

Draft Environmental Assessment

# Village of The Hills Defensible Space and Hazardous Fuels Reduction

## HMGP-DR-4029-0027

Travis County, Texas

*October 2013*



**Federal Emergency Management Agency**  
**Department of Homeland Security**  
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## Acronyms and Abbreviations

APE	area of potential effect
BID	Brackett-Rock outcrop complex
BMPs	best management practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DeB	Denton silty clay
EA	environmental assessment
EO	executive order
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
ESD	emergency service district
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	finding of no significant impact
FPPA	Farmland Protection Policy Act
GLO	Texas General Land Office
HMGP	Hazard Mitigation Grant Program
in.	inches
in./hr.	inches per hour
Md	Mixed alluvial land
MUD	municipal utility district
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NEV	neighborhood electrical vehicle
NHPA	National Historic Preservation Act

## Acronyms and Abbreviations

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NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PEC	Pedernales Electric Cooperative
P.L.	Public Law
PuC	Purves silty clay
SH	state highway
SHPO	State Historic Preservation Officer
TaD	Tarrant soils
TcA	Tarrant and speck soils
TCEQ	Texas Commission on Environmental Quality
TDEM	Texas Division of Emergency Management
THC	Texas Historical Commission
TPWD	Texas Parks and Wildlife Department
TWDB	Texas Water Development Board
U.S.C.	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
VoD	Volente silty clay loam
WIID	Water Information Integration and Dissemination
WUI	wildland-urban interface

## SECTION 1 Introduction

The Village of The Hills, Texas, proposes to implement a defensible space and hazardous fuels reduction project to reduce wildfire hazards and mitigate the potential for destructive wildfires in the common areas and greenbelts owned by Village of The Hills residents. The Village of The Hills has submitted an application to the Federal Emergency Management Agency (FEMA) through the Texas Division of Emergency Management (TDEM) for a grant under FEMA's Hazard Mitigation Grant Program (HMGP). The TDEM is the direct applicant for the grant, and the Village of The Hills is the subapplicant.

The HMGP is authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Under the HMGP, federal funds pay 75 percent of the project cost, and the remaining 25 percent comes from nonfederal sources.

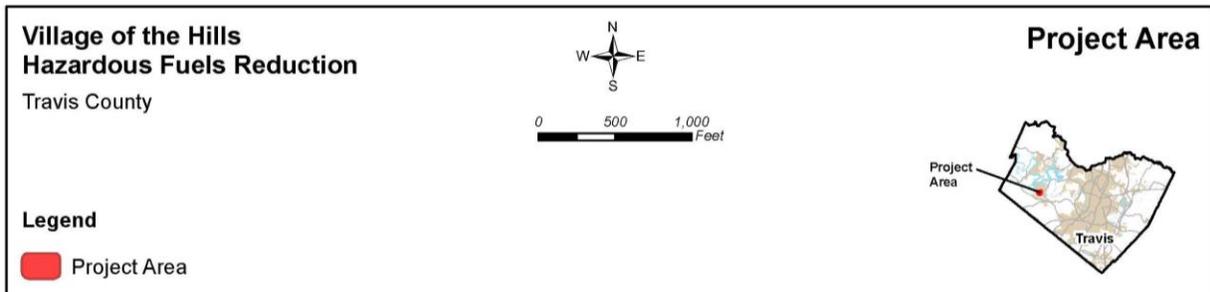
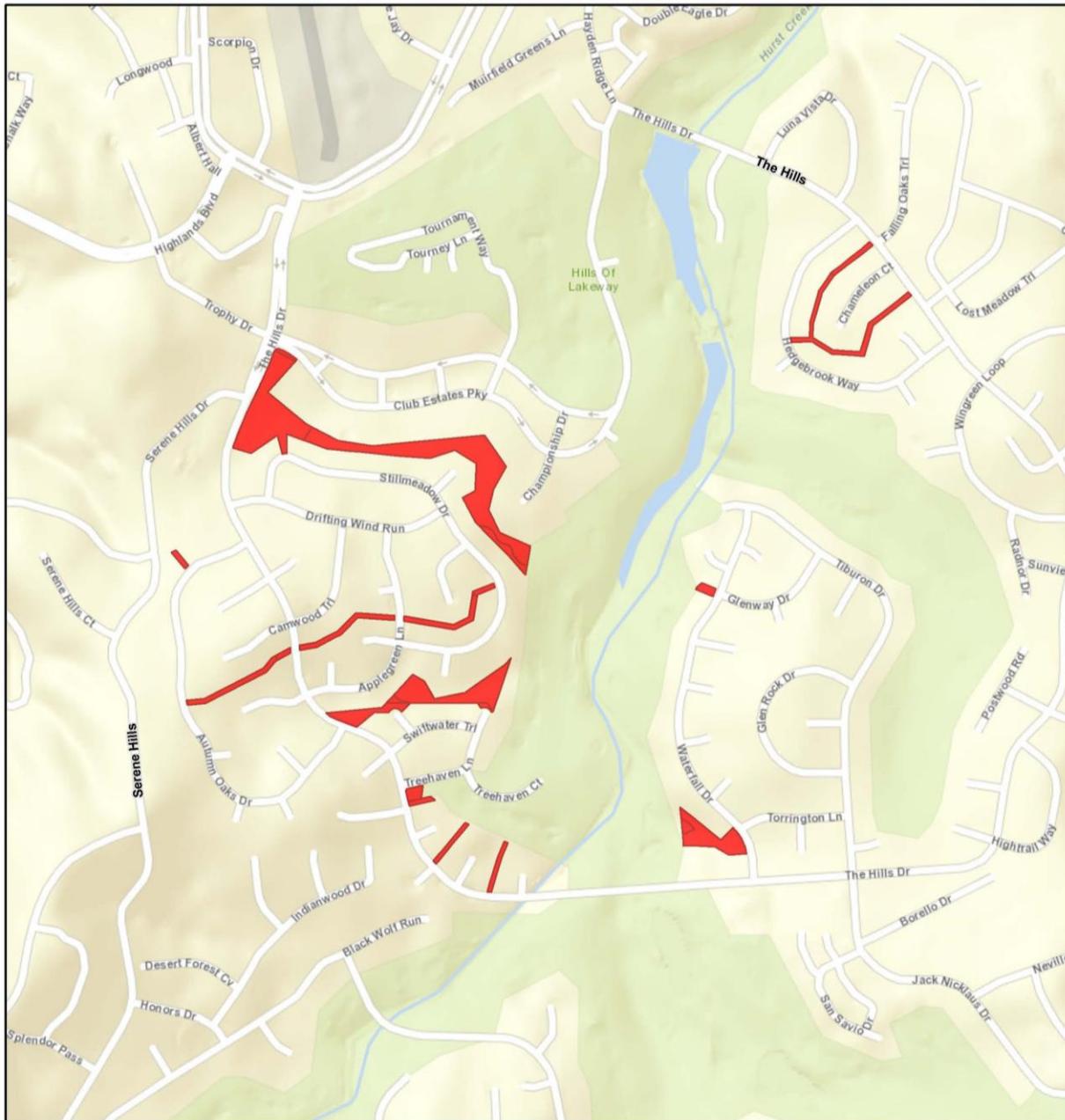
The Village of The Hills is an incorporated municipality in western Travis County, Texas, approximately 20 miles west of the City of Austin, Texas. The Village of The Hills consists of approximately 1,000 residential homes nestled among greenbelts, naturally vegetated areas, and cedar breaks. The Village is a gated retirement and second home community of relatively expensive homes. A large part of the appeal of the area for residents is its natural hillside setting, limestone ledges, thick cedar breaks, and the native wildlife. The community is bisected by Hurst Creek and also includes the Hack Nicklaus Hills golf course, which primarily follows the natural course of the creek. The golf course is extensively landscaped and well-maintained, and the many greenbelts within the community provide contrast and some degree of privacy screening to residents. **Figures 1.1 to 1.3** below provide a general location map, the proposed project areas within Village of The Hills, and aerial imagery.

The proposed action would include various fire mitigation measures to reduce the potential for a major wildfire in the Village of The Hills. These measures include establishment of defensible space by trimming or cutting trees within 30 feet of structures, removal of wildfire fuels by clearing brush and combustible materials, and cutting of tree branches to heights of four feet from ground level. Ashe juniper is the predominant tree species to be trimmed or cut. No living trees would be removed, except those very close to structures. Work would be performed within specific greenbelt areas totaling approximately 24 acres, as shown on **Figure 1.2** and **Figure 1.3**.

The proposed action would reduce wildfire hazards by reducing the rate at which wildfires spread. Approximately one-third of the Village of The Hills homes are within the wildland-urban interface (WUI), which is the zone where structures and other human development meet or mix with wildland or vegetative fuels. The remaining two-thirds are located in the "ember zone" where there is a substantial risk of ignition from flying embers in the event of a fire.

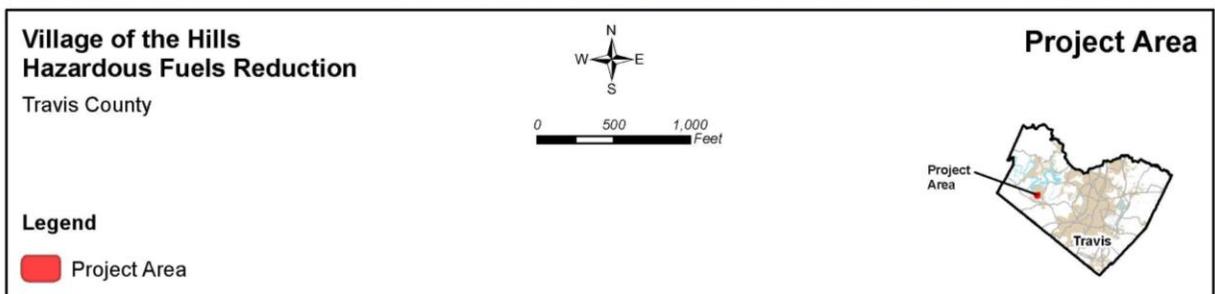
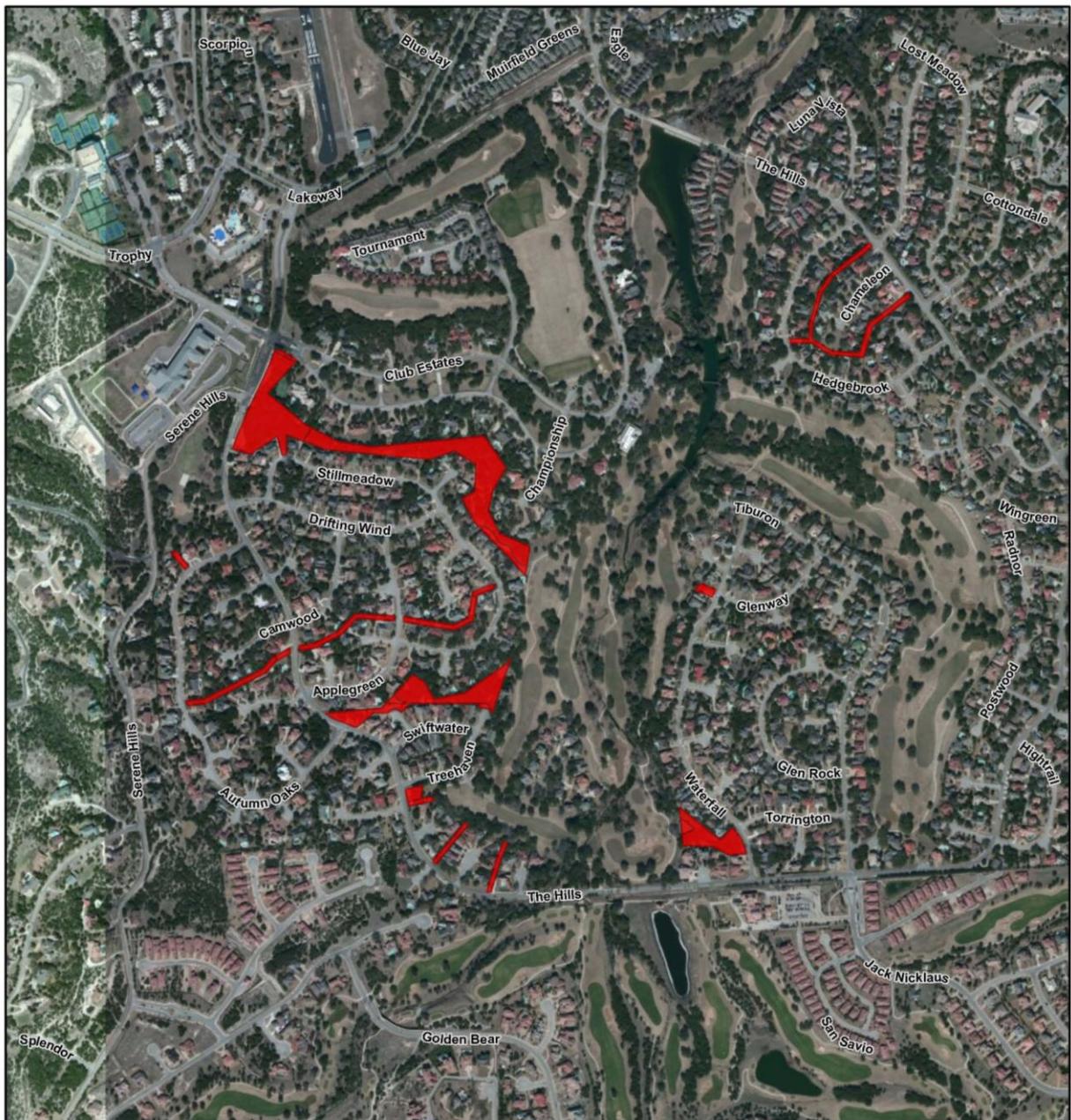


**Figure 1.1. Project Location Map**



Data Sources: CAPCOG, CDM Smith  
 Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom,

**Figure 1.2. Proposed Project Areas**



Data Sources: CAPCOG, CDM Smith  
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

**Figure 1.3. Proposed Project Areas With Aerial Imagery**

This environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [CFR] Parts 1500 to 1508), and FEMA's regulations implementing NEPA (44 CFR Part 10). FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this draft EA is to analyze the potential environmental impacts of the proposed Village of The Hills defensible space and hazardous fuels reduction project. FEMA will use the findings in this draft EA to determine whether to prepare an environmental impact statement or to issue a finding of no significant impact (FONSI).

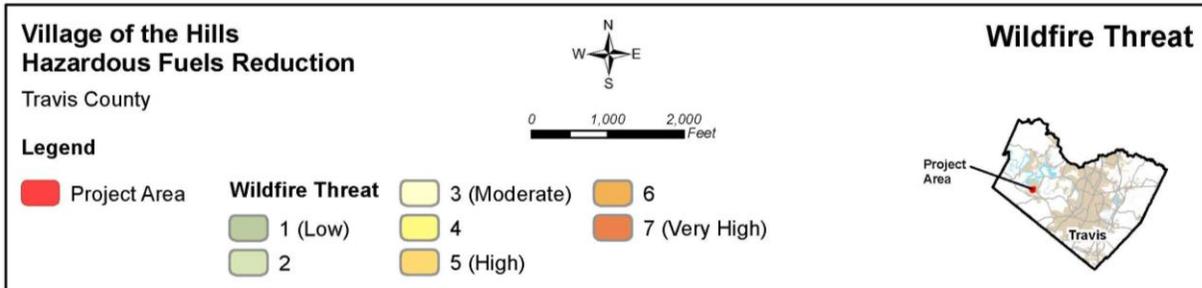
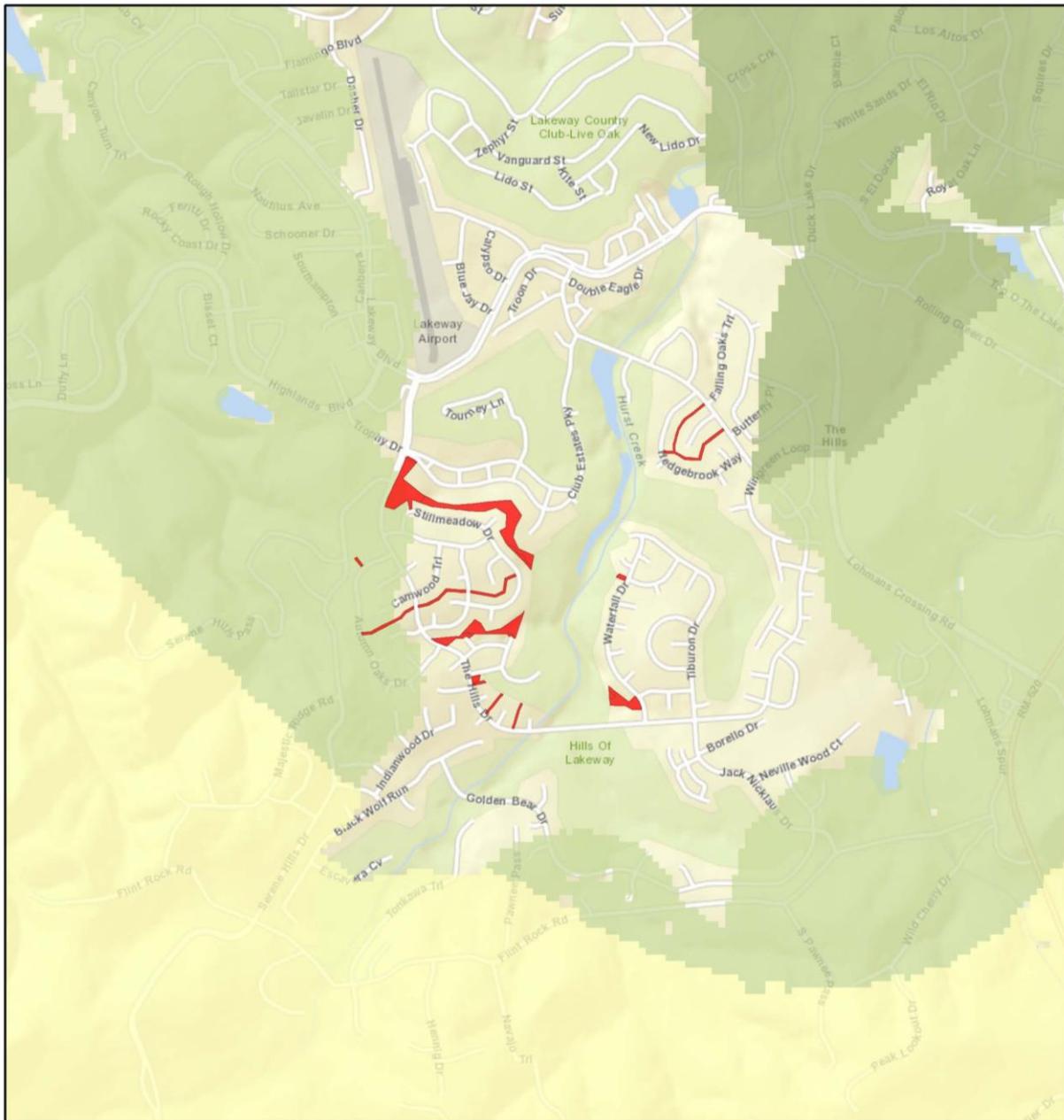
## SECTION 2 Purpose and Need

FEMA's HMGP provides funds to state and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable risk mitigation measures to be implemented during the immediate recovery from a declared disaster.

