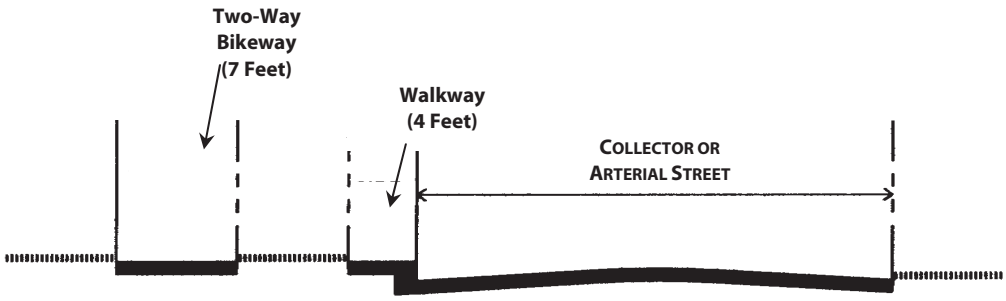


Illustration 4-9
TYPE B: SIDEWALK BIKEWAY
(Separated by curb and grade change)

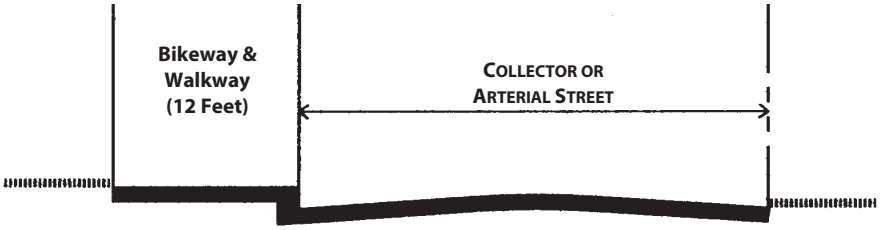
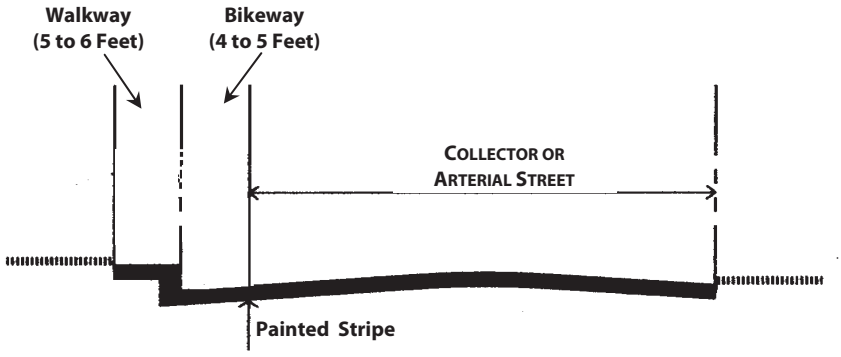


Illustration 4-10
TYPE C: BIKE LANE
(Same grade as roadway)



LEVEL OF SERVICE AND TRAFFIC CAPACITY

Capacity is the measure of a street's ability to accommodate the traffic volume along the street. *Level of service* (LOS) is a phrase representative of several factors, including speed, travel time, traffic interruptions, and operating costs of a traffic facility (roadway), used to measure the quality of the facility. In addition, a roadway link refers to a specific length of a roadway, usually between two intersections. Levels of service "A" through "F", from best scenario to worst scenario, are defined in the following table.

Table 4-2

DEFINITION OF LEVEL OF SERVICE FOR ROADWAY LINKS

LEVEL OF SERVICE (LOS)	DESCRIPTION
A and B	Light, free-flowing traffic volumes. Virtually no delays with smooth progression of traffic, and speed is generally unaffected by other vehicles. Slight decline in the freedom to maneuver from A to B.
C	Basically satisfactory to good progression of traffic, but at that point where individual drivers become affected by interactions with other vehicles. Light congestion, and speed is affected by the presence of other vehicles.
D	High density, but stable, traffic flow. Speed and freedom to maneuver are restricted. Small increases in traffic flow will cause significant operational problems. This LOS is generally used to justify thoroughfare improvements.
E	Operating conditions at or near capacity level. All speeds are reduced to low, but remain relatively uniform, meaning generally not stop-and-go. Operations at this level are usually unstable, because small increases will cause severe speed reductions.
F	Forced flow. Heavy congestion. Total breakdown with stop-and-go operation. Queues (i.e., vehicle stacking) at intersections on these lengths may exceed 100 vehicles.

Level of service "C" is generally the recommended minimum level of service in most communities, and is also the recommended level for roadway design purposes. With the exception of roadway intersections on State Highway 71 (i.e., Bee Cave Road and R.M. 620) that are congested during peak time periods, most other thoroughfares within the City of Bee Cave presently appear to fall within the level of service category of "C". In deciding an acceptable level of service, safety should also be included as an important design consideration.

THOROUGHFARE PLAN

A number of elements must be considered in the process of developing a Thoroughfare Plan, including the Future Land Use Plan, regional travel demands, traffic movement and access requirements, and existing physical constraints to roadway construction (e.g., major topographical features, floodplains, slope constraints, etc.). The types of land uses that are existing and planned for an area affect the roadway capacity and access needs for that area. Moreover, special efforts will be required in the thoroughfare planning process to ensure that the integrity of residential neighborhoods is protected from unwanted and undesired vehicular traffic.

Balancing the movement and access functions of the thoroughfare system is another consideration in the planning process. Roadways serve two competing functions: the movement of traffic and access to individual properties; these functions are graphically described in **Illustration 4-1**. Inherent conflict exists where ingress and egress maneuvers from individual properties impede the efficient movement of traffic on major roadways, and where high traffic volumes impede turning movements into and out of private driveways. Controlling access so that these two competing functions occur on separate sections of the thoroughfare system is a primary objective of the planning process.

The primary purpose of the *Thoroughfare Plan* is to provide a long-range plan to assist in thoroughfare facility planning and the dedication of needed rights-of-way to implement such a plan. Due to the fact that the major roadways that traverse the City have basically established the thoroughfare system, the majority of the recommendations made are intended to promote and protect the integrity of local transportation needs. The recommended *Thoroughfare Plan* is shown on **Plate 4-1**, for both the City of Bee Cave and its ETJ. One of the benefits of the *Thoroughfare Plan* is the identification of areas of need, upon which resources can be concentrated for additional roadways or expansions of existing roadways, therefore ensuring that these monies are spent efficiently. The *Thoroughfare Plan* is designed to identify the proposed location of collector and arterial streets with the intent to facilitate movement and serve higher volumes of traffic that will occur with future development.

THOROUGHFARE PLANNING ISSUES

The following five broad issues have been considered in developing policies for the City's Thoroughfare Plan:

(1) Maintaining an adequate, appropriate and efficient roadway network.

Increased regional population, as well as increased single-person trips, will increase traffic on existing roadways, especially as growth continues in the areas surrounding the City of Bee Cave, throughout Travis County, and along the major thoroughfares. A carefully planned network of streets with access standards can help maintain adequate circulation without sacrificing the community's development potential. The roadway network should include a hierarchy of streets, with each class of street being designed to serve an appropriate function. Standards for each class of street must balance the volume and speed of traffic, public safety, roadway construction and maintenance costs, as well as impacts upon adjacent development. The challenge to provide adequate transportation improvements will continue with increased development.

(2) Coordinating roadways and adjacent development.

Land use and thoroughfare planning are closely linked. Just as inappropriate land uses can dramatically reduce the effectiveness of adjacent roadways, poorly planned roadways can reduce the viability of adjacent land uses. Transportation planning in the City of Bee Cave has been impacted by zoning and development activity, by previously established roadways that now carry higher traffic volumes than they were originally designed to carry, as well as by changing traffic patterns. By coordinating land use and roadway decisions within Bee Cave and its ETJ area and with other communities in the vicinity, future compatibility problems between roads and adjacent land uses can be minimized. The City should work closely with CAMPO, TxDOT and other agencies to solve regional transportation issues which affect Bee Cave.

(3) Cost-effective infrastructure investment.

Building and maintaining an efficient street network requires significant investment of local resources. Careful planning is needed to ensure that the most cost-effective investments in the street network are made for the community as a whole. Funding is usually based upon general obligation funds and impact fees. Other sources of funding should be considered in the future.

(4) Network for non-automotive (multi-modal) transportation.

America's heavy reliance upon automobiles has led many communities to forget about or ignore other alternative modes of transportation. Through appropriate design and planning, a low-cost system of trails and paths that encourage residents to travel by foot or bicycle can be developed throughout the community. Increased use of other modes of transportation would improve the health of local residents, and would have a positive impact upon the environment and community character.

(5) Local access within the City of Bee Cave.

Regional access throughout the area has already been established by such roads as State Highway 71, R.M. 620, and F.M. 2244 (Bee Cave Road). Therefore, the challenge is to provide alternative access for local citizens, in order to allow the majority of the traffic generated along these roadways to be through-traffic.

Freese and Nichols

Sefko Planning Group

Urban Planning Consultants - Dallas, Texas

Thoroughfare Types

- Type AA Major Regional Arterial
- Type A Major Arterial
- Type B Minor Arterial
- Type C Major Collector
- City Limits
- ETJ

Colorado River

Freitag Creek

Bee Cave City Limits

Little Barton Creek

Club House

Golf Course

State Hwy. 71 West

R.R. 620 South

City of Austin Nature Preserve

Bohls Hollow

F.M. 3238 Hamilton Pool Rd

F.M. 2244 Bee Cave Road

Hickson Hollow

Spillman Hollow

Bee Cave ETJ

Owl Hollow

Barton Creek

Nature Preserve

Plate 4-1

City of Bee Cave

Thoroughfare Plan

0.5 0.25 0 0.5 1 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

February 2009

THOROUGHFARE SYSTEM RECOMMENDATIONS

The City of Bee Cave will face two basic challenges in improving its overall traffic circulation system. First, the City will need to upgrade existing streets while addressing right-of-way constraints and minimizing the disruption of existing residential neighborhoods. The second challenge will be the provision and protection of needed rights-of-way for roads, and the timing and continuing construction of new roadways in developing areas. The majority of the proposed roadways are intended to facilitate future movement around and within the City of Bee Cave. Therefore, several linkages between and extensions of existing roadways within Bee Cave are recommended. **Plate 4-1** shows the recommended Thoroughfare Plan for the City of Bee Cave and its ETJ area. It will be extremely important for the City to work with CAMPO and TxDOT to solve major transportation issues as growth in the area continues.

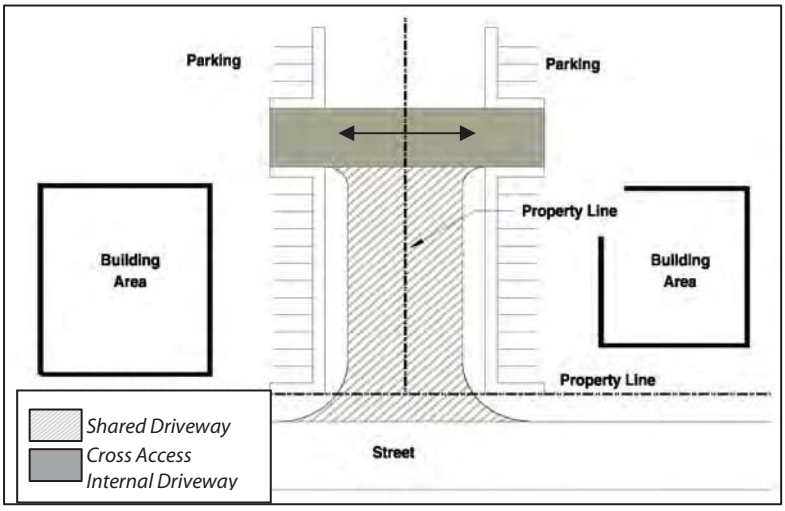
The area currently within the ETJ that is located north of State Highway 71 and west of R.M. 620 has substantially developed since 1999. A major arterial that was recommended in 2000, which is actually an extension of the existing Hamilton Pool Road has been partially constructed and will connect to R.M. 620. The construction of this connection would allow residents an alternative access to R.M. 620 from State Highway 71, and would allow them to avoid the intersection of State Highway 71 and R.M. 620. Another thoroughfare recommended in 1999 is a minor arterial, is located south of State Highway 71, and is another area within Bee Cave's ETJ that is developing. Again, this thoroughfare is intended to provide for alternative access for local citizens, allowing them to avoid both the intersection between State Highway 71 and R.M. 620 and the intersection between State Highway 71 and F.M. 2244 (Bee Cave Road). Both of these connections are shown in **Plate 4-1**. Other recommended roadways that are shown on the Thoroughfare Plan consist primarily of collector streets and residential streets in the western portion of the City of Bee Cave. Connections have been provided between these roadways and all major thoroughfares, with the exception of F.M. 2244 in the eastern portion of the City.

Another roadway recommended in 2000 was an optional "bypass" shown adjacent to the nature preserve between R.M. 620 and Bee Cave Road. This roadway is substantially complete (now named Bee Cave Parkway).

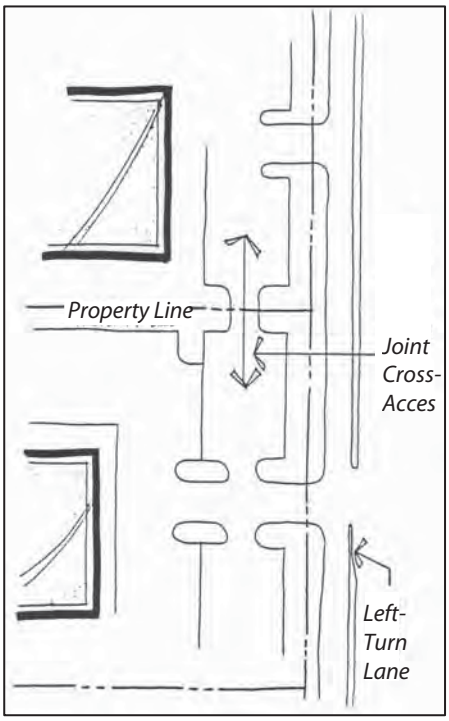
ACCESS STANDARDS

In order to protect the integrity of the existing major thoroughfares in Bee Cave, access design standards should be developed and (often approved by TxDOT) adopted in a separate thoroughfare standard ordinance. The flow of traffic is typically a major concern for most communities. Communities desire to provide a transportation infrastructure that moves traffic efficiently and ensures public safety. The ability to move traffic efficiently along a corridor with minimal interference from traffic turning from and onto intersecting driveways / streets is a major benefit to motorists. Ideally, traffic should be able to avoid unnecessary "stop-and-go" inconvenience due to over abundance of intersecting driveways / streets (refer to **Illustration 4-11**).

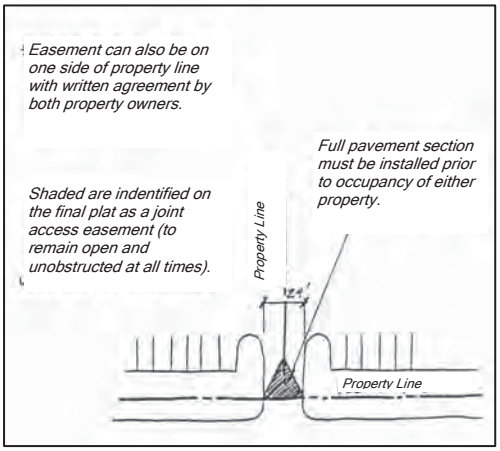
Illustration 4-11
ACCESS MANAGEMENT



Shared Access Driveway & Cross-Access Internal Driveway



Cross-Access



Shared Access - Joint Property Openings for Nonresidential Sites

Example of a Shared Driveway between Two Nonresidential Uses

Shared Driveways – Currently, a growing number of cities across Texas limit the number of intersections and driveway openings (curb cuts) that are permitted along major roadways in order to maximize traffic efficiency and safety. The concept of "shared driveways" has been promoted as a method to limit the over abundance of driveways along major roadways. The general concept of shared driveways allows existing driveways to remain in place, but requires new developments to incorporate the use of shared driveways and to provide cross-access between developments.

Driveway Spacing – In addition to the concept of "shared driveways," the City should investigate developing minimum driveway spacing standards. These standards would detail the minimum distance that a driveway must be spaced from intersections and existing driveways. Therefore, as a result of regulating driveway spacing, traffic safety and traffic integrity (the consistent movement of traffic with minimal interruptions to traffic flow) will be improved.

Cross-Access – Additionally, cross-access is a simple site design concept that ensures neighboring developments have access to one another without the need for a vehicle to go out onto a roadway unnecessarily. For example, a retail development at a major intersection is anchored by a major retailer, such as a Home Depot or Target, with smaller restaurant pad sites along the public roadway frontage. If cross-access among these lots/users is provided for in the design and construction of the overall development, then someone is able to drive from one of the restaurant pad sites to the retail anchor, and back again, without having to go out onto the public roadway, thus reducing the amount of traffic on the road.

RELATIONSHIP BETWEEN THOROUGHFARES AND NEIGHBORHOODS

The importance of the major thoroughfare system is providing the skeletal framework within which logical residential neighborhood areas can be developed, as has been previously mentioned. A "neighborhood" usually results from the assembly of a series of subdivisions into a logical, functional unit. The major thoroughfares shown on **Plate 4-1** have primarily been designed to allow for the formulation of residential areas.

A neighborhood park, and other neighborhood amenities such as swimming pools, are generally located near the center of the neighborhood area, and should be made accessible from all parts of the neighborhood by a system of collector streets. The internal neighborhood streets should be arranged to be discontinuous and curvilinear, and thereby discourage through traffic movements, while providing alternative choices, such as Traditional Neighborhood Development (TND). Guidelines should be developed which require a minimum percentage of residential streets within a new residential subdivision to be curvilinear in form. In addition, pedestrian linkages to such amenities should be provided, in order to decrease the amount of traffic within residential areas.

When retail/service uses (e.g., a neighborhood-serving shopping center) adjacent to neighborhood areas are appropriate, such retail/service uses should be located at the edge of the neighborhood, preferably at the intersection of major thoroughfares. Likewise, churches, when an integral part of the neighborhood, should be located on major thoroughfares or near the intersection of major thoroughfares. Both the shopping center and the church will serve a larger area than the immediate neighborhood, and both involve periods of heavy traffic and parking concentrations that, unless properly handled, can adversely affect the adjacent residential areas.

The basic major thoroughfare system shown on **Plate 4-1** should be considered as the structuring framework for future neighborhoods and as the framework for any redevelopment and rehabilitation of existing areas within the City of Bee Cave, as well as within the neighborhoods located within the City's ETJ.

