



CHAPTER 3

GROWTH MANAGEMENT & CAPACITY



When a community is poised for ongoing growth, as is Killeen, a long-range planning process provides an opportunity to assess the City's readiness to accommodate this new population and economic development—and to do so in a way that is fiscally responsible and will bolster community character. This requires pro-active efforts by municipal government to plan the timely extension of adequate infrastructure, provision of quality public services, and a logical sequencing of future development in line with the City's capacity to serve this growth.

The purpose of this chapter is to clarify and establish City policy regarding how growth and new development will be accommodated and should occur in an orderly and beneficial manner in and around Killeen consistent with other fiscal and community considerations. Chief among these are utility infrastructure and public service capacities, as well as efficient land and roadway network utilization to maintain and achieve a desired urban form and character. With regard to critical public safety services, the paramount concern is the City's ability to serve its current geographic area and residents while also preparing for the service demands that will come with ongoing development and added population.

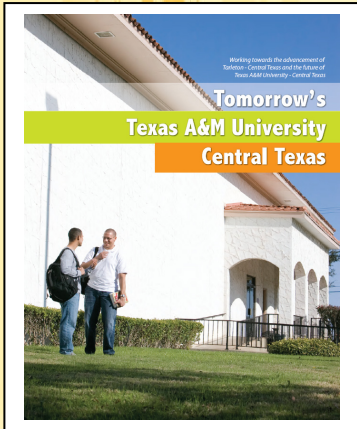
PLANNING CONTEXT

Key factors for Killeen's growth planning include:

- ★ **Southward Trend.** Unlike some communities that are dealing with growth and stretching of City services in numerous directions, Killeen will be able to focus on its primary growth area to the south in coming years. Considering the potential scope of this growth, this will be like building an entirely new City to the south of Stan Schlueter Loop. Necessary elements will include a well-planned street network, new neighborhoods and associated schools and parks, convenience commercial plus larger-scale retail centers, public



Through a special “maps and markers” workshop held at Palo Alto Middle School, Killeen residents took part in hands-on consideration of how best their community might grow in the years ahead.



facilities and institutional uses, and accommodation of industrial, office, and other job-creating uses in appropriate locations.

- ★ **South Killeen Anchor.** The gradual emergence of the Texas A&M-Central Texas university campus will provide a new focal point in the City and further solidify Killeen's southward growth trend. The utility infrastructure and street cross sections needed to serve this scale of land use will also provide the capacity for extensive non-residential and residential development in the vicinity. It will be essential to manage this entire evolution from raw land to high-level development, centered around the State Highway 195-State Highway 201 intersection, to ensure safe and efficient traffic circulation and attractive development outcomes and public streetscapes in the university area as called for in the City's 2005 *Future Land Use Plan* study.



Riparian areas are the area of transition between waterway edges and adjacent land. A well vegetated riparian area provides wildlife habitat, prevents erosion by stabilizing soils, filters pollutants, and provides shade to cool water temperatures.

- ★ **Working with the Land.** Given the clear direction of growth, and the progression of this growth into more varied and interesting terrain in southwest Bell County, Killeen has an opportunity to establish a "green" framework for future development. This would involve such strategies as protecting natural drainage ways and their associated *riparian areas*, and identifying unique natural landmarks and asset areas that are worthy of early public acquisition (and/or private conservation methods). Such steps would reap both environmental and very practical benefits over the long term. This includes preservation of *ecological services* that reduce the need for costly "hard" infrastructure while protecting public water supplies and other health and safety factors (e.g., storm water absorption and flooding attenuation, aquifer recharge, water quality protection, erosion control, reduced "heat island" effect of urbanization, etc.). These areas can also provide strategic park sites and valuable open space for passive recreation,

Ecological services are provided to society by natural systems, such as storing and cycling essential nutrients, absorbing and detoxifying pollutants, maintaining the hydrologic cycle, moderating the local climate, and providing areas for recreation and tourism.



ensuring that natural relief will be available amid the more intensive urban environment likely to emerge over time. Additionally, preserved open space is a prime amenity for nearby residential and non-residential development, reinforcing suburban or rural character and boosting community aesthetics and image.

KEY PLANNING THEMES

There is no doubt Killeen will continue to grow, likely still at a brisk pace, in the coming years. It is not the intent of this chapter to stop or slow the City's growth. Rather, this Comprehensive Plan should provide a policy framework for ensuring that the anticipated growth is accommodated and managed in a way that is in the best interests of the community and its residents and taxpayers. This will require a commitment to the following principles:

- ★ **Coordinated Growth.** A new future land use map for fringe growth areas in the City limits and into the ETJ will provide a basis for coordinating a range of other community-building investments by municipal government (and others), particularly through the City's multi-year capital improvements planning and programming. This will help to ensure that the thoroughfare network and other infrastructure and public facilities are extended and located consistent with anticipated directions, types, and intensities of new development. Additionally, coordination with Killeen ISD on future school siting is essential as it can provide opportunities for joint City parkland acquisition and development in conjunction with new campuses, as well as advance planning for area trail linkages as residential and commercial development plans take shape.



It is ironic, and ultimately unfortunate, that people who move to more remote locations just outside cities to get away from denser, in-City living can end up part of a trend that gradually erodes rural character through piecemeal, barely regulated development. This dispersed development activity can begin to impact daily quality of life as traffic increases and raises safety issues on minimally improved county roads and at intersections. Eventually, the City—and its existing taxpayers—may have to bear the burden of bringing substandard infrastructure and public facilities up to municipal

Purpose of Extraterritorial Jurisdiction

As a Home Rule municipality (greater than 5,000 population and with its own City Charter), Killeen has some authority over a larger unincorporated planning area, beyond its current City limits, which is known in Texas as the "Extraterritorial Jurisdiction," or ETJ. In Chapter 42 of the Texas Local Government Code, the Texas Legislature declares it to be State policy that ETJs be created around cities so that municipal governments can "promote and protect the general health, safety, and welfare of persons residing in and adjacent to" the City limits. For all cities like Killeen which exceed 100,000 population, the ETJ is defined as the area contiguous to the corporate boundaries of the municipality and within five miles of those boundaries.



standards when previously developed land is annexed and such standards were not met originally.

- ★ **Fiscally Responsible Growth.** Orderly growth of a City, within the current corporate limits and ultimately into strategic portions of its ETJ, is critical to its long-term viability. A municipality has a responsibility to its residents and taxpayers to ensure a growth pattern that makes good fiscal sense, particularly in terms of the infrastructure investments needed to keep pace with growth. The integrity of public safety services must also be maintained as the service areas for police, fire, and emergency medical response are stretched by a City's geographic growth.

