

Figure 51: Land Transect

### 3. DEVELOPMENT SUITABILITY ASSESSMENT

#### DEVELOPMENT SUITABILITY ANALYSIS: Part One

Westlake is host to a dramatically pastoral landscape that has evolved through a process of ranch management within a rolling topography blessed with acidic/sandy soils. The earlier existing conditions analysis chronicled the history of Westlake's transformation to the current pastoral setting. The following analysis seeks to create taxonomy of development conditions, as defined by

land characteristics, ranging from the most suitable for development to the least suitable for development.

Land characteristics are generally determined according to location within the land transect illustrated in Figure 51.

This analysis is based on five conditions, all of which have bearing on determination of where locations of greater natural encumbrance are located. These conditions are:

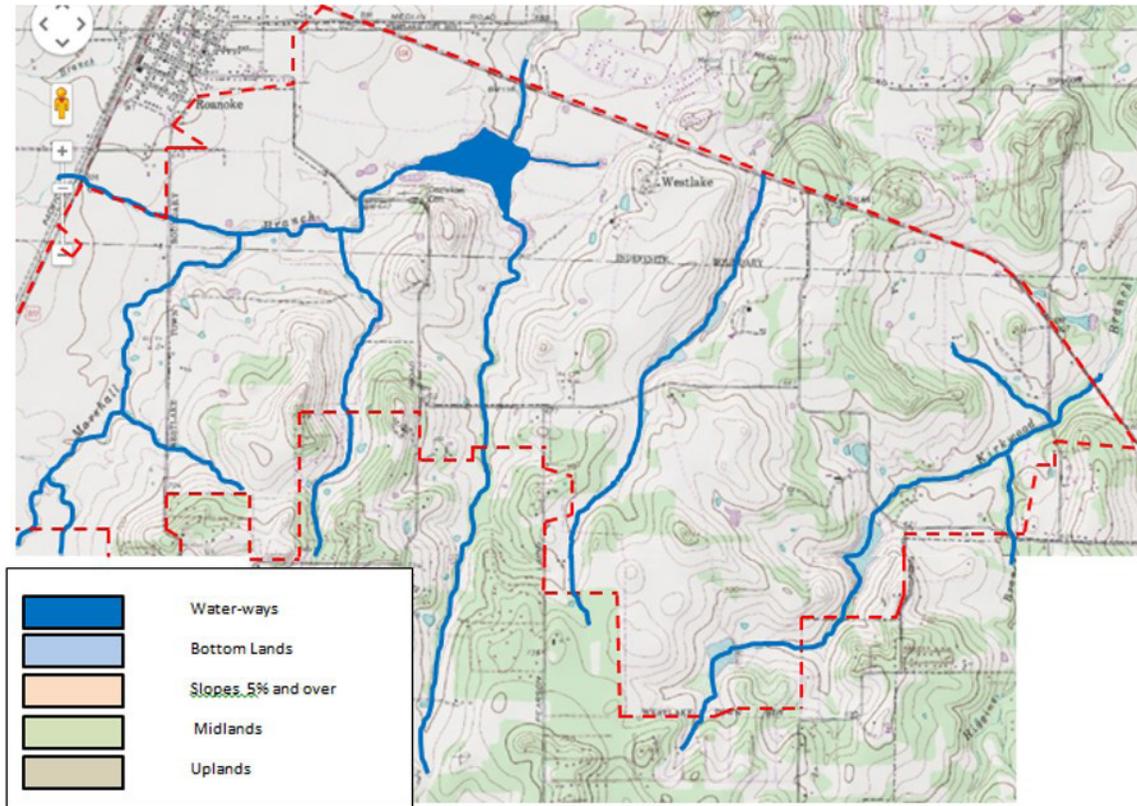


Figure 52: Waterways

**1. Waterways:** There are five primary water-ways within the Town of Westlake, running in a northerly direction, functioning as tributaries to Lake Grapevine. These waterways divide the Town into five zones aligned in a north to south direction and drain into the flanking channels. Each zone will ultimately contain both commercial and residential land uses. These five zones are cited as planning zones in the comprehensive plan process. Historically, these waterways nurtured umbrageous riparian communities

that found appropriate habitat in the deeper, more hydrated soils. Additionally, some waterways have been developed for ranch lakes and detention ponds. These include Turner Lake, lakes near Fidelity Investments, and others. These waterways will continue to be extremely important to Westlake as it develops because they are essential to satisfaction of detention requirements associated with Planned Developments. Future detention within these water ways will be between 500 and 700 acre feet. The five primary waterways are illustrated in Figure 52.

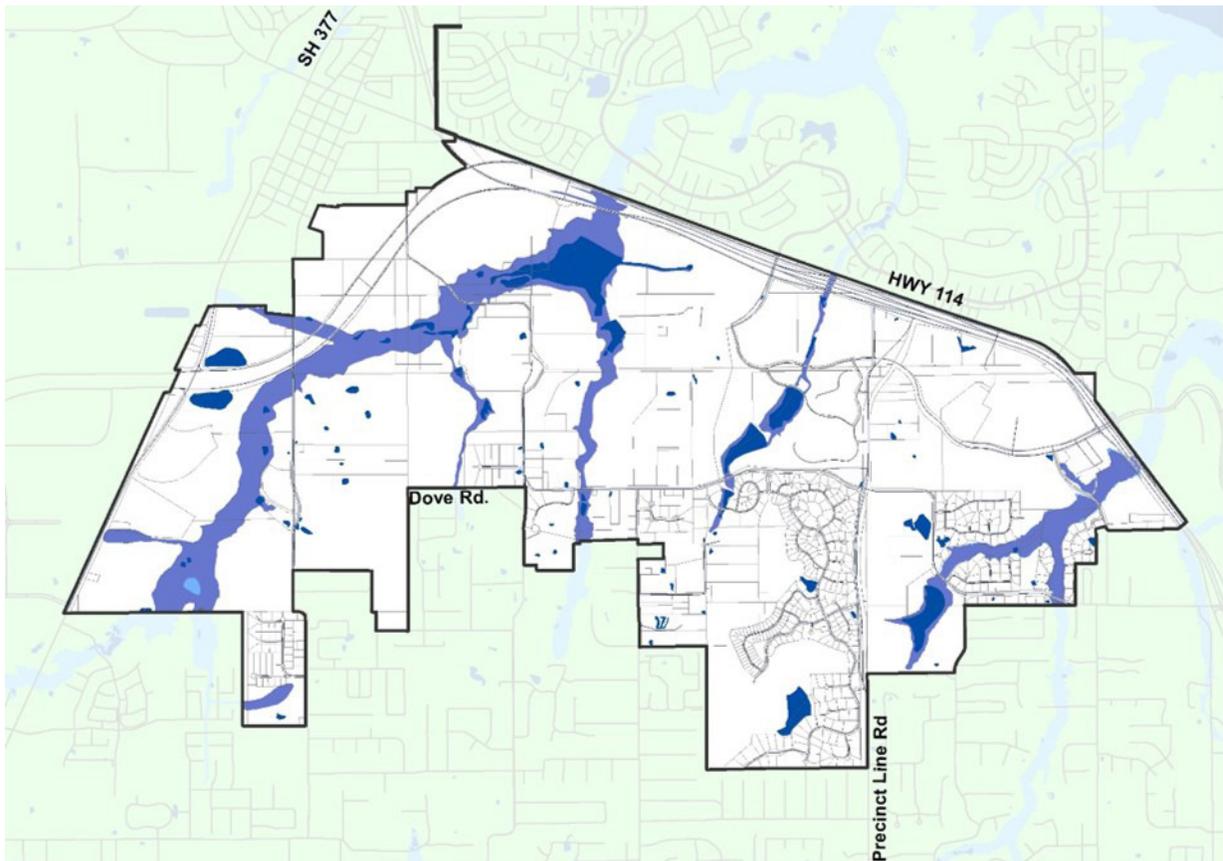


Figure 53: Flood Plain Map

**2. Lowlands:** Lowlands are generally the flood plain areas that flank the waterways and additional land area that generally contains the alluvial soils associated with flood plains. Because alluvial soils are transported and deposited by water flow, they lay in areas of flatter topography generally formed by the build-up of deposit over time and range from less than 1% to less than 3%. The structure of alluvial soils is generally more silty than other soil structures and, therefore, more susceptible to erosion. This makes the ground plane defined by those soil deposits sensitive to any acceleration of water flow. This includes outfalls and any point flow from constructed areas. Alluvial soils tend to be deeper, more hydrated, and more fertile than soils in higher elevations allowing such locations to support larger canopy trees, such as oak varieties. The

substantial canopy associated with these tree groups nurtures a diverse understory, making the alluvial areas also prime habitat for wildlife. Because the soils of Westlake tend to be sandy, alluvial soils, this area is more vulnerable to erosion and fast moving water (which can result from increased development of the magnitude established by current zoning), which can easily scour channel banks causing destruction of tree communities. Grapevine has experienced such water destruction in its industrial areas on the north side of Lake Grapevine.

- **Flood Plains:** Figure 53 shows existing ponds along the water-ways and the general width of flood prone areas. Note that flood plains along Marshall Creek (west side of Westlake) and Kirkwood (east side of Westlake) are the larger flood zones. Downstream development in Trophy

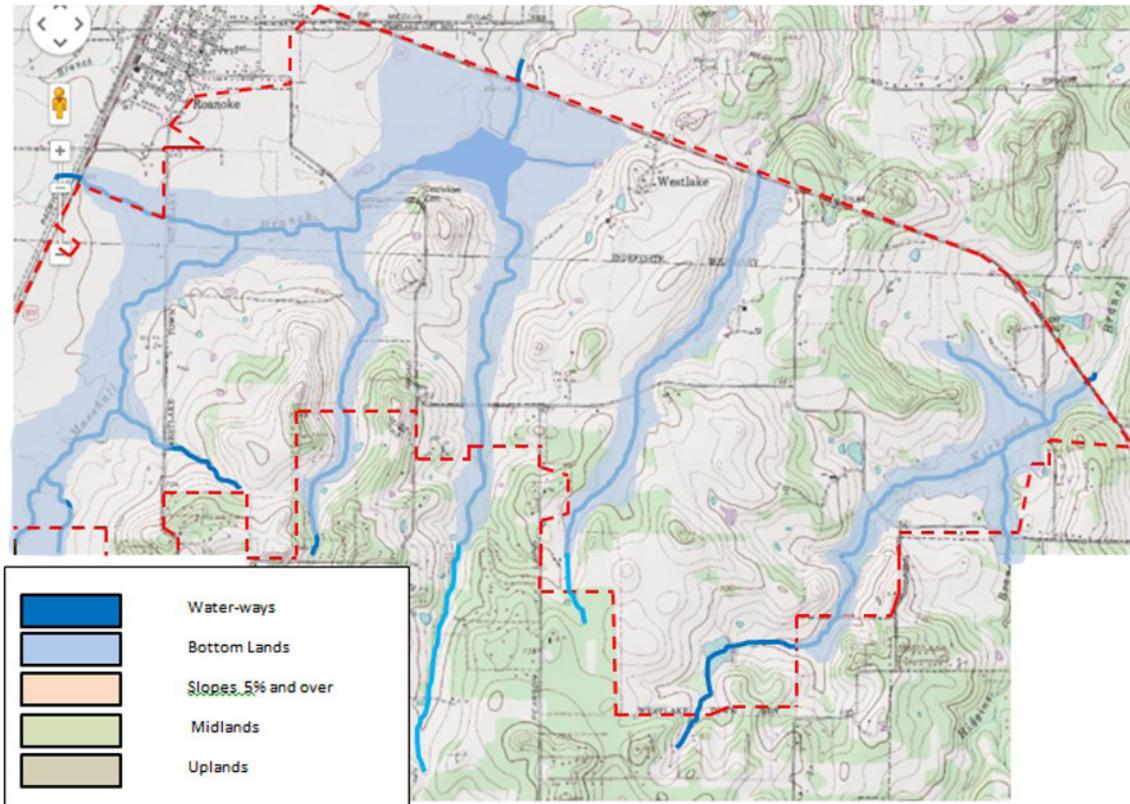


Figure 54: Lowlands

Club has restricted Westlake's ability to transport water from future development, making detention in these areas critical.

