

City of Beaumont Community Wildfire Protection Plan

A collaborative community-based planning process to help protect life, property, and natural resources in the City of Beaumont



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In accordance with Title I of the Healthy Forest Restoration Act of 2003

This document was prepared by the City of Beaumont Fire Department
and Texas A&M Forest Service and was completed on 8/2/2016.

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City of Beaumont

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1.0 Introduction

Texas is one of the fastest growing states in the nation, with much of this growth occurring adjacent to metropolitan areas. The increase in population across the state will affect counties and communities that are located within the Wildland Urban Interface (WUI). The WUI is described as the area where structures and other human improvements meet and intermingle with undeveloped wildland or vegetative fuels. Population growth within the WUI substantially increases the risk from wildfire.

Seventy-nine percent of wildfires in Texas occur within two miles of a community. This means 79% of Texas wildfires pose a threat to life and property. A Community Wildfire Protection Plan (CWPP) is a plan developed by a community in an area-at-risk from wildfire. The CWPP is a collaborative product involving interested parties, local government, local firefighting agencies, the state agency that oversees forest management, and federal land management agencies, if present. While plans do not need to be overly complicated, they should effectively address local forest and range conditions, values-at-risk, and priorities for action. By developing a CWPP, the City of Beaumont is outlining a strategic plan to mitigate, prepare, respond, and recover.

1.1 Statement of Intent

The purpose of the City of Beaumont's CWPP is to protect human life and reduce property loss due to wildland fire in the Beaumont area. Although reducing the threat of wildland fire is a primary motivation, managing area wildlands for hazardous fuel reduction and fire resilience is only one part of the overall CWPP plan. Residents and visitors alike want healthy, fire resilient wildlands that provide habitat for wildlife, recreation, and scenic beauty. These wildland areas are a critical part of the community's value and economy. The CWPP outlines a strategy for long-term success by identifying priorities for action and suggests immediate steps that can be taken to protect the community from wildland fire while simultaneously protecting other important social and ecological values.

1.2 Goals and Objectives

Goals

- Provide for the safety of residents and emergency personnel.
- Limit the number of homes destroyed by wildfire.
- Promote and maintain healthy ecosystems.
- Educate citizens about wildfire, the wildland/urban interface and wildfire prevention.

Objectives

- Complete wildfire hazard assessments within Beaumont city limits and surrounding areas.
- Identify strategically placed fuel reduction projects and work towards implementation.
- Address treatment of structural ignitability through the establishment of Firewise Communities USA at a rate of one per year and by distributing educational materials to citizens.
- Promote wildfire awareness programs by delivering educational programs and public outreach events.
- Identify local capacity building and training needs by developing an itemized training plan for the City's wildland team and generating a list of equipment and capacity building needs.

- Coordinate a Memorandum of Understanding between Texas A&M Forest Service and Beaumont Fire Department’s TIFMAS program allowing TFS to carry the teams red cards.
- Train firefighters to standards set forth in National Wildfire Coordinating Group PMS 310-1 and Texas A&M Forest Service TIFMAS Business Manual, have all 25 BFD Wildland Team members trained to the Wildland FFT1/1CT5 level by 2020, and have 12 officers trained as TIFMAS and NWCG Engine Boss level by 2020.
- Complete an S-212 Wildland Fire Chainsaws (Faller 3) class to train 12 firefighters by 2017.

1.3 Collaborative/Planning Committee Members

Beaumont Fire Department

Anne Huff, Fire Chief
 Ben House, District Chief/WUIRT Manager
 Chris Jagoe, District Chief/Training Officer
 Ryan Jones, Captain, Station 2 B-Shift

Texas A&M Forest Service

Ricky Holbrook, Regional Fire Coordinator
 Billy Whitworth, Assistant Chief Fire Coordinator
 Stuart Coombs, Wildland Urban Interface Specialist
 Samuel McCalip, Wildland Urban Interface Specialist

City of Beaumont

Becky Ames, Mayor
 Kyle Hayes, City Manager
 Adina Ward, Planner II

US Fish and Wildlife Service

Jim Stockie, FMO
 Cathy Peterson, Prescribed Fire Specialist

Big Thicket National Preserve

Fulton Jeansonne, FMO
 Rodney Monk, Wildland Fire Operations Specialist

Sabine-Neches Chiefs Association

Dale Jackson, President
 Tim Ocnascek, Vice President
 Charlie Kosh, Secretary
 Larry Richard, Fire Director
 Bryant Champagne, Fire Director

1.4 Planning Process and Methodology

March 11, 2015 9:00 AM	Anne Huff Chris Jagoe Ryan Jones Stuart Coombs Kelly Weaver	Discussed the benefits and process of creating a CWPP for the City of Beaumont. Identified core working group and coordinated for the proclamation signing.
March 16-18, 2015	Ryan Jones, Lead Instructor Stuart Coombs Ricky Holbrook	All Beaumont FD WUIRT shift supervisors received The National Wildland/Urban Interface Fire Programs: Guide to the Wildland/Urban Interface Firefighter Safety Series Course facilitated by Captain Ryan Jones.

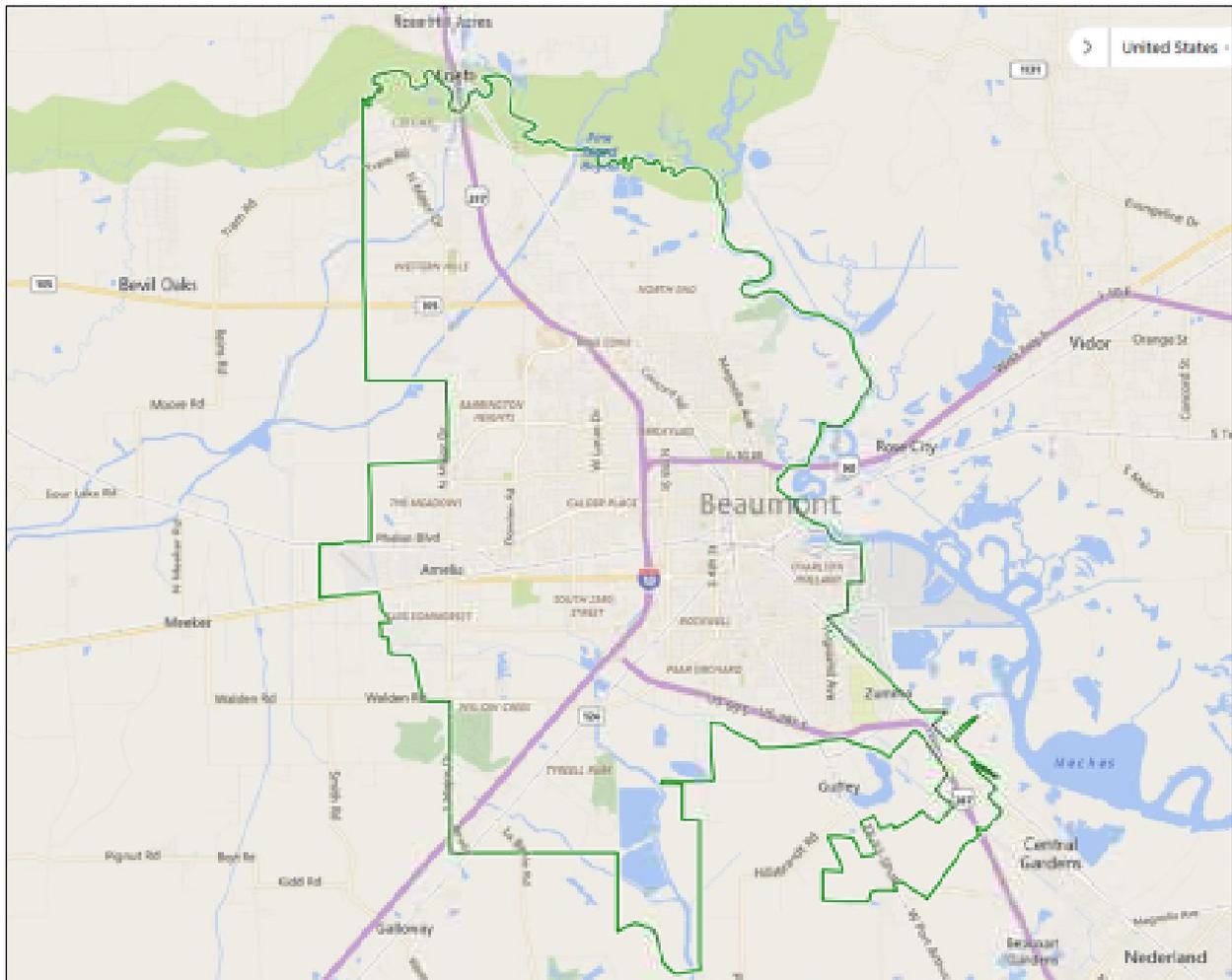
March 24, 2015 1:30 PM	Anne Huff Chris Jagoe Ryan Jones Stuart Coombs Kelly Weaver Ricky Holbrook John Matel	CWPP Proclamation read and signed at a City Council meeting. Chief Huff addressed the Council on the specifics and benefits of the plan and process.
April 8-10, 2015	Stuart Coombs Ryan Jones	Divided the City into Risk Assessment Units. WUIRT members for A-B-C Shifts received risk assessment training delivered by Stuart Coombs. Outlined plan for Beaumont's WUIRT to conduct risk assessments for the City.
February 15, 2016	Ben House Stuart Coombs Jan Amen Samuel McCalip	CWPP planning meeting to reconvene and continue with plan to complete risk assessments. McCalip produced detailed maps of the defined units.
February 16, 2016- March 31, 2016	Texas A&M Forest Service Beaumont FD Wildland/Urban Interface Response Team (WUIRT)	Risk Assessments conducted and completed by members of Beaumont's WUIRT and Texas A&M Forest Service.
February 24, 2016	Ben House Stuart Coombs Rodney Monk Jim Stockie	CWPP planning meeting with stakeholders representing the Big Thicket National Preserve and the Fish and Wildlife Service. Risk assessments for federal lands discussed and plan on how these cooperators will assist with the CWPP.
April 13, 2016	Anne Huff Ben House Stuart Coombs Jim Stockie	Sabine-Neches Chiefs meeting for interested stakeholders outlining the process and gathering input for the CWPP.
May 1 st – June 15	Core Team	Editing and review process. DRAFT distributed to interested stakeholders for input and editing.
June 17 th , 2016	Ben House Stuart Coombs Samuel McCalip Brittney Semetko Andy McCrady Adina Ward	DRAFT review and editing meeting.
July 1 st , 2016	Core Team	DRAFT Submitted to Texas A&M Forest Service and BFD leadership for review.
July, 30 th , 2016		Final plan document approved and submitted for signatures.
August 2, 2016		Signing Ceremony at City Council meeting.