Killeen's recent development activity has generally been contiguous to existing developed areas of the community. Going forward, it will be essential to apply appropriate zoning in fringe areas and to use the City's annexation capabilities to ensure that Killeen continues to avoid a more scattered and "leapfrog" development pattern that can outstrip the City's ability to finance and provide necessary infrastructure and public facilities and services. Besides straining local government resources, a sprawl trend can also undermine community character and individual quality of life as traffic congestion appears in more locations (and particularly on rural roadways and at four-way-stop intersections not designed to accommodate such traffic volumes), if provision of parks and other public facilities lags behind new growth, and if older neighborhoods and commercial areas in the City lose their vitality. Also, as discussed in the Future Land Use & Character chapter, if an unbalanced development pattern takes hold at the edge of the community, with a predominance of residential rooftops and minimal commercial development, then annexation will prove increasingly difficult for the City. This is because of the general rule that large-scale incorporation of residential development areas will rarely make fiscal sense when the cost of serving them is weighed against projected new revenue to the City. This scenario would become even more problematic if primarily lower-cost housing is involved.

The challenge—and opportunity—for Killeen is how best to absorb and sustain ongoing economic development and quality new residential development while ensuring a sound financial footing for municipal government, among other community values (housing affordability, natural resource protection, downtown vitality, aesthetics and image).

- ★ **Environmentally Sensible Growth.** Killeen's urban "footprint" is expanding southward into more varied and scenic terrain that is





marked by notable high and low elevation points; a natural drainage pattern that ultimately feeds into one of the City's primary drinking water supplies, Stillhouse Hollow Lake, and its upstream tributaries (Lampasas River and other creeks and streams); and areas with existing mature tree cover and other natural features. This trend carries with it certain environmental stewardship responsibilities. More importantly, based on the expressed desires of numerous residents, retirees, business leaders, and major employers—and with the coming of a major university campus to Killeen—there is a clear and growing market opportunity for more creative design of both residential and non-residential projects in the community's new growth areas. This should include conservation design approaches that preserve permanent open space, capitalize on scenic vistas, and incorporate environmental features on sites as development amenities, which is happening to some extent in some newer south side projects. This is very much in line with the current green building movement across Texas and nationwide, especially through the leadership of the National Association of Home Builders (and state and local affiliates) and its National Green Building Program.

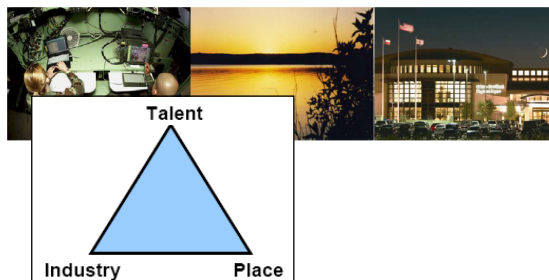
"A look at the most successful projects in any region will reveal that open space has not been wasted. Projects that feature open space are projects that sell and, at the same time, provide environmental amenities and opportunities for recreation."

Land Development magazine
National Association
of Home Builders

Killeen's economic development strategies highlight the need for a quality community with amenities:

OPERATION ECONOMIC TRANSFORMATION

A BLUEPRINT FOR ADVANCING ECONOMIC OPPORTUNITIES IN
THE FORT HOOD REGION



By contrast, quality of place considers what is attractive to a range of residents, both old and new. The idea of quality of place accommodates growth and recognizes the benefits of change. It recognizes that one person's "good place to raise a family" might translate into another's "there's nothing to do in this town." Quality of place is about providing options, not just for current residents, but for those who will be residents in the future.

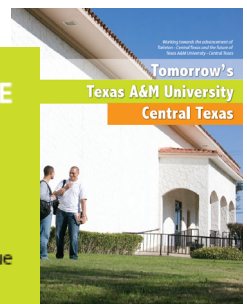
Further, the next generation workforce prioritizes differently than previous generations. For many, where they live is as important as where they work. Often, educated young professionals first choose a place to live, and then look for work.

If the next generation can work and live in multiple cities all over the world, why should they choose Central Texas?

To compete in an innovation-based, knowledge-driven economy, leaders and citizens in Central Texas must engage in a strategic discussion to ensure that their community has the quality of place amenities that attract and retain the next generation workforce.

TALENT AND PLACE

In the 21st Century information-technology economy, highly mobile and relatively affluent Americans will move to communities that fit their lifestyles and companies will follow the people. The growing number of people who place a value on technology, information and education will see college towns as communities filled with like-minded people. Smart businesses will follow the people creating a business boom in the nation's college towns.