The preponderance of vehicular traffic movement within the community should be concentrated upon the major arterial roadway system and, to a lesser extent, on major collector streets, while the internal (i.e., local/residential) street system should have only very light vehicular traffic when it is related to local access of property and homes. Through careful pre-planning of neighborhood areas and with developer cooperation, it will be possible to achieve the basic major and secondary thoroughfare system arrangement recommended by the Thoroughfare Plan for the community as a whole. The roadway system should be designed to provide a choice of alternative routes for area residents to the furthest extent possible.

To achieve the thoroughfare system envisioned by the plan, it will require the cooperation of all levels of government responsible for highway and thoroughfare development as well as that of private developers. The significant thoroughfare facilities provided in and near the City of Bee Cave have resulted mainly by the combined efforts of County, State and Federal agencies. Continued local efforts will be necessary to finance future thoroughfare development and, in some cases, require widening of rights-of-way at the time of subdivision platting and development. State laws (i.e., Chapter 395 of the Texas Local Government Code) now affect developer participation for off-site facilities such as roadways, and Bee Cave should seriously consider re-evaluating roadway construction participation policies in the near future in areas which are primarily vacant.

TRANSPORTATION PLANNING POLICIES

The following sections describe the recommended policies to guide the City of Bee Cave's transportation planning efforts:

(1) **Plate 4-1** shows the proposed major Thoroughfare Plan for both the City of Bee Cave and its ETJ area. The plan shows the location of existing or planned roadways other than local streets. The City should use this plan to determine the classification of planned roadway segments. Additional collector streets may be needed to serve traffic within new developments. The alignment and capacity of these streets should be determined as part of any action on a preliminary plat, final plat, site plan or zoning case, and they should also be based upon the Thoroughfare Plan. Construction standards and design guidelines enforced in the area, as well as the subdivision regulations of Bee Cave, provide detailed standards for roadway design and construction. Any plat, site plan or zoning change request not in conformance with the Thoroughfare Plan should not be approved unless an acceptable alternative is developed and approved.

(2) General planning guidelines for roadways within the City of Bee Cave and throughout the area, including the function of each type and key design characteristics, are included in illustrations in this *Thoroughfare Plan*. The City should use these illustrations in conjunction with design guidelines established within the *Livability* element of the this *Comprehensive Plan 2009*, and with detailed specifications found in the Subdivision Ordinances to determine the appropriate design standards for planned roadway improvements.

(3) The City should seek to maintain a minimum level of service (LOS) standard of "C", as described in **Table 4-2**, on its roadways. This standard should be used in reviewing the transportation needs of development proposals. In addition, TxDOT should be involved if the LOS on State Highway 71 is less than Level "C".

(4) The City should prioritize, phase and schedule transportation system improvements in accordance with this *Comprehensive Plan 2009* and the ability of the community to fund such improvements.

(5) On-site local and collector streets that are constructed by developers must be in accordance with the City of Bee Cave's regulations. Bee Cave may also require construction of off-site streets or street improvements needed to provide adequate access to the development. This policy should be implemented through specific provisions of the Subdivision and Zoning Ordinances.

(6) The City of Bee Cave should coordinate with TxDOT and other local jurisdictions, such as surrounding communities and Travis County, when planning transportation improvements.

(7) Streets should be designed in a comprehensive fashion considering street trees, ADA-accessible pedestrian walkways and bike lanes, signage, lighting and air quality whenever any of those factors are applicable. Citizen involvement in major street-widening projects should be sought.

(8) Retail and other nonresidential uses that generate high volumes of traffic should be limited to locations where major arterial roadways provide sufficient access for non-local/regional traffic.

(9) Except as specifically approved by the City, all development should provide adequate on-site parking for normal operations. Exceptions to this condition can be made for specific areas, especially environmentally sensitive areas. Shared parking areas for nonresidential land uses are encouraged in order to reduce the amount of impervious surface within the City. This policy should be implemented through specific provisions in the City's Subdivision and Zoning Ordinances.

(10) A bicycle and pedestrian trail system should be considered.

IMPLEMENTATION

The existing thoroughfare system within the City of Bee Cave has been established by three primary entities: (1) County or State participation; (2) local construction of facilities; and (3) developer participation. Due to changes in State law (Impact Fees, Chapter 395 of the Texas Local Government Code), the City will still be able to require assistance from developers in building thoroughfares (as well as water and wastewater facilities), but will require different administrative techniques.

Monies for capital improvements in communities across Texas are generally becoming more difficult to secure each year. It is necessary, therefore, for Bee Cave to carefully manage its available funding resources in the implementation of not only the thoroughfare system, but other public facility systems as well. The proper administration of the Thoroughfare Plan will require the following actions:

COORDINATION OF CAPITAL IMPROVEMENTS

Many of the major thoroughfares that are improved in the City of Bee Cave, as well as its ETJ area, will involve cooperation with TxDOT, Travis County and, in some cases, will involve some financial participation by the City itself. Bee Cave will likely have to assume the responsibility for constructing a reasonable portion of its thoroughfare system for its residents as it expands its physical boundaries. The responsibility of accommodating regional traffic should be primarily lie with TxDOT, with input and help from the City. It must be recognized that the thoroughfare system will be built incrementally over an extended period, perhaps 20 or 30 years. It should be of prime importance for the City to work with CAMPO and TxDOT on major improvement projects.

SUBDIVISION CONTROL

The subdivision of land into building sites represents the first step in the development of urban land uses and the creation of traffic generators. Reasonable land (i.e., right-of-way) must be set aside at the time of subdivision platting so that adequate thoroughfares can be created without adversely affecting the value, stability, and long-range character of the area being developed. ***Specifically, right-of-way must be dedicated in accordance with the Thoroughfare Plan as each plat is approved.*** Right-of-way protection and reservation within the City's ETJ is particularly significant.

ZONING AND LAND USE CONTROL

The adequacy of existing and planned thoroughfares must be taken into consideration in all changes of zoning and land use. When such changes occur, the space allocated for street use (i.e., right-of-way) should be provided commensurate with the overall use contemplated within the area.

BUILDING LINES

Where widening of an existing thoroughfare right-of-way is contemplated, buildings should be set back to allow for the planned widening to ensure that the uses function properly with the new thoroughfare after the proposed improvement is made. In some cases, it will be desirable to establish building lines by ordinance to help ensure the orderly and uniform development of thoroughfare frontage.

OTHER CONSIDERATIONS

Certain aspects of the plan, such as access controls along major arterials, should be implemented through other design and technical standards that may or may not be included in the City's respective Zoning or Subdivision Ordinances. Examples of other standards that need to be implemented are sight and visibility standards and joint (i.e., shared) access standards. Impact fees, if adopted, should also be established under a separate process.

PARKS, TRAILS, & OPEN SPACE PLAN

Section Five

Comprehensive Plan 2009

OVERVIEW

This element of the *Comprehensive Plan 2009* is currently under review.

P U B L I C

F A C I L I T I E S P L A N

Section Six

Comprehensive Plan 2009

INTRODUCTION

The Public Facilities element of the this *Comprehensive Plan 2009* addresses the expectations a community's residents have regarding certain public services and the facilities that are needed to provide these services. Public buildings that house the various governmental and service functions of a municipality are generally of two types:

(1) Those requiring a nearly central or common location and which serve the entire municipal area; and

(2) Those serving segments of the community on a service area basis.

The City Hall is an example of a public building that serves the entire community, while a fire station represents a public building that has a service area relationship to the community.

The demand for public building space at all levels of government normally increases as the population served grows, and as the level of service expands. As a general rule, as communities grow in size, increased levels of service are generally required by its citizens. The service level that exists today will likely need to be increased in the future. The City now has 34 full-time municipal employees, with a current estimated population of 4,509. Once the City reaches its ultimate capacity of 6,687, it will need approximately 50 employees and/or service providers, including independent contractors, may be required to accommodate the essential municipal functions, including fire, police and emergency services. Generally, increases in the population also lead to increases in the demand for higher levels of service. Additional office space will be needed to accommodate the additional employees and to replace or expand existing municipal facilities as the City grows and continues to reach its ultimate capacity.

EXISTING PUBLIC BUILDINGS AND FACILITIES

It is appropriate to review the status of existing structures that the City has allocated for the provision of serving citizens as a basis for determining the future changes and additions that will likely be required in the future. **Plate 6-1** shows the location of the City Hall and the fire station within the City of Bee Cave. The following sections are a general evaluation the existing buildings and facilities.

CITY HALL

The City broke ground for a new City Hall facility in 2006, and the facility was completed in 2007. The building is a two-story structure of nearly 30,000 square feet. The facility contains all of the City's administrative offices and the City Council chambers, in addition to a 5,000 SF public library, 5,000 SF of community space available to the public, and 9,500 SF of expansion area.

The extensive landscaping features natural vegetation as well as several fountains and a large pond nearby.

The facility is uniquely integrated within the Hill Country Galleria outdoor shopping center. Other community amenities in the immediate area include an amphitheater featuring free concerts, a pergola with seating, and a movie theater.

Freese and Nichols | Sefko Planning Group
Urban Planning Consultants - Dallas, Texas

1 1/2 Mile Service Zone

Proposed Fire Station

Existing Fire Station

City Hall and Library

Criminal Justice Complex

1 1/2 Mile Service Zone

Bee Cave City Limits
Bee Cave ETJ
State Hwy. 71 West
F.M. 3238
Hamilton Pool Rd
R.R. 620 South
Colorado River
Limekiln Branch
Hickson Hollow
Spillman Hollow
Little Barton Creek
Barton Creek
Cedar Hollow
Owl Hollow
Club House
Golf Course
City of Austin Nature Preserve

Plate 6-1

City of Bee Cave

Public Facilities

0.5 0.25 0 0.5 1 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

- City Hall and Library
- Criminal Justice Complex
- Fire Station
- Proposed Fire Station

February 2009

FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

The City is serviced by the Travis County Emergency Service District Six/Lake Travis Fire Rescue's Fire Station 603 located in Bee Cave. Currently, there are 6 full-time firepersons employed at Station 3, with 26 volunteers available to respond to any emergency situation in the City of Bee Cave or the surrounding area.

POLICE PROTECTION SERVICES

The City of Bee Cave Police Department is available on call 24 hours a day, 7 days a week, with 14 officers. It is housed within the Criminal Justice Center, located south of State Highway 71 just to the west of the intersection between State Highway 71 and R.M. 620. The building is approximately 5,200 square feet and formerly served as the City Hall.

WASTE DISPOSAL SERVICES

The City of Bee Cave currently has no provision for these types of services. Each individual neighborhood/subdivision provides these services independent of the City.

HISTORICAL SITES [6-1]

The City of Bee Cave has many historical areas. It is important for these sites to be documented and acknowledged in order to ensure their protection from any adverse affects from development in the future. Following is a description of these sites.

6-1 Information for this section was provided by the City of Bee Cave and courtesy of Mrs. Judy Allen.

BOHLS CABINS

The Bohls family was one of the first families to settle on the land that would become the City of Bee Cave. Dietrich Bohls purchased forty acres at the confluence of Barton Creek and Little Barton Creek, and some of the original structures built in the mid-1800's still exist today. The original group of cabins consisted of a kitchen, sleeping quarters (one building), a double crib barn, and a granary. Later, a two-room cabin was built that served as the family home.

LALLIER STORE (THE OLD POST OFFICE)

Carl Beck built this store at the corner of what are now State Highway 71 and Hamilton Pool Road. This was done in 1873 in order to provide settlers with necessary supplies. The store also served as the local post office; needing a name for his post office, Mr. Beck thought about the bees in the banks of the creek behind his property, and of the bee hives (or caves) that the bees would build in the eaves of local buildings. As a lark, he named the post office for the surrounding area he called "Bee Cave". Other business ventures conducted on this property included the operation of a cotton gin and the establishment of a cigar factory. Mr. Beck's daughter and son-in-law (Carl Lallier) later bought the store, renamed it for their own family, and continued to run it until the late 1940's.

BEE CAVE SCHOOLHOUSE

One of the first schools in the area was a rock schoolhouse built in 1882, and had only about 5 or 6 students at one time. This original rock schoolhouse still remains on Hamilton Pool Road. It was determined, however, that the area needed a more substantial building in order to provide education to local children. Mr. Fredrick Freitag donated a piece of property expressly for this purpose in 1880. In the 1890's, a small frame yellow-painted school was built at the intersection of what are now State Highway 71 and R.M. 620. This schoolhouse became known around the area as the "Yellow Schoolhouse". The first families that settled in the Bee Cave area, namely the Pechts, Lalliers, Longs, Bohls, and Heffingtons, sent their children to this school.

A new schoolhouse was constructed in 1926 on the same piece of property, facing a different direction. Classes continued to be held within this facility until the area schools were consolidated

in with the Dripping Springs School District in 1947. The Bee Cave Association cared for the building until the 1970's, during which time it served various civic purposes, including a citizen center, community center, and polling location. It has been restored and is now under the care of the Western Historical Society.

BEE CAVE BAPTIST CHURCH

The Bee Cave Baptist Church was established in 1925, although services were held in the "Yellow Schoolhouse" until the permanent building was available for services on January 16, 1927. A new structure was built around the existing church in 1948, with the significant addition of a bell tower. In 1984, the church was remodeled, and the bell tower was replaced with the steeple that can be seen there now. The Bee Cave Baptist Church continues to have a strong presence within the City of Bee Cave today.

FUTURE BUILDINGS AND PUBLIC FACILITIES

Most public buildings tend to be fairly long-term investments, and therefore, they should be initially scaled to meet the needs of the community; however, the need for future expansion of these facilities should be anticipated and therefore incorporated into their development. The following is an estimate of future public building and service facility needs projected for the future based upon the estimated potential population of the City of Bee Cave.

FIRE PROTECTION

As with police protection, with continued growth within the City, additional fire protection may become necessary. The area able to be served by one fire station is generally accepted to be a radius of approximately one-and-one-half miles from the fire station itself. Referring to **Plate 6-1**, areas of the City's ETJ would benefit from the construction of another fire station along Hamilton Pool Road due to the fact that western portions of the City ETJ area are out of the accepted range of service. City officials should closely monitor the areas of development, and should work closely with the Hudson Bend Fire Department to establish any necessary additional facilities in locations that provide easy accessibility to residential land uses.

MUNICIPAL BARN FACILITY

If police protection and/or fire protection services are added to the existing services provided by the City, it is likely that the City will need a facility in order to support the provision of such services (i.e., storage of vehicles, roadway maintenance equipment). The City will need to consider the cost of both buying property for and the construction of such a facility.

CONCLUSION

Changes in technology and operational methods often modify the spatial needs of municipal employees as time progresses, and the City should respond to the needs of its employees and citizens. It is recommended that the City establish a detailed public facilities plan. Evaluations of existing services and structures should be conducted to determine if expansion or creation of services or structures is necessary to accommodate the increased population. Some communities have jointly developed certain public buildings and services, such as fire protection services, police protection services, and animal shelters. The City should consider this option because of its many advantages, including the lower initial cost for the establishment of services and the fact that Bee Cave is not likely to require the provision of some services solely within the City itself.

These recommendations are intended to provide general guidance; however, citizen opinion should be taken into account, and detailed architectural evaluation should be undertaken prior to initiating the design of any new facility or modification of any existing public facility.

INFRASTRUCTURE ASSESSMENT

Section Seven

Comprehensive Plan 2009

INTRODUCTION

Comprehensive land use planning is influenced by several components of municipal services that are provided via capital-intensive infrastructure. Water and wastewater services are critical to the overall health, safety and welfare of municipalities and their populations. The Bee Cave area has made significant progress towards regional water and wastewater systems with most new residential and commercial development receiving service. Water and wastewater service for the majority of the Bee Cave area is provided by the Lower Colorado River Authority (LCRA). A small portion of the western area of Bee Cave has service provided by Travis County Water Control and Improvement District Number 17 (WCID No. 17).

HISTORY

For many years, potable water service was limited to those areas of Bee Cave included within either the corporate boundary or in the Certificate of Convenience and Necessity (CCN) service area of Travis County Water Control and Improvement District Number 14 (WCID No.14), which was established in 1958. That situation changed when LCRA purchased the Uplands Water Supply Corporation from the Resolution Trust Corporation and water service became available for properties in Bee Cave and outside of WCID No. 14. Initial Bee Cave area customers of this water system included the Uplands subdivision and West Travis County Municipal Utility Districts Numbers 3 and 5 (the Lake Pointe Community).

Concurrent with the establishment of the Bee Cave water utility, the City applied for a CCN to provide potable water service to the corporate limits of the City and its extra-territorial jurisdiction (ETJ), as well as to other properties that had requested to be included in the service area. WCID No.14 opposed the City of Bee Cave's application, but Bee Cave prevailed in 1997. Subsequently, WCID No.14 was absorbed by the City of Austin water utility in 1998. Bee Cave and Austin entered into an agreement in 2000 by which Bee Cave acquired the portion of the former WCID No.14 water system within the City Bee Cave and its ETJ. The City of Bee Cave entered into a contract to sell its water system to the LCRA after Bee Cave closed the purchase of the Austin water system. LCRA then became the retail provider of water service to all Bee Cave area water customers. This action removed the City of Bee Cave from direct control of the provision of water service; however, the City and LCRA agreed to coordinate and cooperate on providing appropriate levels of water service for the various zoning districts and land uses included in the Comprehensive Plan. Fire protection is also designed into all system expansions. LCRA now manages a regional water system that can be reasonably and logically expanded as demand and economic feasibility dictate.

Until the development of Lake Pointe, collective wastewater treatment and disposal service had never been available in the Bee Cave area. All development and structures, whether residential or non-

residential in nature, utilized on-site wastewater treatment and disposal systems. These systems ranged from cesspools, to septic tanks, to treatment and irrigation systems. The Lake Pointe wastewater system was designed with excess capacity to provide service to other areas of Bee Cave. The City of Bee Cave initiated discussions concerning the potential acquisition of this access in 1996; however, financing of the acquisition proved to be insurmountable for Bee Cave at that time. LCRA purchased the Lake Pointe wastewater system in 2001 and became the regional wastewater service provider in the same manner as the water system.

Plate 7-1 shows graphically the infrastructure elements for the City of Bee Cave and more detailed infrastructure components are available in the LCRA West Travis County Water Service and Wastewater Service master plans completed in 2006[1] and 2008[2], respectively, by LCRA.

[1] *Water Master Plan – 2006 Update, West Travis County Regional Water System, Travis County, Texas,* prepared for the Lower Colorado River Authority, prepared by PBS&J, October 2006.
[2] *West Travis County, Wastewater Master Plan,* prepared for the Lower Colorado River Authority, prepared by K. Friese & Associates, Inc., January 2008.