2.0 Community Profile

Surrounded by the beauty of the Neches River and Texas Gulf Coast, Beaumont is a vibrant community boasting a flourishing economy and a high quality of life. Beaumont became a town in 1838. Beaumont is the county seat of Jefferson County and is part of the Beaumont-Port Arthur metropolitan statistical area. The City is one of the major petro-chemical refining areas in the country and is home to numerous museums, parks, performing arts venues, historical buildings, retail outlets, hotels, restaurants and rodeo and sports facilities. The community is home to Lamar University.

2.1 Community Location

Beaumont is located in northeastern Jefferson County at [30°04'48"N 94°07'36"W](#), approximately 90 miles east of Houston along Interstate 10. The city is 85.9 square miles with a population of 117,796. Beaumont is a major transportation hub that includes the Port of Beaumont, numerous railways, and the convergence of Interstate 10 and State Highways 105, 96, 90, 287 and 12.



Beaumont City Limit Boundaries

2.2 Community Legal Structure

Beaumont is a Home Rule municipality operating under a Council-Manager form of government, as specified by the City Charter. The City Council is the legislative body; its members are the community’s decision makers. Power is centralized in the elected council, which approves the budget and determines the tax rate. The Council also focuses on the community’s goals, major projects, and such long-term considerations as community growth, land use development, capital improvement plans, capital financing, and strategic planning.

The Council hires a professional manager to carry out administrative responsibilities and supervises the manager’s performance. The City Manager is hired to serve the council and the community and to bring to the local government the benefits of training and experience in administering local government projects and programs on behalf of the governing body. The City Manager prepares a budget for the Council’s consideration; recruits, hires, and supervises the government’s staff; serves as the Council’s chief adviser; and carries out the Council’s policies. Council members and citizens count on the City Manager to provide complete and objective information, pros and cons of alternatives, and long-term consequences.

The City Charter also provides direction on the City’s organization in various Departments. A Department is a group of related activities aimed at accomplishing a major City service or program (i.e. Police or Fire Departments). A Department may be further divided into smaller areas called Divisions. Divisions perform specific functions within the Department (i.e. EMS Division). Leading each Department is a Department Head. Department Heads have supervision and control of their respective Department(s) and the Divisions within the respective department. Department Heads report to the City Manager.

2.3 Emergency Response Capabilities: Wildland/Urban Interface Fire

<u>Beaumont Fire Department</u>	<u>Mutual Aid</u>
<p>235 Full-time paid firefighters</p> <p>1-Wildland/ TIFMAS Team consisting of 25 Wildland Firefighters (FFT2) and 0 wildland firefighters at the (FFT1/ ICT5) level</p> <p>16 – Type 1 Engines 6 – Command Vehicles 6 – Ambulances 3 – Rescues 1 – Type 6 Wildland Engine</p> <p>4,570 - Hydrants</p>	<p>Sabine-Neches Chiefs Association (SNCA) – The nation’s oldest mutual aid organization with approximately 100 member organizations made up of emergency responders from fire, police, EMS, hospitals, industry, public works, schools, emergency management, local emergency planning committee (LEPC), municipal, county, state and federal governments. The SNCA covers a three county area to include Jefferson, Hardin and Orange counties.</p> <p>Texas Intrastate Fire Mutual Aid System (TIFMAS) – Program maintained by the Texas Forest Service that makes statewide use of local resources.</p>

<p><u>Big Thicket National Preserve</u></p> <p>1 Type III IC 1 Type 6 engine 1 Dozer 2 UTV for suppression 5-8 firefighters</p>	<p><u>United States Fish and Wildlife Service</u></p> <p>2 Type 6 engines 2 Rollagons 2 Marsh Masters 2 Airboats 12 firefighters</p>
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2.4 Fire Code

In September of 2016, the City of Beaumont will adopt the 2015 edition of the following codes which are codified in the City of Beaumont Texas.

Code of Ordinances

- International Residential Code
- International Building Code
- National Electric Code
- International Plumbing Code
- Various amendments to these codes and City Ordinances

2.5 Utilities

Electric

Entergy Corporation

- Entergy is an integrated energy company engaged primarily in electric power production and retail distribution operations in the Deep South of the United States. It is headquartered in the Central Business District of New Orleans, Louisiana.
- To report service or gas emergencies call 1-800-368-3749 (1-800-ENTERGY).

Natural Gas

Centerpoint Energy, Inc.

- CenterPoint, headquartered in Houston, Texas, is a domestic energy delivery company that includes provides natural gas distribution and energy services operations.
- To report service or gas emergencies call 888-876-5786.

Water/Sewer

City of Beaumont Water Utilities Department

- The City of Beaumont manages water and sewer services within the City.

Water Utilities Department

- The mission of the Water Utilities Department is to provide uninterrupted potable water

and sanitary sewer services to its customers while meeting state and federal regulations.

Water Administration

- Administration provides coordination and support for all department activities involving the EPA, the TCEQ, the Texas Department of Transportation, Jefferson County, engineering/consulting firms, construction contractors, and other City departments.
- The engineering section conducts water and sanitary sewer system studies; design water and sanitary sewer rehabilitation projects; and develops and manages Capital Program projects.

Water Production

- Water treatment facilities consist of a surface water treatment plant and a well system including pumping and transfer facilities to provide safe drinking water of adequate quantities and sufficient pressure while meeting all state and federal regulations.
- The Surface Water Treatment Plant after the recent renovations is rated at 40 million gallons per day. The ground water system is a 17 MGD facility consisting of three deep wells, four booster pumps and two 5 MG ground storage tanks. The City has six elevated water storage tanks with 6.8 MG of storage capacity, four ground water storage tanks with 17.7 MG of storage capacity, for a total of 24.5 MG of storage capacity.
- The Water Treatment Facilities are fully operable using SCADA controls that will automatically shut down the water discharge to the customers in case of water quality discrepancies.

Water/Sewer Maintenance

- Water Distribution and Maintenance is responsible for the maintenance and repair of approximately 760 miles of water distribution mains, 4,570 fire hydrants, 45,000 water meters, 6000 valves, several large motors and pumps and 15 miles of canal and levee systems.
- Sewer Collection and Maintenance maintains 760 miles of sanitary sewer collection lines, 10,900 sanitary sewer manholes, 78 sanitary sewer and 10 storm sewer lift stations, several large motors and pumps and 15 miles of levee systems at the constructed wetlands. This division also installs new sanitary sewer line extensions. A pipe bursting crew has been established and is rehabilitating approximately 3,000 feet of sanitary sewer lines a month.

Sewer Treatment Plant

- The Sewer Treatment Plant consists of a forty seven million gallon per day (47 MGD) trickling filters wastewater treatment plant and a six-hundred acre constructed wetlands system which provide adequate treatment of wastewater before discharging into the receiving stream. The Cattail Marsh wetlands system located next to Tyrrell Park is undergoing rehabilitation. The wastewater effluent must meet stringent regulations required by the Texas Commission on Environmental Quality and the USEPA.

Water Quality Control

- The Quality Control Division oversees the department's five divisions to ensure high quality performance and compliance with state and federal regulations. This division administers the EPA's pretreatment program; supervises the employees at the water treatment and wastewater treatment laboratories; enforces the backflow prevention regulations;

implements the grease and grit trap ordinance; and oversees the safety program.