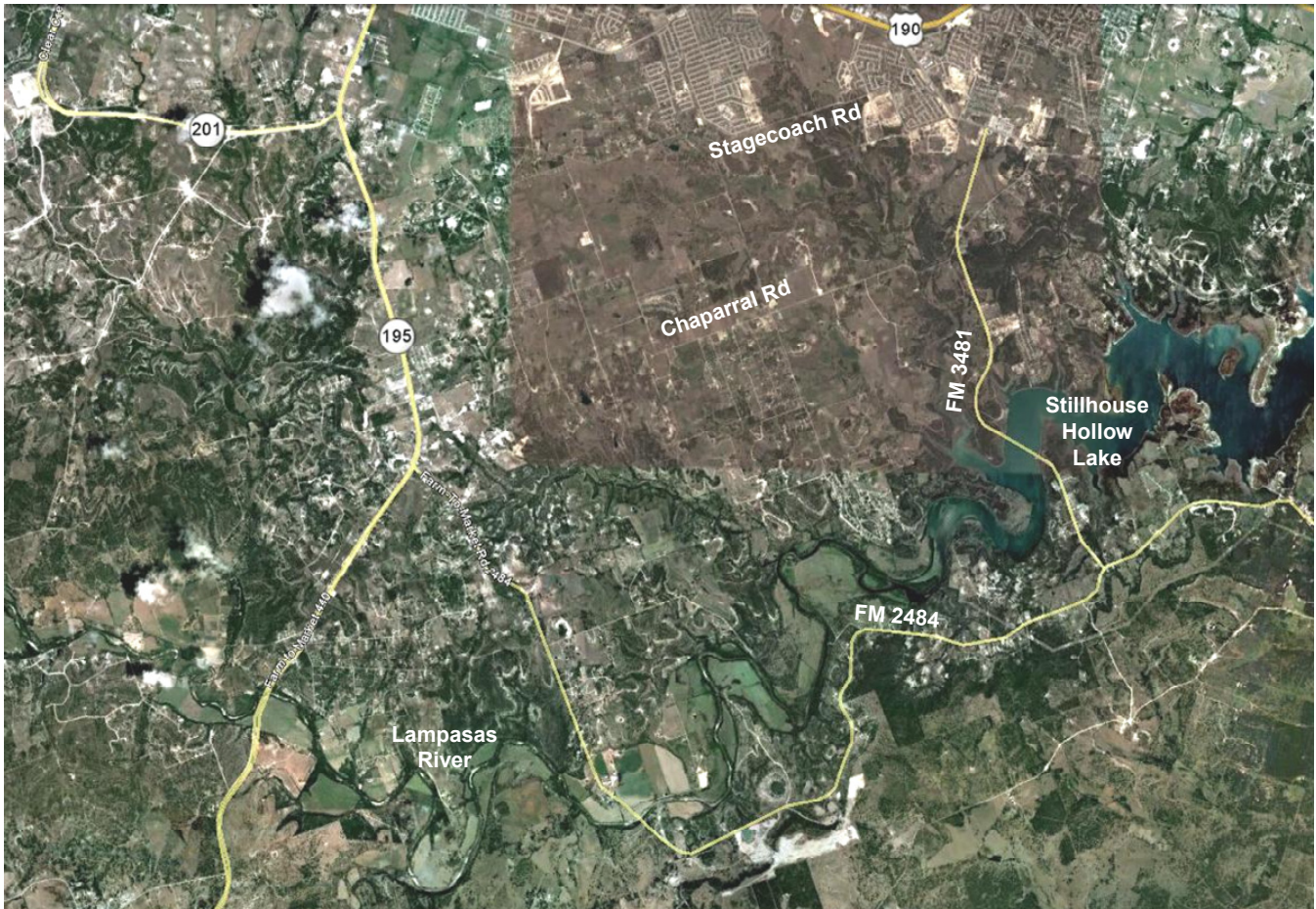
Talent 2030

How Central Texas Can Retain and Attract Its Future Workforce

June 2009

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Next Generation Consulting



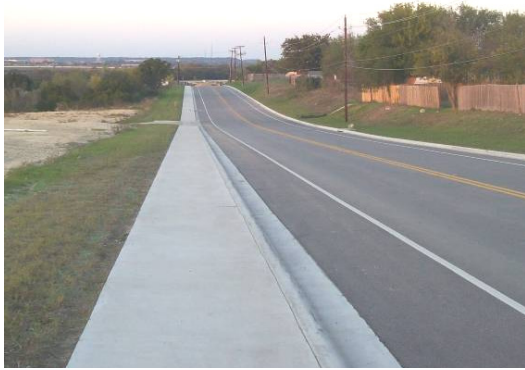
Killeen's prime southern growth area is centered roughly between Stagecoach Road on the north, Stillhouse Hollow Road (FM 3481) on the east, FM 2484 (and the Lampasas River corridor) on the south, and SH 195 on the west, as well as the SH 195 corridor itself.



New City facilities, such as this fire station on Trimmer Road between Stagecoach and Chaparral, are already setting a tone for the building quality and environmentally sensitive site design that could emerge on a larger scale in south Killeen.



The City of Killeen is investing in basic infrastructure and road improvements in preparation for the community's next several decades of growth.



Areas in the path of Killeen's southward growth are currently rural in character, and high points, areas of mature vegetation, and other natural features are prominent on the landscape.



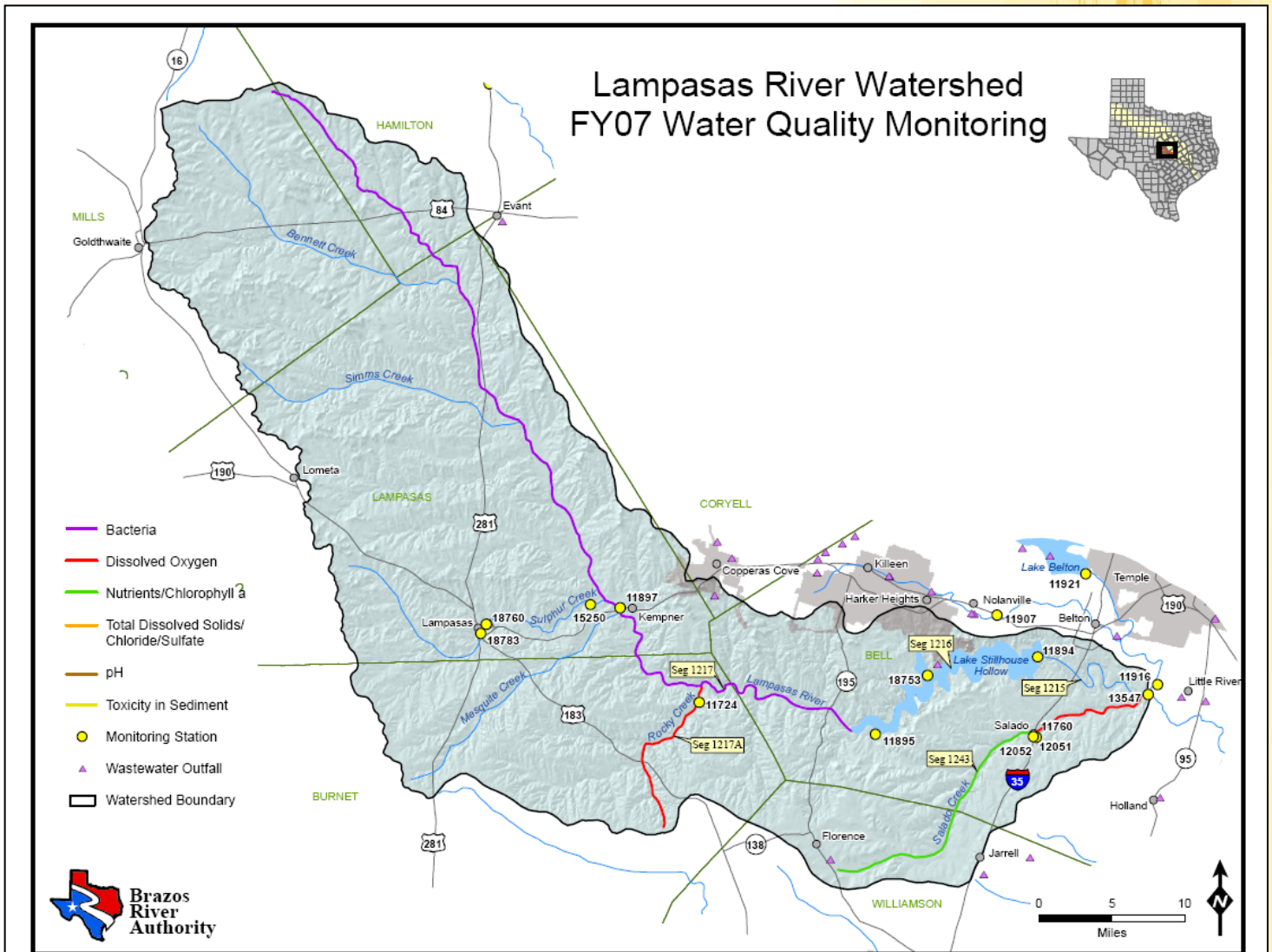
It was frequently mentioned in public discussions for this Comprehensive Plan how Harker Heights has had the advantage of more attractive terrain for its residential development, such as in this example along Stillhouse Hollow Road (above). Now that Killeen is expanding into similar landscapes on its southern fringe, good examples are emerging, such as the Spanish Oaks subdivision below, where preservation of mature trees on home lots is a hallmark of the development.





New construction in south Killeen offers examples of how natural features can be blended into residential development design or treated more as a constraint to development.