The purpose of the proposed project is to reduce wildfire hazards in the Village of The Hills. In 2010, the Texas Wildfire Risk Assessment, issued by the Texas Forest Service, rated areas adjacent to the Village of The Hills corporate limits as a 4 (high) on the Fire Intensity Scale (See **Figure 2.1**). Ashe juniper is the predominant vegetation type in the Village of The Hills greenbelts. In many areas throughout the village, junipers are extremely dense and impede both pedestrian and vehicular access through the greenbelts. During dry, hot summer conditions and on days with high winds and low humidity, junipers can become extremely flammable due to the high oil content in their needles. In the Village of The Hills, potential fires in the overly dense vegetation combined with hot, dry weather conditions can produce high energy releases and high rates of spread upon ignition. A full-fledged crown fire in one of the Village of The Hills forested open spaces would be very fast-moving and dangerous. (Note: junipers are locally referred to as “cedar” and the forested vegetation community found in the Village of The Hills greenbelts is called “cedar flats”).

The physical layout of the Village of The Hills is very similar to that of the nearby Steiner Ranch subdivision where large homes are adjacent to natural open spaces and forested stands. In September 2011, a wildfire in Steiner Ranch caused extensive fire damage to approximately 26 homes and completely destroyed 23 of the homes. **Figure 2.2** shows the severity of the property damage from the 2011 Steiner Ranch fire (Austin American Statesman 2011).

Due to the high potential for wildfire and in response to the 2011 Steiner Ranch fire, the Village of The Hills plans to implement a defensible space and hazardous fuels reduction project to reduce fire hazards and the potential for ignition of homes.



Data Sources: TX WRAP, CAPCOG, CDM Smith  
 Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom,

**Figure 2.1. Village of The Hills Wildfire Threat**



**Figure 2.2. 2011 Steiner Ranch Fire Property Damage**

## **SECTION 3    Alternatives**

This section describes the alternatives considered, including the proposed action.

### **3.1 No Action Alternative**

The no action alternative is included to describe potential conditions if no action is taken to reduce wildfire hazards. Under the no action alternative, the Village of The Hills defensible space and hazardous fuels reduction project would not be implemented. Under the no action alternative, existing conditions would continue, and common areas and greenbelts in the Village of The Hills would not be treated for hazardous fuel reduction. Residents and homes within the Village of The Hills would remain at an elevated risk for the spread of a catastrophic wildfire.

Because the current risk of wildfire in the Village of The Hills would not be reduced under the no action alternative, the probability of loss of human life and property in a wildfire would continue to be unacceptably high. A major wildfire could also have severe temporary impacts on environmental resources (i.e., air quality, water quality, and emergency services). Fighting a major wildfire would also require large quantities of water at a time when water resources in Texas are already strained by drought.

Under the no action alternative, minor-short term impacts that may occur under the proposed action would be avoided because there would be no work conducted to remove trees or fuels. The impacts avoided could include temporary increases in noise, truck traffic, and minor short-term impacts to air quality.

### **3.2 Proposed Action**

To reduce potential hazards from a destructive wildfire in common areas and greenbelts, the Village of The Hills proposes to implement a defensible space and hazardous fuels reduction project. The proposed action would include measures to minimize the spread of and damage from fires that do start and to assist firefighters in combating wildfires. Measures under the proposed action would include the removal of accumulated vegetative debris, deadfall, and other flammable materials; trimming of lower branches of trees; removing trees to create space between the remaining crowns; removal of dead and diseased trees and shrubs; and chipping and hauling off all materials.

Tree branches within the project areas would be cut from ground level up to 4 feet, and all brush and other dead material would be removed. Trees within 30 feet of a residence would be trimmed back or cut entirely. Tree stumps would not be removed. The predominant tree species to be trimmed or removed is Ashe juniper, also locally known as cedar. Small numbers of plateau and red oaks may also be trimmed or cut. No living trees are to be removed, except where they are close to residences (within 30 feet). Dead and downed trees are predominately Ashe Juniper and will be fully removed from the project area. All cut material will be cut, stacked, chipped, and removed daily.

Removing only the lower 4 feet of branches would maintain a degree of privacy screening for residents, which was identified as a significant public concern during development of the proposed action. Removal of lower branches, rather than complete removal of trees, would also

allow needles to continue to drop to the ground, which suppresses the growth of grasses that can add to the wildfire fuel load.

A pilot test to demonstrate techniques similar to those of the proposed action was conducted on a small portion of the largest greenbelt. In this area, dead and downed vegetation was removed and living trees were trimmed up to a 4-foot height. The public was invited to view the demonstration area and comment on the visual impact of the treatment method. This method of fuels reduction appears to meet general public approval.

Fuel reduction would take place from September through February. Implementation would require a five-person crew consisting of a field supervisor, driver, chipper operator, and two laborers. The labor crew would use various equipment, including an all-terrain vehicle with a small trailer, chainsaws, a rotary brush cutter, a wood chipper, a small skid steer with grapple bucket, debris receptacle roll-offs, a haul truck, assorted hand tools, and required safety equipment. No herbicides would be used during any phase of the proposed action.

The Village of The Hills has developed an ongoing annual maintenance program, and would mow and weed-eat actively growing areas on a weekly basis, trim-up newly grown lower branches on junipers and brush and remove dead and down vegetation on a monthly basis, inspect defensible space perimeters and remove new growth on a quarterly basis, and annually have a fire marshal inspect all common areas and greenbelts to identify potential problem areas for remediation. Ongoing maintenance would not include the use of herbicides.

### **3.3 Additional Action Alternatives Considered and Dismissed**

A clear-cutting alternative was considered that would reduce hazardous fuel loads and create defensible space around residential structures along the village's common areas and along greenbelts by completely removing trees. This alternative was rejected based on a high level of public controversy and potential impacts to visual quality. The project area consists of greenbelts behind and adjacent to residences that function as privacy screens and contribute to the overall aesthetic of the Village of The Hills. A large number of residents objected to clear-cutting of the greenbelts in spite of the existing fire danger.

Clear-cutting would remove more natural vegetation and wildlife habitat and encourage invasive species, and it also would be more likely to cause significant erosion. Thus, clear-cutting was dismissed from further consideration in this EA.

## **SECTION 4    Affected Environment, Potential Impacts, and Mitigation**

This section describes the environment potentially affected by the no action and proposed action alternatives, evaluates potential environmental impacts, and recommends measures to avoid or reduce those impacts.

### **4.1 Resources Not Affected and Not Considered Further**

This section provides an overview of the environmental resources that would not be affected by the no action or proposed action alternatives and that have been removed from further consideration in this EA.

#### **4.1.1 Geology and Seismicity**

Based on the nature and location of the project area, the proposed action would have no effect on geology and seismicity and is very unlikely to be affected by geology or seismic events. According to the National Oceanic Atmospheric Administration National Climate Data Center database, Travis County experienced no seismic events between 1950 and 2009. Only 12 seismic events have occurred statewide between 1882 and 2009, with none occurring in Travis County. Therefore, the probability of an earthquake occurring in Travis County in the future is low (Travis County 2011). Vegetative fuel reduction is a surface activity that does not affect geology and is not affected by geology. Therefore, geology and seismicity are not considered further in this analysis.

#### **4.1.2 Prime and Unique Farmlands**

Prime and unique farmlands are protected under the Farmland Protection Policy Act (FPPA) (Public Law [P.L.] 97-98, 7 United States Code [U.S.C.] 4201 et seq.). The FPPA applies to prime and unique farmlands and those that are of state and local importance. The project areas are within the corporate boundaries of the Village of The Hills. Per the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) (2000), land within corporate boundaries is not considered farmland; therefore, the project areas are not subject to the FPPA.

#### **4.1.3 Wild and Scenic Rivers**

The National Wild and Scenic Rivers System (P.L. 90-542; 16 U.S.C. 1271 et seq.) was created in 1968 to preserve rivers with outstanding natural, cultural, and recreational value in a free-flowing condition. The project area is not near any river segment designated as "wild and scenic." The Rio Grande, located along the Texas border, is the only wild and scenic river in Texas. The proposed project would not cause any impacts to wild and scenic rivers because the project site is not within the Rio Grande watershed (see **Appendix A-1**) (Interagency Wild and Scenic Rivers Council 2013). Wild and scenic rivers are not considered further in this analysis.

### 4.1.4 Coastal Resources

The Coastal Zone Management Act enables coastal states to designate state coastal zone boundaries and develop coastal management programs to improve protection of sensitive shoreline resources and guide sustainable use of coastal areas. The Texas Coastal Management Program is administered by the Texas General Land Office (GLO). Travis County is not a coastal county and is approximately 200 miles from the nearest coastline; therefore, it is not included in the Texas Coastal Management Program (GLO 2012). There would be no potential impact to coastal resources under either the no action alternative or the proposed action.

### 4.2 Physical Resources

This section provides an overview of the affected area and potential environmental effects from the no action and proposed action alternatives on physical resources, including soils, air quality, climate, and visual quality and aesthetics.

#### 4.2.1 Soils

The five soil types present within the project areas include Brackett-Rock outcrop complex (BID), Mixed alluvial land (Md), Tarrant soils (TaD), Tarrant and Speck soils (TcA), and Volente silty clay loam (VoD). The properties of these soil types are summarized in **Table 4.1**. A soil map of the project area is presented in **Figure 4.1** (USDA NRCS 2012). **Table 4.2** provides a key to the soil survey unit codes shown on **Figure 4.1**. The predominant soil type in the project area is Brackett-Rock outcrop complex (BID), which is often associated with plateaus.

Topography in the project areas is shown on **Figure 4.2**. Elevations in the Village of The Hills range from 800 feet to 1,000 feet. However, because the proposed work areas are small, the topographic range across any one work area is generally less than 20 feet, and the work areas are generally flat or gently sloped.

The soils within the project areas are not hydric, which means they are unlikely to support wetlands (see also Section 4.3.2).

## Affected Environment, Potential Impacts, and Mitigation

**Table 4.1. Soil Properties of the Village of The Hills Project Areas**

Parameters	Brackett-Rock outcrop complex (BID)	Mixed alluvial land (Md)	Tarrant soils (TaD)	Tarrant and Speck soils (TcA)	Volente silty clay loam (VoD)
Depth	6 to 20 inches (in.) to paralithic bedrock	--	6 to 20 in. to lithic bedrock	6 to 20 in. to lithic bedrock	More than 80 in.
Drainage	Well drained	Well drained	Well drained	Well drained	Well drained
Permeability	Moderately low to high (0.06 to 1.98 inches per hour [in./hr.])	High to very high (5.95 to 19.98 in./hr.)	Moderately low to moderately high (0.06 to 0.57 in./hr.)	Moderately low to moderately high (0.06 to 0.57 in./hr.)	Moderately low to moderately high (0.06 to 0.57 in./hr.)
Parent Material	Residuum weathered from limestone	Calcareous gravelly alluvium of quaternary age derived from mixed stone	Residuum weathered from limestone	Residuum weathered from limestone	Alluvium derived from limestone
Slope	3 to 12 percent	0 to 3 percent	5 to 18 percent	0 to 2 percent	1 to 8 percent
Depth to Water Table	More than 80 in.	Frequently flooded	More than 80 in.	More than 80 in.	More than 80 in.
Hydric Soils	No	No	No	No	No

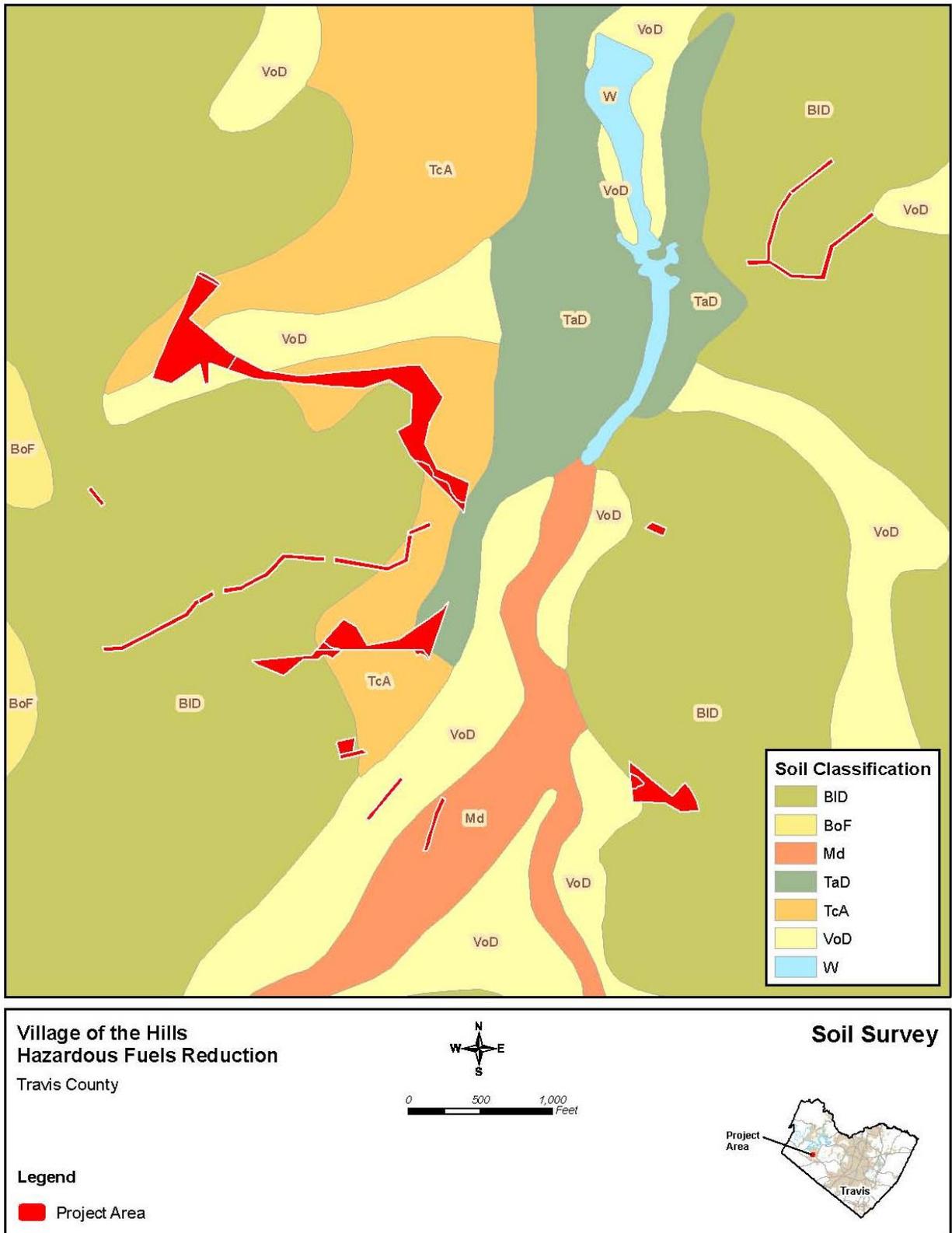
Source: USDA Natural Resources Conservation Service 2012.

**Table 4.2. Village of The Hills - Soil Survey Unit Codes**

Code	Description	Code	Description
BID	Brackett-Rock outcrop complex, 1 to 12 percent slopes	TaD	Tarrant soils, 5 to 18 percent slopes
Md	Mixed alluvial land, 0 to 1 percent slopes, frequently flooded	TcA	Tarrant and Speck soils, 0 to 2 percent slopes
		VoD	Volente silty clay loam, 1 to 8 percent slopes

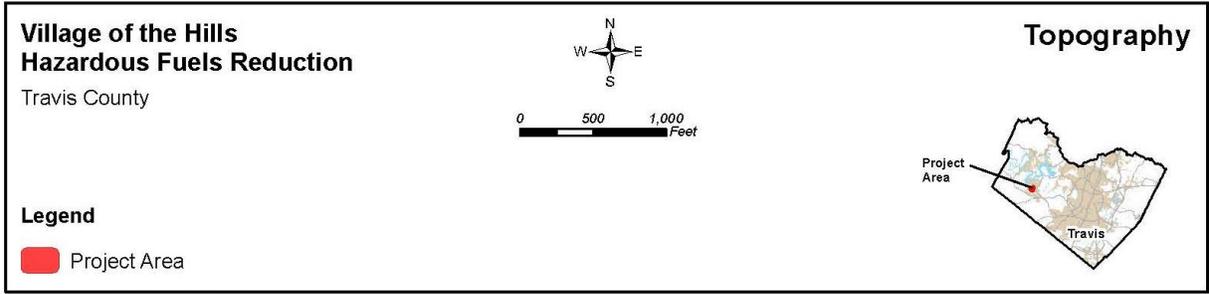
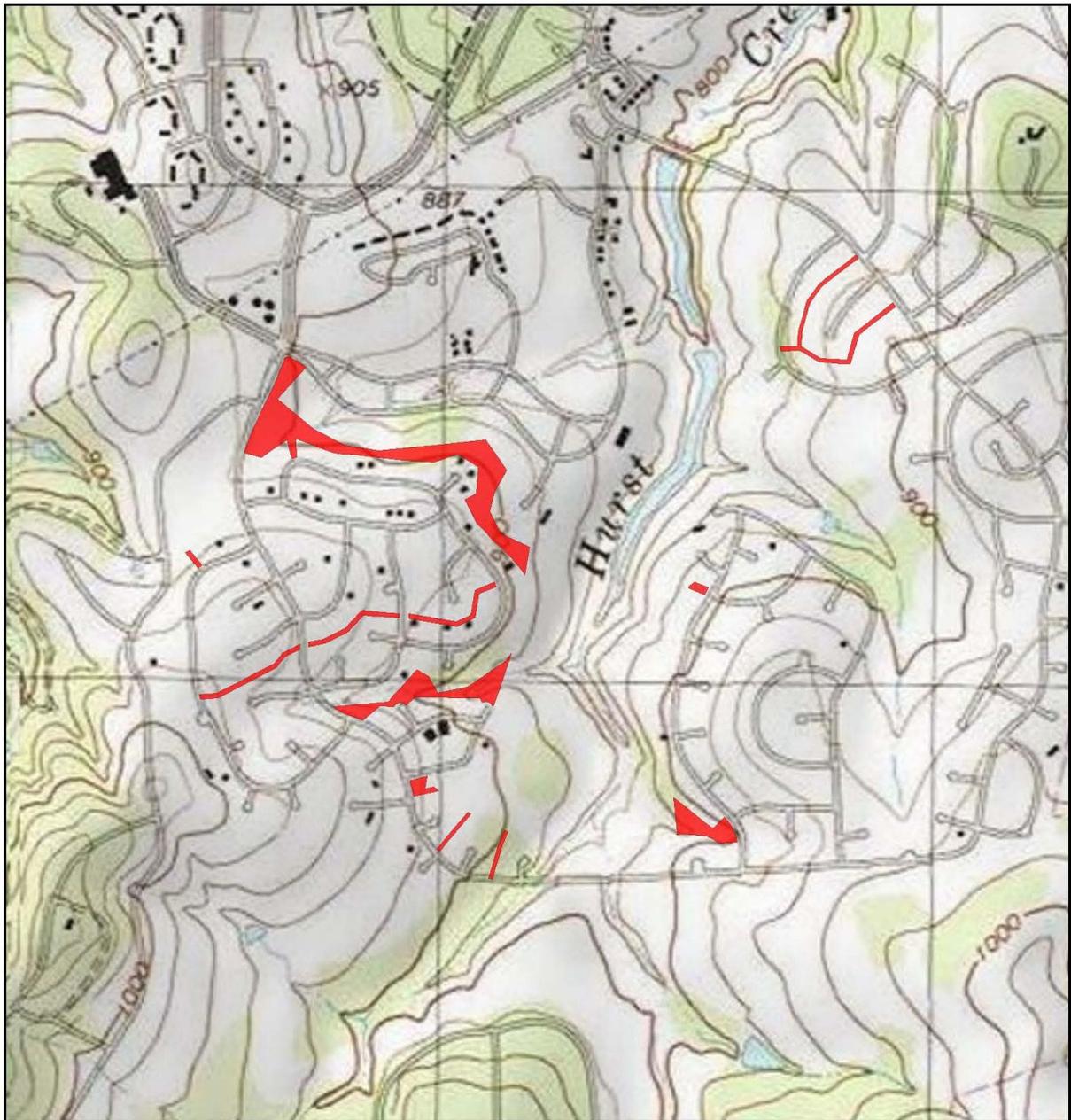
Source: USDA Natural Resources Conservation Service 2012.