Solid Waste Disposal

City of Beaumont Solid Waste Division

- This division provides residential trash collection, recycling, bulk trash collection, municipal landfill and neighborhood clean-up and adopt-a-street programs. The Solid Waste Management Division provides the following residential collection services:
 - Once per week garbage collection
 - Once per week small yard waste collection
 - Once per week used motor oil and oil filter collection
 - Once per week heavy trash collection
 - ***Once per week Yard Waste/Clean Green Debris Collection***
- The Beaumont Municipal Landfill is located at 5895 Lafin Road off Fannett Road, and is open from 7 a.m. to 5 p.m., Monday through Friday, and 8 a.m. to 1 p.m. on Saturdays. The landfill is available for residential use only. The landfill is closed on New Year's Day, Fourth of July, Thanksgiving Day, and Christmas Day. Compost product is distributed to citizens between 8 a.m. and 1 p.m. on Saturdays. Beaumont residents may use the landfill for disposal of trash hauled by them from their single family residence at no charge with proof of residency such as driver's license, utility bill, etc., (showing a Beaumont address).

Pipelines

Numerous Pipeline Companies and Carriers

- Beaumont, Texas and neighboring Port Arthur and Port Neches, is home to a variety of industry and is a major port and hub for petrochemical refining and distribution. Pipelines carrying a variety of products from throughout the United States and the Gulf of Mexico converge in these cities as well as output lines distributing refined products.
- ***Pipelines are especially concerning in a wildfire environment because of the flammability and toxicity of the liquids or gas being transported. Pipelines also limit tactical options by limiting access of dozers, engines and other wildland fire apparatuses. Not knowing the location and function of lines increases response times in an already time sensitive environment.***



The maps on the next page show the sheer number of large diameter transmission pipelines in Jefferson County. More thorough mapping is needed so wildland fire responders know exactly which line carries what product, and correlating contact information of specific pipeline managers. During wildfire operations, time and safety is of the essence; this information would be crucial for quick and efficient response.



Map indicates large diameter transmission pipelines only. The more numerous distribution pipelines criss-cross the entire region, including densely populated areas.

Map available from the National Pipeline Mapping System website at:
<https://www.npms.phmsa.dot.gov/>

Hazardous Facilities

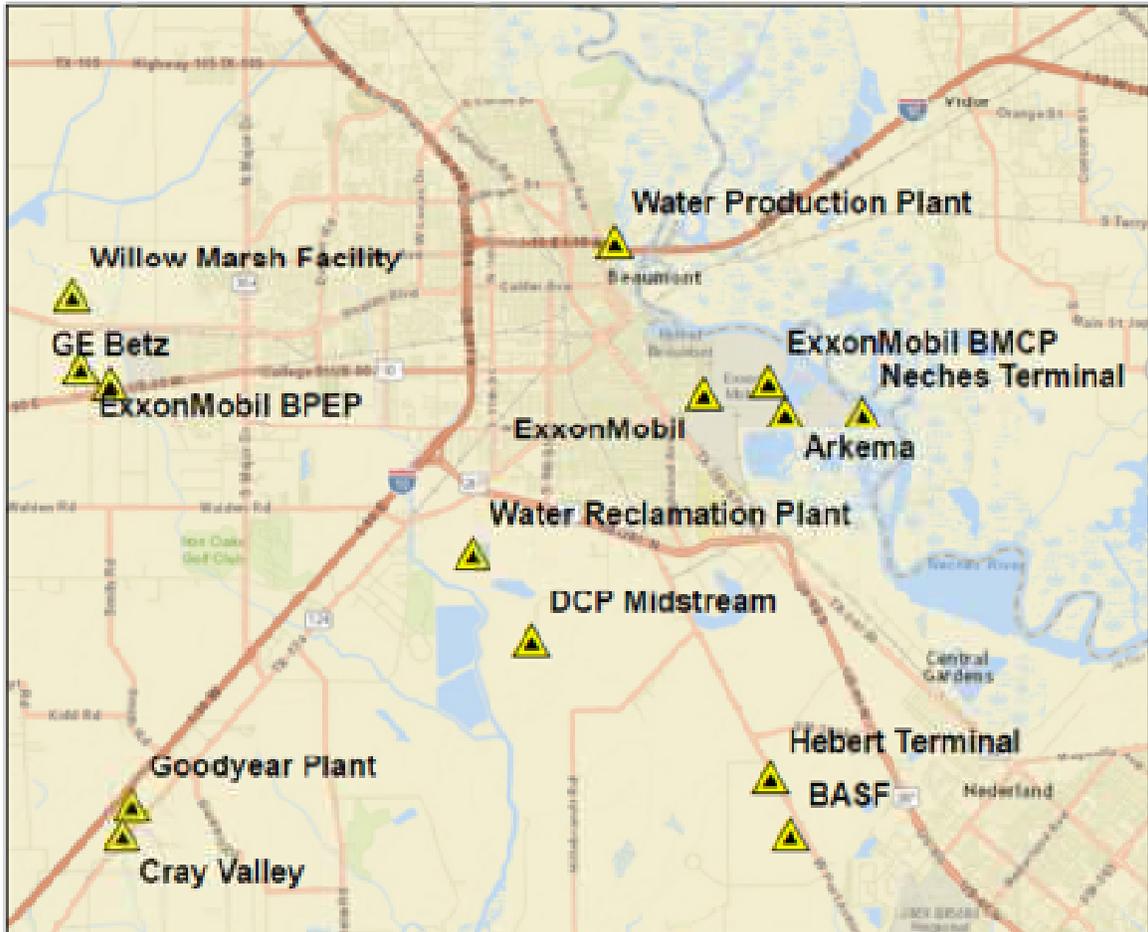
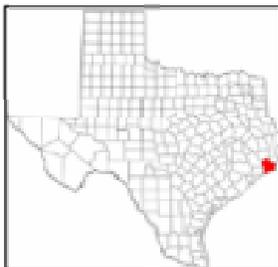


Table E. Hazardous facilities within the Beaumont fire assessment units. Included are as follows: Name, contact information, address, and coordinates.

Name	Contact	Phone	Address	Latitude	Longitude
GE Betz	Zelia Hill	409-861-6542	2928 Highway 90 W Beaumont, Texas 77713	30.064675	-94.222025
ExxonMobil BPEP	De LaFres	409-626-8295	21440 Highway 90 Beaumont, Texas 77703	30.060247	-94.280000
Willow Marsh Facility	Mark Chesser	409-284-9457	20725 Old Four Lake Road Beaumont, Texas 77719	30.080172	-94.276086
Water Production Plant	Barry Miller	409-888-9524	1100 Pine Street Beaumont, Texas 77708	30.064228	-94.289820
Neches Terminal	Joel Trevino	409-882-2830	Box 1 Gulf States Road Beaumont, Texas 77704	30.058831	-94.098889
ExxonMobil BMCP	Lee E. Sherman	409-883-9411	2775 Gulf States Road Beaumont, Texas 77701	30.060277	-94.079042
Arkema	Kem Brandon	409-951-5280	2930 Gulf States Road Beaumont, Texas 77704	30.060226	-94.028976
ExxonMobil	Lee E. Sherman	409-284-1526	1765 Burr Street Beaumont, Texas 77702	30.060611	-94.079167
Water Reclamation Plant	Karen Warren	409-678-9081	4900 Latta Road Beaumont, Texas 77705	30.030795	-94.542942
DCP Midstream	Darryl A. Morgan	888-204-1781	8120 Erie Street, Beaumont, TX 77705	30.034878	-94.270000
Cray Valley	Carrie Cunningham	409-679-7090	11405 IH-10, Beaumont, Texas 77705	29.977630	-94.218620
Goodyear Plant	Clayton Jethel	409-294-5280	19-10 at South Road Beaumont, Texas 77705	29.979111	-94.218893
Hebert Terminal	Poppy Wilson	409-204-6930	23040 West Post, Arthur Road, Beaumont, TX 77702	29.984127	-94.000076
BASF	Deborah Bailey	409-981-9032	24385 West Four Arthur Road, Beaumont, TX 77705	29.971389	-94.023333



Legend

Hazardous Facilities



1:147,228



Prepared by: Samuel McCallip; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System
 United States Environmental Protection Agency

Map shows major hazardous materials facilities within the Beaumont Area and contact information for each facility

2.6 Schools

The City of Beaumont is located within the Beaumont Independent School District. There are 16 elementary schools, six middle schools, three high schools and five education centers.