Recent water quality assessments of the Lampasas River have shown elevated bacteria levels in the segment just above Stillhouse Hollow Lake, which is an issue in various urban and rural waterways across Texas. The challenge for the future is to manage this and other water quality impairments that can result from increasing urbanization within watersheds (such as reduced oxygen and increasing nutrient levels). This will be especially critical for Killeen, not only to protect the downstream public water supply in Stillhouse Hollow Lake (which is currently in good condition), but also as the City responds to federal and state mandates related to pollutant levels in urban storm water.

MAP SOURCE: *Brazos River Authority, Basin Summary Report 2007, Texas Clean Rivers Program.*



To the extent that new developments at the edge of the City look no different from in-City subdivisions, despite the more rural setting in which they are located, then a great opportunity will have been lost, both for maintaining rural character over time and offering a distinctive housing option in areas that will be more challenging to serve if developed at relatively high densities.



WATER AND WASTEWATER SYSTEM GUIDANCE

Implementation of guidance procedures to ensure that Killeen provides fundamental water and wastewater infrastructure needs, maintains federal and state regulatory compliance, strategically plans for future water supply demands, and budgets for these activities must be considered a basic priority.

- ★ **Adequate Systems to Serve 2030 Population.** As citizen and business populations expand in the Killeen service area, the City should fund and complete phased improvements to the water and wastewater systems, as outlined in its Water and Wastewater Master Plan. The long-term goal is to provide utility service that is capable of serving the 2030 population projections as shown in Figure 1.9, City of Killeen Population Projections (in Chapter 1, Introduction), or as revised during the updated system planning process.



- ★ **Improvements for Ultimate Needs.** The City should plan, size, finance, and where physically appropriate install utility improvements (water and sewer lines, pump stations, etc.) to meet a service area's projected ultimate population build out rather than making periodic upgrades that result in higher service cost.
- ★ **Dynamic Master Planning.** The City's Water and Wastewater Master Plan should be re-evaluated and updated as needed (as should the Drainage Master Plan). Typically, the Master Plan should be revised every three years for moderate population growth. The Master Plan update will be required more frequently during times of major population change, differing land uses, or other demographic shifts in the community. The City should continually examine the Master Plan to determine if scheduled phased improvements and funding requirements mirror transitions in the community profile.
- ★ **Evolving Service Demands.** The City should monitor the cumulative impacts of population expansion and the development of commercial, industrial, and educational facilities on treated water demands and return wastewater flows. Findings should be correlated within the Master Plan to ensure that utility system improvements and funding requirements are focused in terms of constraints being placed upon the system from the community.

WATER SYSTEM OVERVIEW

The City is a participating member of the regional water treatment facility and contracts with Bell County Water Control and Improvement District #1 (BCWCID #1) for treatment and delivery of its water supply. The source of water for this supply is Lake Belton. The City has a contracted allocation of 39,964 acre-feet per year of raw water supply and a contracted maximum day treatment capacity of 32 million gallons per day (MGD). BCWCID #1 transmits treated water to five City take points. Daily water usage varies seasonally. The current per capita water usage is approximately 130 gallons per day (gpd). It is estimated that per capita usage will increase to 140 gpd by 2031. The City is responsible for pumping, distribution, metering facilities, regulatory compliance, and customer billing.

Action Strategies for Water System

1. **Water Treatment Capacity.** Coordinate and authorize the necessary action steps to initiate the planning, design, and construction of a 10 MGD treatment plant expansion as this process will require approximately five to eight years to complete. This action is necessary because the projected maximum day treated water demand of



32 MGD is expected to reach the City's current contract limit with BCWCID #1 in the 2015-2016 timeframe.

2. **Water Loss.** Implement an "unaccounted for and loss water" control program. The program should include, but not be limited to: leak detection activity; adoption of construction specifications and standards to reduce potential for future water losses; an aggressive water meter change-out program; upgraded pump station flow measuring equipment; a properly calibrated Supervisory Control and Data Acquisition (SCADA) system; and coordination of billing cycles from the City's water provider and internal water accounting practices.
3. **System Expansion.** Plan for additional water transmission, storage, and pumping facilities in the southern and western reaches of the current City limits given population growth patterns in these areas.
4. **Pre-Annexation Due Diligence.** Examine existing Certificate of Convenience and Necessity (CCN) constraints and the capacity and quality of the utility infrastructure of adjacent water supply systems prior to annexation of additional land and movement into new service areas.
5. **Older Water Infrastructure.** Make renovation of aging infrastructure, including phased replacement planning and funding, an integral part of the master planning process.
6. **Water Use Projections.** Pursue an update to water use projections upon any sign of significant variation from previous population trend analyses that are the basis for the area's long-range water supply planning. Killeen has contracts in place with BCWCID #1 that are projected to provide adequate raw water supply until approximately 2056, assuming that analyses of historical and expected future population trends remain on target.
7. **Long-Range Water Supply.** Seek opportunities to acquire additional water supply from BCWCID #1 and/or the Brazos River Authority through purchase of unused water rights allocations from other entities and participation in the development of new sources. This action is necessary because the Texas Water Development Board-Region G Water Planning Group has indicated, through its studies and reports, that the Central Texas area is "water short".
8. **Existing Supply.** Extend the City's raw and treated water supply through the use of conservation education training, drought contingency plans, plumbing and construction ordinances, and other mechanisms. Also actively pursue the reuse/recycling of treated effluent for application by federal, state, and municipal agencies.



WASTEWATER SYSTEM OVERVIEW

The City contracts with BCWCID #1 for treatment of return wastewater flows. The City has 21.17 MGD of contracted capacity in the BCWCID #1 Plant #3 (near Chaparral Road) and the South Nolan wastewater reclamation facilities. BCWCID #1 operates and maintains both sites and holds the Texas Commission on Environmental Quality (TCEQ) discharge permits for these operations. The BCWCID #1 2009 Water and Wastewater Master Plan indicates that the South Nolan plant has adequate capacity until approximately 2060 and that Plant #3 (near Chaparral Road) will need additional capacity on-line by approximately 2039. The City of Killeen is responsible for the operation and maintenance cost and repayment of debt service. Additionally, Killeen operates the City's wastewater collection system within the City limits. The collection system includes sewer collection and trunk mains, manholes, pump stations, and SCADA control. Various studies indicate that the daily per capita return wastewater flow ranges from 92-110 gallons per capita per day (gpcd).

Action Strategies for Wastewater System

1. **Water Inflow and Infiltration into System.** Develop and continue programs and studies to aggressively reduce inflow and infiltration (I/I) of ground and surface waters into the sewer collection system. Programs should include, but not be limited to: I/I studies; smoke testing of sewer collection pipelines; continuous flow measurements; review, upgrade, and adoption of construction specifications and standards; pressure testing of new manhole and sewer line construction; and programmed sewer collection system maintenance.
2. **System Expansion.** Plan for additional sewer interceptors and pumping facilities in the southern and western reaches of the current City limits given population growth patterns in these areas. Also consider the construction of an additional wastewater treatment facility in the southern ETJ area with permitted discharge into the Lampasas River watershed.
3. **Pre-Annexation Due Diligence.** Examine existing CCN constraints and the capacity and quality of the utility infrastructure of adjacent wastewater collection systems prior to annexation of additional land and movement into new service areas.
4. **Older Wastewater Infrastructure.** Make renovation of aging infrastructure, including phased replacement planning and funding, an integral part of the master planning process.