Home Depot Hydroneumatic Pump Station

Bee Caves Pump Station

Lake Pointe Wastewater Treatment Plant

Uplands Water Plant

CCNG Regional Lift Station

Central Lift Station

CCNG East Lift Station

Legend

- STPS
- WTP
- WTC BeeCave Water 12+
- LS
- WWTP
- WTC Bee Cave Wastewater Forcemains
- WTC Bee Cave Wastewater Interceptors
- Bee Cave City Limits
- ETJ

State Hwy. 71 West

R.R. 620 South

Hamilton Pool Rd

F.M. 2244 Bee Cave Road

Colorado River

City of Austin Nature Preserve

Golf Course

Nature Preserve

Plate 7-1

City of Bee Cave

Infrastructure

0 0.25 0.5 1 Miles

0 1,000 2,000 4,000 6,000 Feet

N W E S

LCRA-WEST TRAVIS COUNTY WATER SYSTEM

The LCRA-West Travis County Regional Water system includes a raw water intake structure on Lake Austin (located in the Lake Pointe community), raw water transmission main, Uplands water treatment plant, and potable water transmission and storage system. While each of these components is a critical element of the overall system, it is the potable water transmission and storage system that is most directly related to development and land use in Bee Cave and the ETJ. The existing transmission system runs from the Uplands water treatment plant to Bee Caves West, Lake Pointe, Uplands, Spanish Oaks, Falconhead at Spillman Ranch, Homestead/Meadow Fox, and Spring Creek Estates subdivisions. In addition, commercial development in and around the Town Center including the Shops at the Galleria, Hill Country Galleria, and Home Depot are retail customers of the LCRA water system. WCID No. 17 provides retail water service to Falconhead West and has planned service to Cielo Homes.

The LCRA-West Travis County Regional Water system has been designed to connect to and serve virtually all areas of Bee Cave, and areas west of the City along State Highway 71 and Hamilton Pool Road (FM 3238). Expansion of the LCRA-West Travis County Regional Water system is anticipated to be driven by development projects in the City of Bee Cave and its ETJ as well as major service corridors down State Highway 71, Hamilton Pool Road, and US Highway 290. The LCRA-West Travis County Water Service master plan completed in 2006[3] identifies the existing and planned infrastructure for the Bee Cave area. The water master plan is available by contacting LCRA.

[3] *Water Master Plan – 2006 Update, West Travis County Regional Water System, Travis County, Texas,* prepared for the Lower Colorado River Authority, prepared by PBS&J, October 2006.

LCRA-WEST TRAVIS COUNTY WASTEWATER SYSTEM

Wastewater service for the Bee Cave area is provided by the LCRA-West Travis County Wastewater System. The 0.525 MGD capacity wastewater treatment plant is located near the center of the Lake Pointe community. The effluent is disposed of via land application at Falconhead at Spillman Ranch and Spanish Oaks. Retail customers of the LCRA-West Travis County Wastewater System includes Lake Pointe, Spanish Oaks, Falconhead at Spillman Ranch, Shops of the Galleria, Hill Country Galleria, and Home Depot. Falconhead West and the planned Cielo Homes are retail customers of WCID No. 17, which is a wholesale customer of LCRA for wastewater services only.

The primary Bee Cave wastewater collection system is a gravity system with collection pipelines that run parallel to State Highway 71 and R.M. 620. These lines are sized to serve virtually all of the property that is available and able to be developed, as well as all of the existing developed properties within reasonable economic constraints. The gravity lines flow to an existing regional lift station that pumps wastewater to the Lake Pointe treatment plant.

Expansion of the LCRA-West Travis County Regional Wastewater system is anticipated to be driven by development projects in Bee Cave. Planned expansions included existing infrastructure improvements to lift stations and the Lake Pointe WWTP. New infrastructure planned includes expansion of the existing plant and construction of a second wastewater treatment plant on a site owned by LCRA just north of the Hill Country Galleria. LCRA is currently permitted to provide one million gallons per day of wastewater service in the West Travis County Wastewater system[4]. The LCRA-West Travis County Wastewater Service master plan completed in 2008[5] identifies the existing and planned infrastructure for the Bee Cave area. The wastewater master plan is available by contacting LCRA.

Based upon information contained within the Future Land Use Plan and other elements of the Comprehensive Plan, it is recommended that LCRA review the City's Comprehensive Plan and evaluate the need for updating LCRA's Water & Wastewater Master Plans after the Comprehensive Plan is adopted by the City of Bee Cave.

[4] Texas Commission on Environmental Quality, Permit to Discharge Wastes, Permit No. WQ0013594001, Issued December 11, 2006.

[5] *West Travis County, Wastewater Master Plan,* prepared for the Lower Colorado River Authority, prepared by K. Friese & Associates, Inc., January 2008.

FUTURE LAND USE PLAN

Section Eight

Comprehensive Plan 2009

INTRODUCTION

Land use planning, like any type of planning activity, is a process. It is the process that provides the means by which a community can determine change and, in a sense, can control its own destiny. The purpose of a comprehensive plan is to serve as a guide for future development or redevelopment, and therefore, the *Future Land Use Plan* element is perhaps the most important Plan element because it essentially is a collection of the various components that make up this *Comprehensive Plan2009*. The plan is intended to provide overall guidance to areas that are vacant, as well as to areas that have already developed and need specific action.

The *Future Land Use Plan* element of this *Comprehensive Plan 2009* is intended to be a short- and long-range, general guide for the development and use of all land within the City of Bee Cave and its extraterritorial jurisdiction (ETJ). It is based upon a vision of the City as a livable community that maintains its individuality, but also has a regional identity in the Texas Hill Country.

In addition, the *Future Land Use Plan* element describes the planning process used by Bee Cave in relating development decisions to the community's ultimate vision of what it can and will become. A series of policies defines how these decisions are to be made.

The *Future Land Use Plan* is not the community's official zoning map. Although the *Future Land Use Plan* is not a zoning map, it will be used as a guide in considering new zoning and zoning change requests. It is a guide for future land use patterns. The *Future Land Use Plan* element and all other aspects of this *Comprehensive Plan 2009* are implemented primarily through development regulations (zoning and subdivision ordinances), or through programs that fulfill other policy objectives, such as programs that establish capital improvement priorities/plans or raise revenues to finance public facilities and services. The City of Bee Cave's Zoning Ordinance text and map determine which specific development requirements apply to a particular property.

The graphic component of the *Future Land Use Plan* element is the *Future Land Use Plan* Map (**Plate 8-1**). The plan shows, in map form, a generalized view of land use within the City. The *Future Land Use Plan* is intended to be used in conjunction with the policies contained within this and other elements of this *Comprehensive Plan 2009* to guide public and private development in Bee Cave. The plan is the foundation for standards contained in the City's development regulations.

PLAN DEVELOPMENT AND ALTERNATIVE ANALYSIS

The City of Bee Cave's regional and geographic setting in the heart of the Texas Hill Country makes it a beautiful place to live and work. Collectively assessing and developing plan alternatives for the various areas of the City can enhance the existing quality of life that residents of the City enjoy. In addition, future development should make a positive contribution to the community in order for Bee Cave to truly evolve, and to make the ultimate vision of the City into a reality. This element not only brings together the information in the previous elements and the *Baseline Analysis* of the Plan, but also the input on land use alternatives provided during Steering Committee meetings. These meetings were designed to allow community leaders and citizens the opportunity to contribute to the planning process and were intended to facilitate discussion regarding the various recommendations of the plan.

During the initial Comprehensive Plan Steering Committee meetings, issues important to Bee Cave were identified which needed to be addressed by the Comprehensive Plan. In response to these issues, goals and objectives were prepared and used to formulate policies and recommendations contained in the Comprehensive Plan. In addition, during Land Use Workshops with the Steering Committee, various future land use alternatives were discussed, and a preferred *Future Land Use Plan* was formulated. The following sections include discussion of the highlights of important aspects of the *Future Land Use Plan*, as well as certain parts of the plan that could not be reflected graphically, but are nevertheless equally important.

Some of the recommendations are reflected as policies for reviewing development or interpretation of the *Future Land Use Plan*. The *Future Land Use Plan*, as illustrated by **Plate 8-1**, is the composite of all the structuring elements of this *Comprehensive Plan 2009* which form the framework upon which the future land use pattern of the City can develop.

LAND USE COMPATIBILITY

The issue of compatibility between environmentally sensitive areas and residential and nonresidential uses has become increasingly important. Although many of the zoning decisions in the City of Bee Cave reflected specific conditions related to individual parcels of land, their cumulative effect has led to the present character and mixture of certain types of land uses that may not be compatible or consistent with the future vision for Bee Cave. Consequently, as new uses are developed, land use compatibility will almost certainly become an issue. Examples of this are the patterns and locations of land uses along State Highway 71, R.M. 620, and F.M. 2244 (Bee Cave Road). These conditions are a result of nonresidential land uses seeking the best visibility along continuous major thoroughfares. These concentrations of land use, combined with residents and travelers seeking to use the major ingress and egress routes into and out of the City of Bee Cave, to areas within and around the City itself, have contributed to the traffic conditions that now exist.

The *Future Land Use Plan* has attempted to allocate the various land uses in a pattern that will yield a greater chance for better community-wide land use compatibility. The *Livability* element will further describe techniques that can make land uses more compatible with each other. The treatment of the "edges" of various land uses, to a large degree, can have a dramatic effect upon the compatibility of land uses. This buffer, or transition, treatment between residential and nonresidential uses, for example, can help to determine whether the residential area will be a quality neighborhood in which to reside.

LAND USE COMPOSITION

Table 8-1 shows the recommended composition and type of future land use for both the existing City limits and the existing ETJ area. The acreages listed correspond with and are graphically portrayed by the *Future Land Use Plan*, **Plate 8-1**. These land uses reflect a reasonable balance for meeting local and regional needs.

Table 8-1

FUTURE LAND USE ACREAGES

City of Bee Cave and ETJ Area

Land Use Category	City		ETJ		Planning Area [1]	
	Acres	Percent	Acres	Percent	Acres	Percent
Residential	1,676	50.8%	2,151	39.0%	3,826	43.4%
Rural Low Density	*993*	*59.3%*	*1,041*	*48.4%*	*2,034*	*53.2%*
Low Density	*164*	*9.8%*	*369*	*17.2%*	*533*	*13.9%*
Medium Density	*151*	*9.0%*	*50*	*2.3%*	*201*	*5.2%*
High Density	*57*	*3.4%*	*109*	*5.1%*	*166*	*4.3%*
Planned Density	*312*	*18.6%*	*581*	*27.0%*	*892*	*23.3%*
Parks/Open Space	265	8.0%	100	1.8%	365	4.1%
Private Recreation	226	6.9%	323	5.9%	549	6.2%
Nature Preserve		0.0%	2,600	47.2%	2,600	29.5%
Public/Semi-Public	65	2.0%	13	0.2%	78	0.9%
Office	83	2.5%	7	0.1%	90	1.0%
Retail	148	4.5%	4	0.1%	152	1.7%
Mixed Use	111	3.4%	50	0.9%	160	1.8%
Town Center	260	7.9%		0.0%	260	2.9%
Neighborhood Service	120	3.6%	9	0.2%	129	1.5%
Commercial	135	4.1%	19	0.3%	154	1.7%
Rights-of-Way	208	6.3%	237	4.3%	445	5.1%
Total Acres	3,297	100.0%	5,511	100.0%	8,808	100.0%

[1] "Planning Area" refers to acreage within City limits and the ETJ combined.

Source: Sefko Planning Group/Freese and Nichols, Inc.

Sefko Planning Group
Urban Planning Consultants - Dallas, Texas
Freese and Nichols

Note:
A Comprehensive Plan shall not constitute zoning regulations or establish zoning district boundaries.

Plate 8-1

City of Bee Cave

Future Land Use

May 2009

0 0.25 0.5 1 Miles

0 1,000 2,000 4,000 Feet

N W E S

Future Land Use
- Low Density Rural Residential
- Low Density Residential
- Planned Density Residential
- Medium Density Residential
- High Density Residential
- Town Center
- Mixed Use
- Neighborhood Service
- Office
- Retail
- Commercial
- Public/Semi-Public
- Parks & Open Space
- Private Recreation
- Nature Preserve
- Out of Planning Area
- River
- row
- City Limits
- ETJ
- creeks
- Major Regional Arterial
- Major Arterial
- Minor Arterial
- Collector
- Trail System
- Floodplain
- City Hall

RECOMMENDED LAND USE DISTRICTS

The overall contribution that each of these districts makes to the community character of the City should be a significant factor related to how they are allowed to develop, especially in terms of their density, aesthetic appeal, compatibility with adjacent land uses, and interaction with the environment. It should be noted that one of the key objectives established during the comprehensive planning process was the fact that in order to maintain the rural atmosphere of the City, as much of the natural landscape as possible should be preserved. The Future Land Use Map, **Plate 8-1**, is a graphical representation of the corresponding locations of each land use. The land use districts that are used as the basis of the *Future Land Use Plan* for the City of Bee Cave include the following:

RESIDENTIAL LAND USES:

This describes land used for dwellings and related accessory buildings. The majority of the land within the City and the ETJ (with the exception of preservation areas) has been designated as residential land use. The following uses describe the different types of residential areas:

Low Density Rural Residential:

This land use is rural in nature and is designed to support *single family* detached dwelling units on multiple-acre lots; minimum lot size should be about two acres to ensure preservation of country/rural atmosphere.

Low Density Residential:

These areas are intended for large lot, low density residential (minimum one-acre lots) dwellings, characterized by *single family* detached homes; minimum lot widths should be approximately 140 to 150 feet, and minimum lot depths should be no more than two times the lot width to ensure maximum separation of dwelling units.

Medium Density Residential:

These areas provide for smaller residential lot sizes, possibly including dwelling units such as patio homes, town homes, zero-lot line homes or condominiums. Up to 10 dwelling units per acre are permitted within these areas.

High Density Residential:

This area provides for apartment dwelling units or condominiums, with an allowable

density of over 10 units per acre. Apartment dwellings should be located along major thoroughfares due to the larger number of people accommodated.

Planned Density Residential:

These areas provide for a mixture of residential lot sizes, characterized by *single family* detached homes. The average density of these areas is one dwelling unit per acre, but smaller lot sizes are permissible if clustering techniques are utilized, ensuring the preservation of open space. Other types of dwellings may be appropriate as part of the planned development; in addition, various types of land uses that are compatible with residential uses may be included, such as golf courses and small retail or office establishments.

PARKS/OPEN SPACE:

These areas are intended to provide the residents of Bee Cave with recreational opportunities, generally including small neighborhood parks, view parks (allowing for scenic views of the surrounding Texas Hill Country and preserve areas), and a comprehensive trail system.

PRIVATE RECREATIONAL LAND USES:

These areas include golf courses and private parks within subdivisions.

NATURE PRESERVE:

The City of Austin has set aside preservation land that borders the City on parts of both its northern and southern boundaries within the City's ETJ area. Other entities, such as the Nature Conservancy, have also acquired some of the land around the City of Bee Cave that is designated as preserve land. Due to these factors, much of the area surrounding the City of Bee Cave, and within its existing ETJ, will remain permanent open space in the future.

PUBLIC/SEMI-PUBLIC LAND USES:

This type of land use includes uses such as schools, churches, cemeteries and public buildings; these areas include properties owned/used by the municipal government (i.e., the City Hall, fire stations, water storage sites, etc.) and by other government entities, such as the Texas Department of Transportation (TxDOT). It should be noted that there are nine historical cemeteries that exist within the City of Bee Cave and its ETJ area. These cemeteries should be

protected, and any adjacent development should observe a reasonable setback and should provide public access to these cemeteries.

OFFICE LAND USES:

Appropriate uses within these areas include, but are not limited to, professional/administrative offices, doctors, dentists, real estate, architects, accountants, secretarial service, etc.; in addition, such uses are intended to be low-intensity and designed in a manner that is compatible with residential land use.

RETAIL LAND USES:

The City of Bee Cave is located at the confluence of three major regional thoroughfares (State Highway 71, R.M. 620, and F.M. 2244), and therefore, retail land uses will be in demand and are designated on the *Future Land Use Plan*. In addition, it is intended that these retail uses be low-intensity, relatively small-scale, and designed in a similar manner to Traditional Neighborhood Design areas – pedestrian-friendly, compatible with residential land uses, and with natural areas preserved (refer to the *Livability* element for more details). A special designation of this retail category, neighborhood service land uses, is described as follows:

Neighborhood Service Land Uses:

These areas allow for low-intensity, limited retail activity, and are intended to serve neighborhoods in close proximity. In addition, such uses are intended to be located at specified major roadway intersections near residential areas. Service uses that may be appropriate in such areas include small grocery stores, pharmacies, personal service shops (i.e., hair salons, dry cleaners, tailors, florists, etc.), day care centers, medical/dental and general offices, smaller banks/financial institutions, small restaurants (not including restaurants with drive-thru capability) and cafes, a farmers market, a car wash, and similar establishments. Building sizes within these areas should be limited to a footprint (the amount of the structure that is actually on the ground) of 15,000 square feet per occupancy use.

MIXED USE:

Occasionally, a mixed use area is needed in order to help buffer low density residential land uses from higher intensity uses, such as nonresidential land uses, as well as from major thoroughfares. However, in order to ensure the maintenance of the "small-town", rural atmosphere of the City, the predominant land use for any mixed area should be residential.

TOWN CENTER LAND USE:

This land use designation is intended to provide the City with a central, mixed use "focal point" and center of business/government; such an area is designated in the City along either side of State Highway 71, east of R.M. 620 and south of Bee Cave Road. This area is also intended to provide the community with local and retail services as well as jobs that are close to residents. A mixture of land uses is appropriate for the Town Center, as it is also intended to become a place for local residents to shop, conduct personal and government-related business, live in the same place as their business (i.e., loft dwellings or apartments located on the second floor above retail shops), meet neighbors to eat in a restaurant (not including restaurants with drive-thru capability) or café, enjoy arts/cultural facilities (such as a local museum), gather for community events and festivals, and other similar activities. The City should continue to require the integration of outdoor sitting areas. Additionally, public plazas, open space areas, and landscaping should be encouraged within this development, and open storage should be prohibited in order to ensure an attractive appearance from the road and from neighboring residential properties. Structures within the Town Center should be smaller in scale in order to ensure consistency with a pedestrian-oriented environment. Also in order to ensure consistency with small-scale development, only a limited number of these large structures should be permitted, and small pockets of parking areas that incorporate pedestrian traffic are encouraged, while large, expansive parking areas are discouraged.