- **Lowlands:** Lowlands generally contain the flood plain areas of Figure 54 above as well as the areas of flatter alluvial land usually associated with alluvial soil deposits. Historically, these areas supported significant riparian growth. However, years of ranch management and pasture consolidation have made these the large flat grassy areas of today. The general configuration of Lowlands can be seen in Figure 54.

**3. Midlands:** The midlands are areas of moderate slope lying between the uplands (hill tops) and lowlands. The natural mosaic in these areas is not as diverse as one would find in the riparian zones of lowland areas. Vegetation

usually contains scrub and native grass growth common to edges of the riparian areas. Edges usually provide habitat for smaller animals and smaller plant materials that are a food source for many species, many of which live in the riparian corridors of the lowlands and move along such corridors well hidden from predators.

Midlands are the recipient of storm flows from upland areas moving across the midlands as they advance toward the lowland waterways. Because slopes of the midland areas are steeper than lowland or upland zones, water moves at a fast rate, thereby exposing the midlands to erosion. However, more stable soil structures and deep rooted grasses tend to provide erosion protection. Native grasses of midland areas are typically deep rooted, which allows water to seep into subsurface seams that then transport it to lowland

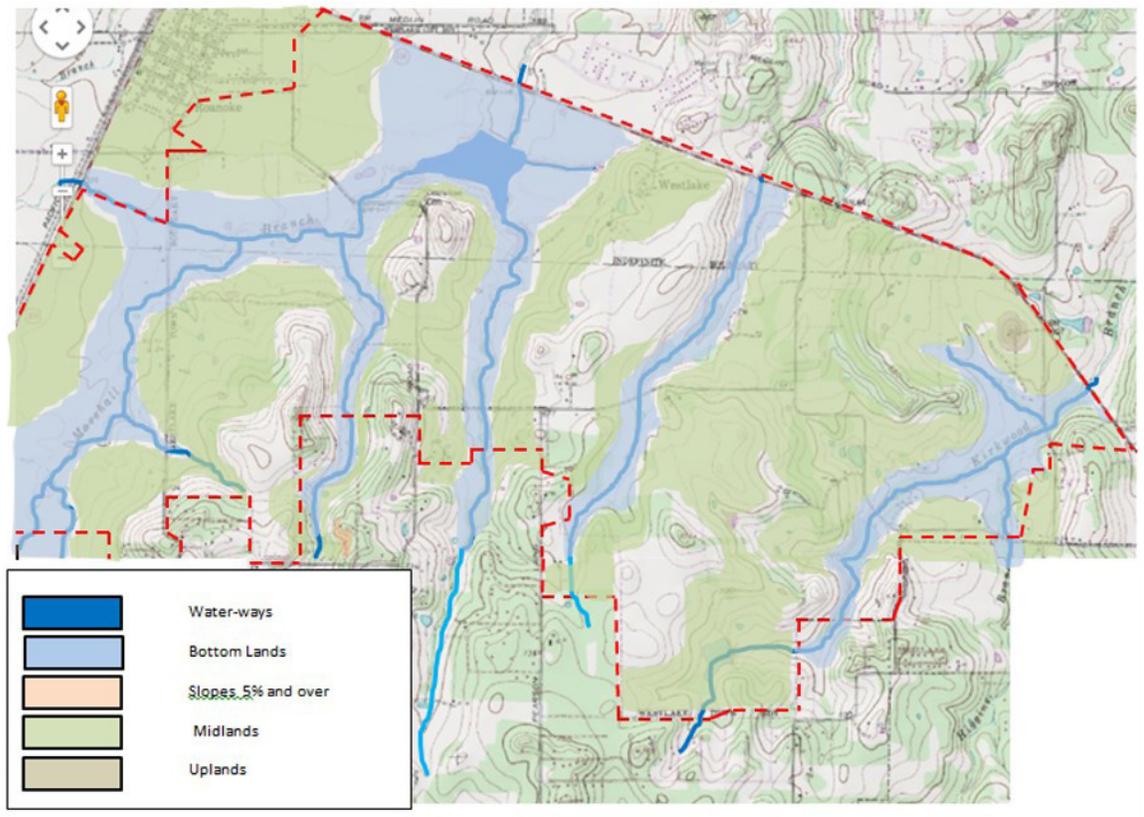


Figure 55: Midlands

waterways. However, years of ranch management has replaced native pasture with cultivated pasture, usually coastal Bermuda grass. Such cultivated pasture grass is not deep rooted like native grasses and encourages surface transport of storm runoff, leading to erosion. The USGS Topography map used as a base for this analysis shows intermediate ponds along the side slopes of the midlands, indicating erosion control and silt control structures.

The Midland areas, with their moderate slope, are generally stable areas for development as long as storm water management is addressed and point flows into the lowland areas are avoided. Figure 55 illustrates the Midlands.

**4. Slopes over 5%:** A key component of the pastoral beauty of Westlake is the number of rising land promontories supported by steeper slopes. There are areas where the slope exceeds 10%. These steeper slopes are sensitive to grading and expensive for development. The steep slope settings are the landmark land forms that give Westlake its distinctive character. Steep slopes are defined as slopes over 5%. Such slopes are indicated by the salmon colored areas in Figure 56. Most of these areas lie close to or along the southern border of town, as seen in Figure 57a and Figure 57b. This is in keeping with the flow of water from higher elevations toward Keller to lower elevations toward SH 114. Further, the steeper slopes are generally located on the northerly sides of promontories.

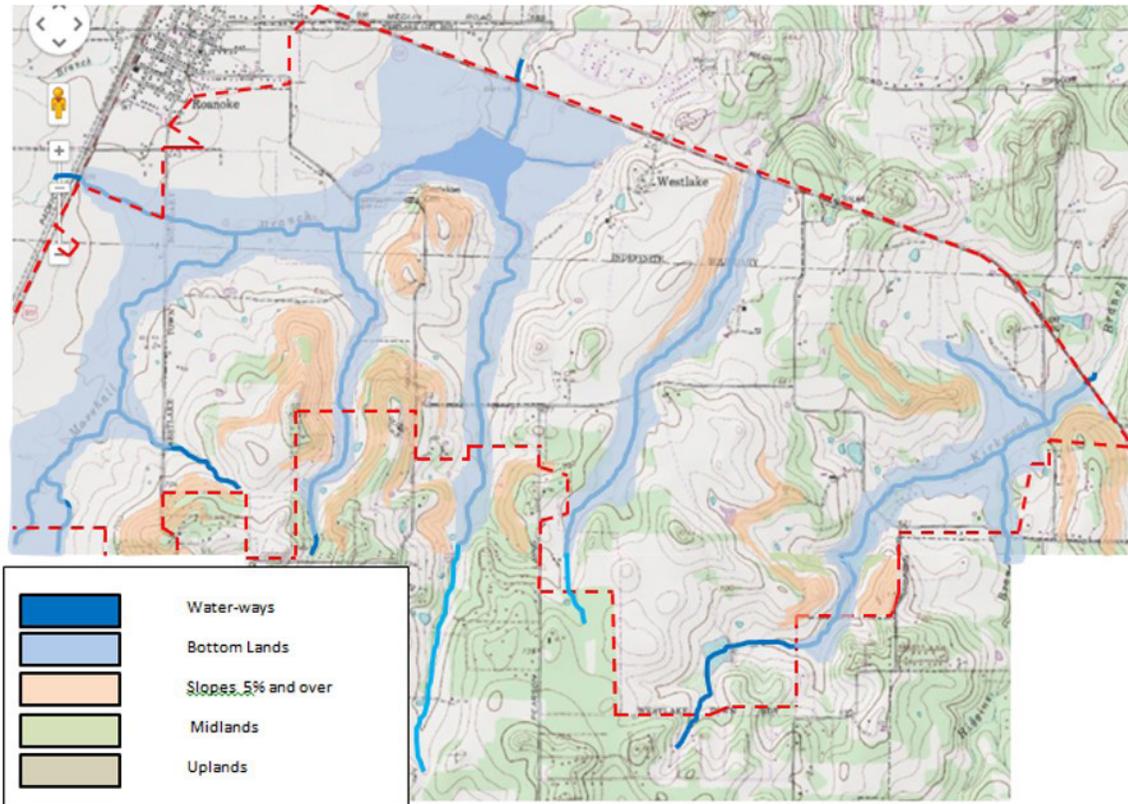
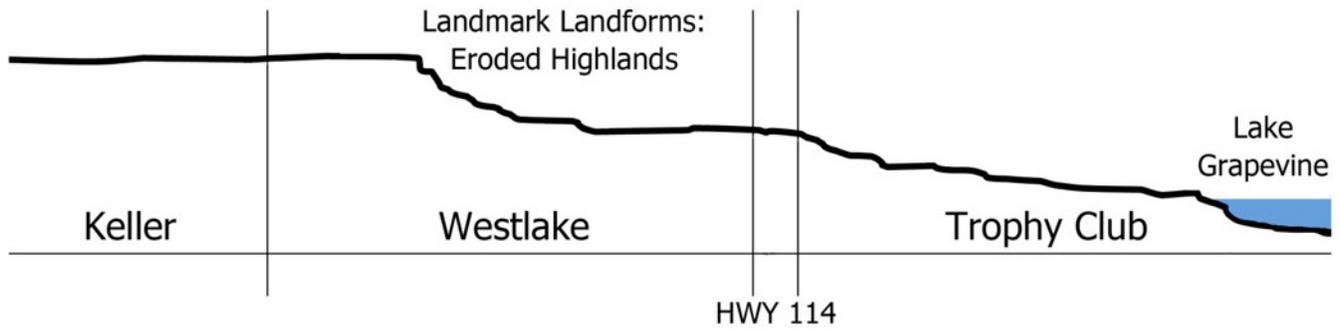


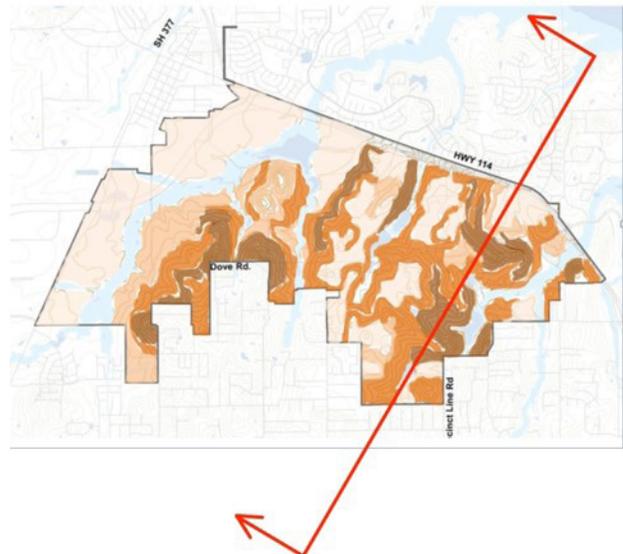
Figure 56: Slopes over 5%



Figures 57a and 57b: Cross Section and Topography with Cross Section Line

Therefore, when Westlake is viewed from SH 114 the landmark land forms are visible to the south. This is a distinctive quality of Westlake.

Steeper slopes will have thinner soils and a generally more fragile vegetative cover. Therefore, steep slope areas are sensitive to development.