5. **Local Ordinance Compliance.** Ensure that sewer use ordinances are updated as required by the U.S. Environmental Protection Agency (EPA) and TCEQ and for the operation and protection of the collection system. Provide necessary compliance monitoring.
6. **Problem Discharges into System.** Continue efforts to reduce fats, oils, and grease (FOG) from being discharged into the wastewater collection system. This problem is best addressed at the source through ordinances, enforcement, and education.
7. **Coordinated Treatment Capacity Expansion.** Coordinate plans for needed treatment capacity expansion accordingly with BCWCID #1 and in conformance with the Killeen Water and Wastewater Master Plan.

ACTION STRATEGIES

This section outlines a series of potential action strategies considered by the Planning and Zoning Commission in response to the key planning themes identified for growth management and capacity:

1. Coordinated Growth
2. Fiscally Responsible Growth
3. Environmentally Sensible Growth

Also indicated for each option is the type of action(s) it involves based on five categories which represent the main ways that comprehensive plans are implemented (as elaborated upon in Chapter 7-Implementation):

- ★ Capital investments
- ★ Programs/initiatives
- ★ Regulations and standards
- ★ Partnerships/coordination
- ★ Ongoing study/planning (especially as required to qualify for external funding opportunities)

The Implementation chapter in this plan also identifies certain action items as immediate priorities to be pursued in the near term. Other action possibilities in this section may remain just that—only concepts and considerations that the City and/or community may not be ready to pursue until later in the 20-year horizon of this Comprehensive Plan, if even then. They represent action options that are available to Killeen as a Texas municipality and as acted on by other communities. However, it is recognized that they may not



be feasible in Killeen for various reasons such as potential cost, complexity, and/or degree of community support, as well as the capacity of City government to carry out certain initiatives given available staffing and other resources. With these realities in mind, the actions were grouped into three categories—basic, intermediate, and advanced—to give some initial indication of the implementation outlook. More definitive determinations will ultimately be made through City Council priority-setting, ongoing public input, and the City’s annual budget process.

More background on some action options is provided in the appendix to this chapter.

Basic Actions

1. Maintain a Growth Planning Map

- ★ Prepare and maintain a long-range Growth Planning Map for coordination across City departments and with other governments and entities.

	Regulation		Capital Improvement	●	Program / Initiative		Partnership / Coordination	●	Further Study / Planning
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2. Provide for Lot Size Averaging

- ★ To provide greater flexibility and promote resource protection and more creative design, Chapter 26 (in conjunction with the zoning ordinance) should allow proposed subdivisions to use an average lot size (by phase in the case of multi-phase projects).
- ★ This approach allows some lots to be smaller and others larger than a minimum area standard normally required of all lots, which often leads to “cookie cutter” subdivision layouts that do not work around or buffer natural features.
- ★ Besides resource protection and open space preservation, varied lot sizes can also enable a developer to incorporate a mix of housing types in a single project.

●	Regulation		Capital Improvement		Program / Initiative		Partnership / Coordination		Further Study / Planning
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3. Ensure Coordinated Planning and Public Investments

- ★ Ensure that the policy direction of this Comprehensive Plan carries through to other master planning efforts across City government, including plans for utility infrastructure, highways and streets, sidewalks and trails, bike routes, parks and recreation facilities, housing, public safety facilities, and other City facilities and projects.



- ★ Also coordinate with the Killeen Independent School District on demographic projections and campus/facility planning (and monitor the need for special area planning if KISD decides to proceed with plans for a fifth high school campus).
- ★ Also monitor actual population and development trends and various community indicators (e.g., traffic counts and collision frequency, roadway and intersection capacities, police and fire call volumes and response times, storm drainage volumes and rates in key locations, floodplain changes, water quality parameters, etc.) to detect any growth-related impacts of concern.

	Regulation		Capital Improvement	●	Program / Initiative	●	Partnership / Coordination		Further Study / Planning
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4. Ensure Coordination with Key Growth Drivers

- ★ Continue routine coordination with Fort Hood and Texas A&M University-Central Texas concerning their projected population/enrollment trends and other planning initiatives and/or physical improvements that have implications for housing demand within Killeen and associated municipal service provision.
- ★ Also continue close coordination with A&M representatives and consultants regarding infrastructure and traffic planning for the new campus.

	Regulation		Capital Improvement		Program / Initiative	●	Partnership / Coordination	●	Further Study / Planning
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5. Promote Green Building and Management Practices

- ★ Continue to monitor trends and practices in the building code, land development, and public facilities arenas related to “green” building and operational standards (including for energy efficiency; water conservation, capture, and re-use; waste reduction and recycling, etc.) to ensure that the City’s codes and policies promote and do not discourage such activity in Killeen.
- ★ The National Green Building Program sponsored by the National Association of Home Builders is an important resource, along with other governmental and non-profit resources.
- ★ Also continue the City’s active role and leadership in the Cen-Tex Sustainable Communities Partnership to ensure better practices and coordination across the region.

●	Regulation		Capital Improvement	●	Program / Initiative	●	Partnership / Coordination		Further Study / Planning
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Intermediate Actions

6. Continue to Pursue Advance Annexation

- ★ Continue to identify ETJ areas that are priorities for annexation into the City limits based on immediate and near-term development pressures (generally over the next 5-10 years).
- ★ These areas should be feasible for the City to serve within statutory timeframes and also make fiscal sense (projected revenue relative to costs of service extension).
- ★ ETJ areas where City utilities have already been extended should also be high priorities.

	Regulation		Capital Improvement	●	Program / Initiative		Partnership / Coordination	●	Further Study / Planning
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7. Consider Financial and Strategic Reasons for Annexation

- ★ Use reliable, sophisticated cost/benefit analysis methods to evaluate the anticipated revenues and up-front and ongoing costs to the City of all proposed annexations (employing the fiscal impact model developed in conjunction with this Comprehensive Plan).
- ★ However, recognize that, in some cases, other strategic, non-financial considerations must guide annexation decisions, such as the need to exert early control over future critical growth areas or corridors, protect water supply resources or other public assets, etc.

	Regulation		Capital Improvement	●	Program / Initiative		Partnership / Coordination		Further Study / Planning
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8. Protect Annexation Areas Not Targeted for Near-Term Growth

- ★ Employ growth management measures in areas the City annexes for strategic reasons or resource protection purposes to prevent premature and/or inappropriate development (e.g., agricultural zoning, no infrastructure extension, etc.).

	Regulation		Capital Improvement	●	Program / Initiative	●	Partnership / Coordination		Further Study / Planning
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9. Evaluate Voluntary Annexations and ETJ Extension

- ★ Pursue opportunities to incorporate strategic areas via voluntary petition by area landowners.
- ★ Also consider voluntary requests by landowners outside the current ETJ to have the ETJ extended to their property where it suits the long-term interests of both parties.