Elementary Campuses			Phone
Amelia Elementary	565 Major Dr.	Beaumont TX 77707	409-617-6000
Bingman Headstart	5265 Kenneth Ave.	Beaumont TX 77705	409-617-6200
Blanchette Elementary	2550 Sarah St.	Beaumont TX 77705	409-617-6300
Caldwood Elementary	102 Berkshire Ln.	Beaumont TX 77707	409-617-6025
Charlton-Pollard Elementary	1695 Irving St.	Beaumont TX 77701	409-617-6075
Curtis Elementary	6225 North Circuit Dr.	Beaumont TX 77706	409-617-6050
Dishman Elementary	3475 Champions Dr.	Beaumont TX 77707	409-617-6250
Fehl-Price Elementary	3350 Blanchette St.	Beaumont TX 77701	409-617-6400
Fletcher Elementary	1055 Avenue F	Beaumont TX 77701	409-617-6100
Guess Elementary	8055 Voth Rd.	Beaumont TX 77708	409-617-6125
Homer Drive Elementary	8950 Homer Dr.	Beaumont TX 77708	409-617-6225
Jones-Clark Elementary	3525 Cleveland St.	Beaumont TX 77703	409-617-6350
Lucas Pre-K	1750 E. Lucas Dr.	Beaumont TX 77703	409-617-6450
Martin Elementary	3500 Pine St.	Beaumont TX 77703	409-617-6425
Pietzsch-MacArthur Elementary	4301 Highland Ave.	Beaumont TX 77705	409-617-6475
Regina-Howell Elementary	5850 Regina Ln.	Beaumont TX 77706	409-617-6190
Middle School Campuses			
King Middle School	1400 Avenue A	Beaumont TX 77701	409-617-5850
Marshall Middle School	6455 Gladys Ave.	Beaumont TX 77706	409-617-5900
Odom Academy	2550 West Virginia St.	Beaumont TX 77705	409-617-5925
Smith Middle School	4415 Concord Dr.	Beaumont TX 77703	409-617-5825
South Park Middle School	4500 Highland Ave.	Beaumont TX 77705	409-617-5875
Vincent Middle School	350 Eldridge St.	Beaumont TX 77707	409-617-5950
High School Campuses			
Central High School	88 Jaguar Dr.	Beaumont TX 77702	409-617-5300
Ozen High School	3443 Fannett Rd.	Beaumont TX 77705	409-617-5400
West Brook High School	8750 Phelan Blvd.	Beaumont TX 77706	409-617-5500

Education Centers			
Taylor Career Center	2330 North St.	Beaumont TX 77702	409-617-5740
Paul Brown Learning Center	3410 Austin St.	Beaumont TX 77706	409-617-5720
Pathways Learning Center	3410 Austin St.	Beaumont TX 77706	409-617-5700
Oaks Education Center	9275 Manion Dr.	Beaumont TX 77706	409-617-5594
Minnie Rogers Juvenile Center	5326 Hwy. 69 South	Beaumont TX 77705	409-722-7474

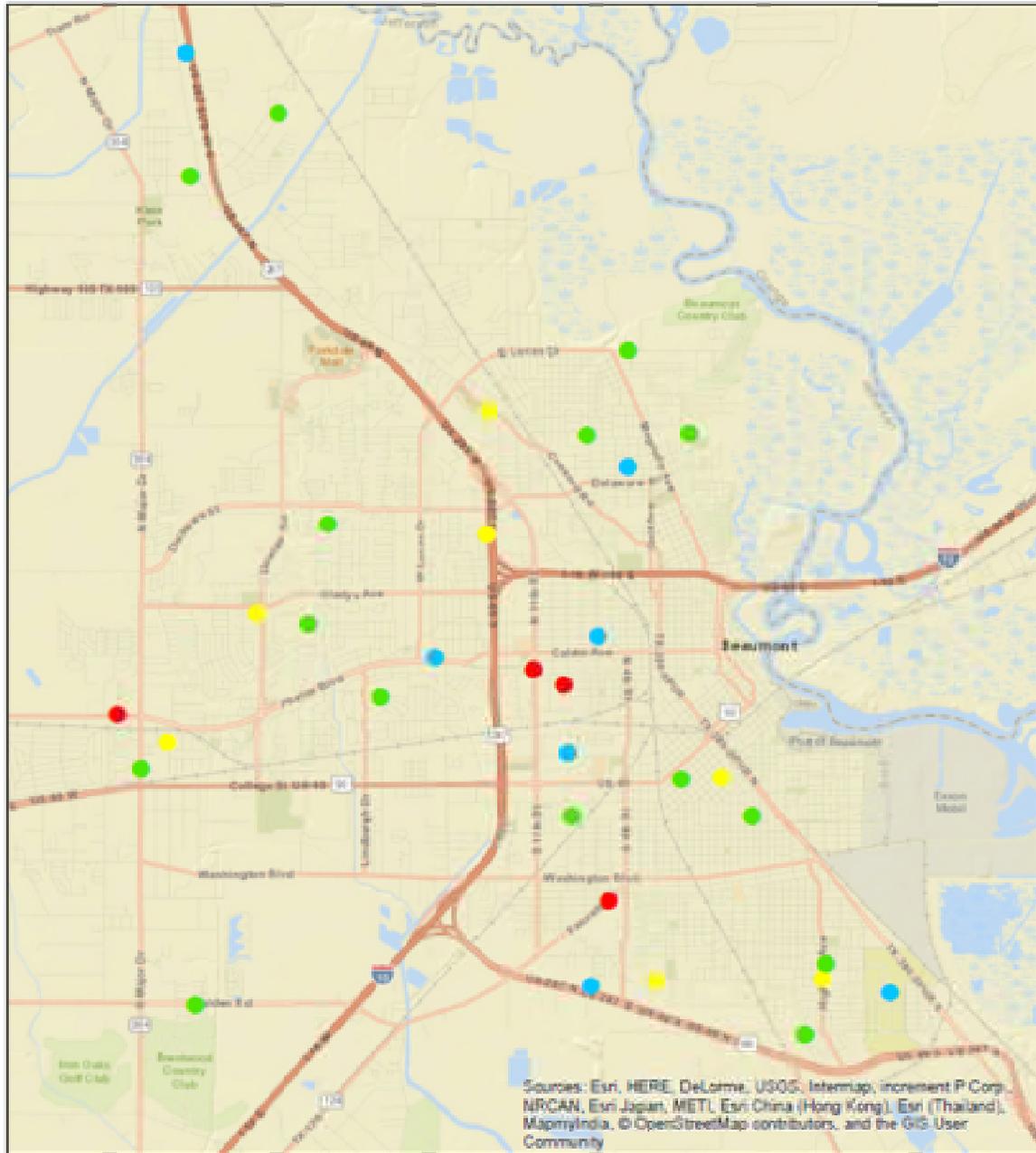
- Beaumont is also home to Lamar University and the Lamar Institute of Technology. Lamar University (Lamar or LU) is a public coeducational doctoral/research university. Lamar has been a member of the Texas State University System since 1995. It was the flagship institution of the former Lamar University System. As of the fall of 2014, the university enrollment was 14,889 students and offers 100 programs of study leading to bachelor, master and doctoral degrees.



- Lamar Institute of Technology (LIT) is a public technical school in Beaumont, Texas. LIT was formerly a part of Lamar University, but became a separate institution when the university joined the Texas State University System in 1995. LIT provides a curriculum consisting of more than 50 degree and certificate programs covering a wide range of career and technical educational opportunities.
- Beaumont is also home to Vista College and Brightwood College.

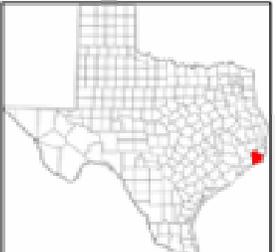
Universities and Colleges			
Lamar University	4400 MLK Blvd.	Beaumont TX 77710	409-880-7011
Lamar Institute of Technology	855 East Lavaca	Beaumont TX 77705	800-950-6989
Vista College	3871 Stagg Dr. Suite 194	Beaumont TX 77701	866-442-4197
Brightwood College	6115 Eastex Freeway	Beaumont TX 77706	409-347-5900

Beaumont, Texas Schools



Sources: Esri, HERE, DeLorme, U305, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

- Legend**
- Elementary Schools
 - Middle Schools
 - High Schools
 - Other Schools
- World Street Map



Data Source: Texas Natural Resources Information System
 Prepared by: Samuel McCallip; Texas A&M Forest Service

2.7 Climate

Beaumont is located in the National Weather Service Lake Charles Climate Region. The City is in the coastal plains along the Texas Gulf coast. With its location on the Gulf Coastal Plain, it experiences a humid subtropical climate regime.

- The average monthly temperatures range from the 62-65 degrees in winter to 90-93 degrees in summer.
- Elevation is approximately 17 feet above sea level.
- Precipitation varies from year to year averaging 48” annually. This is due to the warm gulf waters that carry humid air into the region where it condenses and precipitates. Usually, periods of rainy weather last for only a day or two, and are followed by several days with fair skies.
- A large part of the annual precipitation results from thunderstorm activity, with occasional heavy rainfall over brief periods of time. Thunderstorms occur throughout the year, but are most frequent in the spring. Windstorms occurring during thunderstorm activity are sometimes destructive.
- Beaumont’s location along the coast exposes the city to the threat of hurricanes. Hurricane’s Rita and Ike impacted the city. The gulf coast hurricane season runs from June through November.
- Winters are mild, but cold frontal passages occur about three times each month, and often are accompanied by sudden drops in temperature. Periods of cold that occasionally occur are short-lived, so that even in January mild weather occurs frequently.
- Summer temperatures are very hot and often accompanied with high humidity; the humidity of the region greatly amplifies the feeling of heat during the summer. Characteristically, hot spells in summer are broken into three-to-five day periods by thunderstorm activity. There are only a few nights each summer when the low temperature exceeds 80°F. Air conditioners are recommended for maximum comfort indoors and while traveling via automobile.