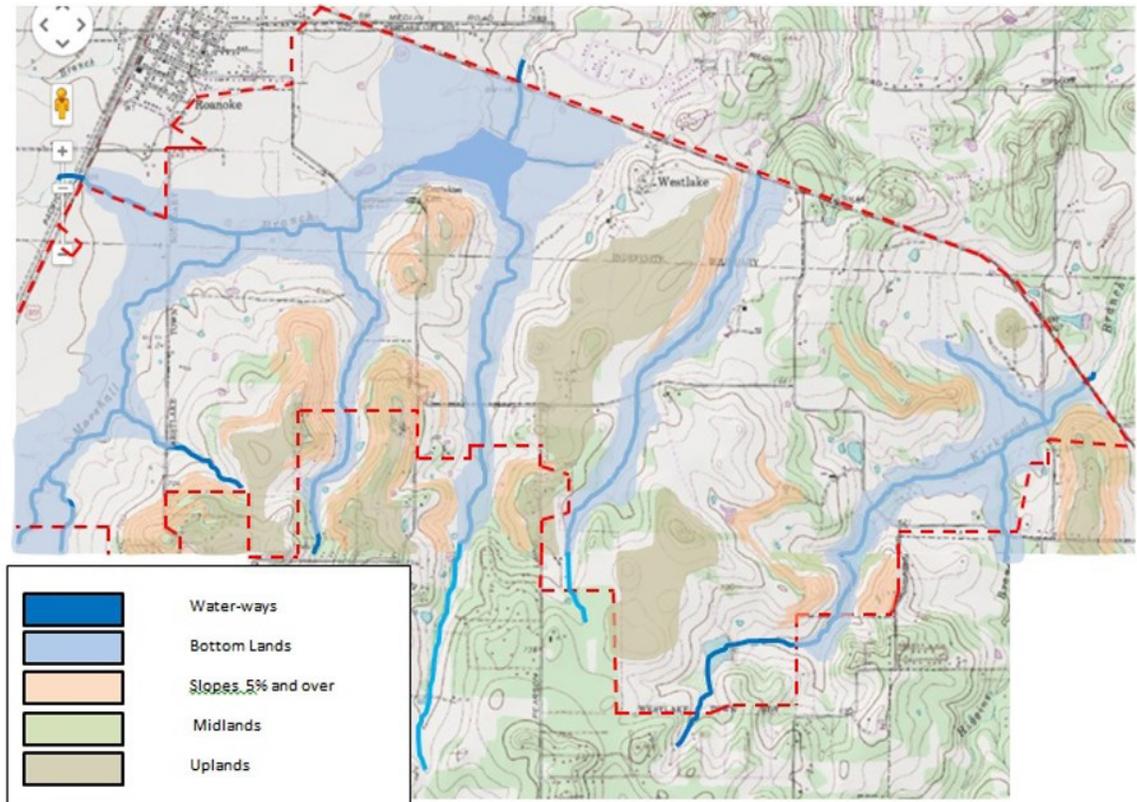


Figure 58: Uplands

**5. Uplands:** Uplands are the highest elevations of the Town and crown the landmark land forms discussed above. Typically void of tree cover, the thinner soils of hilltops support grasses. Uplands are flatter than midlands and less impacted by development. However, development in these areas will be the most visible. In an effort to preserve the natural form of hilltops, Westlake has historically encouraged vertical development to locate in lower elevations with its use of datum elevation as a regulatory control of building height. However, such policy also pushes development into the lowland areas, which can have adverse impact on the ecological function of these areas. Figure 58 shows the location of upland areas.

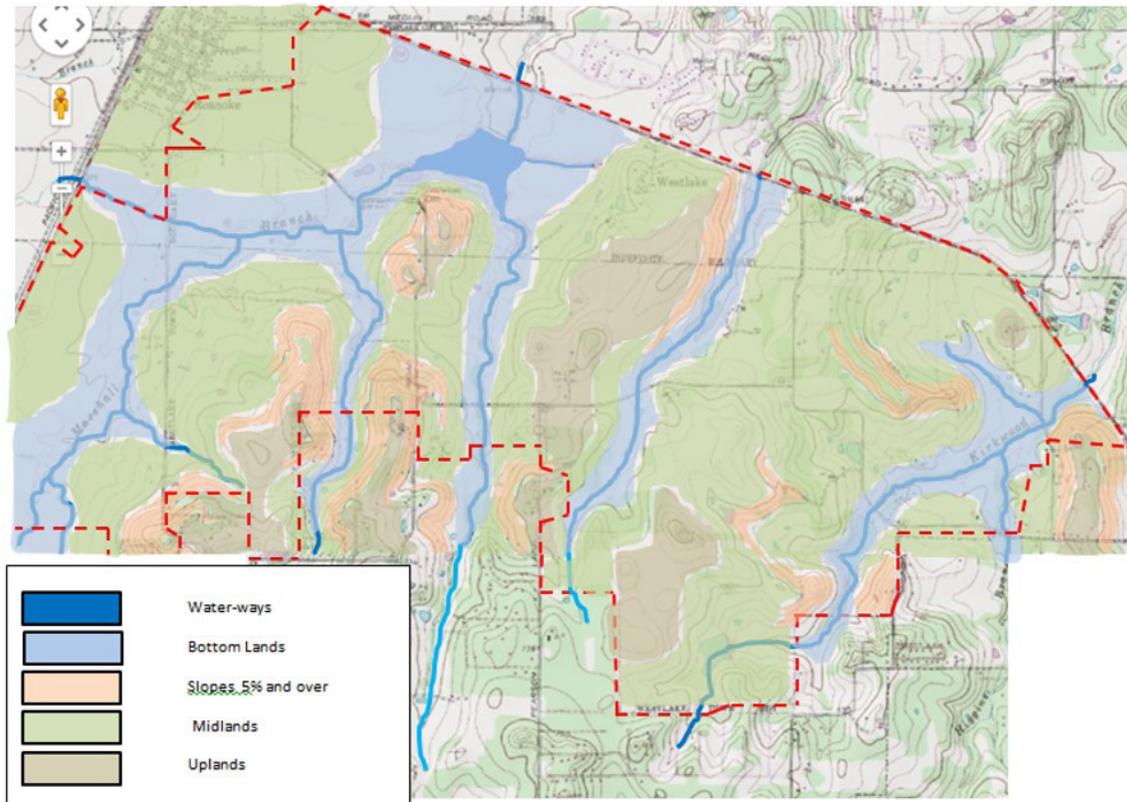


Figure 59: Composite Map

**The Composite Map:** Figure 59 is a composite of the individual map zones described above. It provides the key to application of the development suitability issues presented below.

**Suitability Summary by Zone:** The following text presents development suitability issues as such considerations are applicable to each of the zones presented above. Suitability is addressed through consideration of the disruption of natural processes, sensitivity to coverage, sensitivity to building height, and sensitivity to grading.

**1. Waterways: Waterways are highly sensitive to the impacts of development.**

- **Sensitivity to disruption of natural processes: Highly sensitive to the disruption of natural processes.** Figure 60 illustrates the complexity of natural processes in waterway areas. Because the waterway is the collection point of storm water

flows, all the natural processes that facilitate movement to water-ways culminate in this area and get progressively more complex and more diverse as they approach it. Therefore, natural processes in waterways are most sensitive to disruption by development. This includes the construction of detention facilities, which, by necessity, must be located in this area.

- **Sensitivity to coverage: Highly sensitive to coverage encroachment.** Waterways are highly sensitive to coverage encroachment as it disrupts bank functions and renders normally biologically diverse littoral zones of ponds. These zones are the most ecologically active and occur in the shallower near-bank regions, making the edges of waterways most sensitive to encroachment.

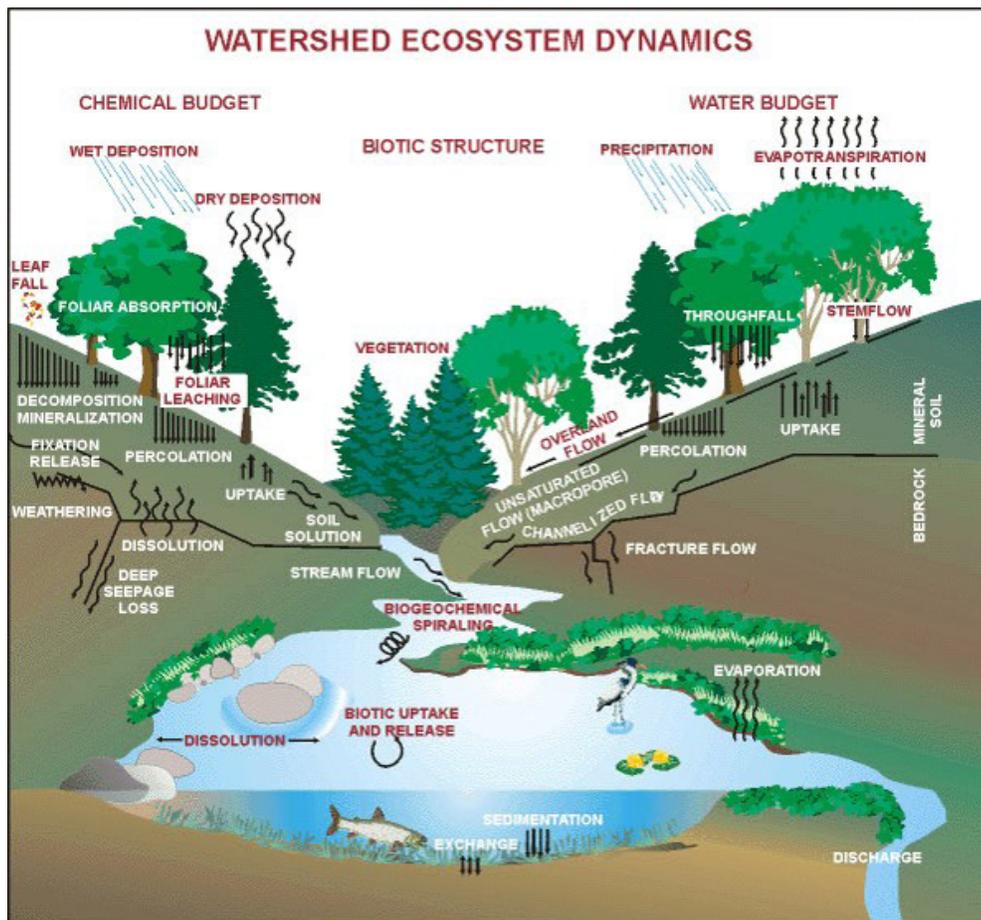


Figure 60: Ecosystem Diagram

- **Sensitivity to building height: Not applicable.**
- **Sensitivity to grading: Highly sensitive to grading.** The natural surface movement of water is key to sustained function of waterways. Therefore, grading for the creation of detention facilities can disrupt normal surface movement by the imposition of outfall structures and acceleration of water velocity. Design of such facilities to function with flow rates and flow patterns that replicate the natural flows they replace is essential.

**2. Lowlands: Lowlands are sensitive to the impacts of development.**

- **Sensitivity to disruption of natural processes: Sensitive to disruption of natural processes.** Lowlands

are the flood plain and general fringe of waterways. As a result, development in these areas can disrupt the final migration of water to waterways. Excavation and foundations, as well as hardscape areas, can all change the patterns of water migration and result in pollution of run-off, further affecting waterways.

- **Sensitivity to coverage: Sensitive to coverage.** Lowlands are sensitive to coverage and impervious areas as they both accelerate water movement to waterways and prevent migration to waterways via soil seeps. Any accelerated water movement in the highly erodible, alluvial soil types will transport silt to waterways and detention facilities. Also, the potential for scouring

is greatest in this area, which is destructive to tree groups.

- **Sensitivity to building height: *Low sensitivity to building height.*** Because lowlands are at lower elevations, they tend to hide building height from general view. Therefore, lowlands are less sensitive to building height.
- **Sensitivity to grading: *Sensitive to grading.*** The nature of soil structure and levels of soil hydration characteristic of lowlands makes them fertile locations for plants and habitat for animals. Therefore, any disturbance of the soil structure as a result of grading would have far reaching impacts.

### 3. Midlands: Midlands are moderately sensitive to the impacts of development.

- **Sensitivity to disruption of natural processes: *Less complex natural processes in this area make them less sensitive to disruption.*** The hydrologic function of Midlands is to transport runoff to lower elevations. Resistance to erosion is accomplished by protective vegetative cover, which also provides habitat for smaller animals. Therefore, there is some disruption of habitat, which can be accommodated in landscape design, and some disruption of sheet flows, which can be accommodated through hydrologic design.
- **Sensitivity to coverage: *Less complex natural processes in this area make them less sensitive to the impacts of coverage.*** Coverage, properly designed to avoid point flows and promote sheet flows, can provide continuity to the movement

of water from uplands to waterways.