# Affected Environment, Potential Impacts, and Mitigation



**Figure 4.1. Village of The Hills – Soil Survey**

# Affected Environment, Potential Impacts, and Mitigation



Data Sources: TNIRIS, USGS, CDM Smith  
Service Layer Credits: Copyright© 2013 National Geographic Society, i-cubed

**Figure 4.2. Village of The Hills – Topography**

## **Affected Environment, Potential Impacts, and Mitigation**

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### **No Action Alternative**

In the absence of a wildfire, the no action alternative would have no direct effect on soils in the project area because no project-related disturbances would occur. However, a major wildfire would be more likely under the no action alternative, and soils within burnt areas could be adversely affected. A wildfire could alter the cycling of nutrients; the physical and chemical properties of the soils; and the temperature, moisture, and biotic characteristics of the existing soils. These primary impacts from a wildfire could also result in decreased infiltration and increased runoff, which often causes increased erosion.

### **Proposed Action**

Operation of heavy equipment during the proposed action could disturb soils, but the proposed action would not result in any significant soil or sediment removal or transport from the project area. The proposed action would not remove stumps of cut trees, and removal of debris and brush and tree limbing would not result in significant soil disturbance. Elevation changes within the proposed work areas are not significant; therefore, erosion of soils would not be likely with the minor soil disturbance that would occur from the proposed activities. The fire hazard mitigation program would also reduce the potential for the negative effects of a major wildfire on soils if a wildfire occurs. No adverse impacts to soils are anticipated under the proposed action.

### **4.2.2 Air Quality and Climate Change**

The National Ambient Air Quality Standards (NAAQS) established by the U.S. Environmental Protection Agency (EPA) define the concentrations of air pollutants that may not be exceeded in a given period to protect human health (primary standards) and welfare (secondary standards) with a reasonable margin of safety. These standards include maximum concentrations of ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and particulate matter. According to the EPA Green Book, Travis County is not classified as a nonattainment area (EPA 2012).

“Climate change” refers to changes in Earth’s climate caused by a general warming of the atmosphere. Its primary cause is emissions of carbon dioxide and methane. The impact climate change may have on the proposed project area is uncertain and difficult to anticipate. Climate change is capable of affecting species distribution, temperature fluctuations, sea level dynamics, and weather patterns.

### **No Action Alternative**

In the absence of a major wildfire in the area, no impacts would occur, and current air quality conditions would not change. However, under the no action alternative, fuel loads in the project area would continue to accumulate, and the potential for wildfires would increase. A major wildfire would result in substantial pollutant emissions. If a wildfire occurred during unfavorable weather conditions (e.g., gusting winds from a thunderstorm), as is often the case, these weather conditions would compound the adverse effects on air quality.

In the absence of a major wildfire, the no action alternative would have no effect on climate change, as current conditions would not change. A major wildfire would be more likely under

## Affected Environment, Potential Impacts, and Mitigation

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the no action alternative, and large quantities of greenhouse gases could be released that could contribute to climate change. Climate change may result in more extended droughts in the project area and increase the risk of wildfire.

### Proposed Action

Under the proposed action, the use of equipment to remove vegetation could result in low levels of particulate matter and vehicle exhaust emissions such as hydrocarbons. Emissions would be temporary and localized, and only minor impacts on air quality in the project area would occur. To reduce emissions, labor crews would keep all vehicle and mechanical equipment running times to a minimum and ensure that all engines are properly maintained.

The proposed action has the potential for a long-term beneficial effect on air quality in the project area by reducing wildfire hazards and the potential for a major wildfire. The proposed action would also reduce the potential emission of greenhouse gases associated with a major wildfire. The proposed action is not anticipated to affect global climate change.

Post-project routine maintenance would be conducted by maintaining and removing undesirable vegetation (newly grown lower branches on junipers, brush, and dead and downed vegetation). Because of the small scale of the continued maintenance program, no air quality impacts are expected from this activity, nor would they significantly contribute to climate change.

### 4.2.3 Visual Quality and Aesthetics

The project areas provide a scenic setting for residents and visitors of the Village of The Hills. The village is comprised of predominately single-family homes. There is only one business, The Hills Country Club, which is associated with The Hills golf course that meanders along the natural banks of Hurst Creek. Several of the homes in the area are located within the WUI, backing up to the heavily vegetated (predominately with juniper) greenbelts and common areas. Existing visual disturbances in and near the project area include privately maintained roads and easements. Generally, the residents of the Village of The Hills want to maintain the scenic quality and privacy provided by the existing greenbelts within the project areas, which contribute to privacy screening and enhance the value of their properties. **Figures 4.3 through Figure 4.5** provide representative examples of the existing visual resources within the project area.



**Figure 4.3. Example of Existing Understory to Be Thinned and Ashe Juniper to Be Trimmed**

## Affected Environment, Potential Impacts, and Mitigation

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**Figure 4.4. Example of a Maintained Greenbelt**



**Figure 4.5. Example of a Non Maintained Greenbelt**

## **Affected Environment, Potential Impacts, and Mitigation**

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### **No Action Alternative**

In the absence of a major wildfire in the area, no impacts to the existing visual aesthetics would occur. Future visual conditions of project area trees could deteriorate over time due to natural causes such as general poor health, disease outbreaks, and insect infestations. Additionally, a major wildfire would be more likely under the no action alternative. If a catastrophic wildfire were to occur, the visual quality of the project area would be adversely affected as common areas and greenbelts would be damaged and privacy screening would be reduced or eliminated.

### **Proposed Action**

The proposed action could have both short- and long-term effects on visual quality and aesthetics. A viewshed that includes healthy vegetation is generally seen as positive. The proposed action would retain most of the trees within the greenbelts while removing dead material and debris. By retaining the visual sense of a vegetated greenbelt, potential visual impacts would be reduced. Alternatively, removal or limbing of trees in the project area could increase visibility and reduce privacy for local residences, which may be viewed as an adverse impact by adjacent residents.

The residents of Village of The Hills have been involved in discussions on the potential effects of vegetation management on the visual quality of the area and have expressed concern over the potential to reduce privacy screening that is provided by vegetation. A pilot test to demonstrate techniques similar to those of the proposed action was conducted on a small portion of the largest greenbelt. The public was invited to comment on the demonstration project, and this method of fuels reduction appears to meet with general public approval.

If fire hazard mitigation reduces the risk of a major wildfire, the proposed action would also have a long-term beneficial effect on visual quality and aesthetics by preventing the loss of vegetation from a wildfire.

## **4.3 Water Resources**

This section provides an overview of the affected area and potential environmental effects of the no action and proposed action alternatives on water resources, including water quality, streams, wetlands, and floodplains.

### **4.3.1 Water Quality**

The water quality effects analysis includes both surface water and groundwater resources.

#### **4.3.1.1 Surface Water**

As previously noted, the Village of The Hills is bisected by Hurst Creek. Sections 303(d) and 305(b) of the Clean Water Act (CWA) require all states to identify and characterize waters that do not meet, or are not expected to meet, water quality standards. The Texas Commission on Environmental Quality (TCEQ) is the regulatory agency responsible for compliance with water quality standards in Texas. The TCEQ's 2010 Integrated Report for CWA Sections 303(d) and 305(b) characterizes the quality of Texas surface waters and identifies those waters that do not

## **Affected Environment, Potential Impacts, and Mitigation**

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meet water quality standards on the 303(d) list, an inventory of impaired waters. Streams are classified by segment within their respective basins. There are currently no listed segments that exceed water quality standards in the project area (TCEQ 2010).

### **No Action Alternative**

In the absence of a major wildfire, the no action alternative would have no effect on surface water quality because inputs to receiving waters would not change. However, a major wildfire would be more likely under the no action alternative and could have substantial impacts on surface water quality. Reduced vegetative cover could lead to increased runoff and resulting flooding, soil erosion, and sedimentation; pollution from substances that would no longer be filtered by vegetation; and changes in water temperature.

If a wildfire occurred in the project area, most of the existing vegetation in the burned area would be destroyed, and the burned area would be much more susceptible to soil erosion during future precipitation events. Precipitation after a wildfire can contribute to heavy sediment and debris loads in streams in the affected river basins. Increased loading of sediment and debris would increase water treatment costs for water suppliers located in the affected river basin. The accelerated erosion of soils in a river basin can also result in damage to other facilities and structures along those streams. Depending on the amount of sediment carried into affected streams, it could take several years for a stream to return to conditions that existed prior to the fire.

### **Proposed Action**

The proposed action would not directly affect surface waters or alter stream flows. All of the proposed work areas are separated from Hurst Creek by existing roads and golf course fairways that would prevent direct effects on surface waters.

Operation of heavy equipment during the proposed action could disturb soils, which would increase erosion potential during heavy rains. As discussed in Section 4.2.1, the potential for soil erosion from the project areas is low, and the distance of the project areas from Hurst Creek would further minimize the potential for the transport of sediment to the creek. Mulch created from cut vegetation would be used for temporary erosion control to prevent soil or sediment from reaching the creek, if necessary. The proposed action would not have a significant impact on water quality.

Under the proposed action, the potential for a major wildfire would be reduced, as would the potential for widespread loss of vegetative cover. Therefore, the potential for impacts to surface waters from the loss of vegetation and impacts to soils from a major fire that could affect infiltration, runoff, and erosion would be reduced as compared to the no action alternative.

#### **4.3.1.2 Groundwater**

The State of Texas is divided into 16 groundwater management areas. Travis County is divided among Groundwater Management Areas 8, 9, and 10. The Village of The Hills community falls under the jurisdiction of Groundwater Management Area 9, which includes three major aquifers,

## **Affected Environment, Potential Impacts, and Mitigation**

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Edwards, Edwards-Trinity, and Trinity, and three minor aquifers, Ellenburger-San Saba, Hickory, and Marble Farms. The aquifer in closest proximity to the project area is the Trinity Aquifer outcrop (Texas Water Development Board [TWDB] 2013 a).

The Trinity Aquifer is one of the most extensively used groundwater resources in the state and extends across much of central and northeastern Texas. The aquifer's outcrop covers 10,625 square miles, with a subsurface area of 21,308 square miles. The aquifer has a hard outcrop consisting of limestone, sand, clays, gravels, and conglomerates, and it provides fresh groundwater discharges to various springs, with most discharging less than 10 cubic feet per second. Groundwater discharged from the aquifer is primarily used for municipalities but also for irrigation, livestock, and other domestic purposes (TWDB 2011).

A search of the TWDB Water Information Integration and Dissemination (WIID) System was conducted on May 28, 2013. The WIID System provides groundwater data and water well driller reports. Within the project areas, no water wells were identified and no groundwater quality data is available (TWDB N2013b).

### **No Action Alternative**

In the absence of a major wildfire in the area, the no action alternative would have no effect on groundwater quality because current conditions would not change. However, a major wildfire would be more likely under the no action alternative and could cause changes to soils as discussed in Section 4.2.1, which could impact groundwater. Infiltration properties of soils are often altered when wildfire destroys vegetation and litter cover within a watershed. These changes in the soil often result in decreased infiltration and increased overland flow, which decreases aquifer recharge (USDA 2005).

### **Proposed Action**

The proposed action would reduce the risk of a catastrophic wildfire and thus would reduce the risk of the potential impacts to groundwater from a wildfire as described under the no action alternative. Impacts to groundwater and the Trinity Aquifer outcrop are not anticipated as a result of the proposed action.

### **4.3.2 Wetlands**

Executive Order (EO) 11990, Protection of Wetlands, requires federal agencies to take action to minimize the loss of wetlands. Activities that disturb jurisdictional wetlands require a permit from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act of 1977 (33 U.S.C. 1344).

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory maps for the project areas indicate that wetlands may exist within the Village of The Hills (USFWS 2013a). The maps show palustrine wetlands that have been created by manmade impoundments on Hurst Creek.

## Affected Environment, Potential Impacts, and Mitigation

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FEMA regulation 44 CFR Part 9, Floodplain Management and Protection of Wetlands, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990 and prohibits FEMA from funding construction in a wetland unless no practicable alternatives are available. To comply with EO 11990, FEMA uses the eight-step decision-making process in 44 CFR 9.6 to evaluate proposed actions that have potential to affect a wetland.

**Figure 4.6** provides an overview of the existing wetlands in proximity to the proposed project area (USFWS 2013a). Although wetlands are present within the Village of The Hills, no fire hazard mitigation would take place within 450 feet of the wetlands, and there would be no effect on wetlands from the proposed action; thus, FEMA is not required to conduct an eight-step decision-making process.

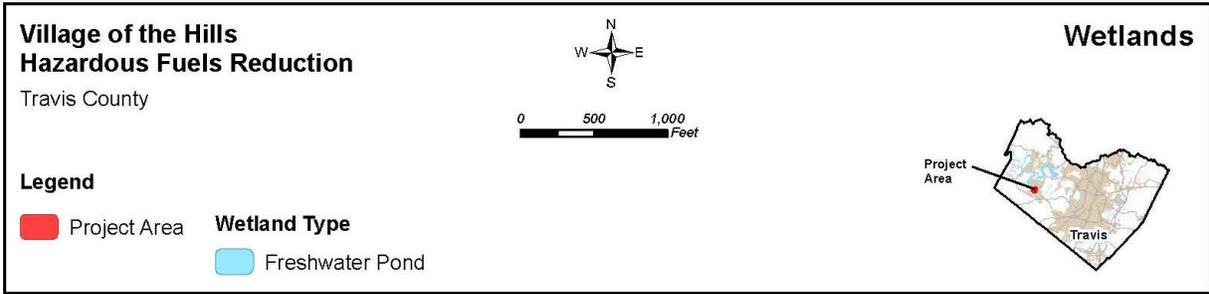
### No Action Alternative

In the absence of a major wildfire in the project area, the no action alternative would have no effect on wetlands because existing conditions would not change. However, a major wildfire would be more likely under the no action alternative and could result in the destruction of vegetation in nearby wetlands. Vegetation destruction in wetlands would damage habitat for wildlife and lessen the capacity of wetlands to filter pollutants and maintain water quality. However, these effects would be short-term and would not be significant.

### Proposed Action

While there are wetlands near the project areas, the proposed action would not occur in wetland areas nor would it occur close enough to affect wetlands. Under the proposed action, the potential for a major wildfire that could affect wetlands would be reduced. In addition, long-term project maintenance would not occur within wetland areas; therefore, there would be no impact on wetlands.

# Affected Environment, Potential Impacts, and Mitigation



Data Sources: NWI, CAPCOG, CDM Smith  
 Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

**Figure 4.6. Village of The Hills – Wetlands**

### 4.3.3 Floodplains

EO 11988, Floodplain Management, requires federal agencies to take actions to minimize occupancy of and modifications to floodplains. FEMA regulations in 44 CFR Part 9, Floodplain Management and Protection of Wetlands, set forth the policy, procedures, and responsibilities to implement and enforce EO 11988 and prohibit FEMA from funding improvements in the 100-year floodplain unless no practicable alternative is available.

To satisfy the requirements of EO 11988, the Water Resources Council developed an eight-step process that agencies should carry out as part of their decision-making on projects that have potential impacts to or within the floodplain. The eight steps reflect the decision-making process required in Section 2(a) of the EO and are reflected in FEMA regulations at 44 CFR 9.6. The first step is to determine if the proposed action is in the base floodplain.

FEMA flood insurance rate maps (FIRMs) map floodplain areas and illustrate the extent of the 100-year floodplain within the project areas. The FIRM for the project areas is number 48453C0405H dated September 26, 2008. The pertinent portion of the FIRM is included in **Appendix A-3**.

Although floodplains are present within the Village of The Hills, no fire hazard mitigation activities would take place within approximately 100 feet of the floodplains. **Figure 4.7** depicts the proposed project areas and the extent of the floodplains within Village of The Hills (FEMA 2008).

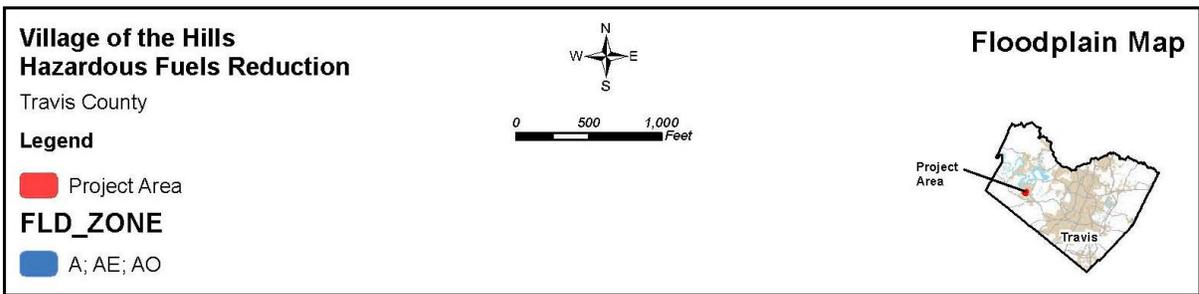
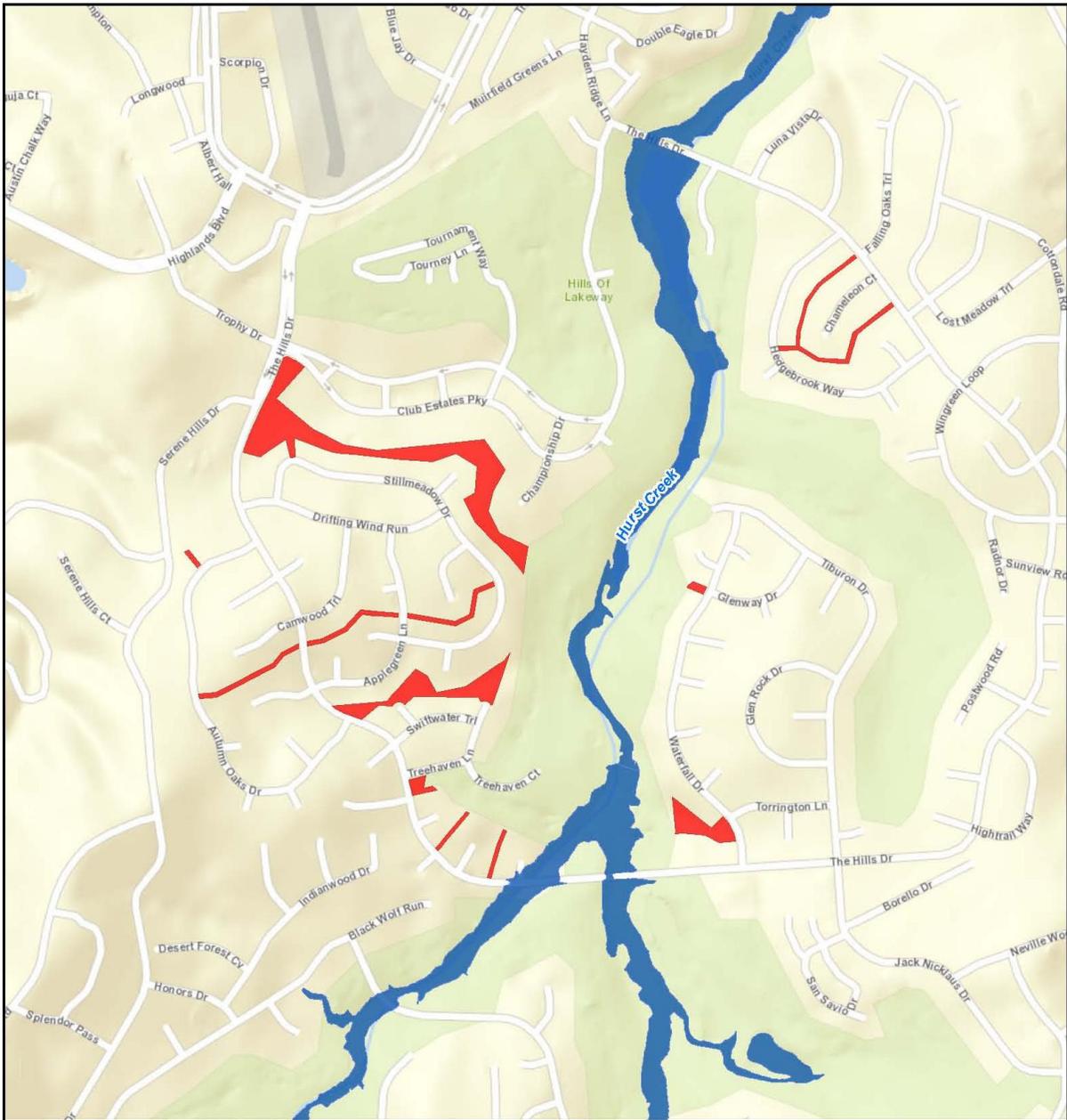
### No Action Alternative

In the absence of a major wildfire, the no action alternative would have no effect on floodplains because current conditions would not change. However, a major wildfire would be more likely under the no action alternative, which could impact the floodplain. If a wildfire were to occur, vegetation and ground cover would be destroyed, which could lead to increased stormwater runoff following a rain event. The no action alternative has the potential to increase localized flooding.