COMMERCIAL LAND USES:

These areas allow for uses such as commercial amusements, building materials yards, automobile garages and sales lots, motels, automobile body repair, warehouses, telecommunications/broadcasting/cell towers and facilities, wholesale establishments, and the sale of used merchandise and welding shops. Often, retail and commercial land uses are thought to be similar, however, the intensity of these uses is often different. This fact should be taken into consideration when assessing the compatibility of these uses with surrounding areas.

The previously discussed land uses provide the City of Bee Cave with the necessary variety of uses significant to ensuring positive growth in the future. It is important to note that all of the land uses established in the *Future Land Use Plan* would have design standards that must be met by any new use. These will be further discussed within the *Livability* section of the Comprehensive Plan, and will be implemented accordingly by ordinance.

ULTIMATE CAPACITY

In order for growth to occur within a community, sufficient land area must be available, specifically residential land area. It is important to note that the developable residential land within Bee Cave and the ETJ area is limited. Much of the ETJ is consumed by preserve areas, floodplain areas or areas with restrictive slopes that cannot be used for residential development. As mentioned in the *Baseline Analysis*, the preservation land borders Bee Cave on parts of both its northern, southern, and eastern corporate boundaries. Due to these factors, much of the area surrounding the City of Bee Cave will remain permanent open space, and therefore will not be developed. In addition, the City's ETJ boundaries will probably not be able to expand in the future in relation to population growth, due to the surrounding ETJ of the City of Austin. Bee Cave has been successful in negotiating an agreement with the City of Austin for its current ETJ area; the agreement includes a provision for no ETJ growth in the future. Therefore, essentially the City of Bee Cave will not be able to accommodate population growth beyond its current City limits and ETJ.

Presently within the City of Bee Cave's corporate limits and ETJ area there are over 8,800 acres. Of these acres, 3,826 acres are designated for residential use by the *Future Land Use Plan* (refer to **Table 8-1** and **Plate 8-1**). **Plate 8-2** shows properties designated as residential by the *Future Land Use Plan* that are currently vacant as well as the slope analysis. As stated in the *Baseline Analysis*, development on slopes greater than 20% should be discouraged. Approximately 903 acres of the 3,826 acres are developable for residential land use, meaning that these acres are not currently developed and are not constrained by extreme topography (i.e., slopes greater than 20%). In addition, there are approximately 998 vacant residential lots platted within the City and its ETJ. It should be noted that some of these 998 vacant residential lots are located within the areas designated with a 20% or greater slope, however they have already been platted and development is suggested to continue. Based on these factors, the ultimate holding capacities for the City of Bee Cave and its ETJ are described in **Table 8-2**.

The remaining acreage has either been previously developed (by other land uses or rights-of-way), has been designated with another type of land use, or is not developable, due to flood plain, drainage, slope restrictions, or other constraints. Communities in Texas rarely develop at full capacity (with exceptions such as Bellaire in Houston and University Park in Dallas and similar areas), and in general, some of the acreage in a community will remain vacant indefinitely. For planning purposes, it is assumed that approximately 10% of the developable land area will be vacant even at full capacity or build-out.

The information in **Table 8-2** describes the developable number of acres, the approximate density assigned to those acres based on the *Future Land Use Plan*. Taking into account these densities and the number of people presently within Bee Cave and its ETJ, the projected ultimate capacity of the City and ETJ is approximately 13,862 people. It is important to recognize that this number could be larger

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Plate 8-2

City of Bee Cave

Vacant Future Residential

May 2009

0 0.25 0.5 1 Miles

0 1,000 2,000 4,000 Feet

N W E S

Vacant Residential
- Low Density Rural Residential
- Low Density Residential
- Planned Density Residential
- Medium Density Residential
- High Density Residential
- creeks
- Floodplain
- City Limits
- ETJ

or smaller in the future, depending upon several variables, including changes in density, land use and/or zoning, or number of people per housing unit.

Table 8-2

ULTIMATE CAPACITY

City of Bee Cave and ETJ Area

Type of Development	Vacant Acres or Lots	Developable Acres [1]	Dwelling Units per Acre	Persons per Household [2]	Occupancy Rate	Housing Units	Households	Population
Vacant Platted Residential Lots	998	---	---	3.17	0.91	998	908	2,879
Low Density Rural Residential Acres	700	661	0.5	3.17	0.91	331	301	953
Low Density Residential Acres	82	71	1	3.17	0.91	71	65	205
Planned Density Residential Acres	139	101	1	3.17	0.91	101	92	291
Medium Density Residential Acres	39	36	8	3.17	0.91	288	262	831
High Density Residential Acres	40	34	11	3.17	0.91	374	340	1,079
Ultimate Capacity in Vacant Areas						2,163	1,968	6,238
Current Population of the Total Planning Area [4]								7,624
Ultimate Population Capacity of the Total Planning Area [4]								13,862

[1] "Developable Acres" refers to vacant residential acres not located on 20% or greater slope

[2] Census 2000 Bee Cave Persons per Household

[3] Census 2000 Vacancy Rate for Bee Cave and Travis County

[4] "Total Planning Area" refers to the City limits and the ETJ combined

Source: Sefko Planning Group/Freese and Nichols, Inc.

It is important to realize that the ultimate capacity for the eventual land area (the City and ETJ) of the City of Bee Cave may take many years to achieve, and is not likely to be met in the immediate future. For planning purposes, however, it is expected that the ultimate capacity of the City will be met in approximately 10 years.

PROJECTED FUTURE POPULATION INCREASE

The population growth of the City of Bee Cave will likely be regulated to a great extent by the rate at which the housing inventory can be expanded in price ranges that will permit and encourage persons to reside within the community. In general, the increases in housing costs will, however, tend to be a factor in moderating any rapid expansion of the population. As aforementioned, Bee Cave will be limited in its ability to expand its City limits and ETJ and must accommodate new residents within the existing area. Housing activity throughout the Austin Hill Country area will likely continue to increase, as will the number of proposed housing developments, and therefore, continued population gains can probably be expected for at least the next several years in Bee Cave. In the past few years, the City has been experiencing a marked increase in population, due mainly to an increased interest in a rural lifestyle, the aesthetic appeal of the Hill Country, and the limited amount of remaining opportunities for a quality residential lifestyle in the Austin area.

It should also be recognized that nearly all the changing characteristics of the general population are tending to reduce the number of persons per dwelling unit. This is a general trend nationwide as families are basically becoming smaller, and is likely to be occurring in the City of Bee Cave as well. In the future, it can be expected that more dwelling units will be required to house each 100 persons than have been needed in the past.

Population projections are significant to the process of assessing how much land should be allocated to each land use and how intensely land should be used in order to support a dynamic, growing population. Due to the fact that residential growth within the existing corporate limits of Bee Cave is extremely limited, both the City itself and the ETJ area will be used to calculate the projected population. As previously discussed in the *Baseline Analysis*, the number of people currently living within the limits of Bee Cave is estimated at approximately 4,509 persons, and within the ETJ is approximately 3,115 persons, which is a total of 7,624 people living in the City of Bee Cave area. Using these population numbers as the 2008 base year population for the City and its ETJ, a series of projections were made for planning purposes. Based upon the assumed ability to expand the City's housing inventory as well as its land area at least to the existing ETJ limits, the population forecast scenario shown in **Table 8-3** was developed.

It is important to recognize that the housing market, and therefore the increase in population, is market driven. A slower growth rate can be expected in the years following this 2008 population estimate due to the economic decline and downturn in the housing market.

The growth scenarios shown in **Table 8-3** represent a reasonable range of anticipated growth rates for the City of Bee Cave. The higher projection ("C") would require the relatively aggressive housing response and influx of population that has occurred in the City and ETJ since 1999, when a growth rate

of approximately 14% was experienced; this is a high amount of growth and is unlikely to be maintained over the next 20 years. It should be noted that the number of people projected under "Plan C" for the year 2030 far exceeds the ultimate capacity of the City and ETJ area; an 11% growth rate would reach ultimate capacity of 13,862 in less than 10 years.

The more moderate 8% growth rate used in calculating Plan "B" is slightly less than the population increase that occurred in Bee Cave's planning area from 1999 to 2008. Based on this growth rate, ultimate capacity would be reached within the next 15 years.

Table 8-3

POPULATION GROWTH AND PROJECTIONS

	City Limits	ETJ	Planning Area
1999	551	1,776	2,327
2008	4,509	3,115	7,624
CAGR	26.3%	6.4%	14.1%

Year	Plan A 5.0% Growth Rate	Plan B 8.0% Growth Rate	Plan C 11.0% Growth Rate
2008	7,624	7,624	7,624
2010	8,005	8,246	8,566
2015	8,405	10,033	11,464
2020	8,826	12,206	13,862
2025	9,267	13,862	13,862
2030	9,730	13,862	13,862

Note: Population cannot exceed the capacity of 13,862

Source: Sefko Planning Group/Freese and Nichols, Inc.

The lower projection ("A") represents a growth rate that is lower than what is anticipated to occur, but negative fluctuations in the economy could contribute to a slower growth rate than is expected. With a 5% compound annual growth rate, the population of the Bee Cave area could continue to grow for approximately 30 years before reaching capacity.

For planning purposes, the medium estimate ("B") of 8% growth is recommended as the most appropriate for the near term. Again, it should be noted that ultimate capacity will be reached in just over 10 years according to this growth scenario.

The City of Bee Cave will be limited in its growth beyond its existing ETJ due to both jurisdictional limitations and environmental constraints. Within the current City limits (not including the ETJ), there are approximately 3,297 acres of land, and approximately 68 acres of this land area is available for residential development. The remaining acreage within the City has either been previously developed, is not designated as "residential" on the *Future Land Use Plan* (refer to **Plate 8-1**), or is located on a slope greater than 20% (refer to **Plate 8-2**). Specifically, 34 developable acres have been designated as either *Low Density Rural Residential* and the future population of this land area can be calculated using a density of one-half unit per acre. *Low Density Residential* and *Planned Density Residential* have been designated 18 developable acres and can be calculated using a density of one unit per acre. High Density Residential has been designated 16 developable acres at a density of 11 dwelling units per acre.

Taking all of these factors into account, and assuming that there will continue to be three persons per household unit, the City of Bee Cave could eventually have an additional 2,178 people living within its current corporate limits. If the City of Bee Cave does not annex any additional land area within its ETJ, it is not likely to have enough land within today's corporate limits to allow it to reach a population of over 6,700 persons (depending upon the densities at which individual parcels actually develop).

In addition, there are not many large parcels of land left to be developed within Bee Cave itself; such development is the primary catalyst for substantial increases in population numbers. It is recommended, however, that the City be proactive in terms of growth. It is not in the City's best interest to wait until growth is occurring to annex. Prior to development occurring, the City has the opportunity to affect growth, and to ensure that such development is in the best interest of the community and is in accordance with the rules and regulations of the City. Bee Cave will be in a better position to make decisions pertaining to growth issues if the area is within its corporate limits. The only authority that the City has within its ETJ areas must be implemented through subdivision ordinances, and decisions made cannot be based on the land use that is desired by the municipality.

FUTURE LAND USE REQUIREMENTS

Another important aspect in planning for the City of Bee Cave's future is the relationship of the projected population in relation to future land use requirements. An assumption which has been valid in other communities throughout the State is that the ratio, or percentage, of land use acres consumed relative to the future population may be generally the same as is consumed today. A major goal for the City of Bee Cave is to maintain the low density community that exists today, while allowing for quality growth in the future.

Table 8-4

COMPARISON OF EXISTING AND BUILD-OUT LAND USE DENSITIES

City of Bee Cave, Texas

Land Use Category	2008		Build-Out	
	Total Acres	Acres / 100 Persons	Total Acres	Acres / 100 Persons
Residential Use	990	22.0	1,676	25.1
Parks/Open Space	27	0.6	265	4.0
Private Recreation	228	5.1	227	3.4
Public/Semi-Public	81	1.8	65	1.0
Office	29	0.6	83	1.2
Retail [1]	280	6.2	518	7.7
Commercial [2]	244	5.4	255	3.8
Rights-of-Way	284	6.3	208	3.1

[1] "Combined Retail" includes Retail, Mixed Use, and Town Center land uses

[2] "Combined Commercial" includes Commercial and Neighborhood Service land uses

Source: Sefko Planning Group/Freese and Nichols, Inc.

Table 8-4 shows the future land use densities for the City of Bee Cave, as related to the population projections. The comparisons shown in **Table 8-4** are intended to facilitate a better understanding of the land use relationships shown on the *Future Land Use Plan*. It should be noted that some variation can be accounted for by the development of substantial exciting vacant acreage.

INCONSISTENCIES BETWEEN DEVELOPMENT PROPOSALS AND THE FUTURE LAND USE PLAN

At times, the City will likely encounter development proposals (inside their corporate limits) that do not directly reflect the purpose and intent of the land use pattern shown on the *Future Land Use Plan*. Careful consideration should be given to any development proposal that is inconsistent with the plan. When such a proposal is presented to Bee Cave, it should be reviewed based upon the following considerations:

- Will the proposed change enhance the proposed site and the surrounding area?
- Is the proposed change a better use than what is shown on the *Future Land Use Plan*?
- Will the proposed use impact adjacent residential areas in a negative manner? Or, will the proposed use be compatible with, or even enhance, adjacent residential areas?
- Are conforming uses adjacent to the proposed use similar in nature in terms of appearance, hours of operation, and other general aspects of compatibility?
- Does the proposed use present a significant benefit to either the respective city or the community as a whole in terms of public health, safety and/or welfare (i.e., would it address a physical or social need of the community or its citizens? Would it be to the City's economic advantage?)?

Development proposals that are inconsistent with the *Future Land Use Plan* (or which do not meet its general intent) should be reviewed based upon the above questions. It is important to recognize that proposals contrary to the plan could be an improvement over the uses shown on the plan for a particular area. This may be due to changing market, development and/or economic trends that occur at some point in the future after the plan is adopted. If such changes occur, and especially if there is a significant benefit to the City of Bee Cave, then these proposals should probably be approved unless they would have a negative impact upon the City and/or its ETJ.

Each development proposal should be reviewed on its own merit, and it should be the applicant's responsibility to provide evidence that the proposal would enhance the community based upon the policies in this *Comprehensive Plan 2009* and upon community objectives and values.

FUTURE LAND USE MAP INTERPRETATION POLICIES

Rezoning or other development approvals for land uses not consistent with the *Future Land Use Plan* (or Comprehensive Plan) should not be approved until the plan has been amended, as appropriate, to provide for such land uses.

If a rezoning proposal is consistent with the *Future Land Use Plan* (i.e., is the same or very similar to the use(s) shown on the plan map), then the request should be processed as any other request is processed. A statement/determination should be made in a municipal staff report that the proposed request is consistent with the plan. This should not mandate approval by the City Council, but it should be the first prerequisite in the review process. The request should still be reviewed on its merit based upon additional criteria, such as traffic impact, compatibility with surrounding uses and adjacency standards, among others.

If a rezoning proposal is *not* consistent with the *Future Land Use Plan*, then an amendment to the plan should occur prior to approving the request. It should be the applicant's responsibility to provide evidence proving that the proposed rezoning is better or more consistent with land uses in the surrounding area than what is shown on the *Future Land Use Plan* map. If this is the case, then City of Bee Cave could initiate plan amendment proceedings. To expedite the process, Plan amendments could be processed simultaneously with rezoning change requests as long as action on the Plan map precedes action on the rezoning requests. The *Future Land Use Plan* Map should be updated at least once or twice annually to ensure that it reflects any *Future Land Use Plan* amendments.

FUTURE LAND USE POLICIES

The following sections describe recommended policies that should guide the City of Bee Cave's future land use planning efforts:

1. The City of Bee Cave should use the *Future Land Use Plan* and the associated policies in this report to establish the general pattern of development within the community. This pattern of development should be implemented through the City's development regulations.

2. The *Future Land Use Plan* provides the general description of land use categories, and the text in this report provides explanation of key components of the Plan. The City of Bee Cave should maintain its *Future Land Use Plan* in order to provide areas for different types of land uses and intensities, and should plan for public services and facilities appropriate for the planned land uses. The Plan establishes the general pattern of future land use, as appropriate, to achieve the community's goals and objectives.

3. The City of Bee Cave should maintain sufficient locations for residential and nonresidential development in order to accommodate projected growth with provision of additional land use capacity for market choice and flexibility.

4. The City of Bee Cave should continue in its tradition of supplying low density residential housing by maintaining a ratio of two single family/owner occupied homes per one multiple family/renter occupied unit.

5. The City of Bee Cave should plan areas for a variety of residential housing types and densities.

6. The City of Bee Cave should use its planning and development regulations to protect residential neighborhoods from encroachment of incompatible activities, or from land uses that may have a negative impact upon a residential living environment.

7. Residential developments adjacent to a park or to public open spaces should be designed to facilitate public access to and use of the park/trail, while minimizing potential conflicts between park users and residents of the neighborhood.

8. In reviewing development proposals, the City should consider issues of community character, compatibility of land use, residents' security and safety, and efficient service

provision, since these are important qualities of any community and should be emphasized in the City of Bee Cave.

9. The City of Bee Cave should encourage future patterns of development and land use that would reduce infrastructure construction costs and would make efficient use of existing and planned public facilities.

10. The official copy of the *Future Land Use Plan* map will be on file with the City of Bee Cave. The boundaries of land use categories as depicted on the official map should be used to determine the appropriate land use category for areas that are not clearly delineated on the smaller scale *Future Land Use Plan* (**Plate 8-1**) contained in the Comprehensive Plan document.

11. A rezoning proposal's density should be consistent with the *Future Land Use Plan* and related density assumptions. The actual density approved should take into consideration the parcel zoning, adjacent conforming land uses, the nature of the proposed development, and other relevant policies of the Comprehensive Plan.

12. Nonresidential development proposals should be evaluated according to the types of uses proposed, their compatibility with surrounding uses, and the ability of existing or planned infrastructure to provide adequate services to these uses. In addition, the City of Bee Cave should work closely with the Lower Colorado River Authority (LCRA) in order to ensure the provision of water and wastewater services to new development.

13. The City of Bee Cave should continue to update its present design standards and guidelines for development within areas that are planned for nonresidential uses to ensure that these areas develop with high quality, compatible design. Standards and guidelines should address elements including, but not limited to, minimum lot size, building scale, building setbacks, lighting, landscaping, screening and fencing, signage, internal circulation, and building materials. (These elements are further discussed in the *Livability* component of the plan.)