Monthly normal high and low temperatures (°F) for Beaumont/Port Arthur, Texas											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
62/43	65/46	72/52	78/59	84/66	89/72	92/74	92/73	88/69	80/60	71/51	64/44

Fire Seasons

Primary—January through April with dormant grass and frontal wind events

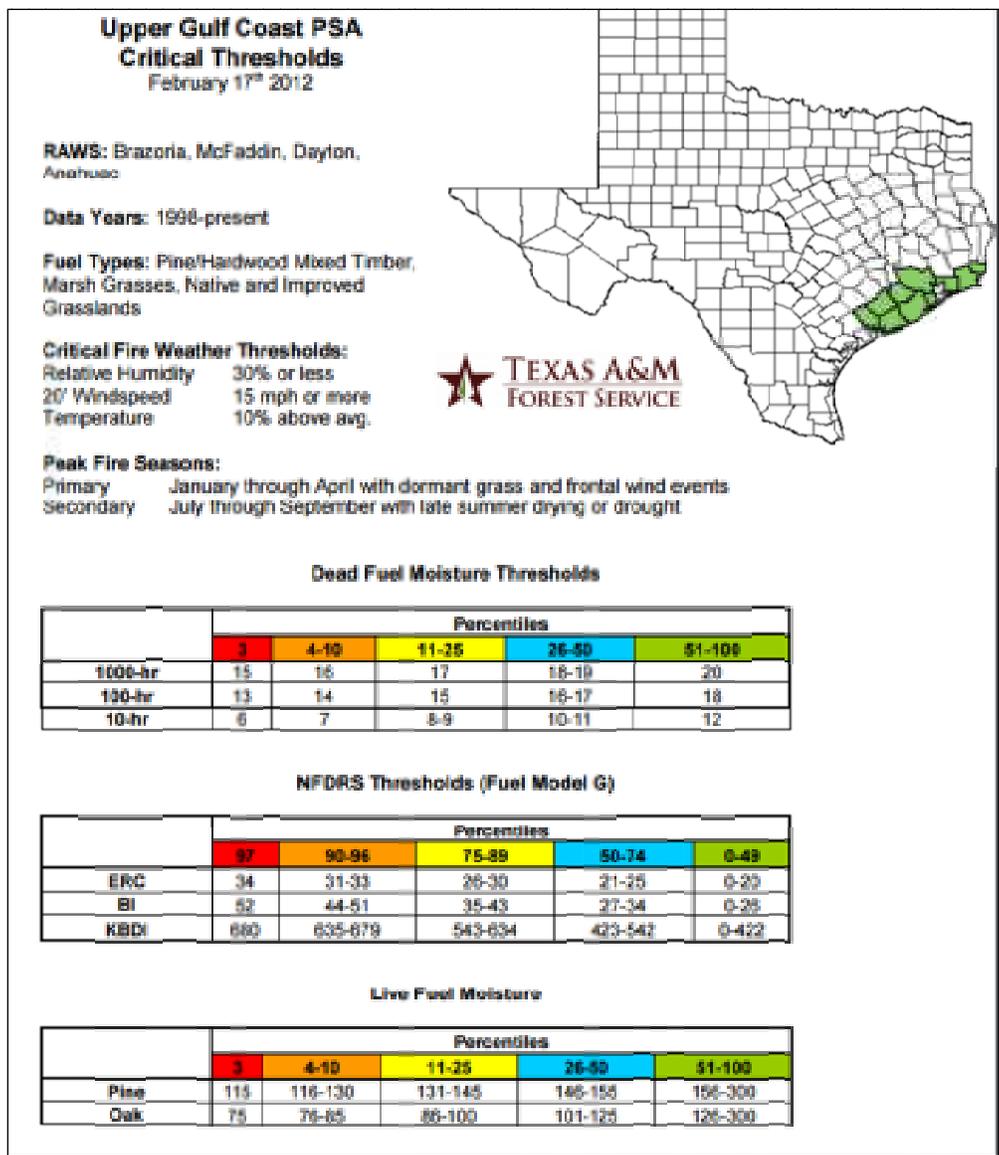
- Cured grasses and frontal passages lead to potential of rapid fire spread with low relative humidity in the afternoon and winds gusting 25 mph or greater.

Secondary – July through September with later summer drying or drought

- Dry vegetation due to little or no rain combined with temperatures of 95° to 100+°F on a daily basis. Hurricanes or tropical storms close to Southeast Texas bring in dry, strong or gusty winds from the north and northeast.

Predictive Service Areas

- Predictive Service Areas (PSA) represent regions where weather reporting stations react similarly to daily weather regimes and exhibit similar fluctuations in fire danger and climate. Seven PSA are delineated in Texas. Fire weather, fuel moisture, and National Fire Danger Rating System thresholds have been developed for each PSA and are unique to the designated PSA.
- Beaumont is in the Upper Gulf Coast PSA and borders with the Southeast Texas PSA to the north.
- In the tables below, at the low end of the scale in the green and blue we see normal to below normal conditions. Initial attack should be successful with few complexities. At the upper end of the scale in the orange and red we see unusual or rare conditions and we would expect to see complex fires where initial attack may often fail. The difficult category to describe and thus maybe the most important category for initial attack is the middle or transition zone in the yellow. Somewhere in the yellow, fires transition from normal to problematic.



Southeast Texas PSA
Critical Thresholds
 February 17th 2012

RAWS: Lufkin, Woodville, Kirbyville, Dayton, Southern Rough, Sabine North, Sabine South, Coldsprings, Lumberjack

Data Years: 2000-present

Fuel Types: Pine Plantation, Yaupon, Mixed Timber, Slash, Improved Grass

Critical Fire Weather Thresholds:
 Relative Humidity 30% or less
 20' Windspeed 15 mph or more
 Temperature 10% above average



Peak Fire Seasons:
 Primary June through September with summer drying
 Secondary December through April with cured grasses and wind events

Dead Fuel Moisture Thresholds

	Percentiles				
	3	4-10	11-25	26-50	51-100
1000-hr	15	16	17	18	19
100-hr	12	13-14	15	16-17	18
10-hr	5	6	7	8-9	10

NFDRS Thresholds (Fuel Model G)

	Percentiles				
	97	90-96	75-89	50-74	0-49
ERC	40	35-39	29-34	24-28	0-23
BI	44	38-43	30-37	24-29	0-23
KBDI	723	668-722	590-685	478-589	0-477

Live Fuel Moisture

	Percentiles				
	3	4-10	11-25	26-50	51-100
Pine	105	106-120	121-130	131-150	151-300
Oak	75	76-90	91-100	101-125	126-300
Yaupon	100	101-115	116-130	131-150	151-300

Significant Fire Potential Matrices

- In order to get a more accurate representation of local thresholds, we can look at the Significant Fire Potential Matrix for the McFadden Remote Automatic Weather Station (RAWS). The Significant Fire Potential Matrix represents the potential for a significant fire as it relates to Burning Index and Energy Release Component. The number 1 represents the 0-25th percentile; number 2 represents the 26-89th percentile; number 3 represents the 90-96th percentile; and, number 4 represents the 97th percentile.

McFadden RAWS 2014		Preparedness Level Energy Release Component G (ERC)			
		1 0-25	2 26-33	3 34-37	4 38+
Dispatch Level Burning Index G (BI)	1 0-28	Low	Low	Moderate	Moderate
	2 29-41	Low	Moderate	Moderate	Moderate
	3 42-51	Moderate	Moderate	High	High
	4 52+	Moderate	Moderate	High	Very High

- **Remote Automatic Weather Stations (RAWS)** are strategically located throughout the United States. These stations monitor the weather and provide weather data that assists land management agencies with a variety of projects such as monitoring air quality, rating fire danger, and providing information for research applications.
- **The Burning Index (BI)** reflects the change in fine fuel moisture content and wind speed and is highly variable day to day. The BI is more appropriate for short-term fire danger and can be loosely associated with flame length by dividing the BI by 10. The BI is readily affected by wind speed and fine fuel moisture.
- **The Energy Release Component (ERC)** serves as a good characterization of local seasonal fire danger trends resulting from the area’s fuel moisture conditions. The ERC is a relative index and should be compared to historic trends and thresholds on the corresponding area’s pocket card. The ERC relies heavily on large and live fuels, has low variability, and is not affected by wind speed.

Source: Texas Interagency Coordination Center (TICC); <http://ticc.tamu.edu/>

2.8 General Landscape

Beaumont is located at the mouth of the Neches River at the confluence of the Western Gulf Coastal Plain and Pinewoods ecoregions. The topography is largely shaped by the Neches River and surrounding tributaries and the plains created by historic shallow seas that once existed in the area. The area is flat however rivers, canals, marshes, bogs and other topographical influences effect wildfire management.

Topography

Topography is influenced by the confluence of the Western Gulf Coastal Plains and the Pineywoods ecoregions.