	Regulation		Capital Improvement	●	Program / Initiative	●	Partnership / Coordination		Further Study / Planning
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10. Employ Development Agreements

- ★ Pursue development agreements in the ETJ (as authorized by Section 26-85 of the City's subdivision and property development regulations) to influence development activity and patterns to the extent possible, especially in targeted long-range growth areas.
- ★ When and where appropriate, the City could allow a certain amount of desirable development to occur by way of utility extensions (or other interim service arrangements), but it should negotiate potential cost-sharing (per Section 26-114) and also push for voluntary compliance with development regulations and standards that apply within the City limits.
- ★ The City also can offer a guarantee not to annex the property for a stated period of time, providing leverage for other negotiable items.

	Regulation	●	Capital Improvement	●	Program / Initiative	●	Partnership / Coordination		Further Study / Planning
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11. Zone for Rural Character

- ★ Maintain the current three-acre minimum lot size in the "A" Agricultural zoning district to limit premature urbanization in incorporated areas that cannot be served by current public utility infrastructure or adequate roads for increased traffic volumes—and also to maintain a true rural character, at least for the time being, as the district name implies.
- ★ Also avoid isolated zoning map amendments that would permit by right development types and intensities that are not consistent with the predominant rural or suburban character in a broader area.

●	Regulation		Capital Improvement		Program / Initiative		Partnership / Coordination		Further Study / Planning
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12. Complete Timely Zoning of Newly Annexed Areas

- ★ Consider amending zoning ordinance Section 31-124, Newly Annexed Areas, to require that permanent zoning for such areas be recommended by the Planning and Zoning Commission to the City Council sooner than the current 12 month provision from date of annexation (e.g., 6 months maximum to accommodate instances where more detailed study is needed).



- ★ This will expedite the planning and zoning process and clarify City policy much sooner for both public and private decision-makers and property owners.

●	Regulation		Capital Improvement		Program / Initiative		Partnership / Coordination		Further Study / Planning
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13. Promote Conservation through Public (or Non-Profit) Acquisition

- ★ Use Section 26-92 of the subdivision and property development regulations more extensively to negotiate land dedications and donations that could preserve key natural features and asset areas in perpetuity.
- ★ This would also add to the City's inventory of limited-development parkland for passive recreation uses while also maintaining "ecological services" that benefit the entire community (e.g., flooding attenuation, pollutant absorption and water quality protection, reduced "heat island" effect, intact wildlife habitat, etc.).
- ★ Alternatively, the City can recruit land trusts and conservation organizations to consider acquisition and preservation of targeted lands in the area.
- ★ Another option, for either the City or other organizations, is to negotiate a conservation easement rather than outright purchase of property.

	Regulation	●	Capital Improvement	●	Program / Initiative	●	Partnership / Coordination		Further Study / Planning
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14. Provide for Cluster and Conservation Development Approaches

- ★ Add provisions to the subdivision and property development regulations to allow for cluster development approaches.
- ★ Cluster designs provide developers and land planners flexibility to reduce lot sizes below typical minimum standards and thereby focus the proposed development footprint on only a portion of the site.
- ★ This approach may be necessary due to certain constraints on the site, or it may be intentional to bring a conservation design to market, which is increasingly popular in Texas and across the country for both retirees and in fringe development areas.
- ★ Additionally, clustering can be an important tool for preserving agricultural activity despite development pressures (and rising land prices and property tax appraisals) by allowing a rural property owner to gain greater return on his or her land by devoting a portion to housing or other non-agricultural development while keeping



much of the property in agricultural use (with appropriate buffering standards to protect both land uses).

●	Regulation		Capital Improvement		Program / Initiative		Partnership / Coordination		Further Study / Planning
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15. Consider Use of Public Improvement Districts

- ★ As a potential alternative to impact fees, consider the use of public improvement districts (PIDs) since they allow for funding of a broader range of public improvements (including streets, sidewalks, water and wastewater infrastructure, drainage facilities, and parks, as well as associated land acquisition for such improvements).
- ★ They also may be established within the ETJ, just as in the City limits, after completing statutory service planning and public hearing procedures.
- ★ Improvements are then funded through a special assessment against the property owners who principally benefit from them, in fair proportion to the level of their benefit.

	Regulation		Capital Improvement		Program / Initiative	●	Partnership / Coordination	●	Further Study / Planning
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16. Add “Dark Sky” Protections

- ★ In conjunction with the Section 26-107 requirement for street lighting plans in ETJ subdivisions, consider incorporating “dark skies” standards, as adopted by various U.S. cities, which are aimed at reducing glare and lighting spillover that detracts from a rural character in less developed areas away from the core city.
- ★ Light pollution concerns were also noted by Fort Hood personnel, especially where garrison training areas may be impacted.
- ★ Such provisions should apply to residential lighting, as well as to non-residential site design, in sparsely populated areas of the ETJ.
- ★ The City should apply the same standards in its own lighting practices for capital projects and at public facilities, and also coordinate with the Texas Department of Transportation, Bell County, and others to do the same.

●	Regulation	●	Capital Improvement		Program / Initiative	●	Partnership / Coordination		Further Study / Planning
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Advanced Actions

17. Consider Broader Use of Development Platting

- ★ Consider extending to the ETJ—or designated portions of the immediate ETJ—the development plat requirement in Section 26-9 which currently applies only within the City limits (assuming there are sufficient site development standards that would apply in the ETJ and make development platting a productive and beneficial procedural requirement).

●	Regulation		Capital Improvement		Program / Initiative		Partnership / Coordination		Further Study / Planning
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18. Promote Natural Resource Conservation

- ★ Incorporate explicit resource protection standards into the City's development regulations, and especially in the subdivision and property development regulations in Chapter 26 as the City may apply these requirements throughout its ETJ in addition to the City limits.
- ★ Applicants and City staff should then plan accordingly for subdivision layouts and development approaches that reserve natural asset areas both to preserve them and capitalize on them as development amenities.

●	Regulation		Capital Improvement		Program / Initiative		Partnership / Coordination		Further Study / Planning
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19. Consider Traffic Impact Analysis Requirements

- ★ Protect roadway capacity and safety, especially in fringe and rural areas with limited existing road infrastructure (and no near-term improvement plans), by requiring Traffic Impact Analyses (TIAs) and potential mitigation measures when proposed developments exceed a threshold size (by number of lots/units, non-residential square footage, etc.) or projected trip generation.

●	Regulation		Capital Improvement		Program / Initiative		Partnership / Coordination		Further Study / Planning
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20. Explore Impact Fee Feasibility

- ★ Investigate the feasibility of implementing development impact fees in Killeen (for water, wastewater, and/or road improvement needs).
- ★ Impact fee programs are designed to isolate, through technical analysis, infrastructure improvements or upgrades that are directly necessitated by new development, and then provide earmarked funding for completing specified capital projects (separate from the



City's overall Capital Improvements Plan that benefits existing developed plus newly developing areas).