14. The City of Bee Cave should periodically evaluate the development review and approval process, and should revise these processes as needed to ensure the following: (1) that adequate opportunity is provided for public input in appropriate development projects; (2) that consistency and predictability are maximized for all parties involved in the process; and (3) that the process helps to achieve the goals and implement the policies of the Comprehensive Plan.

15. Rezoning requests (or other development approvals) for land uses that are not consistent with the *Future Land Use Plan* should not be considered until the Comprehensive Plan has been amended as necessary to provide for such land uses. In those cases where development requests are not consistent with the Plan, the City should process such requests and Plan amendments concurrently.

The *Future Land Use Plan* is not the City's official zoning map. Rather, it is intended to be used as a guide in making decisions regarding Bee Cave's future land use patterns. In essence, the *Future Land Use Plan* is intended to provide an overall framework for guiding the actions of the different entities responsible for determining the City of Bee Cave's future. It will be important that the Plan be used on a daily basis, and that it be kept updated and current with respect to changing conditions and trends, in order for the City to enjoy the benefits of coordinated development over a long period of time.

L I V A B I L I T Y P L A N

Section Nine

Comprehensive Plan 2009

INTRODUCTION

Urban design principles strive to improve the quality of life, or "livability", within a community by enhancing the man-made environment and by creating new opportunities for social interaction among residents. Good urban design practices also help to create a legible development pattern that makes the community understandable to residents and visitors alike. They often deal with the sensory response of people to the community's physical environment: its visual appearance, its aesthetic quality, and its spatial character.

Urban design can be used to bolster people's sense of well being and civic pride, their awareness of different places within the community, and even their behavior toward one another. The creative application of specific urban design improvements, no matter how large or small they may be, should result in a more aesthetically and functionally stable community which is a happier and healthier place to live, not only in the physical sense, but in the psychological and emotional sense, as well.

Promoting livability also has long lasting financial benefits. Creating places where people want to be encourages reinvestment into the community. This reinvestment in turn helps to keep taxes low because property values tend to increase which lessens the need to raise tax rates. Quality, sustainable development attracts businesses and residents, expanding the tax base. Financial investments promote a sense of ownership of the community.

THE "LIVABLE" COMMUNITY

This *Livability* element of the Comprehensive Plan integrates urban design considerations into the City's growth and development processes to create an attractive and recognizable physical environment that complements the functional organization of Bee Cave, and to reinforce a sense of "community" among the people who live here (see **Illustration 9-1**). The intent of this *Livability* element is to provide recommendations for maintaining and strengthening both the City's image as a community of excellence and leisure, as well as its identity as a small town in spite of its proximity to the expanding City of Austin.

Illustration 9-1

EXAMPLE OF A "LIVABLE" SPACE

In the simplest terms, creating “livability” means creating places where people want to be, that contribute to interaction and discourse with others, and that are personally fulfilling. It means creating environments which are “people-centric” rather than “auto-centric”. Many factors contribute to the "livability" of a community. This section has three primary focuses, which will be discussed in further detail throughout this section:

(1) Create a sense of place,
(2) Promote desirable neighborhoods, and
(3) Encourage green concepts

SENSE OF PLACE

Often thought of as mere beautification of a community, “community image” elements contribute to a much more complex process of utilizing a community's natural and man-made features to establish a distinct visual image and identity –- a "sense of place" –- for the community.

Communities often lack visual individuality, especially in the wake of major metropolitan areas, like the City of Austin. Smaller communities generally have more of a challenge than larger communities due to the fact that smaller communities generally do not have the advantage of distinctive skylines as identifying elements. They must endeavor to create their own identity, or signature, in other ways that are both conducive and responsive to their own individual size, scale and character. A recognizable image/identity is not only important to the inhabitants of a particular community, it is also important to those who live within surrounding areas and to visitors. It helps to provide orientation –- a point of reference for people moving into, around within, and out of a community.

DISTINCTIVE NEIGHBORHOODS

Distinctive neighborhood characteristics create an individual “personality” within each community, or a sense of place. Additionally, contributing to the character of the community provides the residents with a sense of ownership of the neighborhood, which encourages residents to be more proactive in property maintenance and addressing security concerns.

The location and mix of housing where each property has different yet complementary characteristics — view, proximity to open space, access to retail services, house size and type — create neighborhoods that attract reinvestment because of each property’s individuality. This is often not the case in large homogenous subdivisions.

Identifying and preserving existing neighborhood landmarks (such as distinctive buildings and prominent natural features) are another method to foster neighborhood pride and a sense of

ownership, and to emphasize a neighborhood's individuality. The preservation of open space, its location within the neighborhood and its use (as a common green, recreation area, preservation of floodplain or other use) also creates unique and distinctive neighborhoods.

GATEWAY ENTRANCES

The "sameness" that is often inherent to communities within a particular geographic area makes it appear that each one is just like its neighbors. For example, the visual appearance of the City to a traveler along State Highway 71, R.M. 620, or F.M. 2244 may be the same, or very similar, to the appearance of any other community. Due to the fact that developers and their architects often adhere to popular design trends of a particular time period, rapid development tends to result in homogeneity of style – it all looks similar. This lack of design variety, especially along major travel corridors, tends to create anonymity within a region – one community looks just like its neighbor, and it is difficult for people to know when they have left one community and entered another. Of course, many communities have taken steps to beautify and individualize their physical appearance, thereby creating their own image/identity to set them apart from their neighboring cities. Therein lays the challenge for the City of Bee Cave.

Illustrations 9-2 and 9-3

EXAMPLES OF GATEWAY ENTRANCES

Gateways are significant elements that can help residents and visitors to determine the geographical boundaries of a community (see **Illustrations 9-2** and **9-3**). Also known as entryways or portals, gateways can provide a strong sense of arrival to, as well as a sense of departure from, the community. They are the first thing visitors see when they come into a community, and the last impression visitors have when leaving, and they can provide a strong indication of a community's image if they are prominent enough. One of the major urban

design issues facing the City of Bee Cave is the visual continuity, or sameness, along its major thoroughfares and highways.

Bee Cave has taken steps to create gateways along the major access corridors into the community. The City should continue this practice, specifically along State Highway 71, R.M. 620 and F.M. 2244 (Bee Cave Road). Properly developed, distinctive gateways into the community add greatly to the City's sense of identity, and could contribute the sense of "arrival."

The design of gateways into the City of Bee Cave should be guided by several factors. One of the most obvious factors is the number of people using a particular entry point. The most heavily traveled the roadway entering the community is State Highway 71, although both of the other primary access points also carry a large amount of traffic. Two entry features for the City placed directly along State Highway 71, both leading into and out of the community (i.e., at the eastern and western corporate limits) would be a positive step in creating a visual identity. These gateways could be as simple as carefully designed landscape features, which may include a special type of signage or other identifier that signifies arrival into the City. Other logical places for such entry features would be along both R.M. 620 and F.M. 2244.

Another important factor in the design of gateways is to develop an entryway that provides a sense of identity for the community, while projecting a desirable image for the city. This can be accomplished through careful use of signage, landscaping, and other design elements such as lighting, fencing, paving patterns, art/sculptural elements, and a variety of earth forms. Consideration should be given to establishing a uniform design concept for all gateway treatment areas, and hierarchical distinction between major and minor gateways can be achieved through design modification for each type of entry feature.

Design of entry features should take into consideration the setting in which each feature will be placed. Although any entry feature might ideally be placed at the corner of a roadway intersection which is at, or near, the true City limits, the design of the feature might conflict either visually or aesthetically with an adjacent retail use at the intersection. In such a situation, it may be prudent to move the entry feature further into the community to provide a better setting and better visibility, such as placing it upon the thoroughfare median, if there is one. The traffic speed at which an entry feature is viewed must also be taken into account, and the size, boldness and scale of the feature should be designed accordingly.

Many communities throughout Texas have successfully utilized this technique. However, the degree of success or effectiveness has greatly depended upon the design quality of the entry feature, as well as upon how strategically it is located and how visible it is from the road. It is important for the City of Bee Cave to assert its differing qualities, and to distinguish itself from other Hill Country communities. Gateway features are a simple first step in this direction. Priority for funding entry features, both in terms of total dollars spent per entry and in terms of the timing of expenditures, should be directly

related to the number of people using a particular entry point. Often, donations can be solicited from civic groups to assist in the funding of specific gateways and/or their maintenance (e.g., an "adopt a gateway" program).

NEW URBANISM & TRADITIONAL NEIGHBORHOOD DESIGN (TND): TOWN CENTER

New Urbanism and Traditional Neighborhood Design (TND) are different terms used to describe the same end result – a community that fosters social interaction and mixed use pedestrian-friendly areas (see **Illustration 9-4**). The core idea behind the New Urbanism movement is the intent to revive a sense of community in today's increasingly urbanized culture. The main characteristics of a traditional neighborhood design are grid layouts, tree-lined streets, alleys, public squares, mixed use neighborhood centers, and varying residential densities; the pedestrian, often ignored in the typical urban area, is a significant element in the overall design. In other words, the "new urbanism" and "traditional neighborhood design" concepts strive to resurrect the early twentieth century American towns.

The Town Center land use designation was established to further this objective. As is stated within the *Future Land Use Plan* element, a mixture of land uses is appropriate for the Town Center, as it is also intended to be a place for local residents to shop, conduct personal and government-related business, live in the same place as their business, meet neighbors to eat in a restaurant or café, enjoy arts/cultural facilities, gather for community events and festivals, and other similar activities. The Town Center is substantially complete now and incorporates many of these attributes. The City should continue to use the present Town Center standards for the remaining development of the area.

Illustration 9-4

PEDESTRIAN-FRIENDLY ELEMENTS WITHIN A TOWN CENTER

The availability of outside spaces such as courtyards, outdoor seating areas, small squares, pocket parks, and greenbelts, helps to promote a higher level of pedestrian activity and serves to enhance a

pedestrian-oriented environment (see **Illustrations 9-5** and **9-6**). Where possible, both residential and nonresidential land uses should be oriented to these outside spaces.

Illustrations 9-5 and 9-6

OUTSIDE SPACES WITHIN A TOWN CENTER

Traditional Neighborhood Design (TND) is oriented towards reducing urban sprawl while facilitating efficient use of existing and future services. It is important to note that the City of Bee Cave, with its numerous environmentally sensitive areas, should allow this type of design to be utilized generally in conjunction with the clustering concept, primarily due to the fact that neighborhoods developed on the basis of TND tend to have higher densities and less permeable service area than what is generally desired within the City of Bee Cave. It is therefore envisioned that the only area in which this type of development should be allowed is within the proposed Town Center area. The Town Center has been proposed within the *Future Land Use Plan* (refer to **Plate 8-1** for graphic support) with the intent that it be designed in keeping with the guidelines of TND, and therefore, to incorporate many of the characteristics of a TND area. The City of Bee Cave should limit the availability of residential TND design in other areas of the City in order to prevent it from becoming the predominant type of development within the City.

While this type of design is more likely to promote the desired small town environment within the City of Bee Cave, it is important to stress that the intent of this neighborhood design within Bee Cave is to create a rural, small town environment. The "new urbanism" and TND concepts should not be exploited in order to create higher density areas and small-lot subdivisions without the benefits and design concepts embraced by New Urbanism. A way in which to ensure that the purpose and intent of these concepts is upheld within the City is through careful and thorough enforcement of zoning and subdivision regulations, as well as any other applicable City ordinances.

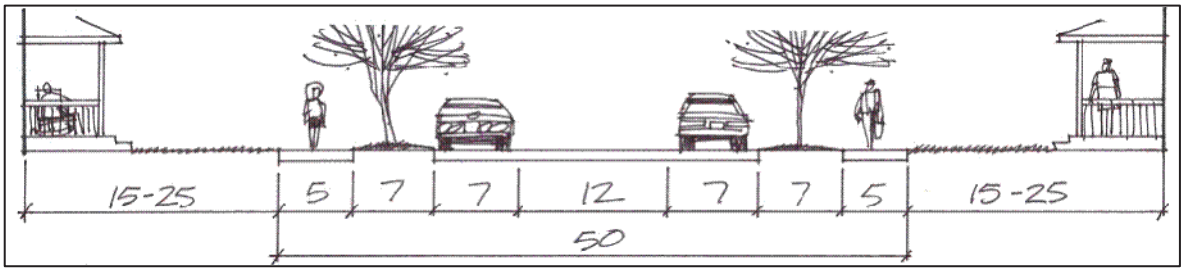
DESIGN CRITERIA FOR NONRESIDENTIAL DEVELOPMENT

One of the factors that will determine the ultimate efficiency of Bee Cave's thoroughfare system is the manner in which properties adjacent to major thoroughfares are developed and used; the integrity of State Highway 71 is especially critical, as is that of R.M. 620 and F.M. 2244 (Bee Cave Road). The term "streetscape" has been developed in recent years to describe the visual image that is projected by a community street and by various elements within and adjacent to the street right-of-way (see **Illustration 9-7**). Overhead power lines, traffic signals, signs, light fixtures, plant materials, and street paving are some of the most noticeable physical elements that are found within a typical streetscape. The visual appearance of adjacent developments and their physical form also influence one's perception of a streetscape and the overall community.

The current streetscape along within the City of Bee Cave is generally characteristic of the typical state highway, with regional traffic, especially at peak periods of the days, various gas stations, and several restaurants. Steps should be taken now, as new development occurs, to improve and upgrade the image of the community as seen from State Highway 71, while at the same time protecting its traffic-carrying capacity.

Illustration 9-7

DIAGRAM OF A YIELD SECTION



As nonresidential growth continues to expand in the core of the City, it is important to retain the Hill Country atmosphere. The City has already adopted many design guidelines for these nonresidential land uses, which will become increasingly significant as growth continues. The following discussion of additional guidelines is intended to establish a framework of key elements that should be considered when addressing the criteria for nonresidential design practices. These guidelines should be included within the Subdivision Ordinance or the Zoning Ordinance of the City of Bee Cave.

There are many specific site design items that can be addressed by the private sector during site development. Often, much of what creates a better view from the street is simply better site design. Site design review can be incorporated into the City's normal project review of site plans. The following sections discuss site design elements that could enhance nonresidential developments, especially along State Highway 71, R.M. 620 and F.M. 2244.

GRADUATED SETBACKS

PURPOSE:

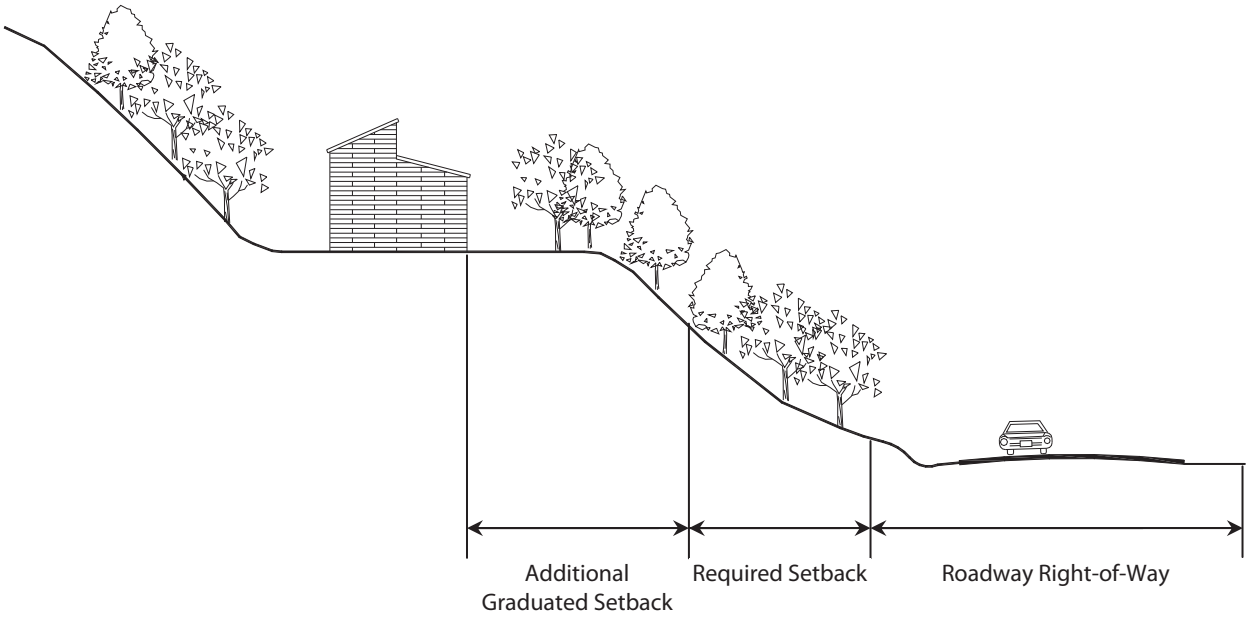
- Provide a positive visual image of the City of Bee Cave form all areas within the City, as well as from the major regional thoroughfares.

SUGGESTIONS:

Implement a "graduated setback" ordinance, which would require nonresidential buildings to be increasingly setback from the road or from adjacent residential land uses as their height increases, or as the natural topography of the land increases (refer to **Illustration 9-8**). The City has implemented graduated setbacks according to Sec. 32.05.006(h) of the Zoning Ordinance; it is suggested, however, that the regulation be revised to require height measurement from the roadway rather than from the base of the structure.

Illustration 9-8

GRADUATED SETBACK TO PROTECT VIEW FROM ROAD



PLACEMENT OF PARKING AREAS

PURPOSE:

- Provide a positive visual image of the City of Bee Cave along all major thoroughfares.

SUGGESTIONS:

Related parking areas/facilities for all nonresidential uses located along any of the three major thoroughfares, State Highway 71, R.M. 620 and F.M. 2244, should be placed either at the side or at the rear of the primary structure and away from the major thoroughfares, thereby ensuring that they are not visible from the major thoroughfares whenever possible (see **Illustration 9-9**). An exception to this may occur when protection of natural vegetation or site constraints make such design impractical. The City may also require any additional landscaping and/or screening elements necessary to further shield parking areas from the view of those traveling on major roadways.

The City currently requires effective buffering or parking areas from street view and from the adjacent properties according to Sec. 32.05.002(f)(13) of the Zoning Ordinance; however, it is recommended that the City consider encouraging or requiring parking areas be located to the side or rear of buildings located along these thoroughfares.

Illustration 9-9

PARKING BEHIND OFFICES NOT VISIBLE FROM THE ROAD AND SCREENED FROM ADJACENT RESIDENTIAL LAND USES

EDGE TREATMENTS

PURPOSE:

- Provide a positive visual image of the City of Bee Cave along all major thoroughfares.
- Provide a buffering element between residential and nonresidential land uses.