- **Sensitivity to building height: *Moderately sensitive to building height.*** The elevation difference between bottom lands and Midlands is not so great as to significantly raise the visibility of taller structures. However, there may be points within the spatial envelope of this zone that are more visible than others.
- **Sensitivity to grading: *Moderate sensitivity to grading.*** The gentle slope of midlands will only require moderate grading encroachment. There will be instances where building pads and access-ways will require retaining structures. In such cases, retaining structures should be designed so as to facilitate water movement without acceleration.

### 4. Slopes Over 5%: Slopes are sensitive to development and to loss of landmark significance as a result of development.

- **Sensitivity to disruption of natural processes: *Less complex natural processes in this area make them less sensitive to disruption.*** Minimal hydrologic function of slopes makes them less important to the transport of runoff to lower elevations. However, a steeper slope does accelerate water flow and, thereby accelerates erosion. Any disturbance of erosion protection vegetation will expose the landform to the erosion effect. In that slopes are landmark landforms, any attempt to accomplish erosion control through structured means, such as slope armoring, will be highly visible and disruptive to the pastoral image of Westlake.
- **Sensitivity to coverage: *Steep grade***

**conditions in this area make them very sensitive to the impacts of coverage.** Coverage in slope areas will have dramatic impact as it will require modification of the land profile and augmentation of the landmark significance of the slope condition.

- **Sensitivity to building height: *Highly sensitive to building height.*** The visibility of slopes and their landmark significance makes them undesirable places for building height. However, there may be points within the spatial envelope of this zone that are less visible than others and, therefore, more forgiving for building height.
- **Sensitivity to grading: *Highly sensitive to grading.*** The steep slope of this area will experience significant change with even a small amount of grading. In all instances building pads and access-ways will require retaining structures, and such structures further augments the landmark significance of slope areas.

**5. Uplands: Low sensitivity to development.**

- **Sensitivity to disruption of natural processes: *Less complex natural processes in this area make them less sensitive to disruption.*** Minimal hydrologic function of uplands makes them less important to the transport of runoff to lower elevations. However, augmentation of natural sheet flows to point flows will increase water velocity in midland areas and promote downhill erosion. Soils on the hilltops will be thinner and more sensitive to erosion.
- **Sensitivity to coverage: *Flatter grade conditions in this area make them less sensitive to the impacts of coverage.*** Coverage in upland

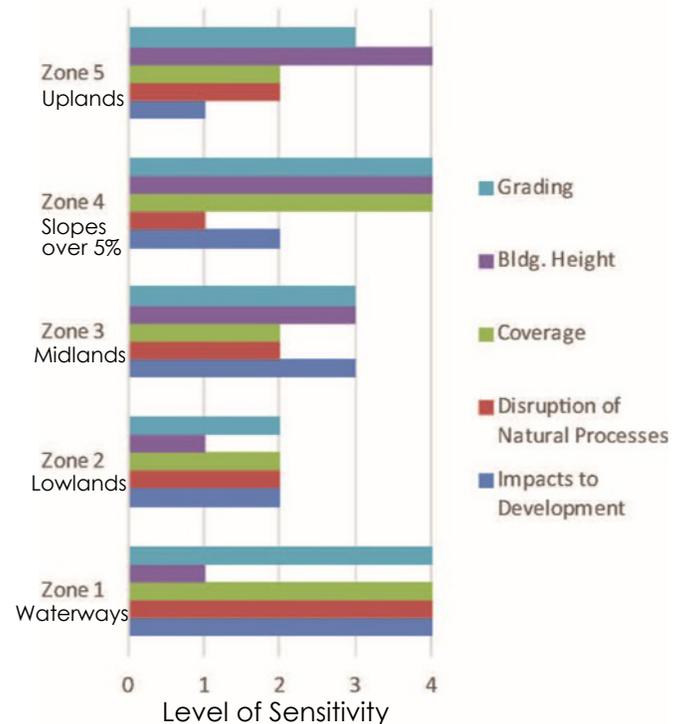


Figure 61: Development Sensitivity Graph

areas will have less impact than other areas. The flatter land profile can accommodate coverage.

- **Sensitivity to building height: *Highly sensitive to building height.*** The visibility of uplands and their landmark association with steep slopes makes them undesirable places for building height.
- **Sensitivity to grading: *Moderately sensitive to grading.*** The flatter land of hilltops will require minimal grading, thereby making the impacts of grading less apparent. Also, simpler natural processes in this area are not as severely affected by disturbance of the soil.

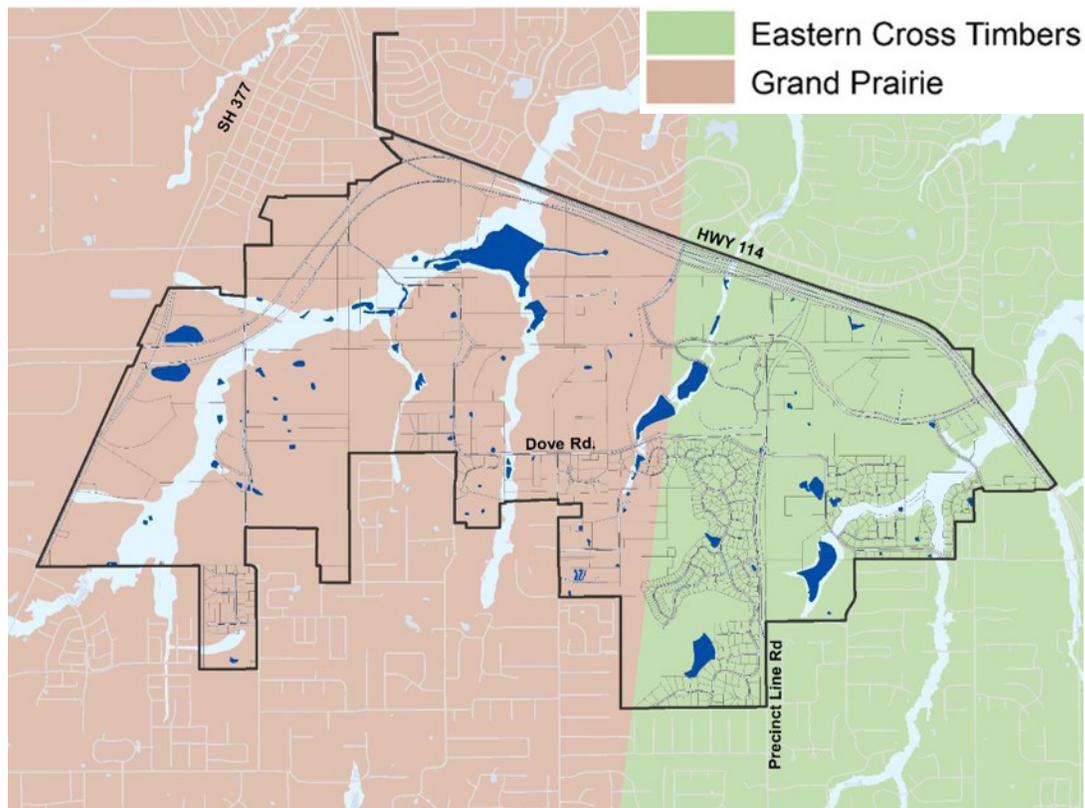


Figure 62: The Ecoregions of Westlake

**DEVELOPMENT SUITABILITY ANALYSIS:  
Part Two**

Development regulations impact what types of uses we find in our communities, but they also impact how things look, how things are connected, and where things go. Our communities are complex, and the regulations we put in place are intended to preserve the overall form and feel of the places we live.

This Comprehensive Plan Update sets forth a vision for how Westlake will grow in the future. It will provide goals, objectives and guiding principles related to key components of the built form of Westlake. Before we can do this, however, it is important to answer three questions:

1. What does the natural landscape of Westlake look like from a developability perspective?

2. Based on current property rights of existing zoning, what development opportunities are in place in Westlake today?
3. Where can we find opportunities to contextualize the natural landscape to capture these development opportunities?

**The Natural Landscape of Westlake**

Westlake sits along the boundary between the Eastern Cross Timbers and the Grand Prairie ecoregions. The transitional nature of the ecosystem of the Town, as illustrated in Figure 62, explains its complexity and its value. Drawing from the rich soil profile of the Grand Prairie and the attractive vegetation of the Cross Timbers, Westlake houses a diverse landscape that is suitable not only for agricultural practices, but also for development. It is this convergence of interests – agriculture and development –

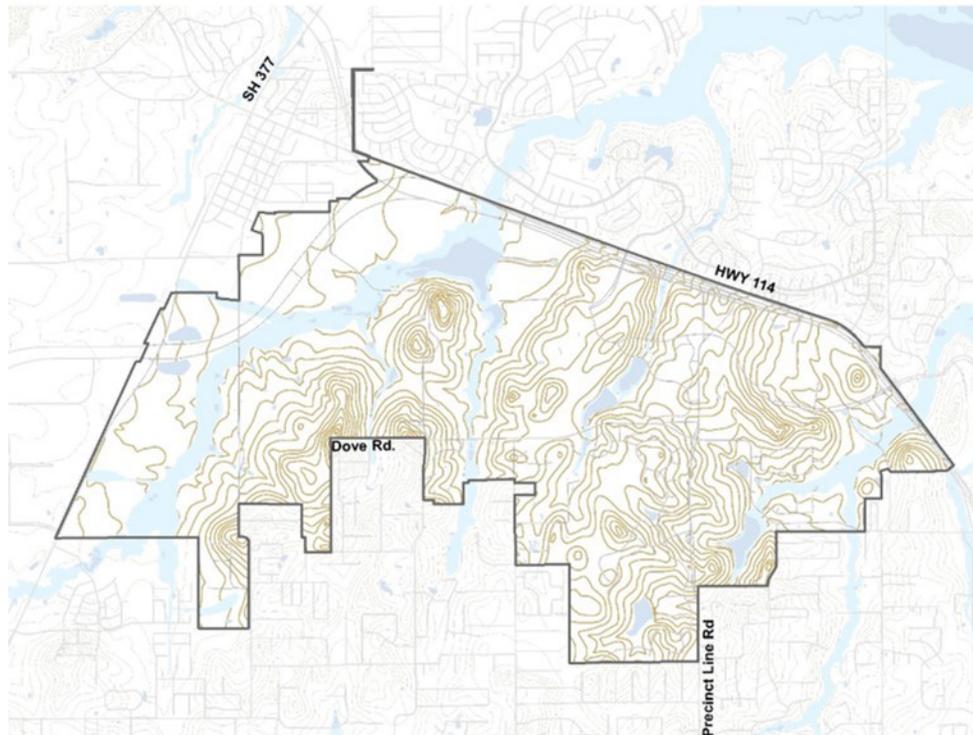


Figure 63: Westlake Topography

that give Westlake its inherent value from a landscape perspective.

Historically, Westlake has preserved a high degree of landscape integrity, meaning that development has been contextualized to fit within the natural landscape, rather than altering that landscape to make it visually subordinate. Rolling hills and pastureland define the character of the Town; and all developments, including commercial expressions, are designed to fit into this context.

Contextualization, which grows from a commitment to landscape integrity, is what has helped to preserve the property values sustained in Westlake. It is, therefore, important that the Plan creates mechanisms to continue the commitment to landscape integrity, not only to preserve the pastoral landscape of the Town, but to also preserve property values. In this sense,

landscape integrity needs to guide the development-related considerations of the Comprehensive Plan.

When considering landscape integrity, the two primary drivers of the natural form of the community are topography and hydrology. The topography, or changes in elevation, of Westlake are quite unique. The undulation of hills has created numerous pockets of hidden, low-lying land, as well as higher vistas with rich viewsheds. Roadways have a meandering feel to them, even when they move more or less in a straight line, due simply to the rolling nature of the terrain. Historically, topography has been a high value component of the natural landscape, as is evidenced by the restrictions in the Town's code regarding elements such as grading and building orientation. Figure 63 indicates the general topography (elevation changes) in Westlake and in the surrounding area.