### Proposed Action

No fire hazard mitigation activities would occur in or near a 100-year floodplain under the proposed action; therefore, there would be no impact on floodplains in the project area. Under the proposed action, the potential for a major wildfire that could affect floodplains would be reduced. In addition, long-term project maintenance would not occur within floodplains; therefore, there would be no impact on floodplains.

# Affected Environment, Potential Impacts, and Mitigation



Data Sources: FEMA, CDM Smith  
 Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

**Figure 4.7. Village of The Hills – Floodplains**

### 4.4 Biological Resources

This section provides an overview of the affected area and potential environmental effects of the no action and proposed action alternatives on vegetation, wildlife, and federally and state-listed species.

#### 4.4.1 Vegetation

The Village of The Hills is along the border of the Edwards Plateau and the Cross Timbers ecoregions according to the Gould Ecoregions of Texas, as recognized by the Texas Parks and Wildlife Department (TPWD) (Gould et al. 1960).

A wildlife and habitat field survey conducted on July 25, 2013 determined that the project area is characterized primarily by two habitat types: cedar flats and maintained easements (see **Figure 4.8** and **Appendix B**). These two general types of habitat are described as follows:

- Cedar Flats – dominated by Ashe juniper (*Juniperus ashei*) with no pine trees present. There are a few live oak (*Quercus* spp.) and post oak trees (*Quercus stellate*) within this habitat type. The canopy averages 90 percent cover. Few to no shrubs are present. The herbaceous strata consists of goat weed (*Croton capitatus*), prickly pear cactus (*Opuntia* sp.), and slender woodoats (*Chasmanthium laxum*) averaging 90 percent total cover.
- Maintained Easement – this habitat is characterized by mixed lawn grasses, including bermudagrass (*Cynodon dactylon*) and St. Augustine grass (*Stenotaphrum secundatum*) and containing sparse Ashe juniper and live oak. This habitat is regularly mowed with some tree cultivation. The grassland component comprises 80 to 100 percent of total cover while juniper and live oak represent 0 to 20 percent of total cover. Few to no shrubs are present.

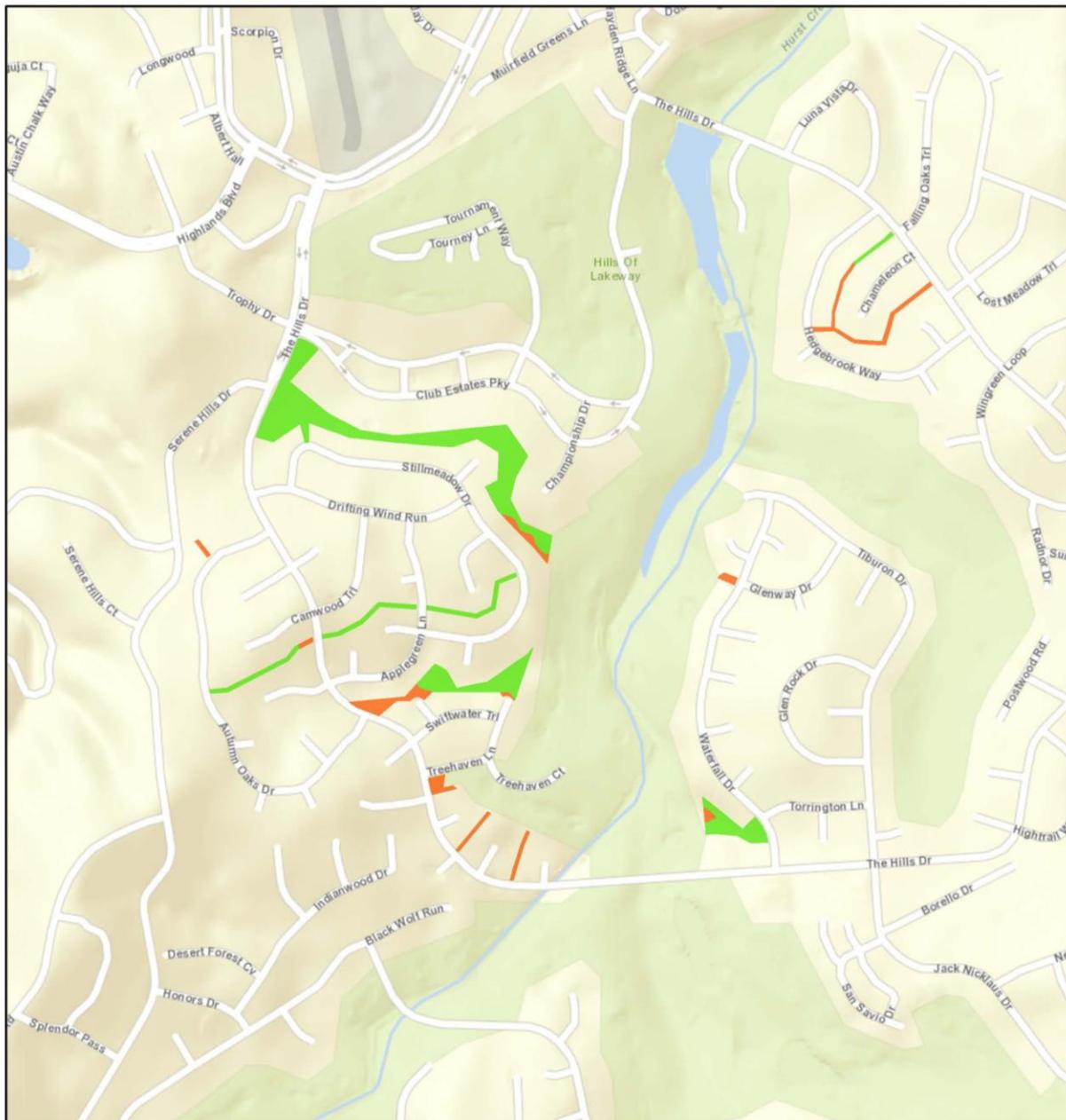
The project areas are already subject to a high degree of fragmentation and disturbance. Adjacent property owners discard yard debris in the greenbelt areas, and some vegetation modification activities such as brush clearing are conducted both on an ad hoc basis by adjacent landowners as well as part of a formal maintenance program implemented by the village. In addition, cultivated plants have escaped from yards and colonized the project areas.

There are no state or federal listed plant species within Travis County or the project areas.

#### Invasive Species

EO 13112 requires federal agencies to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause. The invasive species bermudagrass is already present in the maintained easement habitat type. The field surveys did not note any other invasive species in the project areas.

# Affected Environment, Potential Impacts, and Mitigation



**Village of the Hills  
Hazardous Fuels Reduction**  
Travis County

**Legend**

**Project Area Habitat Type**

- Cedar Flats
- Maintained Easement

**Vegetation Communities**

Data Sources: CH2M-Hill, CDM Smith  
Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom,

**Figure 4.8. Village of The Hills – Vegetation Communities**

### No Action Alternative

In the absence of a major wildfire in the county, the no action alternative would have no effect on vegetation, including invasive species because the vegetation that is currently present would persist. However, a major wildfire would be more likely under the no action alternative and would result in partial or complete loss of vegetation. In the event of a major wildfire, burned areas would likely be replanted with non-native species and lawn grasses such as bermudagrass might be expected to become established over larger areas.

### Proposed Action

The proposed action would affect approximately 24 acres of greenbelt areas by removal of accumulated vegetative debris, deadfall, and other flammable materials; trimming of lower branches of trees and shrubs; removal of enough trees to create separation between tree crowns; removal of dead and diseased trees and shrubs; and chipping and hauling off all materials. Vegetation that would be removed would primarily be Ashe juniper and understory shrubs. The proposed action would not have a significant impact on vegetation communities though individual trees would be affected.

Since the Village of The Hills is not known to support listed plant species, there would be no effect on federal- or state-listed plants.

Fuels reduction activities could provide avenues for the establishment of invasive plant species through accidental introduction and the removal of native vegetation. However, because the proposed action would not alter the canopy layer significantly, it would not be expected to contribute to the spread of bermudagrass or other invasives. Any invasive species encountered during fuels reduction activities should be removed.

### 4.4.2 Wildlife

In addition to the listed species discussed in Section 4.4.3, the proposed action has the potential to impact common wildlife species and their habitats. **Table 4.3** provides a list of species that were recorded during site surveys conducted in July 2013.

**Table 4.3. Common Wildlife Species Observed Within Project Areas**

Common Name	Scientific Name
<b>Birds</b>	
Blue jay	<i>Cyanocitta cristata</i>
Eurasian collared dove	<i>Streptopelia decaocto</i>
Field sparrow	<i>Spizella pusilla</i>
Mourning dove	<i>Zenaida macroura</i>
Northern cardinal	<i>Cardinalis cardinalis</i>
White-winged dove	<i>Zenaida asiatica</i>

## Affected Environment, Potential Impacts, and Mitigation

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Common Name	Scientific Name
<b>Mammals</b>	
Eastern cottontail	<i>Sylvilagus floridanus</i>
Nine-banded armadillo	<i>Dasypus novemcinctus</i>
White-tailed deer	<i>Odocoileus virginianus</i>

The common species observed during the field surveys are typical of residential areas. The cedar flats greenbelts are likely to support additional species adapted to these habitats, including snakes, sparrows, and other migratory songbirds. Migratory bird species are protected by the Migratory Bird Treaty Act.

The Magnuson-Stevens Fishery Conservation and Management Act applies to salt water fish, including anadromous fish, which swim up rivers from coastal areas to spawn in fresh water. Hurst Creek does not provide a suitable, unobstructed habitat for anadromous fish.

### No Action Alternative

In the absence of a major wildfire in the county, the no action alternative would have no effect on common wildlife species in the project area. However, a major wildfire would be more likely under the no action alternative and would result in the destruction of wildlife habitat.

### Proposed Action

The birds and mammals observed and expected in the project area are common species of residential areas and are well adapted to habitats heavily influenced by human activity. Cutting of vegetation with active nests would be avoided as a best management practice (BMP). All of the proposed vegetation management activities would be conducted between September and February to avoid potential impacts on migratory birds and listed bird species as discussed in Section 4.4.3. Potential impacts would likely be temporary and have little effect on local populations. Therefore, significant adverse impacts from the proposed action on the various songbird and mammal species documented within the project area would not be expected.

### 4.4.3 Threatened and Endangered Species and Critical Habitat

The Endangered Species Act (ESA) of 1973 gives USFWS authority for the protection of threatened and endangered species. This protection includes a prohibition of direct take (e.g., killing, harassing) and indirect take (e.g., destruction of habitat). The Texas Parks and Wildlife Code prohibits take of state-listed threatened and endangered species. The proposed project site is in Travis County, Texas. Listed species known to occur in Travis County include eleven species federally listed as endangered and one as threatened. An additional species is state listed as endangered and eight as threatened in Travis County by TPWD. All federally listed species potentially found in Travis County are shown in **Table 4.4**, and the state-listed species are shown in **Table 4.5** (USFWS 2013b, TPWD 2013).

## Affected Environment, Potential Impacts, and Mitigation

A field survey was conducted on July 25, 2013, to characterize the wildlife community and habitat types within the project areas. In addition to documenting general wildlife observations and the dominant vegetation types present, the survey focused on determining the presence or absence of listed species and their habitats (**Appendix B**).

**Table 4.4. Federally Listed Species for Travis County, Texas**

Common Name	Scientific Name	Federal Status
<b>Invertebrates</b>		
Bee Creek Cave harvestman	<i>Texella reddelli</i>	Endangered
Bone Cave harvestman	<i>Texella reyesi</i>	Endangered
Tooth Cave pseudoscorpion	<i>Tartarocreagris texana</i>	Endangered
Tooth Cave spider	<i>Neoleptoneta myopica</i>	Endangered
Kretschmarr Cave mold beetle	<i>Texamaurops reddelli</i>	Endangered
Tooth Cave ground beetle	<i>Rhadine persephone</i>	Endangered
<b>Amphibians</b>		
Austin blind salamander	<i>Eurycea waterlooensis</i>	Endangered
Barton Springs salamander	<i>Eurycea sosorum</i>	Endangered
Jollyville Plateau salamander	<i>Eurycea tonkawae</i>	Threatened
<b>Birds</b>		
Bald eagle	<i>Haliaeetus leucocephalus</i>	Recovery
Black-capped vireo	<i>Vireo atricapilla</i>	Endangered
Golden-cheeked warbler	<i>Setophaga chrysoparia</i>	Endangered
Whooping crane	<i>Grus americana</i>	Endangered

**Table 4.5. State-Listed Species for Travis County, Texas**

Common Name	Scientific Name	State Status
<b>Mollusks</b>		
False spike mussel	<i>Quadrula mitchelli</i>	Threatened
Smooth pimpleback	<i>Quadrula houstonensis</i>	Threatened
Texas fatmucket	<i>Lampsilis bracteata</i>	Threatened
Texas fawnsfoot	<i>Truncilla macrodon</i>	Threatened
Texas pimpleback	<i>Quadrula petrina</i>	Threatened
<b>Amphibians</b>		
Barton Springs salamander	<i>Eurycea sosorum</i>	Endangered
<b>Reptiles</b>		
Texas horned lizard	<i>Phrynosoma cornutum</i>	Threatened

## Affected Environment, Potential Impacts, and Mitigation

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Common Name	Scientific Name	State Status
<b>Birds</b>		
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened
Peregrine falcon	<i>Falco peregrinus</i>	Threatened
Black-capped vireo	<i>Vireo atricapilla</i>	Endangered
Golden-cheeked warbler	<i>Setophaga chrysoparia</i>	Endangered
Interior least tern	<i>Sterna antillarum athalassos</i>	Endangered
Whooping crane	<i>Grus americana</i>	Endangered

There is a low potential for federally listed species to occur within the project area. Suitable habitat for listed invertebrates, amphibians, and the Whooping crane is not present in the project area, and there would be no effect on these 10 species.

The habitat quality for Black-capped vireo is poor, with little to none of its preferred two-layer habitat structure and few deciduous trees present. In addition, the available habitat is highly fragmented and surrounded by residences, manicured lawns, and fairways of the golf course. It is very unlikely that the Black-capped vireo would occur in the project area.

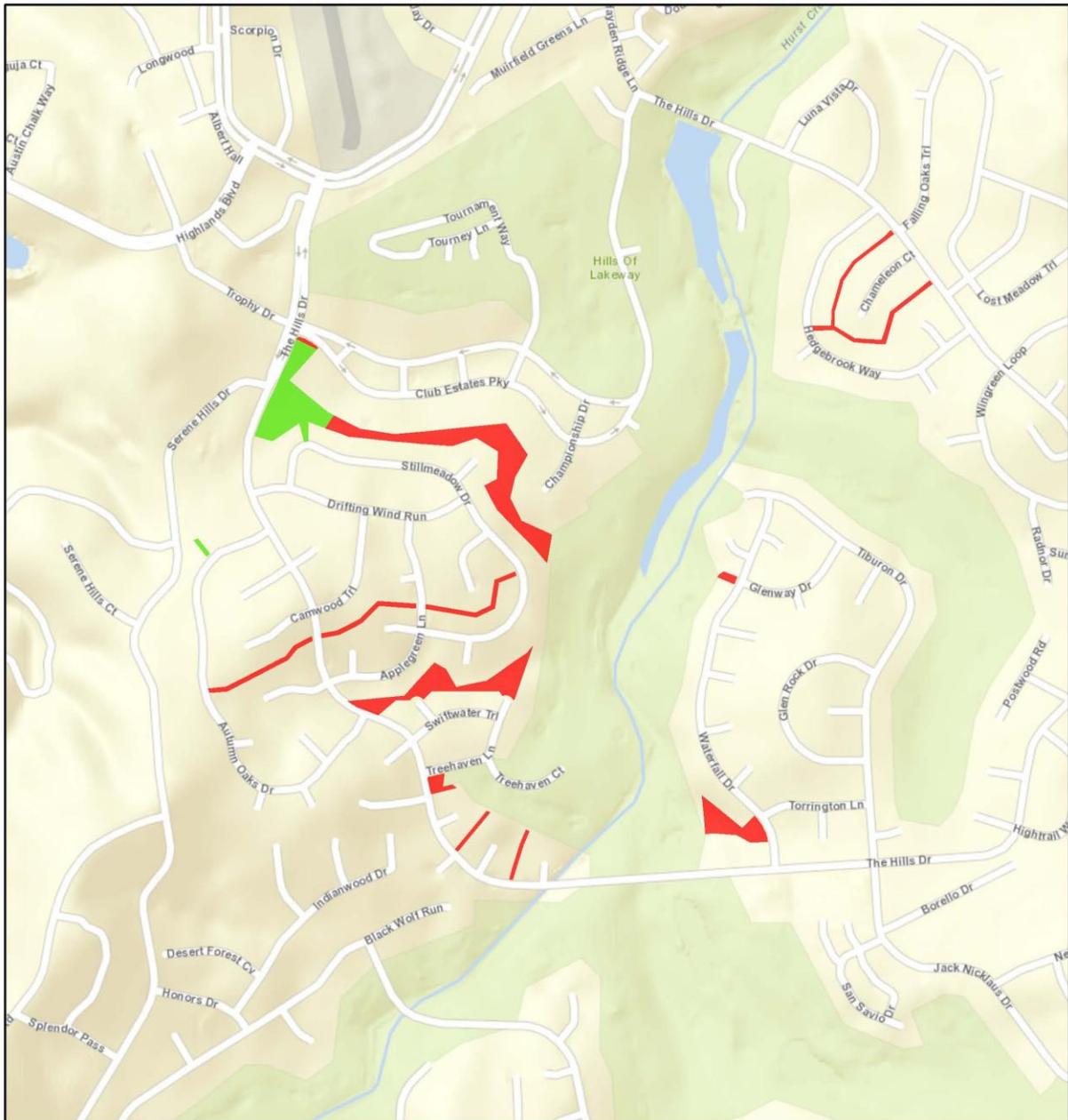
The habitat quality for Golden-cheeked warbler is also poor, and there is a low potential for this species to occur in the cedar flats habitat type (**Figures 4.9** and **4.8**). Few hardwoods are present for foraging, and the junipers present are relatively immature. Although the canopy cover is approximately 90 percent in the greenbelts that support the cedar flats habitat type (Section 4.4.1), the greenbelts are very narrow and bordered by homes and residential landscaping.