- ★ Impact fees provide certainty by identifying specific improvements to be completed in a specified timeframe—otherwise the fees must be refunded.
- ★ Also consider other mechanisms (special utility/user fees, municipal debt options) for equitable financing of improvements necessitated by ongoing growth, along with maintenance and upgrades to existing infrastructure.

	Regulation		Capital Improvement	●	Program / Initiative		Partnership / Coordination	●	Further Study / Planning
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21. Explore Extension of Sign Regulation to ETJ

- ★ Killeen should take advantage of the opportunity afforded under Texas Local Government Code Section 216.902 to extend and enforce its sign regulations within the ETJ.
- ★ This is a critical tool for preserving the suburban and especially rural character of fringe areas around the City, as well as to protect the visual quality of various entry corridors into the community.

●	Regulation		Capital Improvement		Program / Initiative		Partnership / Coordination		Further Study / Planning
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APPENDIX

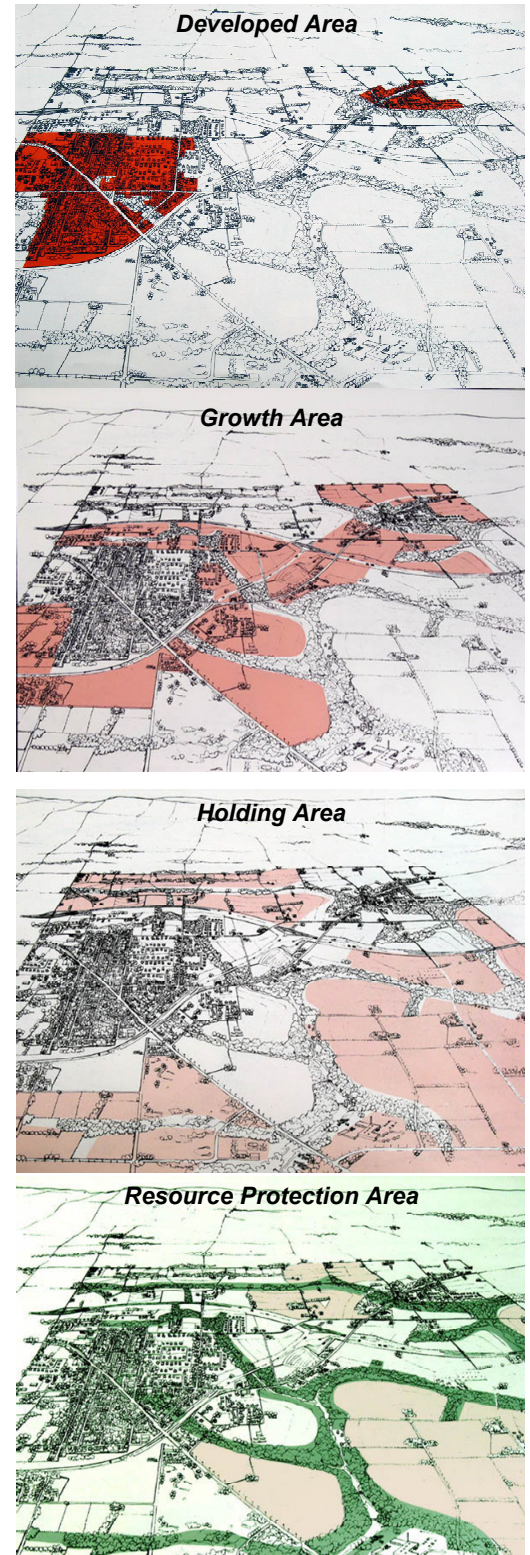
In this appendix are more details and observations on certain action options discussed within the chapter.

1. Maintain a Growth Planning Map

Beyond the core, largely contiguous developed area of the existing community (where infill opportunities are available, along with existing infrastructure and public services), the map should generally delineate: (1) Protection Areas (e.g., airport runway protection zones, Fort Hood buffer areas, streams and drainage ways and their associated 100- and 500-year floodplains, wetland areas, designated surface/ground water protection areas, steep slope and ridgeline areas, and other natural features and areas that warrant permanent protection); (2) Growth Areas, where the next 20 years of projected population growth and associated land development activity can best be accommodated and served (e.g., developable and contiguous areas south of Stagecoach Road and in proximity to arterial corridors); and (3) Holding Areas, which encompass the remainder of the ETJ and are not intended or well suited to absorb any significant growth or intensive development over the 20-year planning horizon. Examples of these categories are shown in **Figure 3.1, Growth Planning Areas**.

The Growth Planning Map is not intended as a rigid regulatory mechanism but rather as a tool for general long-range planning purposes. It is very likely that some development outside Growth Areas may make sense and cause no difficulties from a public service or fiscal impact standpoint within the 20-year timeframe. Likewise, some locations included within the Growth Areas may turn out not to be conducive for near-term development, at least with the support of City utilities and services. However, the Growth Planning Map should directly influence periodic updates to the Future Land Use & Character map in this Comprehensive Plan. Additionally, to ensure that the growth timing aspect of municipal zoning is employed effectively, a direct link should be established between character areas indicated on the Future Land Use & Character map (e.g., Urban, Suburban, Rural) and the development intensities permitted in these areas through the City's zoning ordinance and map. On a more routine basis,

FIGURE 3.1:
Growth Planning Areas





the City must also guard against zoning map amendments that, cumulatively, can lead to extensive residential development in growth areas without adequate land reserves for a balance of commercial, public, and recreational uses.

For this mapping tool to be effective as part of the City's ongoing growth management efforts, the various designated areas must be reviewed at least annually and updated, as appropriate, based on changed market (or other) conditions, economic development opportunities, ongoing capital improvements and their timing/location/capacity, annexation activity by the City, etc.

2. Provide for Lot Size Averaging

With the ability to reduce lot sizes on some areas of the site, land planners can lay out larger lots in more sensitive or scenic areas, such as along a water feature or wetland fringe, steep-slope location, or where floodplain covers a portion of the property (and also to buffer homes from a highway or railroad corridor, pipeline easement, abutting incompatible land use, etc.). The average-lot design would have the same total number of lots as a conventional layout to ensure no density increase and, therefore, no increased traffic generation or utility demands. However, density bonuses (with offsetting open space requirements) could also be offered as an incentive since lot size averaging, like clustering, can help to achieve expressed community objectives.

6. Continue to Pursue Advance Annexation

By statute, a three-year planning and "waiting" period will be required for some areas, but other areas may be exempted and eligible for much quicker annexation.

8. Protect Annexation Areas Not Targeted for Near-Term Growth

Also coordinate with individual property owners in targeted ETJ areas to promote the benefits of special non-annexation development agreements the City must offer, prior to annexation proceedings, to those owners who maintain a Texas Tax Code exemption on their property for agriculture, wildlife, and/or timber land management (per Texas Local Government Code Chapter 43, Section 43.035). Owners who accept the agreement must commit to forego any development activity (other than maintaining an existing single-family residence on the property). In turn, the City can put off annexation for the term of the agreement (up to 15 years) and, significantly, is also able to enforce its planning and development regulations so long as they do not interfere with the tax-exempted use of the property. If an owner does not accept the agreement, then the City can proceed with annexation as appropriate.