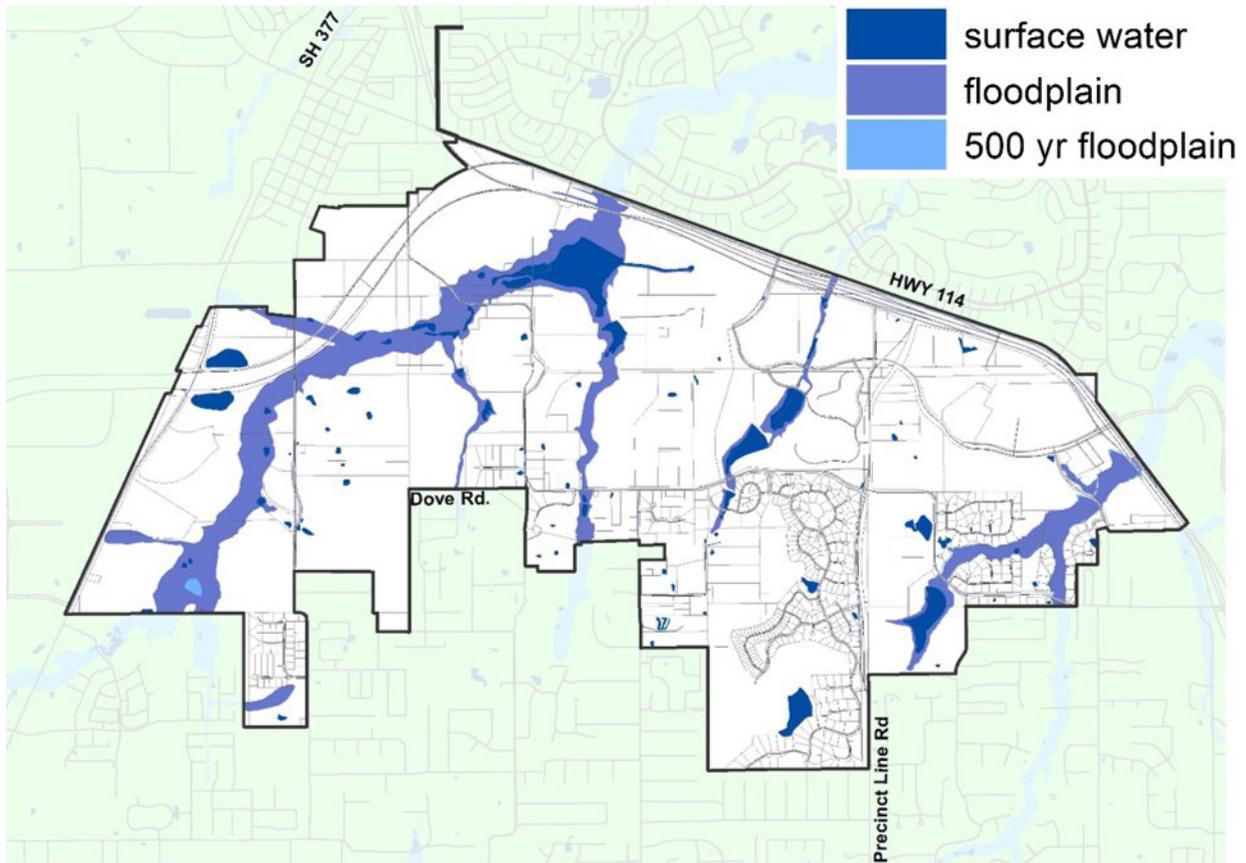


Figure 64: Westlake Hydrology

Hydrology, or the behavior of surface water, has also done much to shape Westlake. Westlake sits along two tributaries feeding into Lake Grapevine: Higgins Branch, located in the eastern part of town, is a visible creekway that retains water, and the other tributary on the west side of Town was dammed to create Turner Lake. This reservoir is largely undeveloped and helps with surface water management (storm water and drainage) for Westlake and surrounding towns. Figure 64 shows the surface water patterns in the Town and surrounding area.

Whereas topography has been codified as a valuable attribute of the Westlake landscape, hydrology has not. This means that there is latent value associated with water features in Westlake that has not been fully captured. This should be explored through the visioning process to

identify targeted types of development that can have positive associations with water features.

### Current Development Opportunities

The zoning code of the Town defines what is permitted on every property within the Town. Some land can be used for residences, some for offices, some for stores, some for industry, and some for public uses. Although there are times when the zoning assigned to a property can change, the intent is to preserve the rights of property owners to be able to use their property as they see fit while remaining within the parameters established by the zoning code.

The zoning code establishes categories of use, such as residential, industrial and commercial. For each category, a list

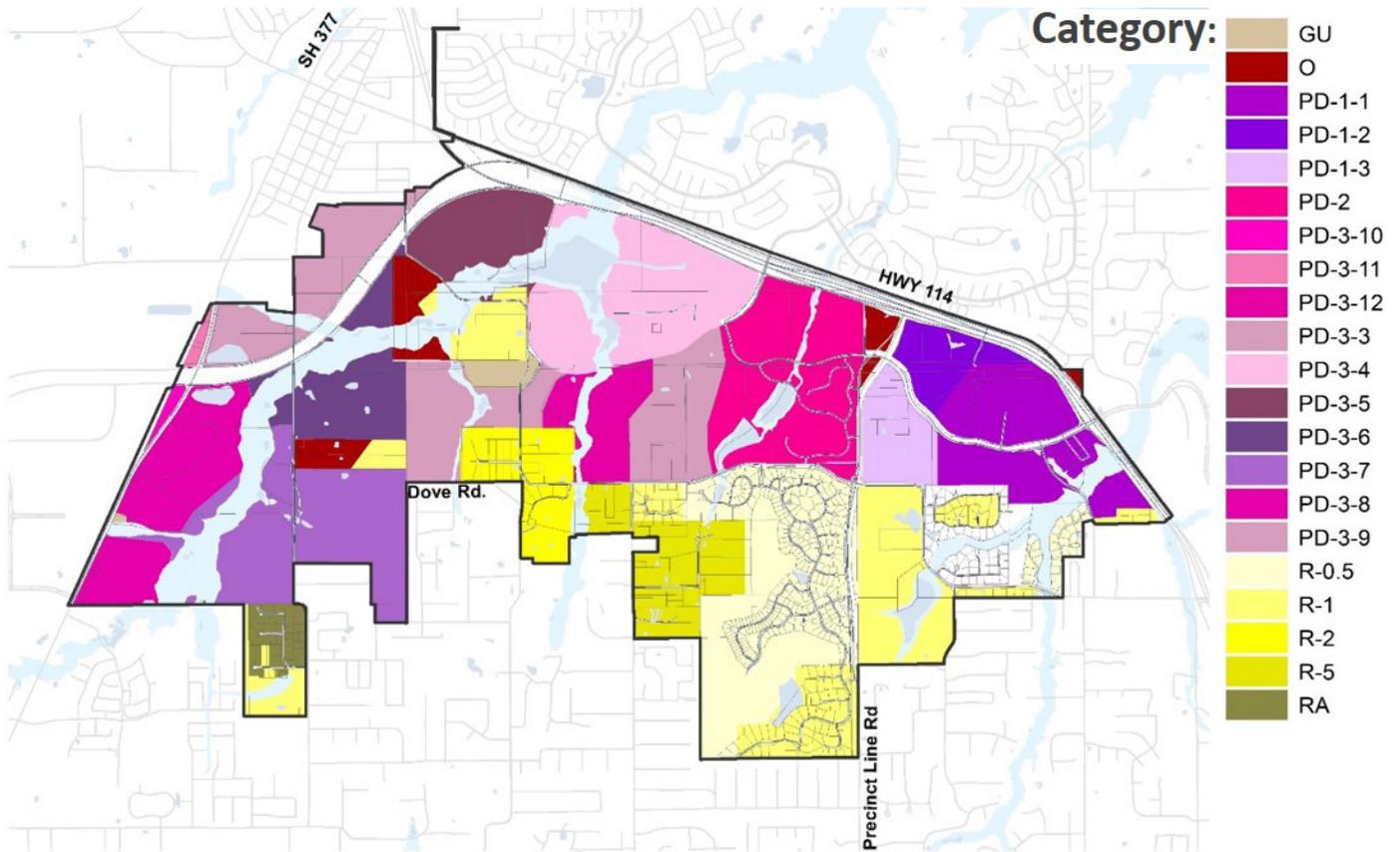


Figure 65: Current Westlake Zoning

of specific uses are identified, as well as standards for development of the property (landscaping, lighting, signage, etc.). This list of approved uses secures the property owner’s rights to use their property in the future. Therefore, how the properties of Westlake are zoned is a snapshot of what the future of the town would look like in terms of development, should nothing change.

In general, land south of Dove Rd. is zoned for residential use, while land north of Dove Rd. is zoned for planned

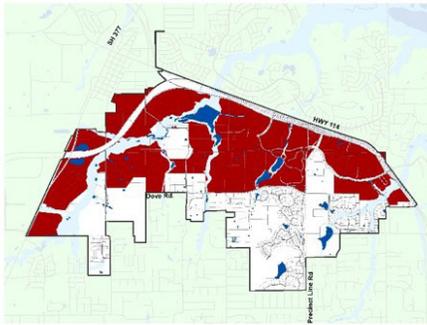
developments. “Planned Development” – or PD – is a zoning category that allows owners of larger tracts of land to plan at a larger scale. PDs typically contain a mixture of uses and may have their own standards with respect to landscaping, signage, building heights, and setbacks. In Westlake, PDs cover the majority of the land of the Town. Although this is good in the sense that it promotes a mixture of uses clustered around key thematic elements, it can be problematic in terms of growth management and preservation of community vision.

ZONING CATEGORY	SINGLE FAMILY	MULTI FAMILY	RESORT/HOTEL	VERT. MIX USE	OFFICE/COMM	RETAIL	RECREATION	PARK/OPEN SPACE	CIVIC	INSTITUTION	INDUSTRY/TRADE	AGRICULTURE
GU						X		X	X			X
O			X		X	X	X	X	X	X		X
PD-1-1			X		X	X	X		X	X		
PD-1-2	X				X	X	X		X	X		X
PD-1-3	X						X	X	X			
PD-2					X	X	X		X		lab/R&D	X
PD-3-10					X	X	X	X	X	X		X
PD-3-11			X		X	X	X	X	X	X		X
PD-3-12			X		X		X	X	X	X		X
PD-3-3			X		X	X	X		X			X
PD-3-4			X		X	X	X	X	X	X		X
PD-3-5	X		X		X	X	X		X	X		X
PD-3-6	X		X		X	X	X	X	X	X		X
PD-3-7	X						X	X	X			X
PD-3-8			X		X	X	X	X	X	X	X	X
PD-3-9	X	X	X	X	X	X	X	X	X	X	X	X
R-0.5	X						X	X				X
R-1	X						X	X				X
R-2	X						X	X				X
R-5	X						X	X				X
RA	X						X	X				X

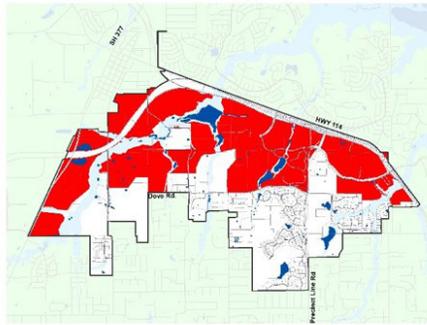
Figure 66: Permitted Uses Under Existing Zoning Designations

Each PD assignment has its own set of rules and regulations and is, therefore, not subject to community-wide standards like that of other properties. Therefore, the Comprehensive Plan must anticipate the limited ability of conventional zoning to translate community vision into development regulations. Conventional modification of base zoning categories, such as residential and office, will not impact development on properties that are zoned PD. Alternative measures will be necessary to codify community vision.