The largest patch of forested habitat is in the northwest corner of the project area. This is the area shown as “unconfirmed potential habitat” on **Figure 4.9** as mapped under the Balcones Canyonlands Preserve Habitat Conservation Plan implementation program. However, this area is all within 150 feet of structures. The narrowness of most of the greenbelts and the proximity to residences reduce the suitability of the project areas for Golden-cheeked warbler. No warblers were observed during the field survey.

The BMPs for treating vegetation that may pose a hazardous wildfire threat but that may also be associated with the Golden-cheeked warbler (USFWS 2013c) identify two zones for fuel reduction specifications, the edge zone and the interior zone. Most of the project areas would fall within the edge zone with only the patch of “unconfirmed potential habitat” being large enough to include some “interior zone” area.

There is no designated critical habitat for any of the listed species within the project areas.

# Affected Environment, Potential Impacts, and Mitigation



**Village of the Hills  
Hazardous Fuels Reduction  
Travis County**

**Legend**

- Unconfirmed Potential Habitat
- Not Known to be Habitat

**Endangered Species Habitat  
Golden-cheeked Warbler**

Data Sources: CH2MHill, CDM Smith  
Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom.

**Figure 4.9. Golden-cheeked Warbler Potential Habitat**

## **Affected Environment, Potential Impacts, and Mitigation**

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Both the bald eagle and peregrine falcon have recently been delisted by USFWS; however, both species remain protected by other regulations at the federal and state levels. Peregrine falcons and Bald eagles would be very unlikely to use the project areas for any life stage activities, including foraging, and any presence of these species would be transient. The state listed threatened peregrine falcon is not likely to nest within the project areas because its preferred nesting habitat – tall cliffs – is not present. Therefore, there would be no effect on the falcon or the eagle.

### **No Action Alternative**

In the absence of a major wildfire, the no action alternative would have no effect on endangered species because existing conditions would not change. The only species that has even a low potential of occurring in the project area is the Golden-cheeked warbler. A major wildfire would be more likely under the no action alternative and could damage existing warbler habitat.

### **Proposed Action**

The proposed action is unlikely to impact state-listed species for Travis County. The interior least tern is not likely to be present in the project area because no foraging or nesting habitat was identified during the biological site visit. No water resources are present in the impact area, therefore state-listed mollusks are not anticipated to be present and will not be impacted. The Texas horned lizard is unlikely to be present because of the dense ground cover at the project site.

Both the Black-capped vireo and the Golden-cheeked warbler are unlikely to occur within the project area because the habitat quality is poor and highly fragmented. The Travis County Endangered Species Habitat and Potential Preserve System maps for the Village of The Hills indicate that it is not known to be habitat for the Golden-cheeked warbler or the Black-capped vireo (Travis County 2013a). Golden-cheeked warbler is known from nearby areas, so there is a slightly higher chance that this species may occur within the project area during the breeding season. Therefore, vegetation management activities must only be conducted from September 1 through February 28 to avoid any impacts to nesting birds, consistent with BMPs for treating vegetation that may pose a hazardous wildfire threat but that may also be associated with the Golden-cheeked warbler (USFWS 2013c). In addition, the proposed action would only remove dead trees and branches and would limb trees up to 4 feet above the ground. Some live trees within 30 feet of residences may be removed or trimmed. These activities are consistent with the BMPs for fuel reduction within Golden-cheeked warbler habitat (USFWS 2013c). Based on the poor habitat quality in the project area and on the seasonal restrictions of the work, FEMA has determined that the proposed action will have no effect on the Black-capped vireo and Golden-cheeked warbler.

The wildlife and habitat surveys did not identify any potential Bald eagle nesting habitat within the project areas. Therefore, the proposed action is unlikely to adversely impact Bald eagles. If the project activities occur adjacent to any occupied or unoccupied Bald or Golden eagle nest, the applicant must contact FEMA and consult with USFWS before work begins.

### 4.5 Cultural Resources

This section provides an overview of the affected area and potential environmental effects of the no action and proposed action alternatives on cultural resources, including historic structures and archeological resources.

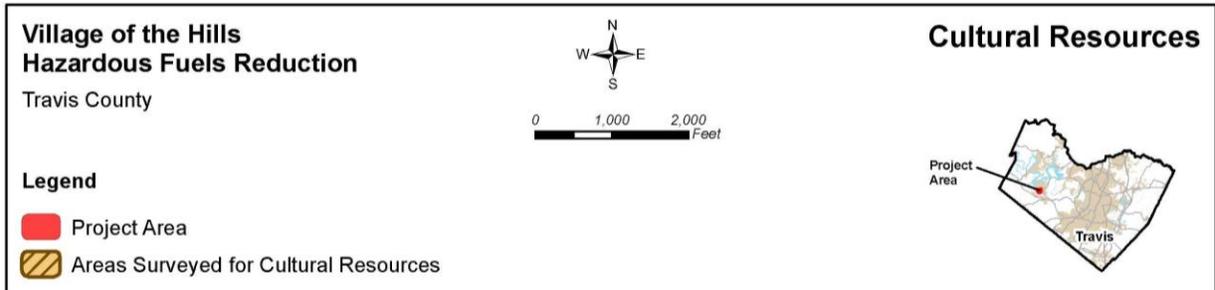
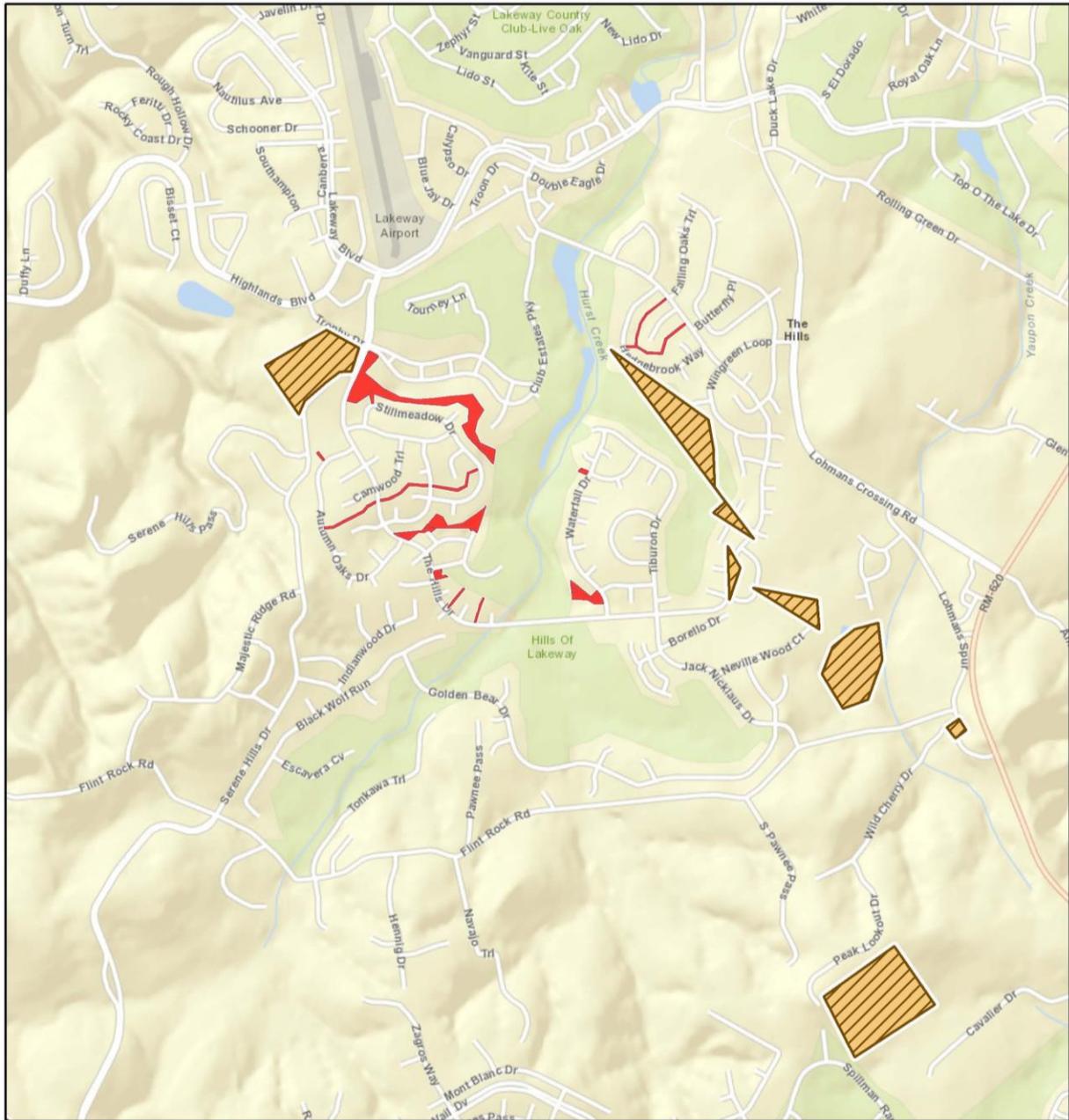
The National Historic Preservation Act of 1966 (NHPA) (16 U.S.C. 470 et seq.) is the primary federal law protecting historic properties and promoting historic preservation. The NHPA emphasizes cooperation with states, tribal governments, local governments, and other consulting parties. The NHPA established the National Register of Historic Places (NRHP) and designated the State Historic Preservation Officer (SHPO) as the entity responsible for administering state-level programs. The NHPA also created the Advisory Council on Historic Preservation, the federal agency responsible for overseeing the process described in Section 106 of the NHPA (16 U.S.C. 470f) and for providing commentary on federal activities, programs, and policies that affect historic properties.

Section 106 of the NHPA and its implementing regulations (36 CFR Part 800) contain the procedures for federal agencies to follow to take into account the effect of their actions on historic properties. The Section 106 process applies to any federal undertaking that has the potential to affect historic properties, defined at 36 CFR 800.16(l)(1) as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places." Although buildings and archaeological sites are most readily recognizable as historic properties, the NRHP contains a diverse range of resources that includes roads, landscapes, and vehicles. Under Section 106, federal agencies are responsible for identifying historic properties in the area of potential effects (APE) for an undertaking; assessing the effects of the undertaking on these historic properties, if present; and considering ways to avoid, minimize, or mitigate any adverse effects. Because Section 106 is the process by which the federal government assesses the effects of its undertakings on historic properties, it is the primary regulatory framework used in the NEPA process to determine impacts on cultural resources.

To assess the potential for intact, significant cultural resources within the APE of the proposed action, an archival review was conducted. The APE for the proposed action includes approximately 24 acres of the Village of The Hills greenbelts.

Coordination with the SHPO, which is housed at the Texas Historical Commission (THC), was initiated via letter on August 1, 2012. On August 29, 2012, the SHPO concluded that the project would not affect historic properties and that the project could proceed as planned. See Appendix C for a copy of the SHPO correspondence. **Figure 4.10** shows a THC map of the project vicinity (THC 2011) which includes past cultural resource survey areas located nearby.

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Data Sources: THC (SHPO), CAPCOG, CDM Smith  
 Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom.

**Figure 4.10. Cultural Resources Near Village of The Hills**

### **4.5.1 Historic Architectural Properties**

The proposed project has areas that have been previously disturbed by nearby residential and golf course development. Archival research conducted via the THC Historic Sites Atlas web site indicates that no previously recorded historic sites are within the APE. According to the Atlas, Travis County has 927 registered historic sites; however, no historic sites are close to the project areas (THC 2011a).

### **4.5.2 Archaeological Sites**

Archival research conducted via the THC's Archeological Sites Atlas indicated that no previously recorded archaeological sites have been identified within or in the immediate vicinity of the proposed project areas (THC 2011b).

### **4.5.3 Native American Cultural/Religious Sites**

No federally recognized Indian tribes or traditional cultural properties are located in or near the proposed project areas. The Alabama and Couthatta Tribes in Livingston, Texas are the closest of the three federally recognized Indian tribes in Texas. Livingston, Texas is approximately 165 miles from Travis County (National Conference of State Legislatures 2013).

### **No Action Alternative**

Under the no action alternative, no vegetation thinning or management would occur; therefore, this alternative would result in no effect on cultural resources, including historic properties.

### **Proposed Action**

Based on archival research and correspondence with the SHPO, FEMA has determined that the proposed action would have no impact on historic properties. In the event that archeological deposits, including any Native American property, stone tools, bones, or human remains, are uncovered, all work in the vicinity of the discovery must be halted immediately, and all reasonable measures must be taken to avoid or minimize harm to the finds. All archeological findings will be secured, and access to the sensitive area will be restricted by the Village of the Hills. The Village of The Hills will inform FEMA immediately of such findings, and FEMA will consult with the SHPO. Work in sensitive areas shall not resume until consultation is completed and until FEMA determines that the appropriate measures have been taken to ensure complete project compliance with the NHPA and its implementing regulations.

## **4.6 Socioeconomics**

This section provides an overview of the affected area and potential environmental effects of the no action and proposed action alternatives on socioeconomic resources, including environmental justice, hazardous materials, noise, traffic, public services and utilities, and human health and safety.

### 4.6.1 Environmental Justice

Environmental justice is defined by EO 12898 (59 *Federal Register* 7629) and CEQ guidance (1997). Under EO 12898, demographic information is used to determine whether minority populations or low-income populations are present in the areas potentially affected by the proposed action. If so, a determination must be made whether implementation of the proposed action may cause disproportionately high and adverse human health or environmental impacts on those populations.

This environmental justice analysis is focused at the local (i.e. Village of The Hills) level. The local area included in this analysis is where project-related impacts would occur, potentially causing an adverse and disproportionately high effect on neighboring minority and low-income populations. For this project, the analysis includes census tract 17.73 in Travis County, inclusive of the Village of The Hills. **Table 4.6** and **Table 4.7** provide economic and demographic characteristics for census tract 17.73 and Village of The Hills. Information for Travis County as a whole is presented for comparison.

#### Low-Income Populations

Residents of areas with a high percentage of people living below the poverty level may be considered low-income populations. The U.S. Census Bureau poverty threshold for a family of four (two adults and two children) in 2012 was \$23,681 and \$11,945 for an individual (U.S. Census Bureau 2013a). Low-income populations are also considered to include residents of areas where the median family income is less than 60 percent of the median income of the surrounding area. Travis County has a poverty rate of 16.6 percent. The poverty rate in the census tract that includes the project areas is 4.8 percent, but the poverty rate in Village of The Hills is only 1.1 percent. The median family and household incomes are significantly higher in the census tract than in Travis County as a whole (**Table 4.6**). Furthermore, the median family and household incomes in Village of The Hills are also significantly higher than in Travis County. Therefore, the project areas do not include a low-income population.

**Table 4.6. Income**

Parameter	Census Tract 17.73	Village of The Hills	Travis County
Percentage of population below poverty level	4.8 percent	1.1 percent	16.6 percent
Median household income	\$114,886	131,607	\$55,452
Median family income	\$134,427	\$141,200	\$72,108

Source: U.S. Census Bureau 2011.

#### Minority Populations

CEQ (1997) defines the term "minority" as persons from any of the following groups: Black, Asian or Pacific Islander, American Indian or Alaskan Native, and Hispanic. The U.S. Census Bureau does not treat "Hispanic or Latino" as a racial category, so people identifying themselves as Hispanic or Latino make a separate selection of a racial category. This analysis is based on

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U.S. Census Bureau data from the American Community Survey. For the purposes of this analysis, "minority" includes all people who do not identify themselves as "white alone" plus Hispanics and Latinos who identify themselves as "white alone." As shown in **Table 4.7**, Census Tract 17.73 has a low total minority percentage that is much smaller than the county average; therefore, the project area is not considered a minority population.

**Table 4.7. Minority Populations**

Ethnic Composition	Census Tract 17.73		Village of The Hills		Travis County	
	Count	Percent (%)	Count	Percent (%)	Count	Percent (%)
White alone	4,968	92.2 percent (%)	2177	88.8%	699,233	69.4%
Black or African American alone	37	0.7%	7	0.3%	85,468	8.5%
Asian alone	199	3.7%	99	4.0%	58,806	5.8%
American Indian alone	36	0.7%	36	1.5%	5,633	0.6%
Native Hawaiian alone	0	0.0%	0	0.0%	770	0.0%
Some Other Race or Multi-Racial	11	2.7%	0	0.0%	158,124	15.7%
<b>Total Population</b>	<b>5,688</b>	<b>--</b>	<b>2452</b>	<b>--</b>	<b>1,007,264</b>	<b>--</b>
Hispanic or Latino <sup>1</sup>	437	8.1%	133	5.4%	334,240	33.2%
<b>Total Minority Population<sup>2,3</sup></b>	<b>823</b>	<b>14.5%</b>	<b>333</b>	<b>13.6%</b>	<b>495,714</b>	<b>49.2%</b>

Notes:

<sup>1</sup> The term "Hispanic" is an ethnic category and can apply to members of any race, including respondents who self-identified as "White." The total numbers of Hispanic residents for each geographic region are tabulated separately from the racial distribution by the U.S. Census Bureau.

<sup>2</sup> A minority is defined in CEQ's environmental justice guidance as a member of the following population groups: American Indian/Alaskan Native, Asian or Pacific Islander, Black (non-Hispanic), or Hispanic (CEQ 1997).

<sup>3</sup> "Total Minority" includes all people who are not "White alone" plus Hispanics and Latinos who are white alone.

### No Action Alternative

Under the no action alternative, all populations within the project area would continue to be at risk of a catastrophic wildfire. The no action alternative would not have a disproportionately high and adverse human health or environmental effect on low-income or minority populations and meets the requirements of EO 12898.

### Proposed Action

The proposed action would have a beneficial effect on all people living and working in the vicinity of the project area, including any low-income or minority persons, as it would reduce the risk of harm to persons and property from wildfire. Because no low-income or minority population is in the project area, the proposed action would not have a disproportionately high and adverse impact on a low-income or minority population. Therefore, the proposed action would comply with EO 12898.

### 4.6.2 Hazardous Materials

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, and the Toxic Substances Control Act. The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, which was further amended by the Hazardous and Solid Waste Amendments, defines hazardous wastes. In general, both hazardous materials and hazardous waste include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released or otherwise improperly managed.

To determine whether any hazardous waste facilities exist within the vicinity or upgradient of the project areas, or whether there is a documented environmental issue or concern that could affect the proposed project areas, a search for Superfund sites, toxic release inventory sites, industrial water dischargers, hazardous facilities or sites, and multi-activity sites was conducted using EPA's Envirofacts database.

The Envirofacts database shows one site within 1 mile of the project area. Hurst Creek Municipal Utility District (MUD), a water treatment facility, is on Lakeway Boulevard just northeast of the project areas. From 1981 to 1994, Hurst Creek MUD discharged to Hurst Creek and Lake Travis and required a National Pollutant Discharge Elimination System permit; however, permit requirements have since been terminated. **Figure 4.11** shows the potentially hazardous sites closest to the project area (EPA 2013).