Western Gulf Coastal Plains

- Topography is considered flat to less prominent as elevation increases inland. Mesquite is dominant in many sites throughout the region, regardless of other factors. Bottomland areas near creeks or rivers will often support larger hardwoods that are not found elsewhere in the region. As elevation increases and rainfall decreases away from the Gulf Coast, soil water content is often lower, supporting mainly species that are more drought-tolerant.
- Soils throughout this region are primarily sand-based. Mud flats near the Gulf Coast often have high salt content and only support vegetation such as salt grass. Mesquite can be found anywhere in the region, regardless of soil type or quality, whereas most large hardwoods are found primarily in the moist soils of creek and river bottomlands.

Pineywoods

- Pine forest communities may usually be found on upland and mid-slope sites with gently rolling to near flat topography throughout the region.
- Most of the Pineywoods are comprised of deep, fertile, sandy loam soils which are generally slightly or moderately acidic, with a pH level of 6.5 to 4.5. Soils can be more acidic or alkaline depending on location.

2.9 Vegetation

The vegetation of the Beaumont area is characterized by the confluence of the Western Gulf Coastal Plains zones and and the Pineywoods vegetative systems.

Western Gulf Coastal Plains Vegetation Description

- Vegetation is somewhat varied throughout the Western Gulf Coastal Plain region. Areas to the north and nearer to the Gulf Coast typically have slightly cooler summer temperatures and slightly warmer winter temperatures than do areas to the south and further inland.
- Live oak tends to be a major component of the region, especially north of the Nueces River and nearer the Gulf Coast. Other trees and shrubs common in the region include mesquite, huisache, Texas persimmon, bluewood, spiny hackberry, blackbrush, and ebony, among others. Larger hardwoods such as sugarberry, pecan, and gum bumelia are common in low-lying areas near rivers and creeks.

Impacts of Fire

- Fire has had minimal impact in this area in the past, because of agricultural practices. Additionally, damage caused by fire has been minimal because prescribed fire is used as a tool for range management for cattle operations and wildlife management. Controlled fires in open areas have benefited the area by clearing up surface fuels, allowing for better horizontal space among those fuels.
- Tree mortality after a wildfire is minimal because fires in this region are mostly wind-driven with rapid rates of spread. Grass/brush type vegetation mixed with live oaks and mesquite make up the predominant carrying fuels.
- The biggest impact of fire to this eco-region is not to natural resources; but, because of increased building in the Wildland/Urban Interface, fires have the capacity to have a devastating impact on residential homes and other such property in these former predominantly rural areas. In general, though, in the past, fire has had a positive impact to this eco-region because of normal weather conditions, agricultural practices, and range management techniques prominent in this area.

Pineywoods Vegetation Description

- The Pineywoods of East Texas are comprised of a rich variety of trees, shrubs, woody vines, and herbaceous vegetation. As the name implies, pine forest ecosystems dominate much of the landscape, although variations in soil type, drainage characteristics, as well as human disturbance, give rise to areas dominated by native hardwoods such as oaks, elms, hickories, pecan, black walnut, tupelo, sweetgum, and others. Shortleaf, longleaf, and loblolly pine are the three native species of southern yellow pine that occupy these commercially important forests.
- Slash pine may be observed in places as well, though it is not native to East Texas. Uplands may also be home to certain hardwoods, such as post oak and blackjack oak. Bottomlands near rivers and significant creeks are most often dominated by native bottomland hardwoods such as water oak, cherrybark oak, nuttall oak, black hickory, bitternut hickory, black tupelo, and sweetgum.
- Dense understory growth may often be found in forest areas in the form of woody shrubs and small trees such as yaupon, waxmyrtle, American hornbeam, rusty blackhaw viburnum, and other species. In recent years, invasive species such as Chinese tallow, Japanese climbing fern, soda apple, etc., have become well established throughout the Pineywoods as well.

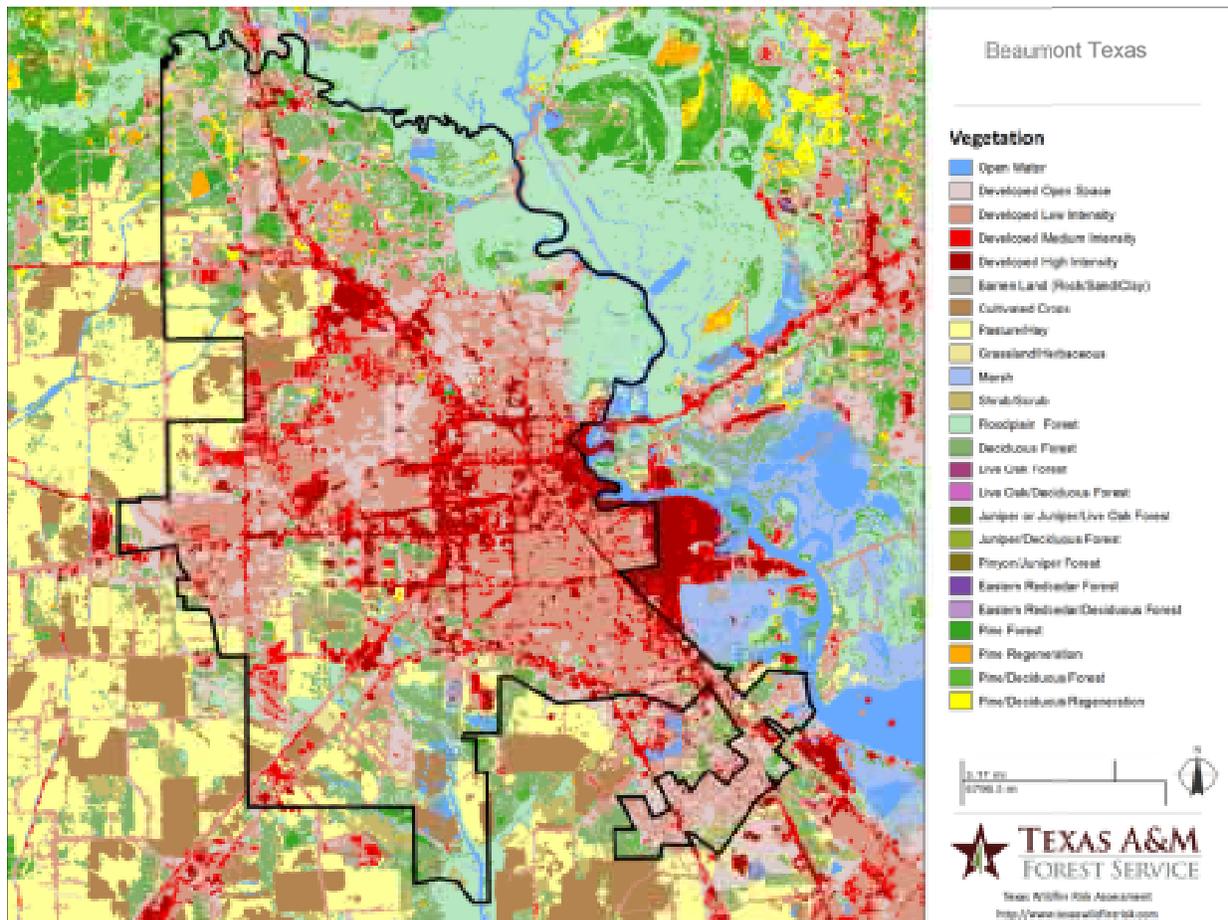
Impacts of Fire

- Pine forests are fire climax systems, meaning that fire is necessary in order for pines to maintain dominance in the presence of hardwood competition. Historically, fire has played an important role in shaping East Texas as a pine community by controlling hardwood competition through cooler understory fires, or allowing for the re-introduction of pine seed after hot stand replacement fires.
- Wetter, low-lying areas with little to no fire occurrence developed into ecosystems dominated by hardwood.

Tallow Intrusion

- **Although not a species conducive to extreme wildfire spread, it is important to note that many areas within Beaumont area are experiencing Chinese Tallow intrusion into the ecosystems.** Chinese Tallow grows prolifically and will out compete and overtake native and existing vegetation. The size and scale of this infestation is a major threat to biodiversity in the area's ecosystems.