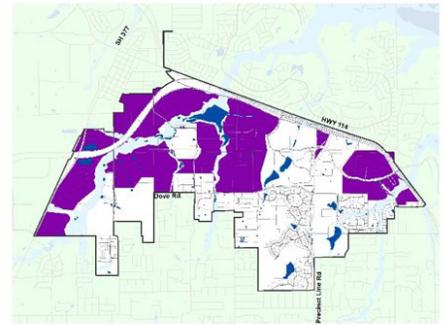
The uses permitted in the Town of Westlake have been included here in the table in Figure 66. It demonstrates what uses are permitted in each of the zoning categories of the Town's code of ordinances. The rows indicate the actual zoning categories that exist for the Town of Westlake. The columns indicate general land use categories, such as multifamily, retail and parks.



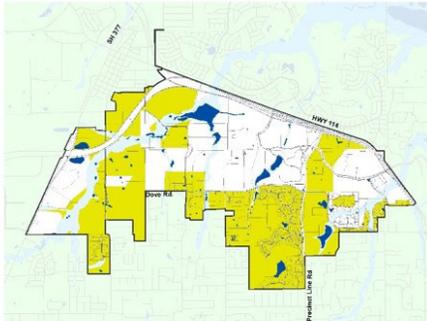
Office



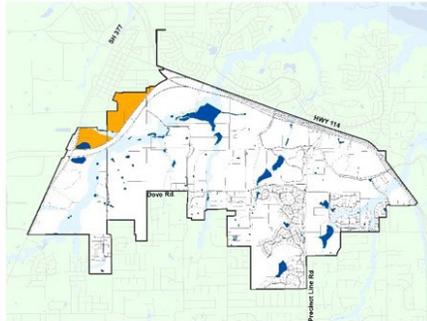
Retail



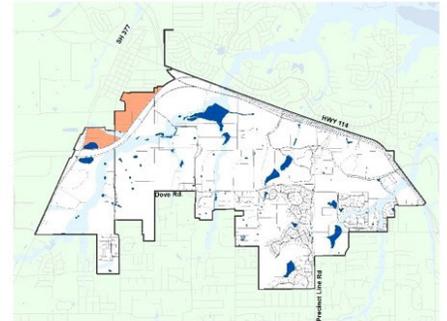
Resort/Hotel



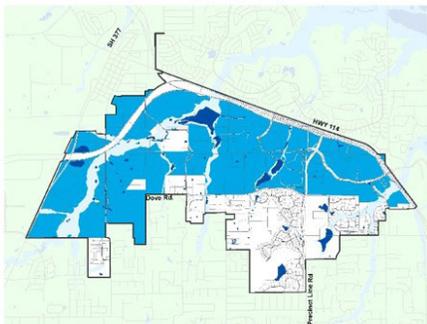
Single Family Residential



Multi-Family



Vertical Mixed Use



Civic



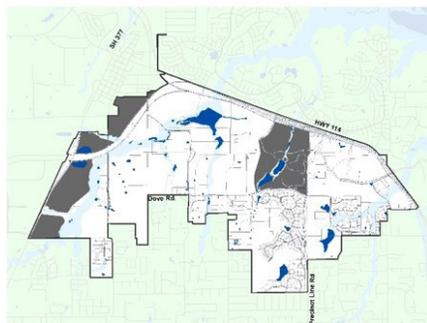
Recreation



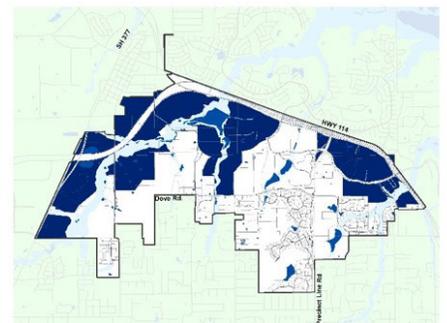
Park/Open Space



Agricultural



Industrial



Institutional

Figure 67: Permitted Uses in Westlake by General Land Use Category

Tying this table to the zoning map is particularly helpful when it comes to understanding what is possible to build in Westlake, according to property rights assigned to the parcels today. Figure 67 is a sequence of maps that show where each of the general land use categories are permitted within the Town. This does not speak to anything related to building or site design, only which uses are permitted on which tracts.

Office and retail uses follow a very similar pattern of distribution as permitted uses in most of the parcels located north of Dove Rd. and along the western edge of the Town. It is important to note that, although these two uses are compatible with each other, they create different types of traffic patterns and parking demands and have different impacts on the viewshed of the Town. Other differences are due to financial performance of these two product types, as seen in life cycle costs and long-term community impacts associated with shifts in tenancy.

Resorts and hotels are great additions to any community because they provide needed buffers between commercial uses and residential uses. They also create opportunity for landscape preservation, as viewshed and theming are important considerations for resort development. Fortunately, most of this land sits along the major waterway of the Town, offering opportunity to separate more intense development expressions along Alliance Gateway and SH 114 from the residential areas of the community. Care must be taken, however, to ensure that such resort/hotel developments in Westlake do not use up land that would be more effectively used for something else.

Very little of the land north of Dove Rd and along Alliance Gateway is zoned single family residential, but single family residential is a permitted use on some of the properties zoned as PD. This is of particular concern in those areas adjacent to Alliance Gateway, where higher densities and commercial uses would be more desirable.

There is little demand from the existing community with regard to an increase in multi-family and vertical mixed use due to concerns about median home values, density and overall quality of development in Westlake. That being said, the small window that exists for this form of development, as indicated in the Multi-Family and Vertical Mixed Use maps in Figure 67, needs to be preserved. Because many other uses are also permitted in this small pocket, care needs to be taken to ensure that there is opportunity for expressions of higher residential density in the northwest portion of Westlake and that patience is exercised to ensure that this pocket absorbs the higher densities that are not desired in other areas of the community.

Civic uses, which include government uses and public facilities, are permitted in most of Westlake north of Dove Road. This encourages dispersion rather than aggregation of said uses. While it may be appropriate to have some civic uses dispersed, aggregation of civic elements are needed to create a true center for the Town. This also ensures that the market has access to land in the right places in the community, returning highest and best use, economically speaking, as the level of return on public land is not equal to that on private land.

It is difficult to find a parcel in the Town of Westlake that cannot be designated for recreational use. It is important to understand that, although recreational uses do much to benefit the community, such uses do not promote the pastoral aesthetic the Town seeks to preserve. Nor do they contribute significantly to the Town's tax base; they are useful as buffers and as activity anchors for the community. As such, careful placement is necessary in order to preserve both the natural and economic context of Westlake, while providing amenity for the Town's residents. It is important to note that although golf course communities definitely preserve a higher price point than many other residential forms, market surpluses never improve the quality of development. An oversupply of land approved for golf course communities puts neighboring projects in competition and discourages consideration of other community expressions that might be equally advantageous in Westlake.

The land that is zoned to permit parks and open spaces aggregates around either the creekways of the Town or around the residential areas south of Dove Road. This is an appropriate distribution in general; although, of concern is the amount of park/open spaces that could be designated along 377 and Alliance Gateway. These PDs should be visited to ensure that development density is appropriately captured along these roadways. Also important to note is that not all property fronting waterways should be set aside for parkland. Water is a wonderful amenity for development and does much to strengthen property values. Westlake should see to find commercial and residential expressions, as well as parks and open spaces, along the Town's waterways.

Interestingly, most of the land in Westlake is zoned to permit some form of agricultural use. Although this is in keeping with the pastoral heritage and aesthetic that the community historically values, it is not necessarily in keeping with retail, office, resort and hotel uses that are also permitted in these same areas of town. This use exemplifies the modalism that sits underneath the surface in Westlake: an expectation for a pastoral image in the context of commercial land development practices. Although not mutually exclusive, it is difficult to maintain agricultural and commercial uses in the same context. This is one of the largest challenges of the Comprehensive Plan.

Industrial uses are permitted along US 377 and selectively off of SH 114. This is not to be overlooked, as these uses are not compatible with some of the other uses that are also permitted in these areas. Adjacency to industrial uses will need proper buffering to minimize any negative effect on development due to viewshed, noise, light, air, soil, and water impacts.

Institutional uses include schools and healthcare facilities. These are very important building blocks for our communities. Like many other uses discussed, however, there is a high level of overlap with other uses in Westlake. Where limited development expression is found (i.e., multi-family or industrial), institutional uses can hinder a balanced distribution of land uses for the Town. The advantage of

ZONING CATEGORY	SINGLE FAMILY	MULTI FAMILY	RESORT/HOTEL	VERT. MIX USE	OFFICE/COMM	RETAIL	RECREATION	PARK/OPEN SPACE	CIVIC	INSTITUTION	INDUSTRY/TRADE	AGRICULTURE
GU						X		X	X			X
O			X		X	X	X	X	X	X		X
PD-1-1			X		X	X	X		X	X		
PD-1-2	X				X	X	X		X	X		X
PD-1-3	X						X	X	X			
PD-2					X	X	X		X		lab/R&D	X
PD-3-10					X	X	X	X	X	X		X
PD-3-11			X		X	X	X	X	X	X		X
PD-3-12			X		X		X	X	X	X		X
PD-3-3			X		X	X	X		X			X
PD-3-4			X		X	X	X	X	X	X		X
PD-3-5	X		X		X	X	X		X	X		X
PD-3-6	X		X		X	X	X	X	X	X		X
PD-3-7	X						X	X	X			X
PD-3-8			X		X	X	X	X	X	X	X	X
PD-3-9	X	X	X	X	X	X	X	X	X	X	X	X
R-0.5	X						X	X				X
R-1	X						X	X				X
R-2	X						X	X				X
R-5	X						X	X				X
RA	X						X	X				X

Figure 66: Permitted Uses Under Existing Zoning Designations

institutional uses, however, is that they are compatible with a broad range of other uses. This is, therefore, a highly flexible use designation in terms of contextualization. Institutional uses are appropriate in many contexts.

As indicated in Figure 66, there is a high level of flexibility in what can be built in Westlake. Although many of the PDs include restrictions in terms of height, density, setback and number of units. When you consider the use allocations, it becomes quickly apparent that there is a very high level of ambiguity in what will

ultimately be built in many parts of the Town.

This is both a positive and a negative. Flexibility enables property owners to respond more organically to market demand and/or sequence development appropriately over time. However, in the absence of effective codification of community vision, it can lead to opportunistic development patterns, which, in the case of Westlake, could disrupt the character, aesthetic and property values that for years have been successfully preserved.

(1) *Residential districts.*

- a. *R-5, country residential district.* The R-5 country residential district is intended to be composed of single-family dwellings on lots measuring a minimum of five acres (217,800 square feet) excluding all required public dedications, including but not limited to rights-of-way, parks, and open spaces. Country residential districts are intended to provide an opportunity for rural character residential development. It may also be used in areas with steep topographic changes in order to minimize alteration of the terrain.
- b. *R-2, rural residential district.* The R-2, rural residential district is intended to be composed of single-family dwellings on lots measuring a minimum of two acres (87,120 square feet) excluding all required public dedications, including but not limited to rights-of-way, parks, and open spaces. Rural residential districts are intended to provide an opportunity for rural residential character. It may also be used in areas with steep topographic changes in order to minimize alteration of the terrain.
- c. *R-1, estate residential district.* The R-1, estate residential district is intended to be composed of single-family dwellings on lots measuring a minimum of one acre (43,560 square feet) for the subdivision excluding all required public dedications, including but not limited to rights-of-way, parks, and open spaces. Such developments offer the ability to develop at a higher density without compromising the rural residential character of the town.
- d. *R-0.5, neighborhood residential district.* The R-0.5, neighborhood residential district is intended to be composed of single-family dwellings on lots measuring a minimum of a half acre (21,780 square feet), excluding all required public dedications, including but not limited to rights-of-way, parks and open spaces. The R-0.5, neighborhood residential district is intended to be applied to relatively flat land where building sites may be created without the use of retaining walls and the removal of significant amounts of vegetation or mature trees.