### No Action Alternative

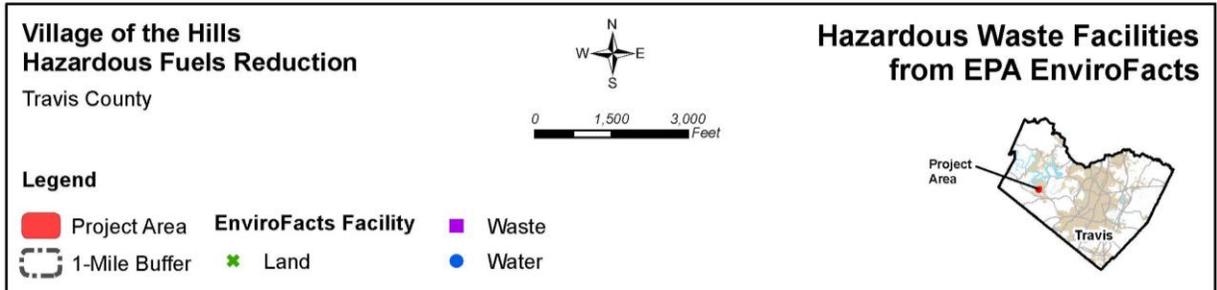
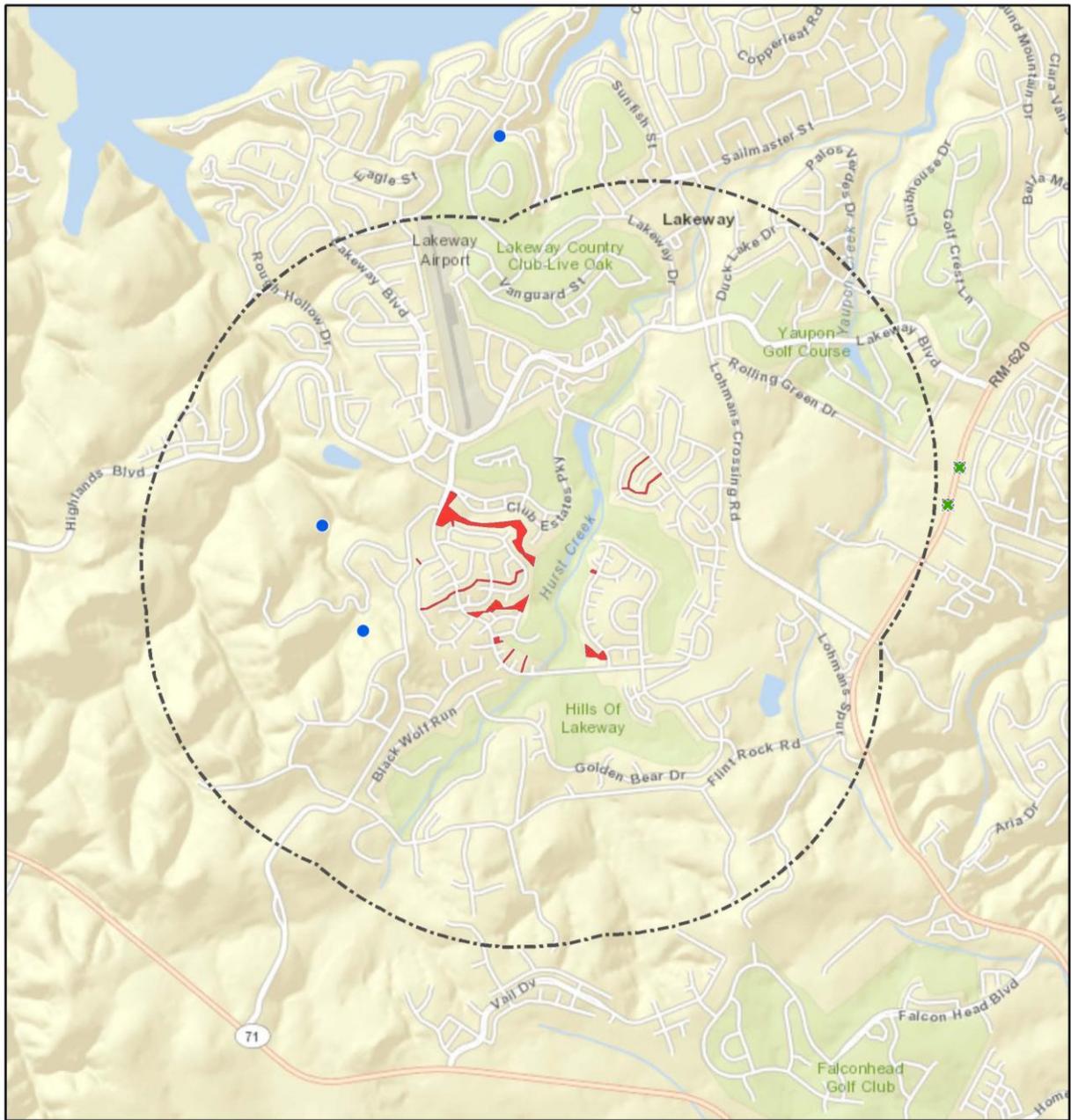
No active hazardous sites were identified within the project area that would potentially affect the existing environment. Under the no action alternative, existing conditions with respect to hazardous materials would not change.

### Proposed Action

Under the proposed action, no impacts from hazardous facilities are anticipated because no hazardous facilities are in or near the project areas (EPA 2013). Waste material generated by the proposed action would consist of cut, trimmed, dead, and downed vegetation, which would be removed from the project area daily. This material would be disposed of in an approved manner and location.

The proposed action would involve the use of mechanical equipment, and there is always a minor threat of leaks of oil, fuels, and lubricants from the use of such equipment. The short-term nature of the project and use of equipment in good condition would reduce any potential effect to an insignificant level. Additionally, herbicides would not be used during project implementation or for long-term maintenance. Therefore, impacts from herbicide use would not occur.

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Data Sources: THC (SHPO), CAPCOG, CDM Smith  
 Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom,

**Figure 4.11 Hazardous Waste Facilities Near Village of The Hills**

## **Affected Environment, Potential Impacts, and Mitigation**

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Excavated soil and waste materials would be managed and disposed of in accordance with applicable local, state, and federal regulations. If contaminated materials are discovered during the project activities, work would cease until the appropriate procedures and permits can be implemented. Any hazardous materials discovered, generated, or used during construction would be handled and disposed of in accordance with applicable local, state, and federal regulations

### **4.6.3 Noise**

Sounds that disrupt normal activities or otherwise diminish the quality of the environment are designated as noise. Noise events that occur during the night (9 p.m. to 7 a.m.) are more disturbing than those that occur during normal waking hours (7 a.m. to 9 p.m.). Noise is typically associated with climatic conditions (wind, thunder), transportation (traffic on roads, airplanes), and other "life sounds" (people talking, children playing). The potential effects of noise are related to distance from the source, background levels, and the randomness of a noise.

Assessment of noise impacts includes the project's proximity to sensitive receptors. A sensitive receptor is defined as an area of frequent human use that would benefit from a lowered noise level. Typical sensitive receptors include residences, schools, churches, hospitals, and libraries. The majority of the project area is adjacent to homes or The Hills golf course, and any noise-generating activities within these areas would have the potential to affect these sensitive receptors.

### **No Action Alternative**

Under the no action alternative, no fire hazard mitigation measures would occur; thus, there would be no change in existing noise levels that could affect sensitive receptors in the project area.

### **Proposed Action**

Under the proposed action, noise would be generated by operation of equipment such as chainsaws, chippers, all-terrain vehicles, and trucks. The proposed action would increase noise levels in the immediate vicinity of the project areas during implementation of the proposed work. Increases in noise levels would be temporary and would occur during normal waking hours; therefore, impacts from increased noise levels on sensitive receptors in the project area would be minor. In addition, all equipment and machinery used at the proposed project site would meet all applicable local, state, and federal noise control regulations.

### **4.6.4 Traffic**

The local transportation network serving the project area includes arterial and local streets, and pedestrian and neighborhood electrical vehicle (NEV) pathways. The Village of The Hills community is comprised of various local residential streets. The community is bordered by Serene Hills Drive to the west, Lakeway Boulevard to the north, Lohmans Crossing Road to the east, and The Hills Drive to the south. The Hills Drive is the primary ingress and egress arterial in the village. Access to the Village of The Hills community is restricted by a system of computer-controlled traffic gates, and only residents and their guests are allowed free ingress.

## **Affected Environment, Potential Impacts, and Mitigation**

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Internal roadways are used by both motor vehicles and NEVs. The community also includes pedestrian and NEV pathways to provide access to and circulation within The Hills Golf Course. The closest major freeway is State Highway (SH) 71, approximately 1.5 miles from the project areas.

### **No Action Alternative**

Under the no action alternative, existing levels of local traffic would not change. A major wildfire would be more likely under the no action alternative. Roads could be closed if a wildfire approached or encompassed local roads. A wildfire near the project areas could cause closure of roads that provide access to and throughout the village. Depending on location and wind direction, smoke from a wildfire could cause closure of sections of bordering roadways or sections of SH 71. Short-term traffic congestion could occur during street and highway closures caused by a wildfire.

### **Proposed Action**

Under the proposed action, vehicle traffic would be generated by work crews traveling to and from work sites and trucks hauling cut and chipped vegetation from the project area to Travis County disposal facilities. The amount of additional traffic would be temporary and minimal and would not interfere with local residents or people traveling in the vicinity of the project areas.

The fire hazard mitigation activities would reduce the risk of a wildfire encompassing a road near the project area. Thus, the potential for road closures due to wildfire would be reduced. Trimming of trees and the creation of defensible space would also improve emergency access to and within the project areas in the event of a wildfire, improving conditions for firefighters and reducing the potential for a catastrophic fire.

## **4.6.5 Public Services and Utilities**

### **4.6.5.1 Utilities**

#### **Water and Sewage**

The Hurst Creek MUD provides water and sewer service for the Village of The Hills. The district purchases raw water from Lake Travis that is pumped through an 11,000-foot pipeline and treated by the district's two water treatment plants, each with a capacity of 1 million gallons per day. Treated water is then stored in two ground-level storage tanks and an elevated tower for distribution to district customers, primarily the residents of the Village of The Hills. The Village of The Hills housing authority regulations require lawn maintenance; therefore, water is used primarily for irrigation of lawns during summer months. Since the district is nearly built out, and the economic character of the service area is not anticipated to change, usage patterns are not anticipated to change significantly in future years.

The Hills Golf Course is also serviced by the Hurst Creek MUD and uses reclaimed wastewater for irrigation. The golf course includes a 50-million-gallon effluent pond with a controlled

## **Affected Environment, Potential Impacts, and Mitigation**

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pumping and valve system to continuously irrigate the course greens. Additional water supply for course irrigation may also be acquired from Hurst Creek (Hurst Creek MUD 2013).

### **Power**

The Village of The Hills is serviced by two power providers. The west side of the village is served by the Pedernales Electric Cooperative (PEC), and the east side is served by Austin Energy. PEC provides electrical services to more than 230,000 homes and business over a service area of approximately 8,100 square miles, including the Village of The Hills (PEC 2013). Austin Energy provides electrical services to the City of Austin, other parts of Travis County, and parts of Williamson County, Texas. The company provides electricity to over 420,000 residents, including the western half of the Village of The Hills (Austin Energy 2013).

The only overhead power lines within the Village of The Hills are in a small area in the northern section of the village, outside the proposed project areas. These power lines are owned and operated by the Lower Colorado River Authority and do not supply power to the project areas.

### **No Action Alternative**

Under the no action alternative, utilities in the project areas would not be directly affected. However, potential for wildfires would continue to be high in the project areas, and electrical services provided via overhead power lines could be adversely affected by a wildfire.

### **Proposed Action**

The proposed action would not directly affect utilities or require additional utilities in the project area. The proposed action would reduce the risk of a major wildfire in the project area and contribute to the containment of wildfires, which would prevent or reduce damage to overhead power lines.

#### **4.6.5.2 Emergency Services**

The Village of The Hills is serviced by Travis County Emergency Service District (ESD) 6 - Lake Travis Fire and Rescue. ESD 6 includes five fire stations including Hudson Bend (601), Lakeway (602), Bee Cave (603), Comanche Trail (604), and Steiner Ranch (605). The station closest to the project areas is fire station 602. The district provides fire suppression, rescue, hazardous materials, and medical services (Lake Travis Fire Rescue 2011).

The Travis County Sheriff's West Command is responsible for law enforcement in the western portion of Travis County, including the project areas (Travis County Sheriff's Office 2012). The Village of The Hills can also report crimes to the deputy constable and a private security team (Village of The Hills 2013).

### **No Action Alternative**

Under the no action alternative, there would be no change in emergency response time. The risk of wildfire in the project areas would continue at a relatively high level. During wildfires,

emergency personnel would not be available to respond to other emergencies in their service area.

### **Proposed Action**

Under the proposed action, fire hazard mitigation measures would reduce the risk of a major wildfire and contribute to the containment of wildfire in the project areas. The proposed action would reduce the need for emergency services within the project areas and would allow emergency responders to remain available to respond to other emergencies throughout the county.

### **4.6.6 Public Health and Safety**

The risk of a catastrophic wildfire in the project area is high because of heavy vegetative fuel loading that has accumulated over time, specifically within the village's greenbelts within the WUI. Heavy rain following wildfires can contribute to sediment and debris in nearby waterways, which can affect downstream water quality, and damage structures, roads, and utilities critical to the safety and well-being of citizens downstream of the project area.

Population growth has many implications related to wildfire hazards and the need for vegetation management. With more people, there is a greater risk of human-caused wildfires and a greater need for protection from wildfires. The current population estimate for Travis County is 1,095,584. Travis County experienced an increase in population of 7 percent from 2010 to 2012 (U.S. Census Bureau 2013b). However, the Village of The Hills is nearly built out, and the population within the project area is not expected to change significantly in the future.

### **No Action Alternative**

Under the no action alternative, no fire hazard mitigation would occur, and residents of the Village of The Hills would remain at relatively high risk in the event of a wildfire. If a wildfire occurred, residents close to the burned area would be at risk. Wildfires can generate substantial amounts of particulate matter, which can affect the health of people breathing the smoke-laden air. Therefore, the health of people downwind of a wildfire, especially young children, the elderly, and people with lung disease or asthma, could be adversely affected. Major wildfires are also a major threat to the health and safety of frontline firefighters.

### **Proposed Action**

Under the proposed action, the primary objective would be to reduce the potential for destructive wildfire in the common areas and greenbelts of the Village of The Hills. Implementation of the proposed action would create a safer environment from which firefighters could fight a wildfire, reduce the rate at which fires spread, and would make fires more feasible to control. Fire hazard mitigation would not prevent wildfires but would contribute to containment and reduce the intensity of wildfires, which would reduce hazards to people living in the project area. In addition, when wildfires are controlled more quickly, a smaller area is burned, resulting in less sediment and debris being transported downstream during future precipitation events, which

## Affected Environment, Potential Impacts, and Mitigation

potentially could affect water quality. Overall, the proposed action would have a beneficial effect on public health and safety.

### 4.7 Summary of Effects and Mitigation

This section provides a summary of the potential environmental effects from implementation of the proposed action, any required agency coordination or permits, and mitigation or BMPs that would be implemented to minimize impacts.

**Table 4.8. Summary of Impacts and Mitigation**

Affected Environmental Resource Area	Impacts	Agency Coordination/ Permits	Mitigation/BMPs
Soils	Long-term beneficial impacts on soils from reduced risk of major wildfire. Short-term soil disturbance from mechanical equipment.	NA	NA
Air Quality and Climate Change	Short-term minor impacts on local air quality from mechanical equipment emissions. Potential long-term beneficial impact on air quality and climate change by reducing wildfire emissions.	TCEQ	Vehicle and equipment running times will be minimized, and engines will be properly maintained.
Visual Quality and Aesthetics	Long-term negative effect on visual screening and residential privacy. Potential long-term beneficial effect by reducing loss of vegetation in wildfires.	NA	NA
Surface Water	Potential beneficial impact on surface water by preventing major wildfire, reducing sedimentation and debris loading in streams.	TCEQ	NA
Groundwater	No impact on groundwater in the Trinity Aquifer outcrop. Beneficial impact to regional groundwater supply from reduced risk of major wildfire.	TWDB	NA

## Affected Environment, Potential Impacts, and Mitigation

Affected Environmental Resource Area	Impacts	Agency Coordination/ Permits	Mitigation/BMPs
Wetlands	No impact.	USDA; USFWS	NA
Floodplains	No impact.	FEMA	NA
Vegetation	No significant impact to vegetation communities.	NA	NA
Invasive Species	Could provide avenues for the establishment of invasive plant species through accidental introduction. Proposed action not expected to contribute to spread of existing invasives.	NA	Any invasive species encountered during fuels reduction activities should be removed.
Wildlife	Migratory birds may nest in greenbelts but no impact anticipated as work will take place outside of breeding and nesting season.	USFWS; TPWD	Vegetation management activities would only occur from September 1 through February 28.
Threatened and Endangered Species/ Critical Habitat	Proposed action will have no effect to listed species or critical habitat. Unlikely to adversely impact bald eagles.	USFWS	The Village of The Hills must conduct hazardous fuels reduction work only during the non-breeding season. Work is allowed from September 1 through February 28. Work cannot be conducted from March 1 through August 31. If the project activities occur adjacent to any occupied or unoccupied Bald or Golden eagle nest, the applicant must contact FEMA and consult with USFWS before work begins.
Cultural Resources	No Impact.	THC	In the event that archeological deposits, including any Native American property, stone tools, bones, or human remains, are uncovered, all work in the vicinity of the discovery must be halted immediately, and all reasonable measures must be taken to avoid or minimize harm to the finds. All archeological findings will be secured, and access to the sensitive area will be restricted by the Village of the Hills. The Village of The Hills will inform FEMA immediately of such findings, and FEMA will consult with the SHPO. Work in sensitive areas shall not resume until consultation is completed and until FEMA determines that the appropriate measures have been taken to ensure complete project compliance with the NHPA and its implementing regulations.
Environmental Justice	No impact.	NA	NA

## Affected Environment, Potential Impacts, and Mitigation

Affected Environmental Resource Area	Impacts	Agency Coordination/ Permits	Mitigation/BMPs
Hazardous Materials	No impact.	EPA	Excavated soil and waste materials would be managed and disposed of in accordance with applicable local, state, and federal regulations. If contaminated materials are discovered during the project activities, work would cease until the appropriate procedures and permits can be implemented. Any hazardous materials discovered, generated, or used during construction would be handled and disposed of in accordance with applicable local, state, and federal regulations
Noise	Temporary impacts from vegetation removal equipment.	NA	All work would be conducted during daytime hours. All equipment and machinery will meet all local, state, and federal noise regulations.
Traffic	Temporary increase in vehicle trips from hauling of vegetation from project site. Traffic increase would not be significant.	NA	NA
Public Services and Utilities	No impact.	NA	NA
Public Health and Safety	Reduction of the risk of a major wildfire that would threaten public health and safety.	NA	NA

## SECTION 5 Cumulative Impacts

This section addresses the potential cumulative impacts associated with implementation of the proposed action. Cumulative impacts are the impacts of a proposed action when combined with the impacts of other past, present, or reasonable foreseeable future actions undertaken by any agency or person. Cumulative impacts can result from individually minor but collectively significant actions.

No significant cumulative impacts are foreseen from implementation of the proposed action and other past, present, and future actions. The proposed action would have no impact or essentially no impact on water resources, wetlands, floodplains, wildlife or vegetation, cultural resources, environmental justice, or hazardous materials and would have a beneficial impact on public services and utilities and public health and safety. Therefore, the proposed action would not contribute to significant cumulative impacts on these resources.