(Source: <http://texastreeid.tamu.edu/content/texasEcoRegions/>)



Vegetation Profile for Beaumont Area

Class	Description	Acres	Percent
Open Water	All areas of open water, generally with < 25% cover of vegetation or soil	1,044	1.9 %
Developed Open Space	Impervious surfaces account for < 20% of total cover (i.e. golf courses, parks, etc...)	7,181	13.1 %
Developed Low Intensity	Impervious surfaces account for 20-49% of total cover	18,111	33.3 %
Developed Medium Intensity	Impervious surfaces account for 50-79% of total cover	5,445	10.0 %
Developed High Intensity	Impervious surfaces account for 80-100% of total cover	2,864	5.3 %
Barren Land (Rock/Sand/Clay)	Vegetation generally accounts for <15% of total cover	387	0.6 %
Cultivated Crops	Areas used for the production of annual crops, includes land being actively tilled	1,637	3.0 %
Pasture/Hay	Areas of grasses and/or legumes planted for livestock grazing or hay production	4,331	8.0 %
Grassland/Herbaceous	Areas dominated (> 80%) by <u>grasses</u> or herbaceous vegetation, can be grazed	362	0.7 %
Marsh	Low wet areas dominated (>80%) by herbaceous vegetation	118	0.2 %
Shrub/Scrub	Area dominated by shrubs/trees < 5 meters tall, shrub canopy > than 20% of total vegetation	834	1.5 %
Floodplain Forest	> 20% tree cover, the soil is periodically covered or saturated with water	5,127	9.4 %
Deciduous Forest	> 20% tree cover, >75% of tree species shed leaves in response to seasonal change	4,611	8.5 %
Live Oak Forest	> 20% tree cover, live oak species represent >75% of the total tree cover	0	0.0 %
Live Oak/Deciduous Forest	> 20% tree cover, neither live oak or deciduous species represent >75% of the total tree cover	19	0.0 %
Juniper or Juniper/Live Oak Forest	> 20% tree cover, juniper or juniper/live oak species represent > 75% of the total tree cover	0	0.0 %
Juniper/Deciduous Forest	> 20% tree cover, neither juniper or deciduous species represent > 75% of the total tree cover	0	0.0 %
Pinus/Juniper Forest	> 20% tree cover, <u>pinus</u> or juniper species represent > 75% of the total tree cover	0	0.0 %
Eastern Red cedar Forest	> 20% tree cover, eastern red cedar represents > 75% of the total tree cover	0	0.0 %
Eastern Red cedar/Deciduous Forest	> 20% tree cover, neither eastern red cedar or deciduous species represent > 75% of the total tree cover	0	0.0 %
Pine Forest	> 20% tree cover, pine species represent > 75% of the total tree cover	649	1.2 %
Pine Regeneration	Areas of pine forest in an early succession or transitional stage	240	0.5 %
Pine/Deciduous Forest	> 20% tree cover, neither pine or deciduous species represent > 75% of the total tree cover	1,309	2.4 %
Pine/Deciduous Regeneration	Areas of pine or pine/deciduous forest in an early succession or transitional stage	259	0.5 %
Total		54,341	100.0 %

Vegetation by percentage for the Beaumont Area



Pictures show typical pinewoods vegetation and a pasture within the coastal plain.

2.10 Historical Fire Occurrence

Historically prior to settlement, low intensity surface fires occurred in the Beaumont area on regular intervals every 3-7 years. Increasingly aggressive fire suppression efforts have deterred the fuels and fire regime in our local wildlands. This has resulted in unnaturally dense vegetation with years of accumulated debris and has created conditions that are conducive to intense burning wildfires. The arrangement and continuity of existing fuels combined with a period of extended drought and hot and dry conditions would provide conditions for fire to spread rapidly.

- **Between 1/1/2009 and 2/24/2016, 803 wildfires were reported and responded to by the Beaumont Fire Department.**
- Wildfires in the area are of high frequency, but all were contained and controlled while small due to quick response and mutual aid assistance.
- Ignition types range from roadside starts, improper debris burning, unattended campfires, and lighting strikes. The largest fire within this timeframe was in the Exxon Unit, near Lucite Plant. It burned 150 acres on 6/14/2011.

2.11 Endangered Species

Current species identified by the U.S. Fish and Wildlife Service as either threatened or endangered and believed to occur in Jefferson County are as follows:

NOTE: LE= Listed Endangered/ LT=Listed Threatened/ T=Threatened/ LE=Listed Endangered

	BIRDS	Federal Status	State Status
Piping Plover	<i>Charadrius melodus</i>	LT	T
	Wintering migrant along the Texas Gulf Coast; beaches and bayside mud or salt flats.		
Red Knot	<i>Calidris canutus rufa</i>	LT	T
	<ul style="list-style-type: none"> • Red knots migrate long distances in flocks northward through the contiguous United States mainly April-June, southward July-October. A small plump-bodied, short-necked shorebird that in breeding plumage, typically held from May through August, is a distinctive and unique pottery orange color. Its bill is dark, straight and, relative to other shorebirds, short-to-medium in length. • After molting in late summer, this species is in a drab gray-and-white non-breeding plumage, typically held from September through April. In the non-breeding plumage, the knot might be confused with the omnipresent Sanderling. During this plumage, look for the knot's prominent pale eyebrow and whitish flanks with dark barring. • The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. • Primary prey items include coquina clam (<i>Donax</i> spp.) on beaches and dwarf surf clam (<i>Mulinia lateralis</i>) in bays, at least in the Laguna Madre. • Wintering Range includes-Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. 		

FISHES		Federal Status	State Status
Smalltooth Sawfish	<i>Pristis pectinata</i>	LE	E
<ul style="list-style-type: none"> Different life history stages have different patterns of habitat use; young found very close to shore in muddy and sandy bottoms, seldom descending to depths greater than 32 feet (10 m); in sheltered bays, on shallow banks, and in estuaries or river mouths; adult sawfish are encountered in various habitat types (mangrove, reef, seagrass, and coral), in varying salinity regimes and temperatures, and at various water depths, feed on a variety of fish species and crustaceans. 			

MAMMALS		Federal Status	State Status
Louisiana Black Bear	<i>Ursus americanus luteolus</i>	LT	T
<ul style="list-style-type: none"> Possible as transient; bottomland hardwoods and large tracts of inaccessible forested areas. 			
Red Wolf	<i>Canis rufus</i>	LE	E
<ul style="list-style-type: none"> Eradicated; formerly known throughout eastern half of Texas in brushy and forested areas, as well as coastal prairies. 			

REPTILES			
Atlantic Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	LE	E
<ul style="list-style-type: none"> Gulf and bay system, warm shallow waters especially in rocky marine environments, such as coral reefs and jetties, juveniles found in floating mats of sea plants; feed on sponges, jellyfish, sea urchins, molluscs, and crustaceans, nests April through November. 			
Green Sea Turtle	<i>Chelonia mydas</i>	LT	T
<ul style="list-style-type: none"> Gulf and bay system; shallow water seagrass beds, open water between feeding and nesting areas, barrier island beaches; adults are herbivorous feeding on sea grass and seaweed; juveniles are omnivorous feeding initially on marine invertebrates, then increasingly on sea grasses and seaweeds; nesting behavior extends from March to October, with peak activity in May and June. 			
Kemp's Ridley Sea Turtle	<i>Lepidochelys kempii</i>	LE	E
<ul style="list-style-type: none"> Gulf and bay system, adults stay within the shallow waters of the Gulf of Mexico; feed primarily on crabs, but also snails, clams, other crustaceans and plants, juveniles feed on sargassum and its associated fauna; nests April through August. 			

- | | | | |
|-------------------------------|-----------------------------|-----------|----------|
| Leatherback Sea Turtle | <i>Dermochelys coriacea</i> | LE | E |
|-------------------------------|-----------------------------|-----------|----------|
- Gulf and bay systems, and widest ranging open water reptile; omnivorous, shows a preference for jellyfish; in the US portion of their western Atlantic nesting territories, nesting season ranges from March to August.

- | | | | |
|------------------------------|------------------------|-----------|----------|
| Loggerhead Sea Turtle | <i>Caretta caretta</i> | LT | T |
|------------------------------|------------------------|-----------|----------|
- Gulf and bay system primarily for juveniles, adults are most pelagic of the sea turtles; omnivorous, shows a preference for mollusks, crustaceans, and coral; nests from April through November.