Figure 68: A Snapshot of Purpose and Intent Statements for Residential Zoning

## Promoting Landscape Integrity and Capturing Development Opportunity

### Topography and Zoning: The Need for Recalibration

As previously discussed, topography (variations in elevation) is a key defining element in the Westlake landscape. This has been understood well in the past, as topography has been a determinant in zoning with respect to density. Figure 68 is

a snapshot from Westlake's zoning code, illustrating the language that was used to preserve topography when properties develop. The purpose and intent of the residential density allocations of the Town is to minimize alteration of the terrain and preserve the natural elevation changes. To do this, zoning categories were created to require larger lots in areas with steep elevation changes and smaller lots in areas with minimal elevation changes. The goal of this approach was to encourage lower

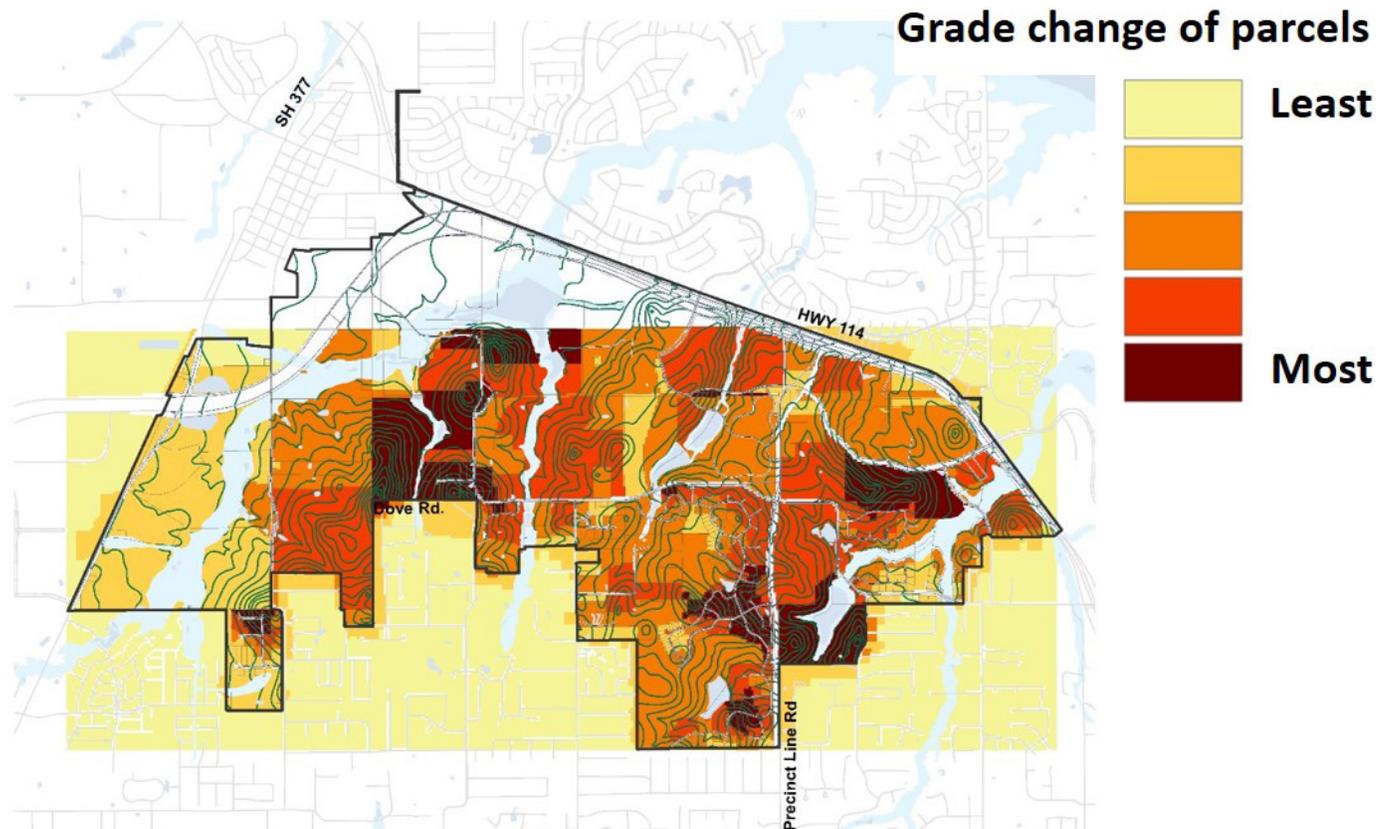


Figure 69: Relative Intensity of Elevation Changes in Westlake

densities in more ecologically sensitive areas and higher densities in less sensitive areas.

While this is a great approach to density distributions, it only works if the actual categorical assignments align with their purpose and intent. To see if this was the case, a comparative line density analysis was conducted to determine if the areas with steeper grades correlated to the areas with the lower density designations (and if the converse also held true). This analysis considered only residential zoning, as most non-residential land is governed by PDs, and PDs are not held to consistent standards throughout the community.

Figure 69 shows the relative intensity of elevation change across the Town of Westlake. The darker colored parcels represent those areas where topographic change is the steepest. The lighter colored

areas represent those areas where topographic change is the flattest. The contour lines were included in the map to further illustrate this difference (more space between lines implies a flatter area, whereas less space between lines implies a steeper area). According to this line density map, the residential pockets along Precinct Line Road in the southern part of Town, as well as a few parcels surrounding Westlake Academy and Solana, are the steepest grades in Westlake. Theoretically, these darker brown parcels should have the lowest residential density assigned to them to be able to build residences without destroying the topography and terrain. Conversely, the western edge of town and the area along Precinct Line Road in the northern part of town is characterized by less elevation change. These parcels should, according to existing zoning criteria, be assigned higher density, due to the lower impact that

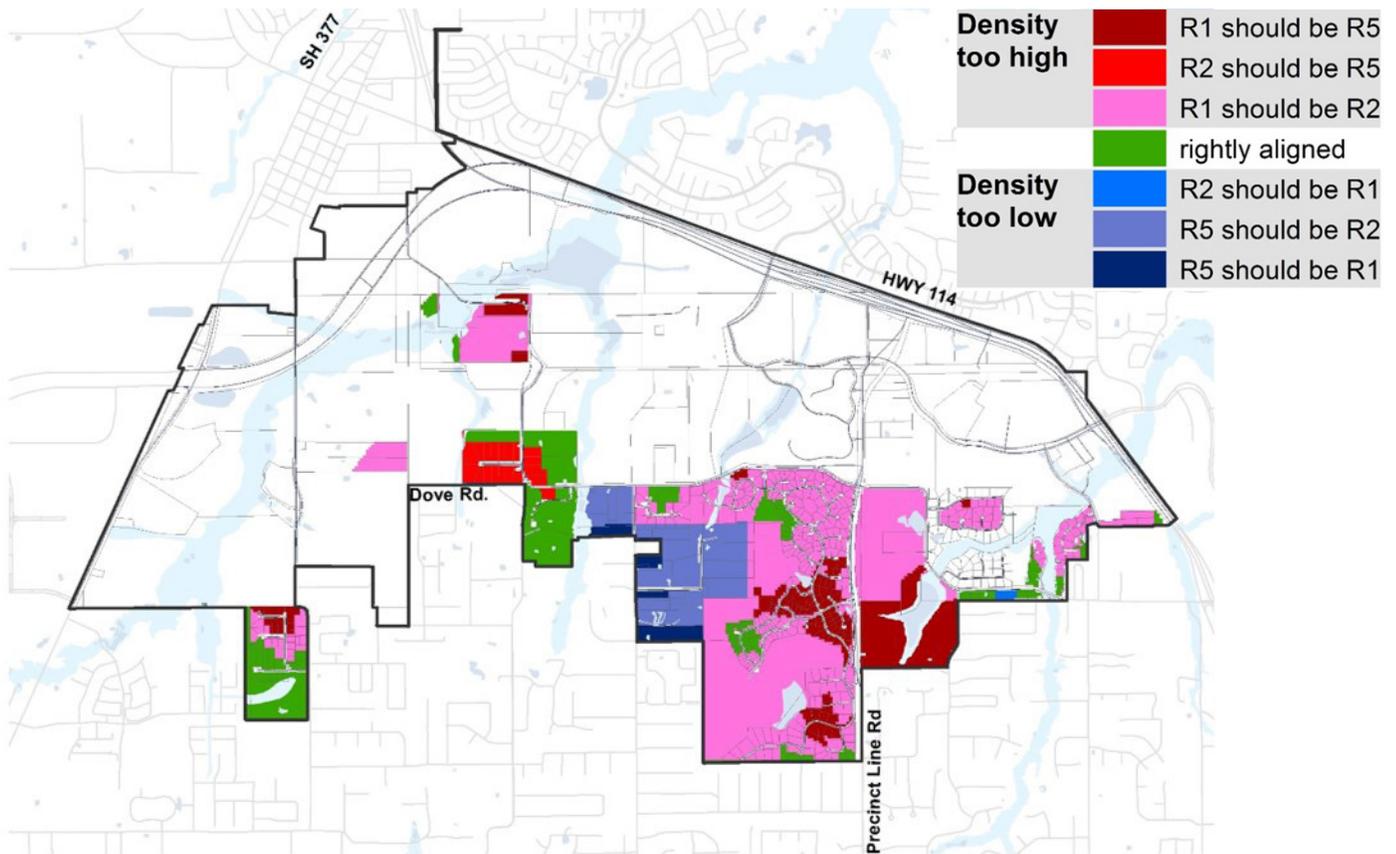


Figure 70: Topography and Zoning: Consistency of Designations with Purpose and Intent

development would have on terrain in these areas.

Figure 70 shows how existing zoning designations align with slope. The red color scale is used for parcels where density is high (relatively speaking), but slope would call for density to be low. The darker the red, the greater the conflict between density and steepness of slope. The blue color scale is used for parcels where density designation is lower than what would be called for based on slope. Dark blue parcels, therefore, have minimal grade change yet very low density.

This is a technical illustration of consistency of the zoning code with its own stated purpose and intent. Whereas the purpose and intent statements indicate that topography and terrain are to be

preserved by the regulation of density, the actual zoning designations on the ground in Westlake show that density has not been defined based on topography but on some other consideration or range of factors. As the Town moves forward and anticipates future development, care needs to be given to the ordinances and regulatory instruments put in place in order to ensure that the community vision is translated accurately into policy measures and that those measures are consistently enforced.