The Village of The Hills has already completed a pilot project similar to the proposed action on a small area. It is assumed that the effects of the pilot project are very similar to those of the proposed action because both are located in the Village of The Hills greenbelts where there are no significant differences in soils or topography that would result in a different vegetation type or condition. The Village's greenbelts and common areas are narrow remnants of larger vegetation communities that have been previously fragmented by residential and golf course development. Additional fire hazard mitigation under the proposed action would not result in a cumulative impact on the existing vegetation and wildlife of the Village of The Hills.

Temporary noise, traffic, and air quality impacts of the proposed action could combine with similar impacts of other projects occurring at the same time. There are currently no capital improvement projects underway or proposed by either the Village of The Hills, Travis County, or the Texas Department of Transportation that in combination with the proposed project would cause significant cumulative effects related to noise, traffic or air quality (Village of The Hills 2013, Travis County 2013b, and Texas Department of Transportation 2013).

Climate change is by its nature a cumulative impact. Carbon dioxide emissions from the proposed action would make a very small contribution to climate change.

## **SECTION 6 Agency Coordination, Public Involvement, and Permits**

This section provides a summary of the agency coordination efforts and public involvement process for the draft Village of The Hills EA. In addition, an overview of the permits that would be required under the proposed action is included.

### **6.1 Agency Coordination**

Consultation letters and response from resource agencies are provided in **Appendix C**.

### **6.2 Public Participation**

Village officials received input from residents objecting to an earlier proposal to clear-cut greenbelts in spite of the fire danger. With the assistance of Lake Travis Fire and Rescue, the village treated a small portion of the largest greenbelt in a manner similar to the proposed action and invited public comment on the effects. Based on feedback received, the proposed action appears to meet with general approval by the public. Accordingly, the proposed action alternative was developed and submitted for evaluation.

The public information process for the proposed project will include a public notice in the local general circulation newspaper that covers Travis County. The public notice will state that information about the proposed action, including this environmental assessment, is available at a public location in or near the project area. The notice will invite the public to submit their comments about the proposed project, potential impacts, and proposed mitigation measures so that they may be considered and evaluated. FEMA will consider and respond to all public comments in the Final EA. If no substantive comments are received, the draft EA will become final, and a FONSI will be issued for the project. At this time, a public meeting is not planned because the proposed action is not considered controversial.

### **6.3 Permits**

No local, state, or federal permits appear to be necessary to implement the proposed Village of The Hills defensible space and hazardous fuels reduction project. The proposed action does not require coverage under Texas Pollutant Discharge Elimination System construction storm water general permit TXR150000 because it is not a construction project and would not generate stormwater associated with industrial activity as defined in 40 CFR 122.26(a)(14).

## SECTION 7    References

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## SECTION 8 List of Preparers

The following is a list of preparers who contributed to the development of the Village of The Hills EA for FEMA.

The individuals listed below had principal roles in the preparation and content of this document. Many others had significant roles and contributions as well, and their efforts were no less important to the development of this EA. These others include senior managers, administrative support personnel, legal staff, and technical staff.

### CDM Smith

Preparers	Experience and Expertise	Role in Preparation
Beverly, Howard	Senior Cultural Resource Specialist	Cultural Resources
Boucher, Hank	Environmental Engineer and Planner	Project Manager
Evans, Selena	Environmental Planner	Physical Resources, Water Resources, Socioeconomic Resources, Cumulative Impacts
Kase, Sydney	GIS Specialist	Graphics
McAuley, Erin	Environmental Planner	Project Description, Socioeconomic Resources
Rugg, Mack	Senior Environmental Scientist	Technical Review and Editing
Schenk, Roger	Senior Environmental Scientist	Field Work
Stenberg, Kate, Ph.D.	Senior Biologist, Senior Planner	NEPA Documentation, Biological Resources, Technical Review

### CH2M Hill

Preparer	Experience and Expertise	Role in Preparation
Garcia, Linda	Biologist	Biological Site Visit
Speights, Jason	Biologist	Biological Site Visit

### Federal Emergency Management Agency

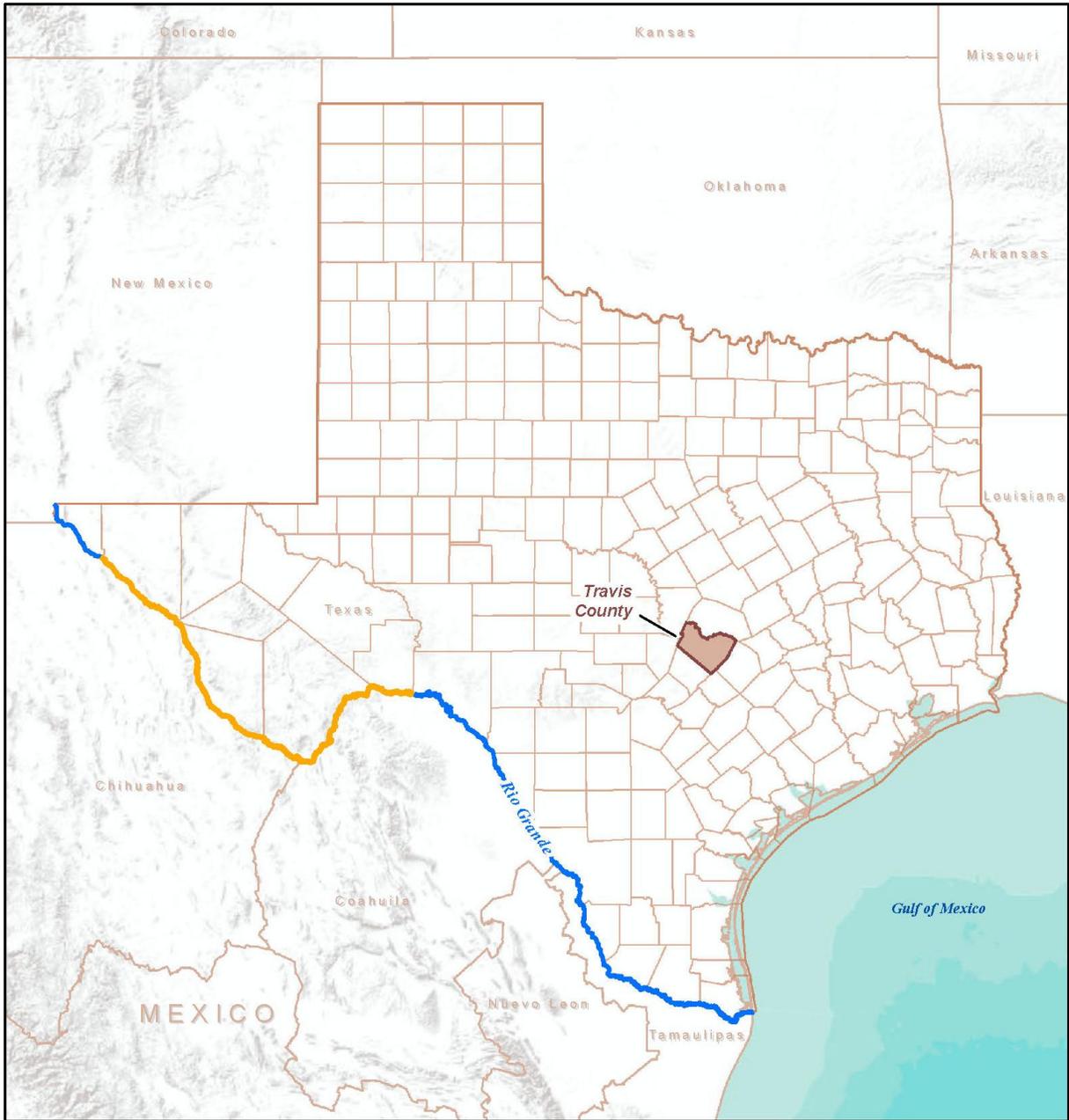
Reviewers	Role in Preparation
Jaynes, Kevin, Regional Environmental Officer	Technical Review and Approval
Weir, Dorothy, Environmental Specialist	Technical Review and Approval

# Appendices

## **Appendix A**

### **Water Resources Data**

1. Wild and Scenic Rivers Map
2. Sole Source Aquifers Map
3. Major Aquifers Near the Project Area
4. FEMA Flood Insurance Rate Map

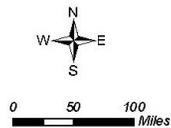


**Village of the Hills  
Hazardous Fuels Reduction**

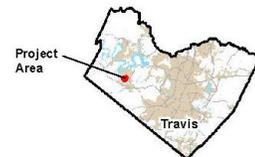
Travis County

**Legend**

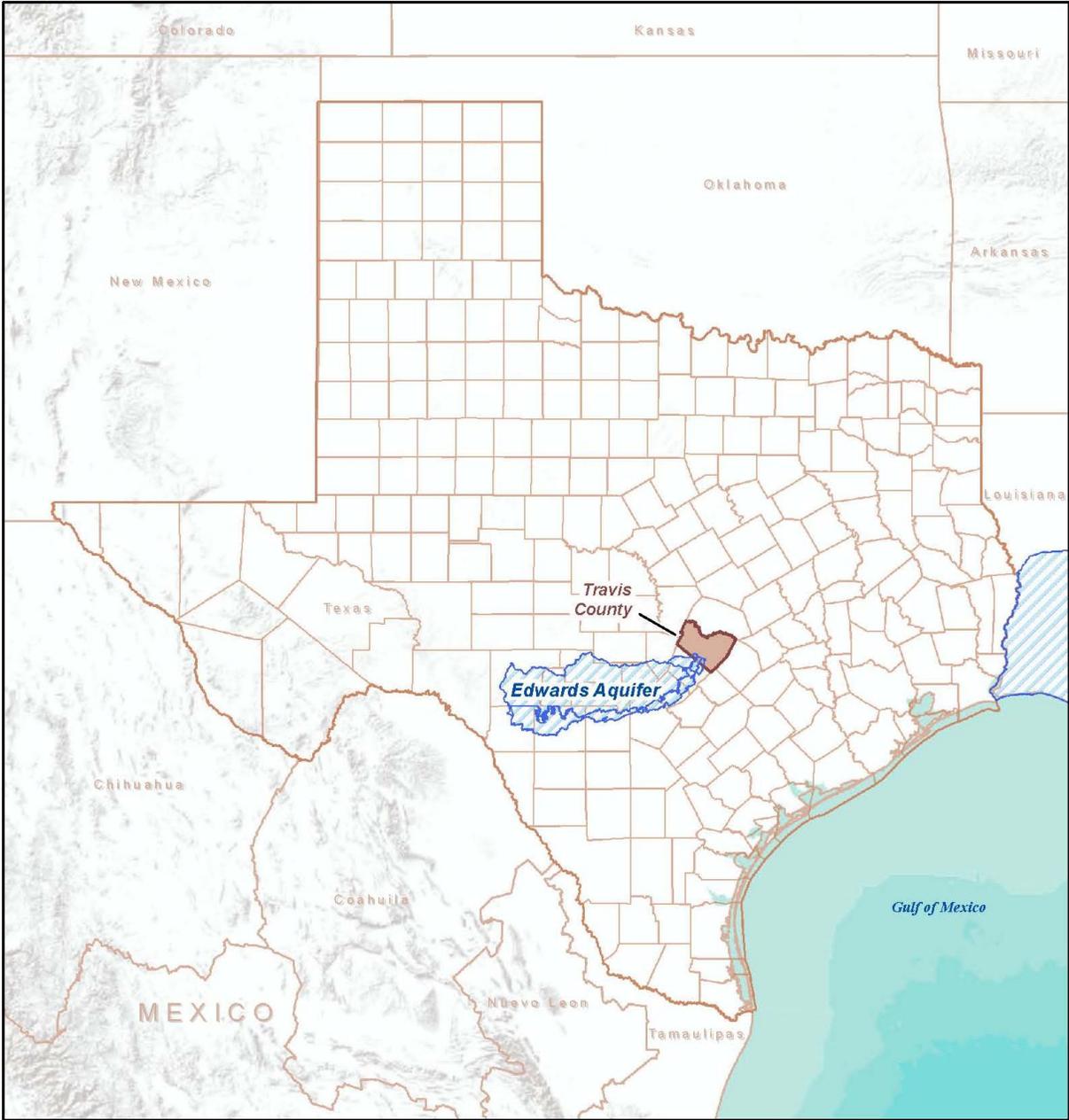
- Designated River Segment
- Nondesignated River Segment
- Travis County



**Designated Wild and Scenic  
Rivers of Texas**



Data Sources: NPS, TNRI  
Service Layer Credits: Sources: Esri, USGS, NOAA



**Village of the Hills  
Hazardous Fuels Reduction**  
Travis County

**Legend**

- Sole Source Aquifer
- Travis County

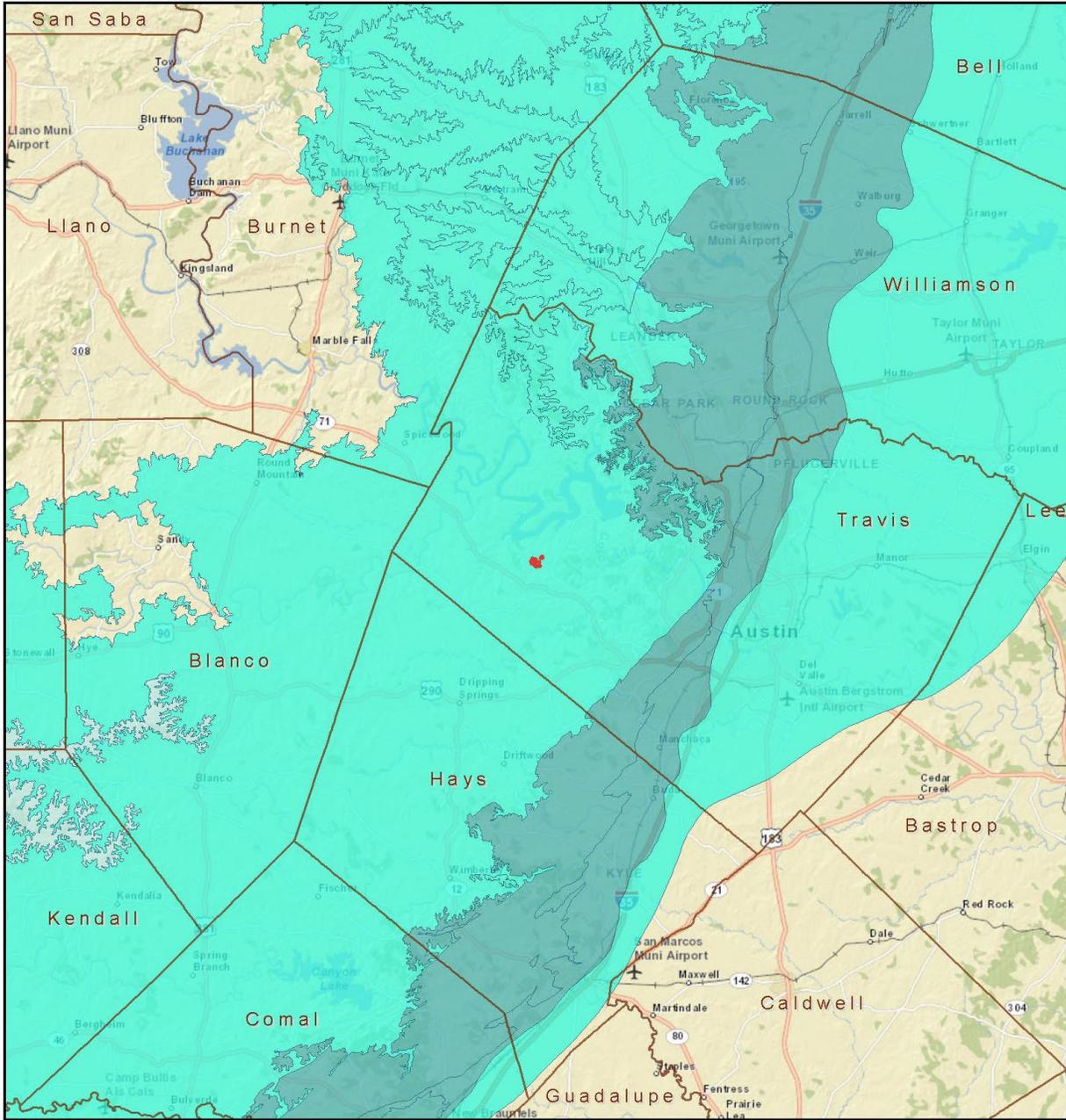
0 50 100 Miles

**Sole Source Aquifers**

Project Area

Travis

Data Sources: NPS, TNRIIS  
Service Layer Credits: Sources: Esri, USGS, NOAA



**Village of the Hills  
Hazardous Fuels Reduction**  
Travis County

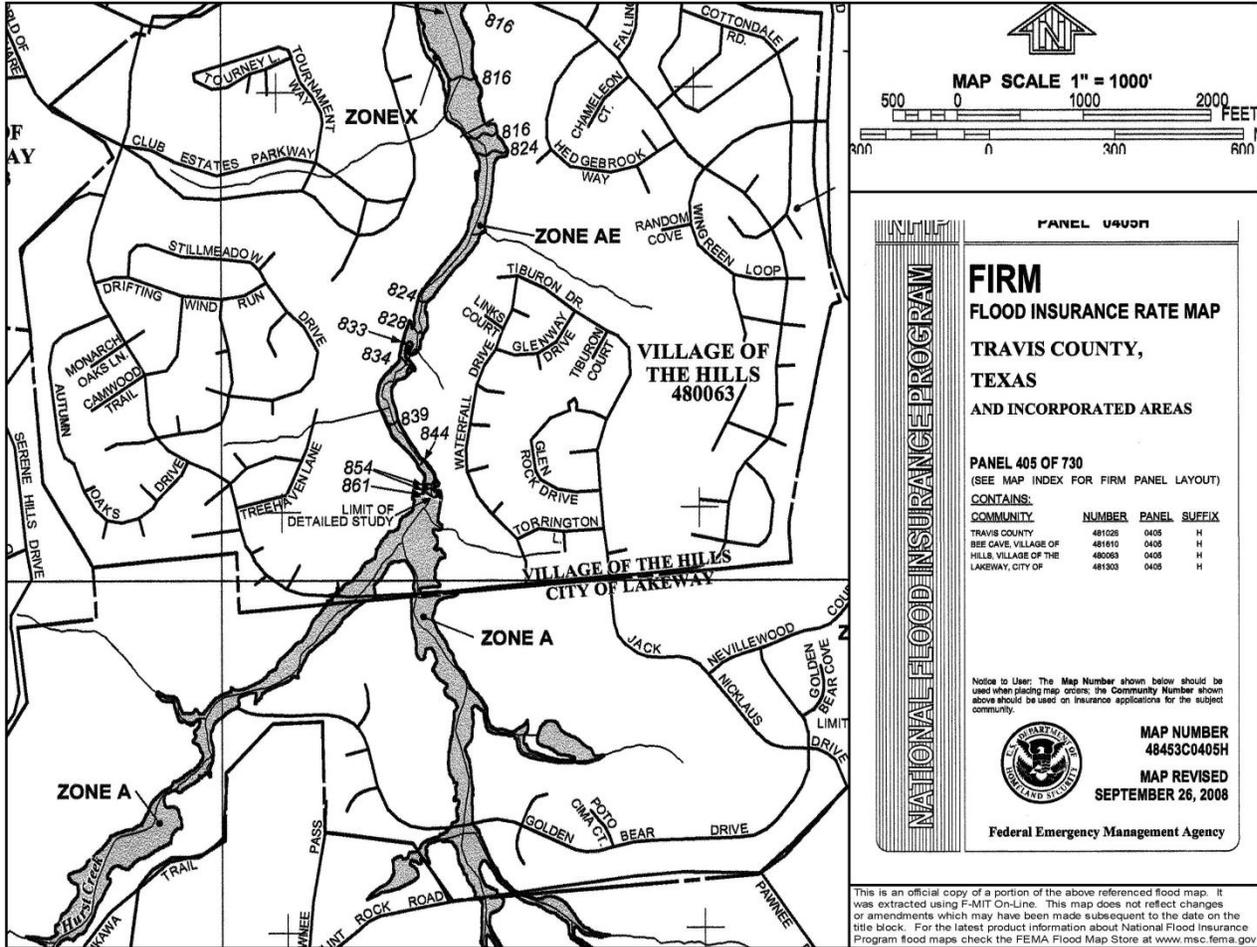
**Legend**

- Project Area
- Major Aquifers
  - Edwards Aquifer
  - Edwards-Trinity Aquifer
  - Trinity Aquifer