SUGGESTIONS:

The City currently requires all nonresidential uses located along any of the three major thoroughfares (State Highway 71, R.M. 620 and F.M. 2244) to implement landscaping elements along the length of any major thoroughfare frontage within the setback area (see **Illustrations 9-10** and **9-11**) according to Sec. 32.05.002(f)(2) of the Zoning Ordinance. It is suggested this requirement remain in place.

The City also requires a screening wall between nonresidential and residential land uses. (It would be the responsibility of the nonresidential land use to construct and maintain the screening wall). It is recommended the City modify the existing requirement in Sec. 32.05.002(f)(3)of the Zoning Ordinance to include only masonry materials and remove the option of wood fencing. The following three alternatives should be considered to provide to the developer:

- MASONRY WALL WITH LANDSCAPING – 6′ in height, constructed of rock, stone or other material similar in appearance and quality;
- WROUGHT-IRON WALL WITH LANDSCAPING – 6′ in height with City-approved "Hill Country" landscaping materials;
- NATURAL SCREEN – 6′ in height with City-approved "Hill Country" landscaping materials.

It should be noted that each of the three alternatives must provide a continuous, opaque screen within two years of initial planting, and that earth berms may be used to further shield the view from the road.

Illustrations 9-10 and 9-11

LANDSCAPING AND MASONRY ELEMENTS USED TO SCREEN BETWEEN INCOMPATIBLE LAND USES

CIRCULATION

PURPOSE:

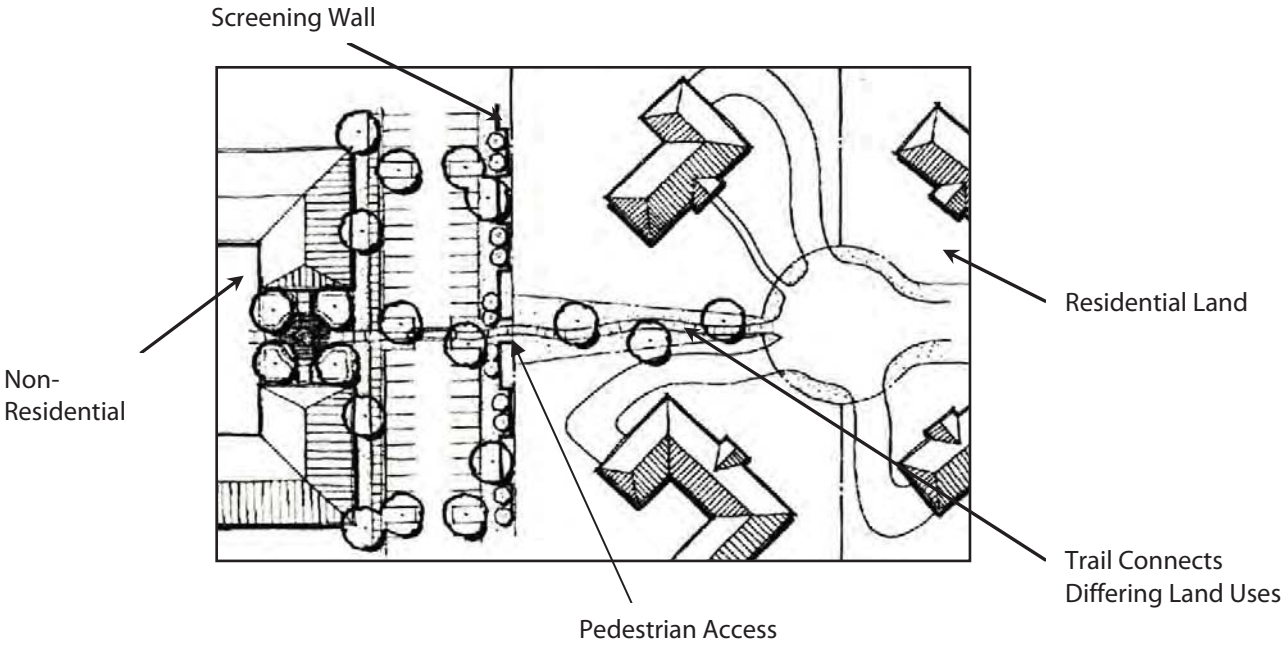
- Provide continuous pedestrian access throughout the City of Bee Cave, to all residential and nonresidential areas, through the construction of a trail system.

SUGGESTIONS:

The City should continue to encourage pedestrian connectivity between varying land uses. Require all nonresidential developers to consider pedestrian access to and from adjacent land uses. The City may require the developer to construct a trail through the developing property that connects to existing trails or rights-of-way for trails on adjacent properties (refer to **Illustration 9-12**).

Illustration 9-12

ALLOWS PEDESTRIAN ACCESS BETWEEN RESIDENTIAL AND NON-RESIDENTIAL LAND USES



LAYOUT OF STRUCTURES

PURPOSE:

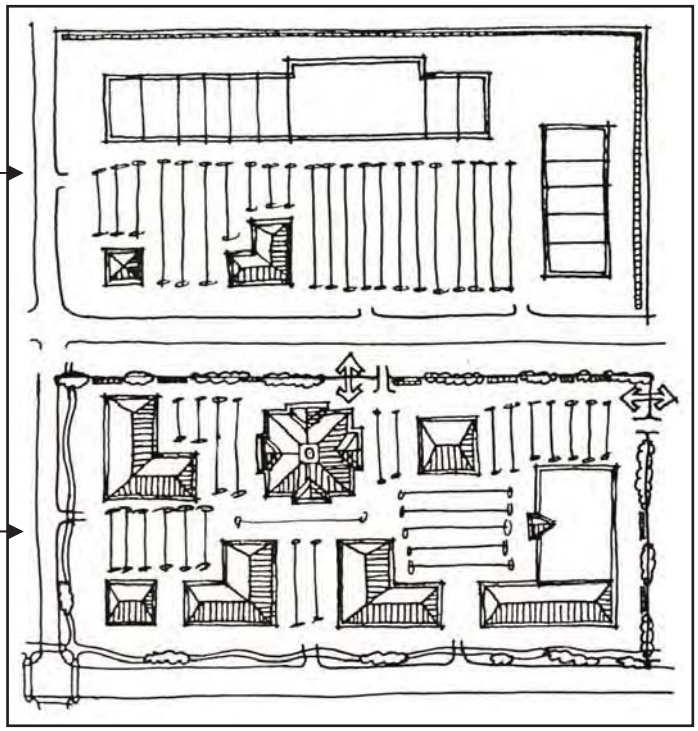
- Ensure the maintenance of the existing small-town atmosphere of the City of Bee Cave.
- Maintain the existing integrity of water quality and stormwater runoff in the City of Bee Cave area by reducing the percentage of impervious cover.

SUGGESTIONS:

Encourage nonresidential developers to construct small-scale, pedestrian-friendly areas with small building "footprints", parking areas, and pedestrian walkways integrated into the City trail system. The City should create incentives for increasing the amount of landscaping, thereby increasing the amount of pervious cover by allowing the reduction in the number of parking lot spaces on a sliding scale (refer to **Illustration 9-13**). Although the Zoning Ordinance encourages small-scale developments and landscaping elements, it is recommended the City consider allowing a reduction in the number of parking lot spaces as an incentive to developers.

Illustration 9-13

"CITY" SITE DESIGN HELPS TO CREATE A SMALL-TOWN ATMOSPHERE



HEIGHT OF STRUCTURES

PURPOSE:

- Protect the integrity of the scenic views in and around the City.
- Further the objective of a pedestrian-friendly environment by ensuring that nonresidential structures within the City are constructed at a human scale.

SUGGESTIONS:

It is recommended the City continue to limit the height of nonresidential structures throughout the City of Bee Cave to a maximum of 50 feet. Allow increases in height in relation to topography only on a case-by-case basis.

SLOPE RESTRICTIONS

PURPOSE:

- Protect the integrity of the highest points of elevation in the City by prohibiting nonresidential land use construction directly at these points.
- Preserve the highest points of elevation in the City for current and future residents of, as well as visitors to, the City of Bee Cave.
- Protect the integrity of the ridgelines that are characteristic of the Hill Country.
- Minimize the negative visual impacts of water towers and other structures.

SUGGESTIONS:

Prohibit the construction of any nonresidential buildings directly upon the highest point of any nonresidential tract of land, and prohibit all development on topography with slopes greater than 20%. Currently Sec. 32.05.004(c) requires delineation of steep slopes on all plans, however development is not prohibited.

BUILDING MATERIALS

PURPOSE:

- Ensure the aesthetic value of nonresidential land uses.
- Create cohesiveness throughout the City by establishing which building façade materials contribute to the desired "Hill Country" look and feel in the City of Bee Cave (see **Illustration 9-14**).

SUGGESTIONS:

Continue to include within the Zoning Ordinance a list of acceptable materials and materials that require further examination by requiring a Conditional Use Permit, as well as permitted and prohibited colors to reflect the Hill Country atmosphere. The following is a recommended list with these categories:

Permitted Materials	Requires Conditional Use Permit
Limestone Rustic wood Stucco Granite marble Other stone Glass (30% or less of exterior wall) Brick Adobe (brick)	Painted wood Concrete Glass (over 30% of exterior wall) Synthetic materials

Permitted Colors	Prohibited Colors
Muted, rustic earth tones	Bright colors Primary colors Pinks, purples

Illustration 9-14

"HILL COUNTRY" BUILDING MATERIALS

ARTICULATION OF BUILDING FACADES

PURPOSE:

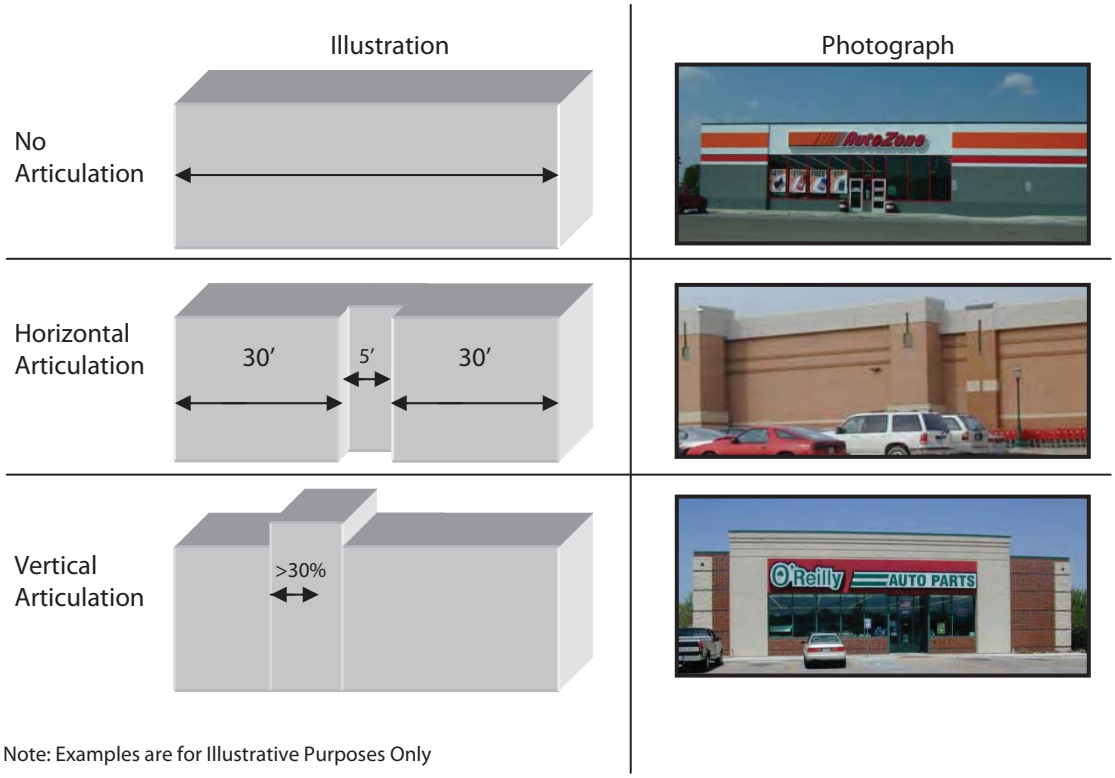
- Ensure the aesthetic value of nonresidential land uses, especially those that are larger in scale.

SUGGESTIONS:

The Zoning Ordinance (Sec. 32.05.005(c)(5) currently requires horizontal articulation for wall planes longer than 50 feet, and vertical articulation for at least 30% the distance of the roofline. Refer to **Illustration 9-15** for a basic diagram of horizontal and vertical articulation.

Illustration 9-15

FAÇADE OFFSET DIAGRAM



Note: Examples are for Illustrative Purposes Only

SIGNAGE

PURPOSE:

- Ensure a sense of cohesiveness throughout the City of Bee Cave, especially along the major thoroughfares, including State Highway 71, R.M. 620 and F.M. 2244, thereby maintaining and enhancing the aesthetic appeal of the City.

ILLUSTRATIONS 9-16 AND 9-17

MONUMENT-STYLE SIGNS

SUGGESTIONS:

Require all nonresidential signs to be monument-style signs proportional to the size and scale of the primary building structure. Encourage shared signage; especially along the major thoroughfares (refer to **Illustrations 9-16** and **9-17**). Require the use of masonry materials as the primary building materials of all nonresidential signs. Wood materials should be allowed as a conditional use. Maximum allowable height should be approximately eight feet.

The Sign Ordinance (Sec. 28.04.005and Sec. 28.04.008) currently requires colors and materials as described in the nonresidential building materials section and compatible and complementary to the primary structure, and also prohibits lighting as an element of the sign itself (i.e., neon lighting). It is recommended this requirement continue.

Prohibit the construction and use of billboards.

Ensure that the existing Sign Ordinance is enforced.

LANDSCAPING

PURPOSE:

- Enhance the view and image of the City of Bee Cave, especially along the major thoroughfares, including State Highway 71, R.M. 620 and F.M. 2244.
- Contribute to the overall quality and visual appearance of individual nonresidential developments (see **Illustration 9-18**).
- Contribute to the percentage of pervious cover within individual nonresidential developments.

SUGGESTIONS:

The Zoning Ordinance has increased to a minimum 75' landscaped edge for all nonresidential land uses along the three major thoroughfares, State Highway 71, R.M. 620 and F.M. 2244 (Sec. 32.05.006(f)(3)). The City should consider requiring a minimum 50' landscaped edge adjacent to any street right-of-way with the exception of these three major thoroughfares.

Provide incentives to existing nonresidential land uses to persuade them to comply with the landscaping and tree preservation sections within the Zoning Ordinance, and ensure that all new nonresidential land uses are compliant.

The Zoning Ordinance currently encourages xeriscape techniques in order to reduce the amount of watering and irrigation that are often necessary for common landscaping materials, and discourages the use of ground cover that would require a large amount of watering and irrigation (i.e. Saint Augustine grass). These policies, covered in further detail in Sec. 32.05.002(k), should continue.

Illustration 9-18

NON-RESIDENTIAL LAND USE WITH LANDSCAPING

SCREENING OF REFUSE CONTAINERS

PURPOSE:

- Maintain and enhance the appearance of the City of Bee Cave from public streets and neighboring properties.
- Prevent public view of solid waste containers (e.g., dumpsters).

SUGGESTIONS:

The Zoning Ordinances currently requires a screen around any commercial or industrial solid waste container that is visible from an existing or proposed public roadway (see **Illustrations 9-19** and **9-20**). Dumpsters located at the rear of a building would not require screening. This requirement can be found in Sec. 32.05.003(c)(7) of the Zoning Ordinance.

Solid waste containers should not be placed within required parking spaces, and they should allow proper access and vehicular circulation by service trucks.

Illustrations 9-19 and 9-20

EXAMPLES OF REFUSE CONTAINER SCREENING

SCREENING AND LOCATION OF OUTSIDE STORAGE, LOADING AREAS, AND UTILITY EQUIPMENT

PURPOSE:

- Improve appearance of community from public streets and neighboring properties.
- Prevent public access to storage areas.

SUGGESTIONS:

Loading, service, and outside storage areas should be screened and should not face onto or be visible from a major or minor thoroughfare, wherever possible. Loading docks and service areas should be located at the rear of the building. When loading docks and/or outside storage areas are located within a side yard, they could be screened from adjacent properties and public rights-of-way by using masonry walls in conjunction with landscaping materials (refer to **Illustration 9-21**). Sec. 32.05.001(d)(2) of the Zoning Ordinance currently restricts these elements.

Cell towers and other utility structures should be designed to blend into the surrounding area whenever possible (see **Illustration 9-22**). The Zoning Ordinance currently includes this provision in Sec. 32.05.002(f)(7).

Illustrations 9-21 and 9-22

SCREENING OF OUTSIDE STORAGE AND UTILITY EQUIPMENT

SITE DESIGN CRITERIA FOR RESIDENTIAL DEVELOPMENT

The design and character of residential neighborhoods is an important component of the community's overall urban design. As more property is developed into residential subdivisions, such design factors as the provision of open space, adjacency issues, screening, and landscaping, as well as the design layout of the subdivision itself, will be critical to the perception of the City's residential neighborhoods. While the community clearly must provide developers with options appropriate to the marketing of their subdivisions, the community must also strive to maintain some continuity between different residential subdivisions; this is also addressed within this *Comprehensive Plan 2009*.

Older residential neighborhoods will need continued maintenance in such areas as streets and utility service, while newer residential subdivisions offer the potential of embracing and including positive design elements that will add value, both aesthetic and monetary, to the homes constructed within them. The vast majority of the existing homes and residential areas in the City of Bee Cave are characterized by high-quality development. The enhancement and maintenance of these high-quality areas is of the utmost importance.