It is important to note that topography should not be the sole determinant in density distribution. There are other factors that should be taken into consideration. However, if landscape integrity is a community value, then the measures put in place by the zoning code must be

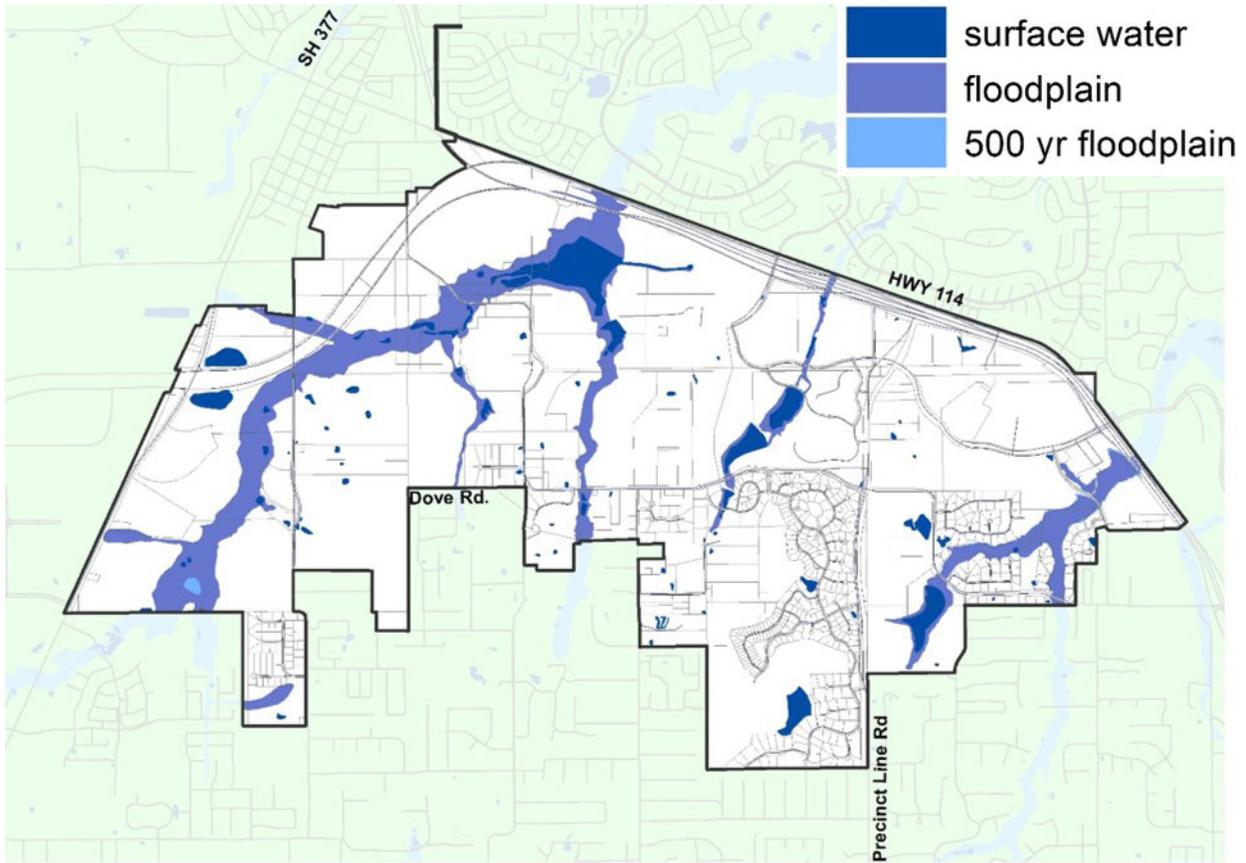


Figure 71: Westlake Hydrology

effective in preserving the integrity of that landscape. The code should be revisited in order to determine if there are other measures that may be equally effective in promoting landscape integrity and whether the categorical assignments of the Town could be modified in order to achieve the community's stated goals.

**Hydrology and Zoning: The Need for New Tools**

The surface water system of Westlake provides wonderful windows of opportunity for development expressions that build off of landscape-oriented amenities. Currently, the zoning code does not acknowledge the hydrology of the Town, and, in this way, it does little to maximize the potential of tracts that could benefit from water-oriented development. Just

as transit-oriented development should give thought to the interface between transit (transportation of large volumes of people) and land use, water-oriented development should give thought to the interface between drainage (transportation of large volumes of water) and land use.

Figure 71 shows the hydrologic footprint of Westlake. Although Turner Lake has altered stream flow in its watershed, the footprint is still there; modification of flow patterns could resurrect this channel as a more permanent feature for the community. Future drainage capacity concerns also point to this area to resolve infrastructure development demands, which would further justify a modification in surface water management for Westlake.

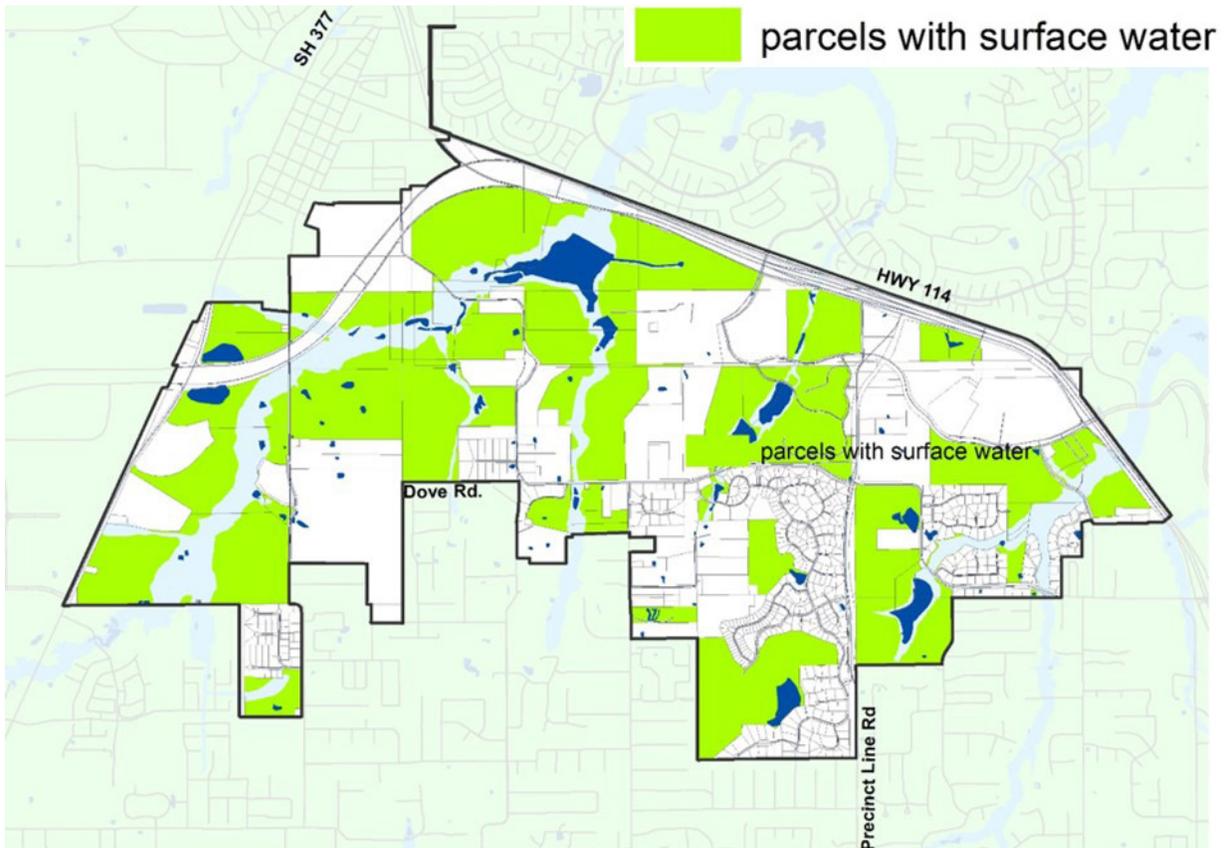


Figure 72: Parcels Positioned for Water-Oriented Development

Although there is considerable potential for expansion of the surface water system of Westlake, not every parcel fronts or contains a point of access to this system. Figure 72 highlights those parcels that could be considered for water-oriented development due to their adjacency to the floodplain of the Town.

It should be noted that as channel design and drainage projects are completed, this configuration could be modified. This is a parcel analysis based solely on the existing floodplain of Westlake. Modifications to flow patterns would bring some parcels online and remove others from possible water-oriented development scenarios in the future.

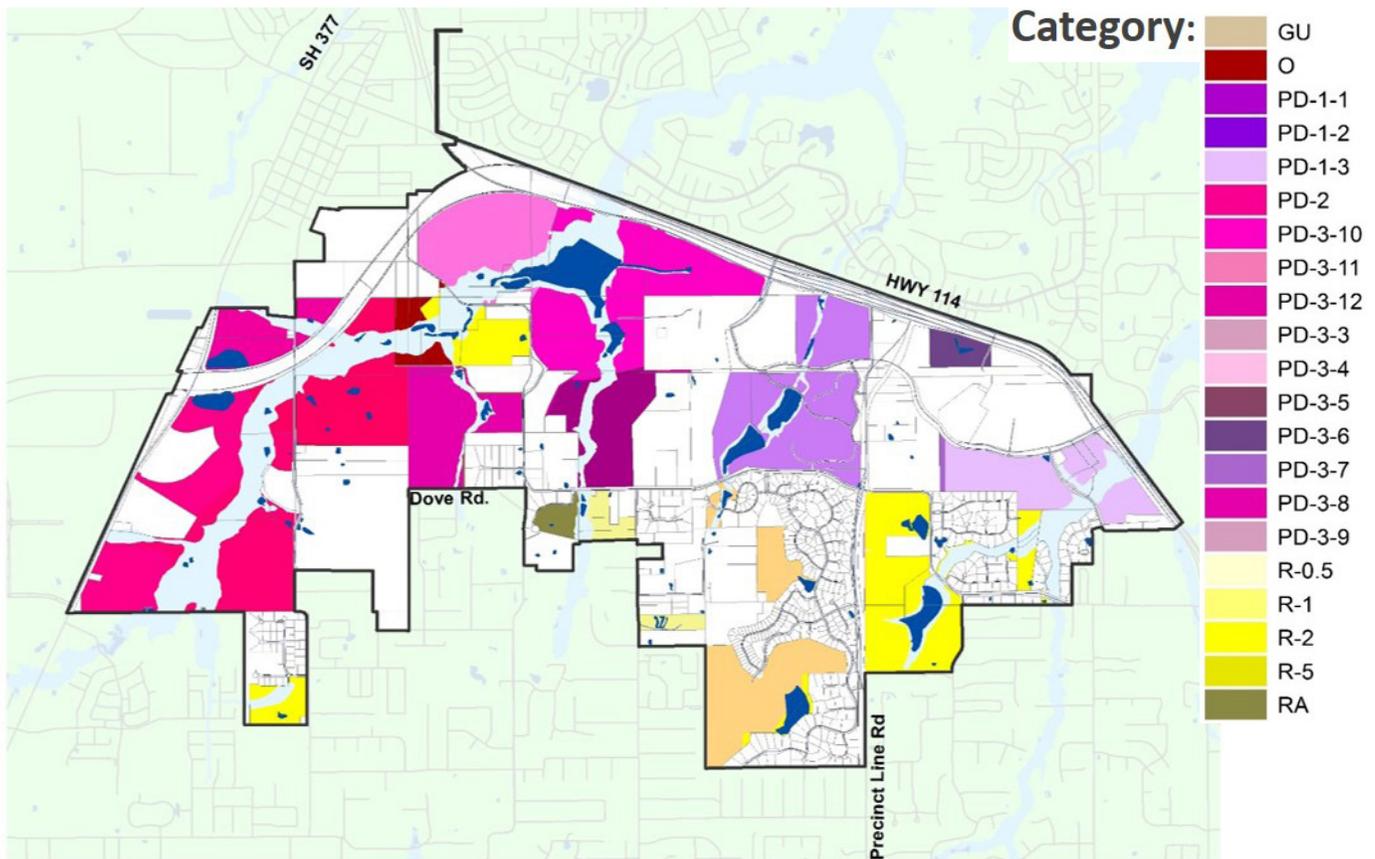


Figure 73: Zoning of Parcels to Consider for Water-Oriented Development

From a development perspective, these parcels identified as potential sites for water-oriented development are valuable only so far as their entitlements allow. It is, therefore, important to understand how these potential sites are currently zoned. Figure 73 shows the current zoning of the parcels in question.

What makes this all incredibly relevant for Westlake is that the majority of the parcels that are candidates for water-oriented development are zoned PD. As discussed earlier, PDs are designed with a higher level of flexibility in terms of approved uses but typically have more clearly defined design controls for elements like landscaping, building orientation, architectural guidelines, signage, etc.

## **Summary of Considerations for Plan Construction**

Westlake was born out of a commitment to landscape integrity, expressed in pastoral development forms where residential and commercial growth can be contextualized without subordinating the natural landscape. The two strongest determinants of landscape form, topography and hydrology should, therefore, be the guiding principles around which land use is defined and regulated.

With respect to topography, the intent to minimize grading, which is expressed in the language of the current zoning ordinance, should be promoted in other categories through the Town. Additional measures other than density designations may be more suitable to preservation of hillside and viewshed, however.

By creating opportunities for water-oriented development, Westlake can give greater definition, with respect to landscape expression, to new commercially oriented development in the Town. Water can also be investigated as a possible transitional tool between uses, tying properties together in a more project-oriented context.

With these two guiding principles, Westlake will be able to preserve landscape integrity, while operating under the confines of a PD-dominated zoning structure.