12. Complete Timely Zoning of Newly Annexed Areas

Where it is the City's intent not to encourage significant or intensive development in the near term, such as in Protected or Holding Areas as indicated on the Growth Planning Map, then the interim agricultural ("A") zoning should be validated and established by ordinance expeditiously versus waiting up to one year after annexation.

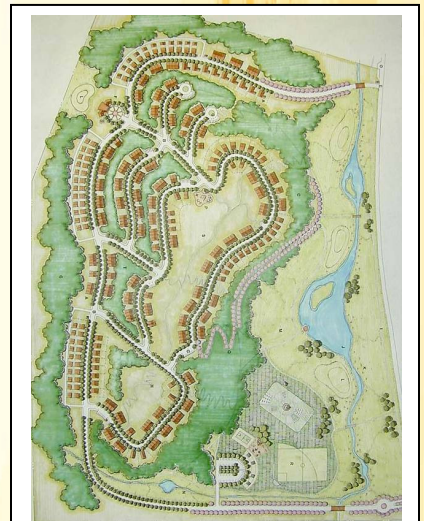
13. Promote Conservation through Public (or Non-Profit) Acquisition

As described by the Texas Parks & Wildlife Department in a related guidebook, a conservation easement "is a restriction landowners voluntarily place on specified uses of their property to protect natural, productive or cultural features. A conservation easement is recorded as a written legal agreement between the landowner and the 'holder' of the easement, which may be either a nonprofit conservation organization or government agency." Such easements can help to reassure prospective owners of new homes—and nearby rural land owners—that large, contiguous areas of undeveloped land will be preserved for a specified time to maintain a particular character as further growth is absorbed in the vicinity.

14. Provide for Cluster and Conservation Development Approaches

Clustering results in better land utilization by preserving natural assets while still allowing some degree of development on constrained sites, which provides return on investment to property owners and addresses area housing needs (including incorporation of townhomes, patio homes, and other housing options in a well-planned setting). In the best designs, natural features are preserved and incorporated as development focal points and amenities, thereby adding value for both the developer and home owners over time, especially when homes and/or other uses are arranged and oriented to take advantage of open space views. By setting aside natural areas and open space, cluster designs are also effective at reducing both storm water runoff and water quality impairment. Better drainage practices can reduce site infrastructure costs, and more compact development generally requires less linear feet of street, water and sewer lines, sidewalks, other utilities, etc.

Given the diversity of terrain in Killeen's growth areas and ETJ, several levels of alternative subdivision design should be outlined: "cluster," "conservation," and "preservation" options. The operating principle is to trade density for open space—with "open space" meaning all the non-built, non-paved/pervious portions of a site. The increased concentration of units/buildings allowed through each successive category would be offset by a higher open space requirement for the overall site. Particularly for suburban and rural character areas, this is meant to ensure



Example of conservation design in a subdivision layout.



compatibility of the development with area character, with more space on the site automatically set aside for buffering purposes. As with lot size averaging, various incentive provisions can be incorporated directly into the standards to promote use of clustering on sites where a conventional layout would work against community character and resource preservation objectives. Incentive possibilities include density bonuses, reduced building setbacks, narrower streets, and greater reliance on natural infiltration and drainage versus “hard” infrastructure to handle storm drainage. Cluster development methods should be promoted with applicants at the concept plan stage and through educational seminars for area land planners and developers.

15. Consider Use of Public Improvement Districts

Public Improvement Districts (PIDs) may prove feasible as a means for meeting infrastructure needs within designated growth areas where the City is not yet prepared to commit capital resources to extend services—or where City/PID cost-sharing arrangements can expedite such extensions and/or make more improvements possible. Governing statutes also provide for annual budgeting and review of the assessment plan, as well as ongoing service plan updates and associated capital improvements planning.

16. Add “Dark Sky” Protections

Resource information is available through the International Dark-Sky Association (IDA) and the Illuminating Engineering Society (IES), which has produced a model lighting ordinance (also to promote energy conservation).

17. Consider Broader Use of Development Platting

Section 26-8 provides broad authority to adopt “general plans, rules, or ordinances governing development plats of land within the limits and in the extraterritorial jurisdiction” of the City. Given the lack of zoning authority in ETJ areas in Texas for either cities or counties, this makes municipal subdivision regulations even more crucial for establishing appropriate development standards in the City’s long-term growth areas (recognizing that Section 212.003 of the Texas Local Government Code prohibits cities from applying typical zoning provisions in the ETJ through subdivision regulations, including regulation of land use, building bulk and scale, and residential density). This would also provide a vehicle, through Section 26-11, for ensuring effective implementation of potential rural development standards in the ETJ versus in-City standards (e.g., narrower street sections, different or waived sidewalk requirements, drainage via swales, etc.).



18. Promote Natural Resource Conservation

Incorporate explicit resource protection standards into the City's development regulations, and especially in the subdivision and property development regulations in Chapter 26 as the City may apply these requirements throughout its ETJ in addition to the City limits. This should include a broader purpose statement in Section 26-3 to include natural resource considerations (beyond generic language on "general welfare" and "safe, orderly, and healthful development of the city"). Specific criteria should also be added that address ecological factors in a holistic manner, in accord with Low Impact Development principles. This should include decision-making guidance for assessing potential development impacts and mitigation options during the early stages of subdivision design and site planning and associated City reviews. More explicit criteria can build upon relevant language already found in Sections 26-91 regarding lot, block and street layout and 26-101 regarding the location and design of street networks.

In sum, Chapter 26 should do more than just spell out the mechanics of preparing land for development and transfer of ownership. It should also emphasize that the subdivision and development platting process is the time to consider the natural conditions and ecological assets and functions existing on a site and determine its basic development capacity and suitability. Applicants and City staff should then plan accordingly for subdivision layouts and development approaches that reserve asset areas both to preserve them and capitalize on them as development amenities.

20. Explore Impact Fee Feasibility

Impact fees are similar to special assessments except that they are charged to new development as it is approved rather than to all property owners within a particular area. In this way, impact fees can be particularly appropriate in portions of the City's defined growth area for which there are no other definitive capital improvement plans, thereby helping to ensure that new development does not exhaust existing available infrastructure capacities. This also enables development to occur consistent with the City's growth plan, but without committing the City to construct infrastructure prematurely before actual development emerges. Governing statutes also prevent fee revenue from being spent on operation and maintenance of existing facilities and other activities not related to serving new development.

Impact fees are not a cure-all for infrastructure financing because cities often set their impact fees below the maximum allowable level, and the resulting fee revenue only supplements other City expenditures that are usually necessary to fully fund needed capital improvements. But impact fees do help to internalize into land development and real estate



transactions more of the true costs of bringing new residential units or non-residential space to the market, for more direct payment by those actually creating the market demand.