SINGLE FAMILY RESIDENTIAL LOT DENSITIES FOR NEW DEVELOPMENT

Typical New Neighborhood/Subdivision Design (Base Density)

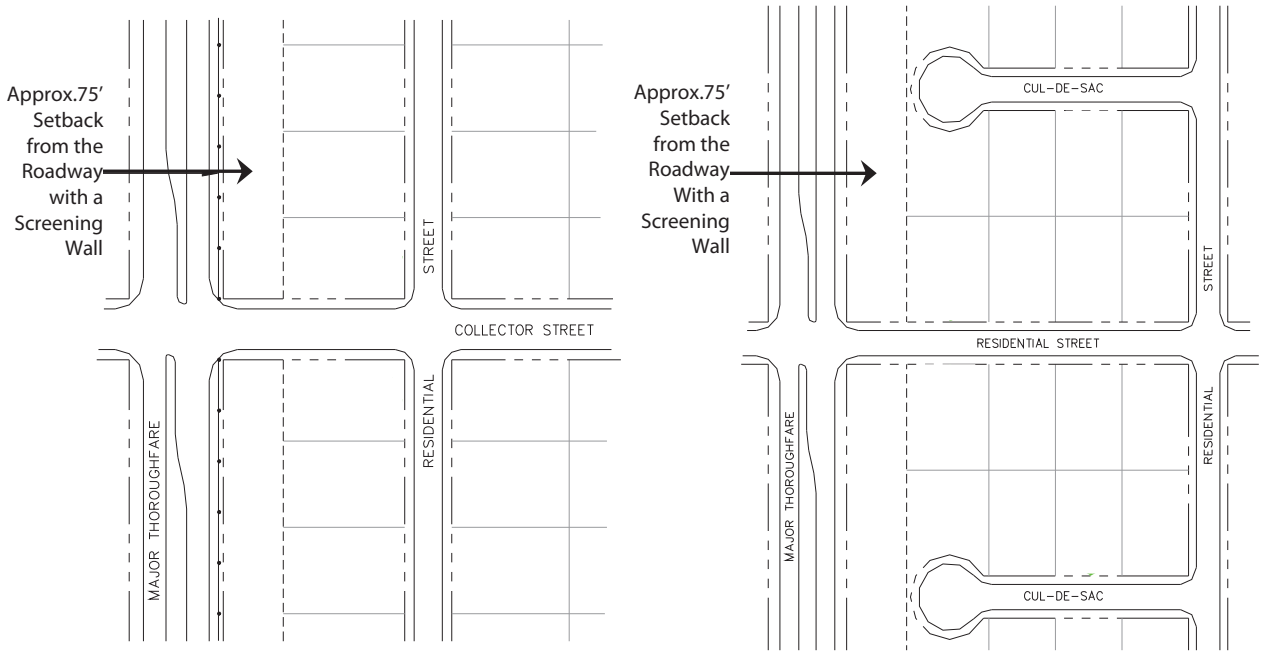
Major thoroughfares typically attract large volumes of traffic; therefore, it is not desirable to front residential lots directly onto these streets. Fronting residences on major thoroughfares will reduce efficiency of the thoroughfares due to the number of driveways, curb cuts and cross-streets, as well as the possibility of on-street parking in front of the houses. Also, when a subdivision's layout produces lots fronting onto a major thoroughfare, there is ultimately pressure later on to convert these residences into retail or commercial land uses. The majority of frontage of along the major thoroughfares within the community should be used for retail and commercial purposes. As stated within the *Future Land Use Plan* element, the preponderance of retail uses should be along and adjacent to State Highway 71, R.M. 620 and F.M. 2244 (Bee Cave Road).

The general appearance and image of residential neighborhoods and the community as a whole are also greatly affected by the orientation of development along the major streets. Fronting lots onto major roadways tends to present aesthetic and noise problems for area residents due to large amounts of traffic passing in front of homes. Of equal importance is the safety factor when area residents must back their vehicles into the arterial to leave their homes. No space is typically provided along arterial streets for parking which would serve the needs of visitors, deliveries, etc.
A preferred approach is to side residential lots onto major streets since this allows more visibility into

the neighborhood with views of pleasing elements like home fronts and landscaped yards. This tactic also enhances neighborhood security and minimizes negative traffic impacts upon the surrounding major thoroughfares. The careful treatment of subdivision design adjacent to future major thoroughfares will contribute to the safety and capacity of the thoroughfares. Also it will help to protect adjacent residential properties from the negative influences of these roadways, and from pressures to convert residences into nonresidential land uses in the future.

Illustration 9-23

SINGLE FAMILY RESIDENTIAL LOT LAYOUTS ADJACENT TO MAJOR THOROUGHFARES



Lots Backing onto Major Thoroughfares

Lots Siding on Major Thoroughfares and Fronting on Cul-de-Sacs

Illustration 9-23 shows residential lot arrangements that are designed to protect not only the residences, but the capacity and function of the adjacent thoroughfares. One method of accomplishing a desirable thoroughfare/residential relationship is to design residential lots fronting onto a parallel residential street and backing onto the major thoroughfare. By restricting access and by providing screening and suitable landscaping with an adequate setback between the residential development and the major thoroughfare, it is possible to avoid problems that would be created if all abutting lots had direct access onto the major thoroughfare. A setback of 75 feet should be required for developments adjacent to State Highway 71; this 75-foot should also be required for those adjacent to either R.M. 620 or F.M. 2244. Intersections of collector streets or other subordinate roadways should be spaced as shown on the Thoroughfare Plan (see **Plate 4-1** in the *Thoroughfare*

Plan element). Street spacing such as this will result in an interior subdivision design permitting access to the neighborhood, but discouraging the movement of through traffic within a residential area.

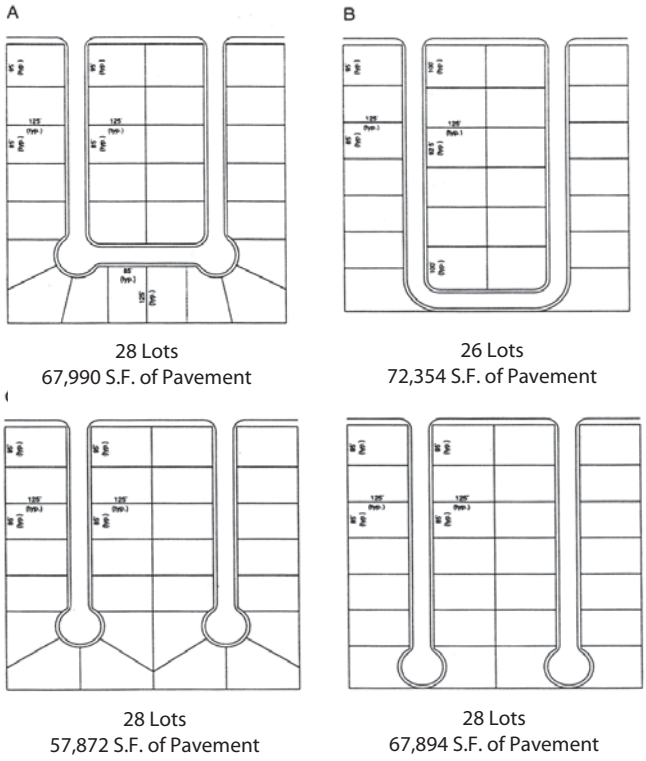
Illustration 9-23 also shows how short, "open" ended cul-de-sac streets may be used to create lots that do not have direct access onto a major thoroughfare. This technique offers a practical and economical way to protect the capacity of the major thoroughfare, and it also helps to preserve the integrity of the residential neighborhood. This method of "siding" residential lots generally does not require screening walls; therefore, it is one of the more desirable options utilized by developers in subdivision design. Cul-de-sac streets can be efficient methods in developing land, and they are very desirable for residents due to minimal traffic flows. The use of cul-de-sac streets alternated with through collector streets that intersect with a major thoroughfare tends to yield an efficient lot layout design, and this practice also maximizes thoroughfare capacity and efficiency. **Illustration 9-25** shows comparative examples of pavement (impervious cover) versus lot yield for several suggested residential street configurations adjacent to major thoroughfares. All lots should have at least 24 feet of frontage on a residential, public street.

Illustration 9-24

A "HILL COUNTRY" RESIDENTIAL DEVELOPMENT

Illustration 9-25

COMPARISON OF "PAVEMENT" TO "LOT YIELD" FOR SUGGESTED RESIDENTIAL STREET CONFIGURATIONS ADJACENT TO MAJOR THOROUGHFARES



A neighborhood should be predominantly residential in nature. It is usually bounded by thoroughfares or collector streets, or by some other natural or manmade features such as creeks, or topographic features. A neighborhood should contain some park or open space features, and should have some convenient retail areas and various other facilities, such as churches, are also

appropriate as part of a typical neighborhood. It is also defined in more abstract terms by the sense of "community" and the quality of life enjoyed by the people who live and play there. Well-designed neighborhoods provide a setting for residents to develop a strong sense of belonging, which is promoted by their interactions with one another. The quality and livability of the City's neighborhoods are integral components of the overall character. The key to a successful neighborhood is creating a sustainable environment where the ongoing investment in property is supported by public investment in parks and greenbelt areas; opportunities for social interaction; accessibility for pedestrians, bicyclists and vehicles; and distinctive characteristics which give an area a unique identity. In summary, neighborhood viability may be quantified in terms of the following characteristics:

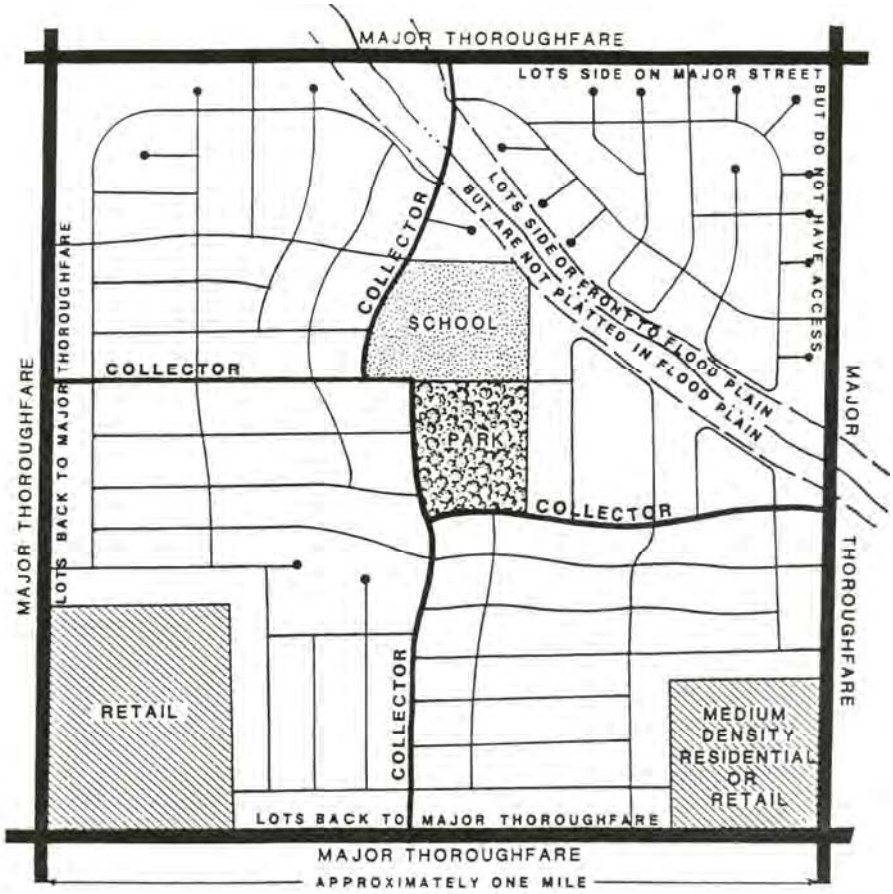
- Opportunities for social interaction;
- Careful and strategic placement of retail uses and other appropriate nonresidential uses within the neighborhood area;
- Continued investment in public and private property to stabilize property values;
- Condition of public facilities and infrastructure serving the area;
- A sense of "community" and "belonging" among residents; and,
- Access to amenities such as open space and trails.

The City of Bee Cave should strive to ensure that these elements are present in all neighborhoods within the City, in both existing and new developments. These characteristics should also be considered vital to the quality of life within the City of Bee Cave as a whole. **Illustration 9-26** shows a typical, generalized neighborhood layout and how the proposed subdivision treatments and thoroughfare standards may be used.

The most important aspects of **Illustration 9-26** are that major thoroughfares bound the residential neighborhood area and residential lots are not allowed to front directly onto these roadways. Lots should back to the major thoroughfares, and cul-de-sacs are used to open up the neighborhood and to provide access to residences from interior streets rather than directly from the major roadways. Collector streets are generally not continuous, but are instead offset within the interior of the neighborhood, which discourages cut-through traffic. In addition, the City should require a creek setback protection zone in order to protect sensitive drainage areas, particularly Little Barton Creek.

Illustration 9-26

TYPICAL RESIDENTIAL NEIGHBORHOOD LAYOUT



It is essential that Bee Cave develop additional design criteria for typical subdivision developments, such as:

- Continue enforcement of the Tree Preservation Ordinance, thereby limiting where and when trees may be removed;
- Require trees to be planted at a distance of 30 to 40 feet along both sides of residential subdivision streets in order to mitigate any tree removal;
- Require all units to have a two-car garage with off-street parking provisions in driveways;
- Develop a street cross section for use within neighborhoods for rural density (refer to the "Type 'F' Rural Street" section within the *Thoroughfare Plan* element);
- Require the construction of ribbon curbs instead of raised curbs for drainage purposes, whenever possible (refer to **Illustration 9-27**);
- Require sidewalks or connections to the City trail system; these could be further enhanced with streetscape elements such as decorative lamps, benches, and planters in all new developments;
- Require the construction of neighborhood entrance signs that are constructed primarily of masonry materials and that incorporate landscaping elements (refer to **Illustration 9-29**);
- Require that all lighting elements (i.e., street lighting, trail lighting) in these neighborhoods must be low-intensity, in order to ensure that no resident is adversely affected.
- Require formation of neighborhood associations, which would be responsible for maintenance of the neighborhood for all new residential developments.

Illustration 9-27

RESIDENTIAL DEVELOPMENT WITH RIBBON CURBS

Illustration 9-28

RESIDENTIAL DEVELOPMENT WITH ENTRANCE SIGN AND LANDSCAPING ELEMENTS

Cluster Design

The most important aspect of cluster design in subdivisions is the conservation of open space, thereby helping to create rural character in communities and neighborhoods. A cluster design creates large pockets of planned open space by allowing clustering of development (see **Illustrations 9-29** and **9-30**). Incentives, such as allowing smaller lot sizes, can be developed in order to encourage developers to use this concept. This method of neighborhood development utilizes increased development densities in some areas of the subdivision by decreasing the density of development in other areas; permanent open space is set aside, while the overall density of the subdivision remains the same.

This type of development can be encouraged in areas where the base density is relatively low. This is the case in the City of Bee Cave, with a desired average density of one dwelling single family unit per acre. The City should provide developers with incentives to utilize this design technique. One way in which the City can do this is generally referred to as a "density bonus", whereby a developer is allowed higher density levels in exchange for the provision of open space. Another incentive is to allow smaller street widths and cul-de-sac radii, as well as allowing the developer to reduce development costs. This would also help to create more pedestrian friendly streets, with street grading designs using varying materials (i.e., brick, cobbled stones) and creating interesting street patterns.

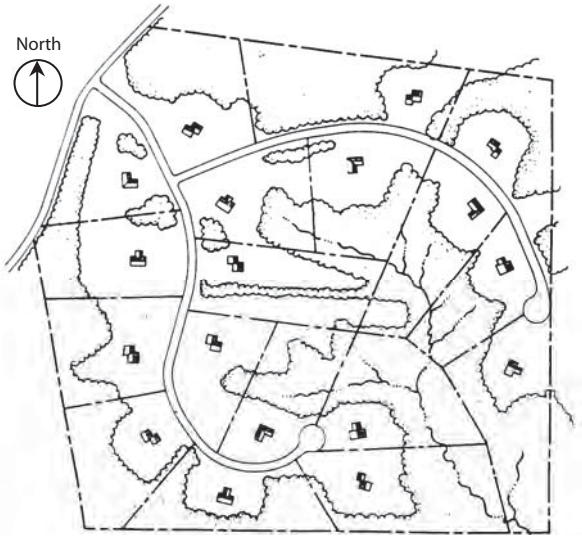


Illustration 9-29

TYPICAL LARGE-LOT SUBDIVISION WITHOUT PROVISION OF OPEN SPACE

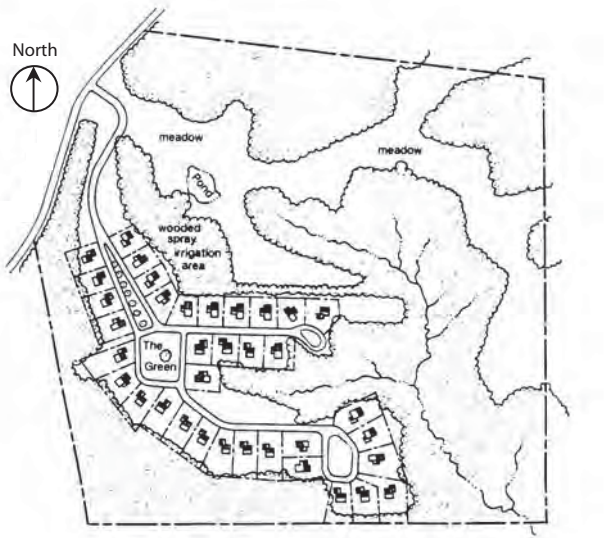


Illustration 9-30

PRESERVATION OF OPEN SPACE THROUGH CLUSTER DESIGN

It is recommended that the City of Bee Cave maintain the one-acre-lot average for single family homes, however, the base density of one-half-acre could be reduced to the individual lot size to a minimum of 20,000 feet. The following is an example of the clustering concept as it is intended to be implemented in the City of Bee Cave:

A landowner with a 100-acre tract would be allowed to develop 100 lots, which is no different than what is allowed when developing a typical neighborhood design. However, the reduction of lot size to 20,000 square feet provides a monetary incentive to the developer (less initial cost for roadways and improvements), and allows the community to benefit from the perpetual open space that is the result of the clustering concept. The result could be 100 lots on less total acreage than the typical development with a one-acre lot minimum.

Several important criteria should be established for the use of the clustering technique within the City of Bee Cave. Clustering should not be permitted on development tracts of less than 20 acres. Tracts that are 20 acres or less do not provide the City of Bee Cave with enough open space to warrant the reduction in lot size. In addition, clustered developments of 20 acres or less would not result in a neighborhood with a rural, small-town character and design. When the clustering technique is used, it should be buffered from adjacent major roadways and existing or proposed large-lot development.

As previously mentioned, this type of residential neighborhood design could be especially valuable for the City of Bee Cave due to its various environmental concerns. It is important to note, however, that the calculation of open space should not include areas that are previously protected by City Ordinance or by other legal constraints, including elements such as creek setbacks and floodplain areas. However, the clustering technique does allow for the conservation of other environmentally sensitive areas that may not be otherwise protected, such as ridgelines and view areas with great variations in topography. Utilizing and encouraging this design technique within the City of Bee Cave would allow the area to develop residential areas, as it likely will due to high demand, but in a positive way that recognizes the significant environmental concerns while ensuring the maintenance of the existing rural character of the City.