0 50,000 100,000 Feet

**Major Aquifers**

Data Sources: CAPCOG, TCEQ, CDM Smith  
Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013



# **Appendix B**

## **Biological Site Visit Field Notes**

**Appendix B Table 1. Habitat Type Summary**

<b>Habitat Type</b>	<b>Dominant Plant Species</b>	<b>Animal Species Observed</b>
<b>Cedar Flats</b>	Overstory: Ashe juniper 90 percent, live oak 5 percent. Very little midstory present. Ground cover: goat weed (Croton), various grasses, chasmanthium sp., prickly pear cactus. Ground cover 90 percent total cover.	Blue jay, northern cardinal, Eurasian collared dove, mourning dove, cottontail rabbit, field sparrow, white-tailed deer, nine-banded armadillo, white-winged dove
<b>Maintained Easement</b>	Mixed grasses: bermudagrass, St. Augustine grass. Some scattered trees/shrubs: Ashe juniper, live oak, salt cedar. These areas are regularly mowed and maintained	White-winged dove, Eurasian collared dove, White-tailed deer, nine-lined armadillo

Appendix B Table 2. Listed Species Summary

Species (Common) <sup>1</sup>	Species	Federal Status	State Status	Habitat Description	Habitat Present in Survey Areas (CDM Desktop Assessment)	Habitat Present in Survey Areas (Field Assessment)
<b>Amphibians</b>						
Austin blind salamander	<i>Eurycea waterlooensis</i>	PE	None	Mostly restricted to subterranean cavities of the Edwards Aquifer; dependent upon water flow/quality from the Barton Springs segment of the Edwards Aquifer; only known from the outlets of Barton Springs (Sunken Gardens (Old Mill) Spring, Eliza Spring, and Parthenia (Main) Spring which forms Barton Springs Pool); feeds on amphipods, ostracods, copepods, plant material, and (in captivity) a wide variety of small aquatic invertebrates.	Unlikely	Unlikely. No water resources in survey area and no cave or karst features
Barton Springs salamander	<i>Eurycea sosorum</i>	LE	E	Dependent upon water flow/quality from the Barton Springs pool of the Edwards Aquifer; known from the outlets of Barton Springs and subterranean water-filled caverns; found under rocks, in gravel, or among aquatic vascular plants and algae, as available; feeds primarily on amphipods.	Unlikely	Unlikely. No water resources in survey area and no cave or karst features
Jollyville Plateau salamander	<i>Eurycea tonkawae</i>	PE	None	Known from springs and waters of some caves north of the Colorado River.	Unlikely	Unlikely. No water resources in survey area and no cave or karst features
<b>Birds</b>						
American Peregrine falcon	<i>Falco peregrinus anatum</i>	DL	T	Year-round resident and local breeder in west Texas; nests in tall cliff eyries; migrant across state from more northern breeding areas in US and Canada; winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant; stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.	Potential for foraging	Unlikely. As migrant only at landscape edges. No breeding habitat present.
Bald eagle	<i>Haliaeetus leucocephalus</i>	DL	T	Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds.	Unlikely	Unlikely. No lake or river habitat present.

Species (Common) <sup>1</sup>	Species	Federal Status	State Status	Habitat Description	Habitat Present in Survey Areas (CDM Desktop Assessment)	Habitat Present in Survey Areas (Field Assessment)
Black-capped vireo	<i>Vireo atricapilla</i>	LE	E	Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer.	Potential for foraging and nesting habitat	Low potential to occur in Ashe juniper flats habitat type. Poor habitat quality with little to no 2 layer habitat structure and few deciduous trees present.
Golden-cheeked warbler	<i>Setophaga chrysoparia</i>	LE	E	Juniper-oak woodlands; dependent on Ashe juniper (also known as cedar) for long fine bark strips only available from mature trees used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer	Potential for breeding habitat	Low potential to occur in Ashe juniper flats habitat type. Few hardwoods present for foraging and relatively immature Ashe junipers present.
Interior Least Tern	<i>Sterna antillarum athalassos</i>	LE	E	Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony	Unlikely	Unlikely. No foraging or nesting habitat present.
Peregrine Falcon	<i>Falco peregrinus</i>	DL	T	Both subspecies migrate across the state from more northern breeding areas in US and Canada to winter along coast and farther south; subspecies ( <i>F. p. anatum</i> ) is also a resident breeder in west Texas; the two subspecies' listing statuses differ, <i>F.p. tundrius</i> is no longer listed in Texas; but because the subspecies are not easily distinguishable at a distance, reference is generally made only to the species level; see subspecies for habitat.	Potential foraging	Unlikely. As migrant only at landscape edges. No breeding habitat present.
Whooping crane	<i>Grus americana</i>	LE	E	Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties	Unlikely	Unlikely. No coastal marsh or wetland habitat present.
<b>Invertebrates (Arachnids)</b>						
Bee Creek Cave harvestman	<i>Texella reddelli</i>	LE	None	Small, blind, cave-adapted harvestman endemic to a few caves in Travis and Williamson counties	Unlikely	Unlikely. No water resources in survey area and no cave or karst features

Species (Common) <sup>1</sup>	Species	Federal Status	State Status	Habitat Description	Habitat Present in Survey Areas (CDM Desktop Assessment)	Habitat Present in Survey Areas (Field Assessment)
Bone Cave harvestman	<i>Texella reyesi</i>	LE	None	Small, blind, cave-adapted harvestman endemic to a few caves in Travis and Williamson counties; weakly differentiated from <i>Texella reddelli</i>	Unlikely	Unlikely. No water resources in survey area and no cave or karst features
Tooth Cave pseudoscorpion	<i>Tartarocreagris texana</i>	LE	None	Small, cave-adapted pseudoscorpion known from small limestone caves of the Edwards Plateau	Unlikely	Unlikely. No water resources in survey area and no cave or karst features
Tooth Cave spider	<i>Neoleptoneta myopica</i>	LE	None	Very small, cave-adapted, sedentary spider	Unlikely	Unlikely. No water resources in survey area and no cave or karst features
<b>Invertebrates (Insects)</b>						
Kretschmarr Cave mold beetle	<i>Texamaurops reddelli</i>	LE	None	Small, cave-adapted beetle found under rocks buried in silt; small, Edwards Limestone caves in of the Jollyville Plateau, a division of the Edwards Plateau.	Unlikely	Unlikely. No water resources in survey area and no cave or karst features
Tooth Cave ground beetle	<i>Rhadine persephone</i>	LE	None	Resident, small, cave-adapted beetle found in small Edwards Limestone caves in Travis and Williamson counties.	Unlikely	Unlikely. No water resources in survey area and no cave or karst features
<b>Mollusks</b>						
False spike mussel	<i>Quadrula mitchelli</i>	None	T	Possibly extirpated in Texas; probably medium to large rivers; substrates varying from mud through mixtures of sand, gravel and cobble; one study indicated water lilies were present at a site where the species was found; Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins.	Unlikely	Unlikely. No water resources present.
Smooth pimpleback	<i>Quadrula houstonensis</i>	C <sup>1</sup>	T	Small to moderate streams and rivers as well as moderate size reservoirs; mixed mud, sand, and fine gravel; tolerates very slow to moderate flow rates: appears not to tolerate dramatic water level fluctuations: scoured bedrock substrates or shifting sand bottoms; lower Trinity (questionable), Brazos, and Colorado River basins.	Unlikely	Unlikely. No water resources present.
Texas fatmucket	<i>Lampsilis bracteata</i>	C <sup>1</sup>	T	Streams and rivers on sand, mud, and gravel substrates; intolerant of impoundment; broken bedrock and coarse gravel or sand in moderately flowing water; Colorado and Guadalupe River basins.	Unlikely	Unlikely. No water resources present.
Texas fawnsfoot	<i>Truncilla macrodon</i>	C <sup>1</sup>	T	Little known; possibly rivers and larger streams, and intolerant of impoundment; flowing rice irrigation canals; possibly sand, gravel, and perhaps sandy-mud bottoms in moderate flows; Brazos and Colorado River basins.	Unlikely	Unlikely. No water resources present.

Species (Common) <sup>1</sup>	Species	Federal Status	State Status	Habitat Description	Habitat Present in Survey Areas (CDM Desktop Assessment)	Habitat Present in Survey Areas (Field Assessment)
Texas pimpleback	<i>Quadrula petrina</i>	C <sup>1</sup>	T	Mud, gravel and sand substrates, generally in areas with slow flow rates; Colorado and Guadalupe river basins.	Unlikely	Unlikely. No water resources present.
<b>Reptiles</b>						
Texas horned lizard	<i>Phrynosoma cornutum</i>	None	T	Open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September.	Low potential	Unlikely. Dense ground cover present.

Status Keys:

LE - Federally Listed Endangered

C - Federal Candidate for Listing; formerly Category 1 Candidate

DL - Federally Delisted

E, T - State Listed Endangered/Threatened

1 -Based on information provided at <http://www.tpwd.state.tx.us/gis/ris/es/SpeciesList.aspx?parm=Bastrop>

**Appendix C**  
**Agency Coordination Letters**

Bryan W. Shaw, Ph.D., *Chairman*  
Buddy Garcia, *Commissioner*  
Carlos Rubinstein, *Commissioner*  
Mark R. Vickery, P.G., *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

August 13, 2012

Mr. Dan Roark, City Administrator  
Village of The Hills  
102 Trophy Drive  
Texas Hills, Texas 78738

Re: TCEQ Grant and Texas Review and Comment System (TRACS) #2012-313, City of The Hills, Travis County – Plans to undertake a program to reduce the risk and potential damages from wildfires

Dear Mr. Roark:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above-referenced project and offers following comments:

A review of the project for General Conformity impact in accordance with 40 CFR Part 93 indicates that the proposed action is located in the City of The Hills, Travis County, which is currently unclassified or in attainment of the National Ambient Air Quality Standards for all six criteria air pollutants. Therefore, General Conformity does not apply.

Although any demolition, construction, rehabilitation or repair project will produce dust and particulate emissions, these actions should pose no significant impact upon air quality standards. Any and particulate emissions should be easily controlled by using standard dust mitigation techniques.

We do not anticipate significant long term environmental impacts from this project as long as construction and waste disposal activities associated with it are completed in accordance with applicable local, state, and federal environmental permits and regulations. We recommend that the applicant take necessary steps to insure that best management practices are utilized to control runoff from construction sites to prevent detrimental impact to surface and ground water.

Any debris or waste disposal should be at an appropriately authorized disposal facility.

Thank you for the opportunity to review this project. If you have any questions, please contact Ms. Janie Roman at (512) 239-0604 or [Janie.roman@tceq.texas.gov](mailto:Janie.roman@tceq.texas.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Harrison".

Jim Harrison, Director  
Intergovernmental Relations Division



RECEIVED  
AUG 08 2012  
Texas Historical Commission

102 Trophy Drive • The Hills, Texas 78738  
(512) 261-6281 • Fax (512) 261-4810

August 1, 2012

Mr. Mark Wolfe  
State Historic Preservation Officer  
P.O. Box 12276  
Austin, TX 78711-2276

Mr. Wolfe:

Through a grant with the Federal Emergency Management Agency (FEMA), The Village of The Hills plans to undertake a program to reduce the risk and potential damages from wildfires. Included are a number of measures to reduce the availability of fuel for wildfires, removal of dead trees and foliage, establishment of safe perimeters around structures and trimming-up thickets and trees to minimize the chance of a "ground fire" becoming a deadly "crown fire".

Our project will have no adverse effect on any cultural, environmental or historical aspects of our community, and will take place solely on property owned by The Village.

According to the guidelines for this project, a Section 106 Review by the Texas Historical Commission is necessary for an environmental assessment. We are asking for a review from the Texas Historical Commission declaring the land is not an historical site. Included are maps of the locations of the project.

If you have any comments or questions please feel free to contact us:

1. Dan Roark – City Administrator, Village of The Hills  
Phone: (512) 621-6281 or email: [danroark@hurstcreekmud.org](mailto:danroark@hurstcreekmud.org)
2. Linda Lunney – Administrative Assistant, Village of The Hills  
Phone: (512) 621-6281 or email: [lindalunney@hurstcreekmud.org](mailto:lindalunney@hurstcreekmud.org)

Respectfully,

A handwritten signature in black ink, appearing to read "Dan Roark", written over a horizontal line.

Dan Roark, City Administrator

NO HISTORIC PROPERTIES AFFECTED PROJECT MAY PROCEED	
by	
for	Mark Wolfe
	State Historic Preservation Officer
Date	8/29/12
Track#	



October 3, 2012

Life's better outside.

Commissioners

T. Dan Friedkin  
Chairman  
Houston

Ralph H. Duggins  
Vice-Chairman  
Fort Worth

Antonio Falcon, M.D.  
Rio Grande City

Karen J. Hixon  
San Antonio

Dan Allen Hughes, Jr.  
Beeville

Bill Jones  
Austin

Margaret Martin  
Boerne

S. Reed Morian  
Houston

Dick Scott  
Wimberley

Lee M. Bass  
Chairman-Emeritus  
Fort Worth

Carter P. Smith  
Executive Director

Mr. Dan Roark  
Village of the Hills  
102 Trophy Drive  
The Hills, TX 78738

RE: Federal Emergency Management Agency (FEMA) Grant for Wildfire  
Fuel Reduction in Village of The Hills; Travis County

Dear Mr. Roark:

Texas Parks and Wildlife Department (TPWD) received notification of the above-referenced project located in Travis County. TPWD staff has reviewed the notification and offers the following information and recommendations for your consideration.

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency may be required by state law. For further guidance, see the Texas Parks and Wildlife Code, Section 12.0011, which can be found online at <http://www.statutes.legis.state.tx.us/Docs/PW/htm/PW.12.htm#12.0011>. For tracking purposes, please refer to TPWD project number ERCS-2129 in any return correspondence regarding this project.

Project Description

Village of the Hills (The Village) plans to undertake a program to reduce the risk of and potential damages from wildfires. Measures to reduce the availability of fuels for wildfires include removal of dead trees and foliage, establishment of safe perimeters around structures, and trimming thickets and trees to minimize the chance that a ground fire will become a crown fire. The Village will remove dead and down trees and brush, clean out debris piles, and trim up trees to four foot height. With the exception of those within a 30 foot radius of residences, no living Ashe juniper trees would be removed. The project will take place solely on property owned by the The Village. The purpose of this notification is to start the process of early coordination with resource agencies, and The Village will contact TPWD for any environmental permits that may be needed.

Mr. Dan Roark  
Page Two  
October 3, 2012

### Federal Laws

#### *Migratory Bird Treaty Act*

The Migratory Bird Treaty Act (MBTA) prohibits taking, attempting to take, capturing, killing, selling/purchasing, possessing, transporting, and importing of migratory birds, their eggs, parts and nests, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. The U.S. Fish and Wildlife Service (USFWS) Migratory Bird Office can be contacted at (505) 248-7882 for more information on potential impacts to migratory birds.

**Recommendation:** If migratory bird species are found nesting on or adjacent to the project area, they must be dealt with in a manner consistent with the MBTA. TPWD recommends excluding vegetation clearing activities during the general bird nesting season, March through August, to avoid adverse impacts to this group. If clearing vegetation during the migratory bird nesting season is unavoidable, TPWD recommends The Village survey project areas to ensure that no nests with eggs or young will be disturbed by vegetation removal. Any vegetation (trees, shrubs, and grasses) where occupied nests are located should not be disturbed until the eggs have hatched and the young have fledged.

#### *Endangered Species Act*

Federally-listed animal species and their habitats are protected from "take" on any property by the Endangered Species Act (ESA). Take of a federally-listed species can be allowed if it is "incidental" to an otherwise lawful activity and must be permitted in accordance with Section 7 or 10 of the ESA. Federally-listed plants are not protected from take except on lands under federal/state jurisdiction or for which a federal/state nexus (i.e., permits or funding) exists. Any take of a federally-listed species or its habitat without the required take permit (or allowance) from the USFWS is a violation of the ESA.

Based on the map of the project areas provided to TPWD via email on September 21, 2012, vegetation removal would only occur within or adjacent to areas that have been highly disturbed by residential development. Based on the project description and map provided, TPWD does not anticipate significant adverse impacts to rare, threatened, or endangered species as a

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result of the proposed project. However, records in the Texas Natural Diversity Database (TXNDD) indicate that the federal- and state-listed endangered Golden-cheeked Warbler (*Setophaga chrysoparia*) has been documented in the area surrounding the proposed project, and potential habitat for this species may occur within 500 yards of the mapped project areas.

**Recommendation:** It is the responsibility of the project proponent to determine if adverse impacts federally-listed species are expected to occur as a result of the proposed project and consult with the appropriate agency concerning those impacts. If vegetation removal would occur outside of the areas shown on the map provided to TPWD, particularly in areas that support mature native vegetation communities, TPWD recommends The Village consult with the USFWS regarding potential take of federally-listed and candidate species. Projects should be designed and scheduled to avoid adverse impacts to protected species to the maximum extent possible. Contractors should be informed of the potential presence of protected species and instructed to avoid disturbing features that may provide suitable habitat for them.

#### TXNDD Data

Please note that the absence of TXNDD information in an area does not imply that a species is absent from that area. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and **cannot be used as presence/absence data**. They represent species that could potentially be in your project area. This information cannot be substituted for on-the-ground surveys. The TXNDD is updated continuously. As the project progresses and for future projects, please request the most current and accurate information at [txndd@tpwd.state.tx.us](mailto:txndd@tpwd.state.tx.us).

**Recommendation:** Please review the TPWD county list for Travis County as rare and protected species in addition to those discussed above could be present depending upon habitat availability. These lists are available at [http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered\\_species/](http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species/). If during construction, the project area is found to

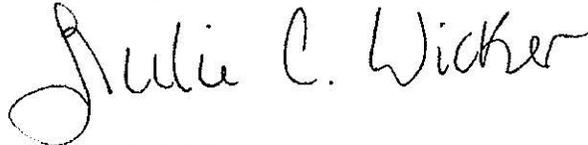
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contain rare species, natural plant communities, or special features, TPWD recommends that precautions be taken to avoid impacts to them. The USFWS should be contacted for species occurrence data, guidance, permitting, survey protocols, and mitigation for federally listed species. For the USFWS rare species lists by county please visit <http://www.fws.gov/southwest/es/EndangeredSpecies/lists/>.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence. If encountered during construction, measures should be taken to avoid impacting wildlife.

I appreciate the opportunity to provide preliminary input on this project. Please contact me at (512) 389-4579 if we may be of further assistance.

Sincerely,

A handwritten signature in black ink that reads "Julie C. Wicker". The signature is written in a cursive style with a large, looping initial "J".

Julie C. Wicker  
Wildlife Habitat Assessment Program  
Wildlife Division

JCW:gg.ERCS-2129