



**DEVELOP —**



**NATURALLY!**



## **DEVELOP - NATURALLY!**

What is Land Development? According to Webster's Dictionary, it is to make the land (the surface of the earth and all its natural resources) suitable for residential or commercial purposes. North Central Texas has been blessed with an abundance of land to develop and an economy that is second to none. Development is necessary for the economic viability of this region but, as we are learning, how this "development" occurs has a profound impact on the natural environment.



We are seeing the consequences of our thriving economy and our development practices on the environment we live in. Some of our most precious natural resources such as the Trinity River, the Ancient Cross Timbers Forest, and our area lakes are being threatened due to impaired water quality and loss of habitat. North Central Texas has a great natural heritage that can be preserved by the use of environmentally sensitive development practices.

Many of the practices for minimizing the impact of development can have benefits for the developer in terms of reduced cost and in attracting potential buyers by incorporating features that buyers reportedly consider important when shopping for a home. These practices benefit the eventual residents of the development and the larger community as well.

A natural buffer of trees and vegetation along streams filters storm water before it reaches the waterway and also provides excellent habitat for birds and wildlife. These stream buffers provide natural open space and areas for locating walking/biking paths, both of which are rated as "extremely important" by approximately 75% of recent homebuyers in a national survey. Gardens with native plants, clustered retail stores, wilderness areas, and "interesting little parks" were rated as extremely important by 50% or more recent homebuyers in the same survey.

Take a look, do some more research, and see how the **Ten Keys to Developing Naturally** can help you meet your objectives and improve our environment. Naturally North Central Texas is going to develop -- so let's do it *naturally!*

### **Ten Keys to Developing Naturally**

#### **1. Maintain existing terrain**

Incorporating the development into the existing terrain rather than regrading the site helps preserve tree canopy and other vegetative cover. Maintaining the terrain and natural drainageways helps to reduce



Produced by the North Central  
Texas Council of Governments  
in cooperation with Regional  
Storm Water Management  
Program participants.

pollution and storm flows from developments and provides protection for environmentally sensitive features on the site.

## **2. Minimize impervious surfaces**

Impervious surfaces are those such as roads, parking lots, driveways, and rooftops, that don't allow infiltration of storm water into the ground. The increase in storm water runoff, along with the pollutants the runoff picks up from impervious surfaces, cause major problems for our waterways. Narrower streets and smaller parking lots benefit the environment and can make a development more attractive as well.

## **3. Build in the least sensitive areas**

By building in the least sensitive areas, negative impacts on ecologically valuable features are avoided. Areas that should be preserved include wetlands, floodplains, buffer areas adjacent to streams and lakes, prairies, and stands of mature trees. By increasing the density on the remaining



portion of the property, approximately the same number of building lots or sites can be created compared to "conventional" designs.

## **4. Provide open space/parks**

Natural open space is extremely valuable as wildlife habitat, storm water infiltration

areas, and as protective buffers for ecologically sensitive areas. Just as important, open space serves as an extension of the individual residential lot. Quality open space that provides opportunities for walking, biking, bird watching, and play is extremely popular with homebuyers.

## **5. Preserve streams and floodplains**

Natural streams, floodplains, and riparian buffers are vital to the success of natural systems. Buffered with trees and vegetation, natural streams also provide extremely important aesthetic value to neighborhoods and communities. Natural, undeveloped floodplains provide storage for storm flows, minimizing downstream flooding.

## **6. Direct runoff over vegetated areas**

Discharging runoff from roofs, roads, and parking lots into vegetated areas, rather than directly into storm drains offers an opportunity for infiltration of storm water runoff into the ground. Infiltration of storm water runoff reduces both the quantity of water and the amount of pollutants that would otherwise reach a stream or lake. Landscaped and vegetated areas, particularly in commercial and multi-family residential settings, also provide aesthetic value.

## **7. Use Texas SmartScape® plants**

Landscaped areas, with all of their benefits, can also contribute to the pollution of streams and lakes if they are not managed properly. Using native plants, and those that have been adapted to the local climate and conditions, decreases the potential for water pollution by reducing the amount of water, pesticides, and fertilizer that must be

applied to keep the plants healthy - and saves money. Visit [www.txsmartscape.com](http://www.txsmartscape.com) for design, care, and plant search tools that are "smart" for North Central Texas.

## **8. Consider ways to reduce car travel**

Automobiles impact the environment in several ways. Pollutants in car exhaust account for almost one-half of the ozone air pollution in the region. Oil, grease, and metals from cars are washed into streams



and lakes when storm water runs off of roads and parking lots. As the number of cars on the road and congestion increases, more air and water pollution will result. Locating developments near transit facilities, incorporating bicycle and pedestrian trails, and/or including a mix of residential and commercial uses can lead to a reduction in automobile travel.

## **9. Incorporate storm water controls**

Open drainage swales, bioretention areas, detention ponds, storm water wetlands, green roofs, infiltration basins, and oil- grit separators are examples of devices that are used to reduce pollution in storm water runoff before it is discharged into the

nearby stream or lake. Storm water controls (except oil-grit separators) should be considered after other *Keys to Developing Naturally* have been explored and implemented to the greatest extent possible. In many cases, the need for some controls can be avoided (or they can be reduced in size) if the amount of runoff and entrained pollutants are minimized by the design of the project. Generally, it is cheaper and more effective to implement design elements that prevent or reduce the generation of storm water runoff and/or pollutants at the source.

## **10. Use site controls to manage trash**

Trash that ends up in streams and lakes is more than an eyesore, it can affect water utilities, residents, and wildlife. In commercial areas, inlet controls and wind breaks can be very effective in preventing trash and debris from being discharged into our waterways.

## **Additional Information**

For more information, please refer to the accompanying *Guide to Developing Naturally*, which is available at the NCTCOG Storm Water web site at [www.dfwstormwater.com](http://www.dfwstormwater.com). In addition, the *integrated* Storm Water Management (iSWM™) Design Manual for Site Development contains detailed "green development" design information. Information on the iSWM Program for Construction and Development is available at [www.nctcog.org](http://www.nctcog.org).