DESIRABLE NEIGHBORHOODS

This section discusses recommendations on how to create desirable neighborhoods. Desirable neighborhoods are places where people want to live – both existing and future residents. Although many of the recommendations apply to nonresidential development, it is primarily focused on residential neighborhoods.

AESTHETICALLY-PLEASING AND PEDESTRIAN-FRIENDLY STREETS

An important aspect of a desirable neighborhood is the streetscape and the level to which it accommodates pedestrian activity. The streets should not diverge from the "urban fabric" of the neighborhood, but rather complement the surroundings. The following are recommendations to help promote aesthetically-pleasing and pedestrian-friendly streets:

- Maximize the visibility of architecturally distinctive cultural and civic facilities and open space area corridors.
- Maximize visibility of open space areas by locating parks in prominent locations, and by widening open space corridors such as flood plains and trails where they are crossed by roadways.
- Where streets terminate or "T" into another roadway, ensure that there is a prominent feature or building at that point. Good examples of prominent features include such things as parks, clock towers, public art, and architecturally distinctive civic, cultural or nonresidential structures.
- Design streets so that they gently curve, to provide oblique views of buildings and streetscape, but still maintain a general grid pattern to maintain a sense of orientation.
- Ensure that sidewalks are at least 5-feet wide (the minimum dimension that two people can comfortable pass each other) and that canopy trees are located between the sidewalk and curb to create shade and a feeling of safety for pedestrians.

EXISTING NEIGHBORHOOD IMPROVEMENTS

Bee Cave has over 1,000 acres of existing residential land use, nearly a third of the acreage within the City limits; therefore, efforts should be made to continually improve the existing neighborhoods. There are many approaches to neighborhood revitalization or restoration.

One possibility for the City is to work with neighborhood associations and property owners to retrofit neighborhoods with canopy trees to slow traffic and to shade sidewalks and street paving, when physically and financially feasible. On streets that are excessively wide, strategically locate tree planters in the parking lane of the street, while being careful not to interrupt drainage. The installation of street trees can be achieved by developing a City program for planting trees in neighborhoods as residents request it and on a cost-share basis. Other coordinated efforts could include installation of landscaped roundabouts to break-up long straight streets, where physically possible, or screen rear alleys and garages when they abut public streets and open space.

Another opportunity for the City would be to facilitate volunteer-based programs to upgrade housing and improve neighborhood areas. Funds for such programs could be garnered from grants or from charitable donations (e.g., from local businesses, churches, service organizations). Many cities across Texas host home improvement projects in which neighborhood residents volunteer to help with basic exterior household repairs. Many cities receive supply donations from local hardware stores.

The City may find it useful to document the conditions of neighborhoods as they age to identify deteriorating areas and to prioritize such areas for improvements. Facts that should be documented include but are not limited to, code violations, public safety reports (e.g., police and fire), and ownership/rental percentages. There are several methods that can be used to determine these facts, including conducting door-to-door housing condition surveys and reviewing code violation reports.

REDEVELOPMENT OF EXISTING RETAIL CENTERS

The City should proactively plan for the redevelopment of some existing retail centers (see **Illustration 9-31**). Since retail centers often fail because of a surplus of retail-zoned land, competition from other centers, and a weakening market that is moving to other areas, such centers should generally be redeveloped. Redevelopment should largely consist of non-retail uses such as new residential (including townhomes and patio homes) and neighborhood-oriented parks, with limited retail uses (such as a coffee shop, bakery or restaurant). In addition, new homes in a neighborhood area often reinvigorate investment in the adjacent neighborhoods.

Illustration 9-31

FORMER RETAIL AREA REDEVELOPED AS PATIO HOMES

(Conceptual Plan from *Joint Retail Study*, 2002, Townscape, Inc.)

All redevelopment of retail centers should be geared to creating attractive pedestrian areas which are well connected to surrounding development. Developments with big-box retail buildings and shopping malls could be retrofitted into pedestrian-oriented developments by looking at the underground utility runs, "out-parcels", parking pads, vehicular circulation and the basic building structure to determine how to extract a street and block pattern for infill. Another key issue is to determine how any redevelopment would connect to surrounding streets and paths. Therefore, it is important to review new big box and retail development for future redevelopment options prior to approval.

HOUSING OPTIONS

It is important for cities to provide a variety of housing for the full life cycle of citizens and to meet the needs of different segments of the population – people of different ages, socio-economic levels, and employment levels. The "full-life cycle" is intended to describe all stages of life – young singles, professional couples, families with children, empty-nesters, retirees and seniors, including those requiring living assistance. This should include high income homes of various types (large lot, small lot, townhome, loft and condominium) and more affordable housing types (small lot/small home, townhome, loft, condominium, mother-in-law suite, carriage house and others).

SPECIAL HOUSING TYPES

Casita/Cottage. Single family, but house size is a maximum of 1,500 square feet.

Multi-Unit Large Home. A building which is designed and constructed to look like a large single family home, but may contain 4-6 units. Parking is located behind the main structure and may be accessed by a drive-thru from the front street, or by an alley.

Loft. These are units which are located in association with retail (either above or in close proximity to) and generally include a mezzanine space. They are often located above the first floor which may be office of retail use.

Live-Work Unit. A live-work unit is a residential unit which includes the capability for the ground floor space adjacent to the front sidewalk to become an allowed business use.

Mother-in-law Suite. This is an accessory residential unit located on a single family lot which does not have a presence on the front street. It will also include a separate entry from the main house. It is often constructed above the primary unit's garage or attached to the rear of the primary home.

Carriage House. A carriage house is similar to a mother-in-law suite except that it is generally larger, located on a larger lot and located above a large parking garage or stables.

The City should consider ensuring the creation and integration of residential units suitable for young people and empty-nesters by encouraging developments of 20 acres or more to include:

- At least five percent of the total number of units to be suitable for young persons, empty nesters and the single elderly. Units that would qualify include townhouses, cottages, lofts, etc. (with adjacent mixed use retail), and mother-in-law suites and carriage houses (in association with single family homes).
- To ensure quality, such units/lots should meet the following criteria.
- Homes on lots that are narrower than 55 feet should have rear-entry garages;
- Townhouses should have a minimum required square footage of livable space (e.g., 1,200 square feet), with no maximum size. Townhouses must also have rear-entry garages.

- Any lots/units directly adjacent to or across a street from a park/open space should face onto the open space.
- Notwithstanding the above, the 5% requirement may also include homes designed and built to appear like a traditional large home, but which may include up to four living units.

The inclusion of a range of quality, well-constructed and appropriately situated residential unit types should be part of all new developments (see **Illustration 9-32**). This can provide affordable accommodation alternatives for a variety of housing needs of various age groups, employment, and economic status. Such residential unit types include small homes/small-lot development, townhouses, multi-unit homes, carriage houses, mother-in-law suites, live-work units (adjacent to retail and commercial areas), and loft apartments (in mixed use areas). It is important however, that these varied housing types not be consolidated in one large area which could become blighted (or stigmatized), but rather dispersed in appropriate areas with proximity to open space, recreation and services such as retail.

Illustration 9-32

PLAN FOR THE HOMESTEAD AT MILLS BRANCH IN LANCASTER,

As shown in **Illustration 9-33**, the primary beneficiaries of these types of accommodation include large sectors of the population, including, but is not limited to:

- Young singles desiring small, affordable accommodation,
- Young, single professionals desiring proximity to retail and entertainment,
- Couples seeking to start families,
- Baby boomers,
- Seniors on fixed incomes, and
- Retirees desiring a smaller, low-maintenance unit in a walkable, mixed use neighborhood.

Illustration 9-33

HOUSING TYPES AND COMMON OCCUPANTS

Cohort Life-Cycle	Single family	Cottages (<1,500 s.f.)	SFA/ Townhouse	Multiple family	Loft	Hi Rise Condo	Mother-in-Law Suite	Carriage House	Urban Retail Accessible
Young Persons (Birds leaving the nest)				✹	✹		✹		✹
Young Professionals			✹	✹	✹	✹	✹	✹	✹
Shared Clerical				✹	✹			✹	✹
Service Industry				✹	✹		✹		
Young Couples	✹	✹	✹	✹	✹	✹		✹	✹
Families with Children	✹		✹						
Empty Nesters	✹	✹	✹			✹		✹	✹
Retirees		✹	✹			✹			✹
Single Elderly			✹			✹	✹	✹	✹
Senior Assisted Care				✹					✹
Senior Nursing Care				✹					

MULTIPLE FAMILY RESIDENTIAL DESIGN GUIDELINES FOR NEW DEVELOPMENT

Certain areas within the City of Bee Cave are suitable for multiple family developments, as designated by the *Future Land Use Plan*. Multiple family land uses can be designed in such a way that they are assets to the community, and are integrated within the residential fabric of the community. The following outlines regulations currently included in the City's Zoning Ordinance, intended to ensure the development of high-quality multiple family land uses, within the areas designated as multiple-family residential:

Illustration 9-34
MULTIPLE FAMILY LAND USE

- Attached residential district including primarily low- and mid-rise multiple family dwellings and garden apartments;
- Located near a major thoroughfare and serve as a buffer between retail or commercial development or heavy automobile traffic and medium or low density residential development;
- Permitted and conditional uses listed in Sec. 32.04.001.
- No more than three stories limited to a maximum of 40 feet in height (accessory buildings no more than one story and 20 feet in height); Additional regulations in Sec. 32.05.006);
- Limit of 11 dwelling units per acre;
- Maximum building footprint: 20,000 square feet;
- Minimum lot depth: 150 feet;
- Yard size:
    - Minimum front yard setback: 40 feet;
    - Minimum side yard setback: 25 feet, or 80 feet for buildings over one story adjacent to a single family residential district;
    - Minimum rear yard setback: 40 feet, and 40 feet per story for buildings over one story adjacent to a single family residential district;
    - See Sec. 32.03.007(d)(2)(D) for building separation regulations.
- Minimum 800 square feet per dwelling unit;
- All buildings shall contain an odd number of dwelling units;

- Parking regulations:
  - One covered parking space for each one bedroom unit;
  - Two cover parking spaces for each two bedroom unit;
  - Two and a half spaces for each three bedroom unit, and two spaces must be covered;
  - Three spaces for each four or more bedroom unit, and two spaces must be covered; and,
  - One space for every five units regardless of the number of bedrooms to provide guest spaces.
- Refuse facilities:
  - Every multiple-family dwelling shall be within 250 feet of a refuse facility;
  - Refuse facility may not be within 30 feet of an adjacent single-family property;
  - Screening required on three sides by a wall not less than six feet in height.
- Screening wall required when abutting a street or residential use;
- Special requirements:
  - Roofs shall be pitched of at least 4:12 for all buildings, and shall only be constructed of masonry tile, terra cotta rile, concrete tile, slate or metal material; Accessory buildings shall mirror the architectural style and use of the same construction material as the principal buildings; Single-family units constructed in this district shall conform to SFA District standards;
  - A paved walkway shall connect the front door of each ground floor unit to a parking area;
  - Buildings shall not exceed 200 feet in length, and no wall plane shall exceed 50 feet in length; Buildings shall be constructed in accordance with architectural standards described in Sec. 32.005.005;

Illustration 9-35
LANDSCAPING ENHANCES MULTIPLE FAMILY LAND USE

Illustration 9-36
GARAGES DIRECTLY ATTACHED TO MULTIPLE FAMILY UNITS

- All buildings containing residential units shall provide signage which clearly identifies the numbers (addresses) of the units within each building visible from entrances into the complex or drive aisles;
- All parking areas shall have appropriate lighting and shall be positioned such that no light adversely impacts adjacent residential areas (see Sec. 32.05.008); and,
- Roofing materials used to construct covered parking shall be constructed out of the same building materials that are used for the construction of the residential units.

- Open space:
  - Except as provided below, any multiple-family development shall provide open space which equals or exceeds 30% of the gross platted area, or 300 square feet of open space per dwelling unit, whichever is greater, excluding rights-of-way for collector and larger sized streets. Within the required open space, a minimum of 200 square feet per dwelling unit of useable open space shall be provided.
  - Open space shall meet the following criteria:
    - All multiple-family units must be located within 600 feet of an open space area (up to 1,200 feet for special circumstances, see 32.03.007(h)(2)(A));
    - Open space areas shall be at least 40,000 square feet in size, a minimum of 50 feet wide, and must have no slope greater than 10%;
    - Pools, tennis courts, walkways, patios and similar outdoor amenities may be located within areas designated as open space. Areas occupied by enclosed buildings, except for gazebos and pavilions, driveways, parking lots, overhead electrical transmission lines, drainage channels and antennas, may not be included in calculating useable open space;
    - Within open space areas, there shall be at least one tree for every 1,000 square feet of space. New trees planted to meet this requirement shall be a minimum six-inch caliper.

The regulations can be found in detail within the Zoning Ordinance (Sec. 32.03.007). It is recommended the City continue to enforce the existing regulations and conduct periodic reviews to ensure adequacy.

GREEN DEVELOPMENT CONCEPTS

The following sections discuss opportunities for additional green development within Bee Cave to promote a more sustainable city. Two ways the City can encourage a more "green" community is by ensuring hike/bike trail connectivity and considering energy costs and environmental quality particularly when reviewing site plans.

HIKE/BIKE TRAIL CONNECTIVITY

To a large extent, land development is centered on the automobile. This is due to the fact that the primary mode of transportation is the automobile, and development is designed to accommodate automobiles, often to the exclusion of any other travel option. However, alternative forms of transportation are becoming increasingly important, with society becoming more aware of healthy lifestyles that involve walking, running and biking, and the rising cost of gasoline is helping to fuel this trend.

Connectivity and the ability to travel from one area to another without the use of a vehicle is an important community feature. Examples of connectivity would be a person being able to walk to a store, park, trail, school, or through an adjoining neighborhood. Neighborhood design should encourage people to be physically active in their community. In addition, an alternative form of transportation would benefit a large portion of the population who cannot drive because of age or disability.

Trails should be an integral part of the City's park and open space system – trails are recreation facilities that all age groups can use and, in addition can provide an alternative means of transportation. Each new development should provide trail access to larger City-wide and regional trails. The City should also investigate the addition of bicycle lanes to existing roadways.

Illustration 9-37
EXAMPLES OF PARKS AND OPEN SPACE LINKAGES

Interconnectedness needs to be created by requiring convenient pedestrian, bicycle and automobile access as development occurs — both within the project itself and to adjacent developed areas. Further, pedestrian and bicycle connectivity to schools, retail areas, parks, and places of employment should be required (see **Illustrations 9-37**, **9-38**, and **9-39**). If adjacent areas are not yet developed, provisions for pedestrian, bicycle and automobile access should be established with consideration for future connections/access.

Illustration 9-38 and 9-39
EXAMPLES OF BICYCLE LANES

ENERGY COSTS AND ENVIRONMENTAL QUALITY

There are many opportunities in which the City can encourage green practices in the development process. The City should consider encouraging development that is environmentally sensitive in terms of the following:

Site Planning. Utilize environmentally sound site layout and density that will minimize the need for continuously high levels of energy consumption. This may include such things as:

- Clustered development (i.e., conservation subdivision design) that preserves open space and minimizes construction and maintenance of roads and utilities, and
- Higher density developments in mixed use centers that reduces utility distribution, roads and trips.

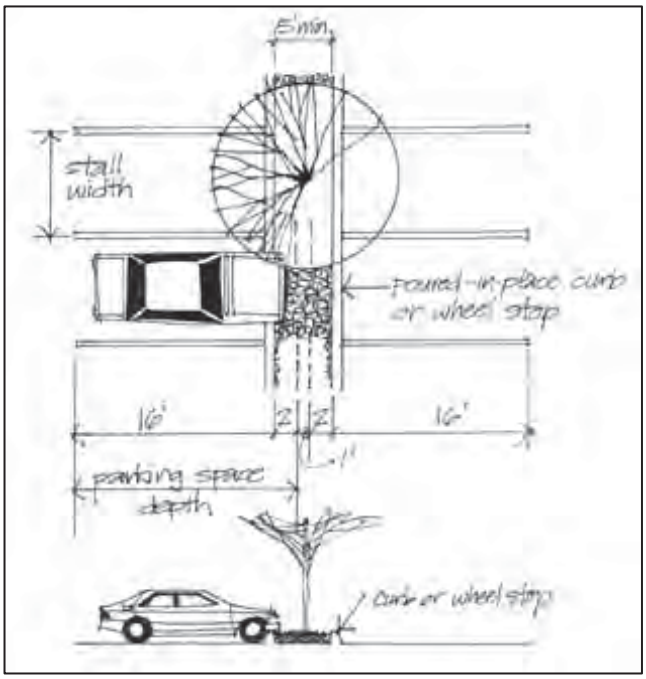
Water Quality. Preserve open space throughout developments to allow ground absorption of water and the natural filtering and cleaning effect of soil and plant material to improve ground and stream water quality. In addition, utilize native and/or drought-tolerant species with organic mulch for landscaping to minimize fertilizers and excessive water use.

Air Quality. Improving air quality can be improved by the following:

- Encouraging mixed use,
- Providing interconnectedness of streets between neighborhoods and retail, recreation and services to minimize trip length and congestion,
- Providing alternative circulation systems such as hike/bike trails; and
- Use of low maintenance grass and ground covers to reduce the need for mowing.

Heat Island Effect. Shading paved areas reduces the temperature by 40 degrees on the surface and seven to 11 degrees in the ambient temperature (see **Illustration 9-40**). Preservation of open space through the maintenance of natural flood plains, creation of parks, clustering of development, conservation of environmentally sensitive areas, and shading of paving such as streets, parking lots and plazas will greatly reduce the ambient

Illustration 9-40
HEAT ISLAND EFFECT



temperature in the city and further reduce energy costs for air conditioning.

Ecology. Preserve plant and animal habitat areas and corridors in a functional, native condition to maintain a level of bio-diversity.

Light Pollution. Consider implementing a "Dark Sky Ordinance", which will help to minimize lighting into the night sky and to neighboring residential areas.

Other steps the City can take to promote green development is to plan for transit service which will connect with future regional rail, utilize green building and neighborhood development standards in the design and construction of all new City buildings, and consider adopting buffer requirements for major stream channels, tributaries and waterways to protect natural drainage corridors as a valuable resource for the community.

CONCLUSION

It is the intent of these guidelines to improve the overall quality and image of the City of Bee Cave. As zoning changes are requested, the application of these concepts should be followed. Each concept/guideline should be applied constantly and consistently with each individual project, in keeping with these recommendations and with the stated goals and objectives pertaining to livability within this *Comprehensive Plan 2009*.