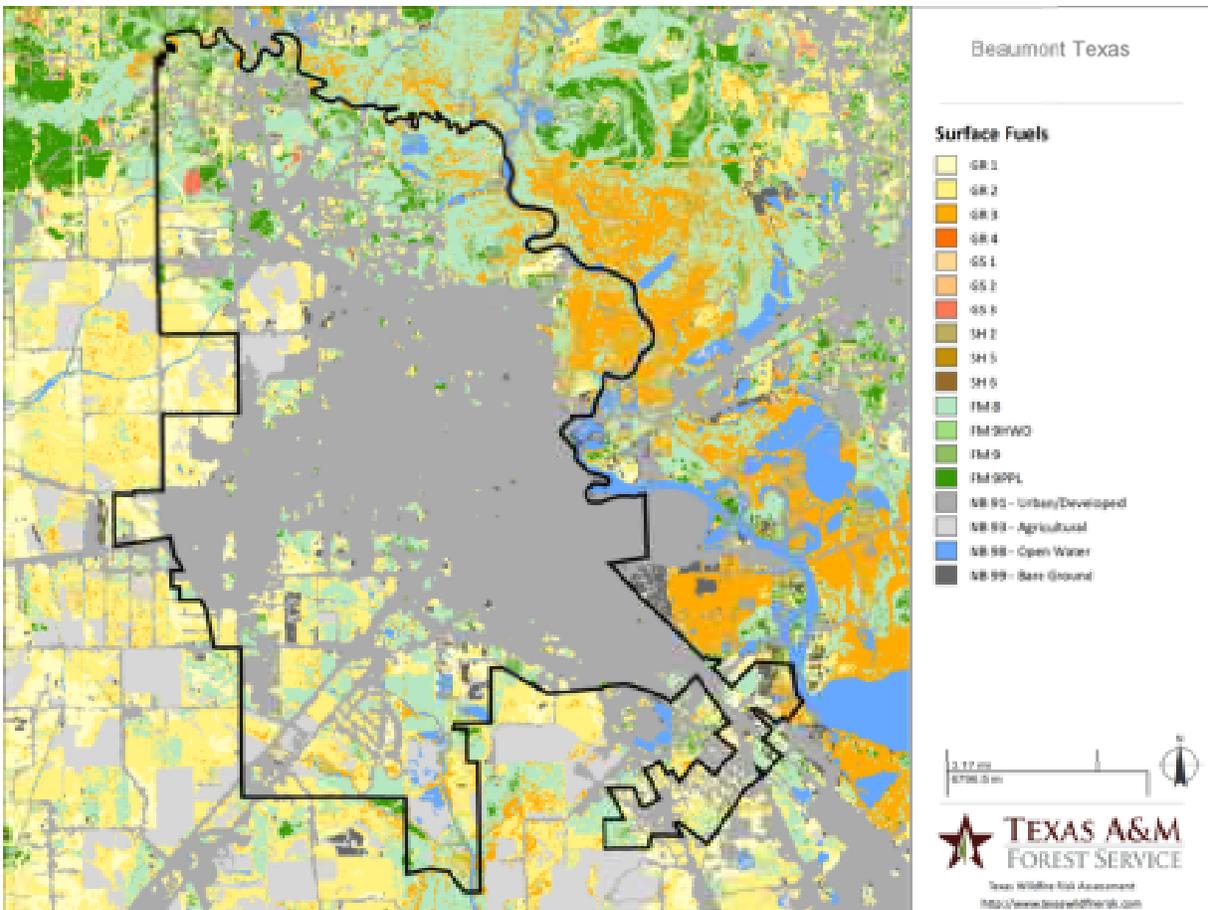
3.0 Community Risk Assessment

Risk assessments are a systemic process for identifying and assessing the range of elements that could lead to undesirable outcomes for a specific situation. For the wildland/urban interface, a risk assessment is a step in the planning process that identifies the probability that any feature of the landscape or structure will create potential harm to a homeowner or community. Quantitative risk assessments require calculations of the two primary components of risk:

- ***Magnitude of the potential loss***
- ***Probability that the loss will occur***

3.1 Fuels

- Surface fuels contain the parameters needed to compute surface fire behavior characteristics, such as rate of spread, flame length, fireline intensity, and other fire behavior metrics. As the name might suggest, surface fuels only account for the surface fire potential.
- Canopy fire potential is computed through a separate but linked process. The Texas Wildfire Risk Assessment Portal accounts for both surface and canopy fire potential in the fire behavior outputs.
- Surface fuels are typically categorized into one of four primary fuel types based on the primary carrier of the surface fire:
 - Grass
 - Shrub/Brush
 - Timber litter
 - Slash



Surface Fuels in and around Beaumont, Texas

- Beaumont exists in two distinct fire behavior fuel models – **grass and timber**.
- **Grass fuel models** are known as fine and flashy fuels; when cured support surface fires. Rapid fire growth is possible however grasses burn clean and are influenced easily by fluctuations in temperature and humidity.
- **Timber fuels models** have areas with herbaceous understory, but as fuels continue to build up, many of the timber areas have a mature tree canopy with grasses, shrubs, down and dead debris, and other fuels occurring in a dense vertical and horizontal arrangement. This arrangement can support intense fire growth and contribute to spotting under extreme fire conditions.

3.2 Extreme Fire Behavior

Characteristic rate of spread and flame length are fire behavior outputs, which are influenced by three environmental factors –weather, topography and fuels.

- Weather is by far the most dynamic variable as it changes frequently. To account for this variability, four percentile weather categories were created from historical weather observations to represent low, moderate, high, and extreme weather days for each weather influence zone in Texas. A weather influence zone is an area where, for analysis purposes, the weather on any given day is considered uniform. There are 22 weather influence zones in Texas.

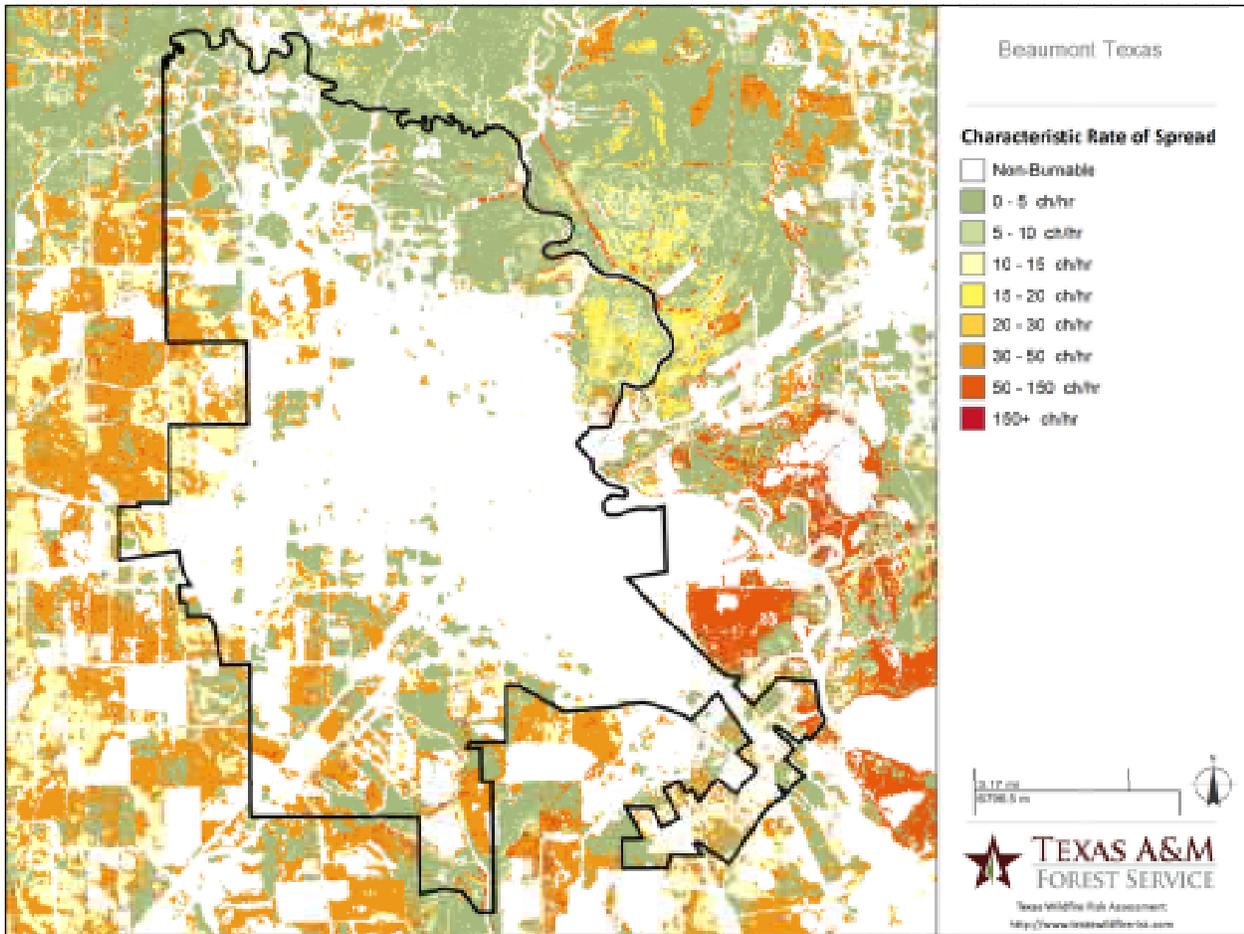
- Beaumont’s sub-tropical climate and green up of fuels throughout the spring and summer keeps the conditions for extreme fire growth limited throughout the year; however drying trends have and regularly occur to elevate the area in to a Red Flag Warnings for portions of each year. During these conditions, especially after prolonged drought cycles, extreme fire behavior can be expected.
- Fuels are evaluated assuming a worst case scenario interpretation of how the fuel will burn during severe weather conditions. When grasses, shrubs and pines reach critical fuel moistures the canopy and ladder fuels can carry fire independent of the surface fuels. These conditions lead to extreme fire behavior with high rates of spread and large flame lengths. During times of intense fire behavior, firefighters must change their tactics because resources are unable to use direct attack methods of suppression. Fire resources may be forced to fall back to a pre-existing defensive line to burn out, or begin evacuations of threatened communities.

3.3 Characteristic Rate of Spread

Characteristic Rate of Spread is the typical or representative rate of spread of a potential fire based on a weighted average of four percentile weather categories. Rate of spread is the speed with which a fire moves in a horizontal direction across the landscape, usually expressed in chains per hour (ch/hr) or feet per minute (ft/min). For purposes of the Texas Wildfire Risk Assessment, this measurement represents the maximum rate of spread for the fire front.

Throughout Beaumont and the surrounding areas, existing vegetation fire rate of spread can reach 30-50 chains/hour. **That means that in 1 hour a fire can move up to ½ mile.** This is an important factor to consider when requesting additional resources for fire suppression. The fire can spread significantly between the time resources are requested and the time they arrive.

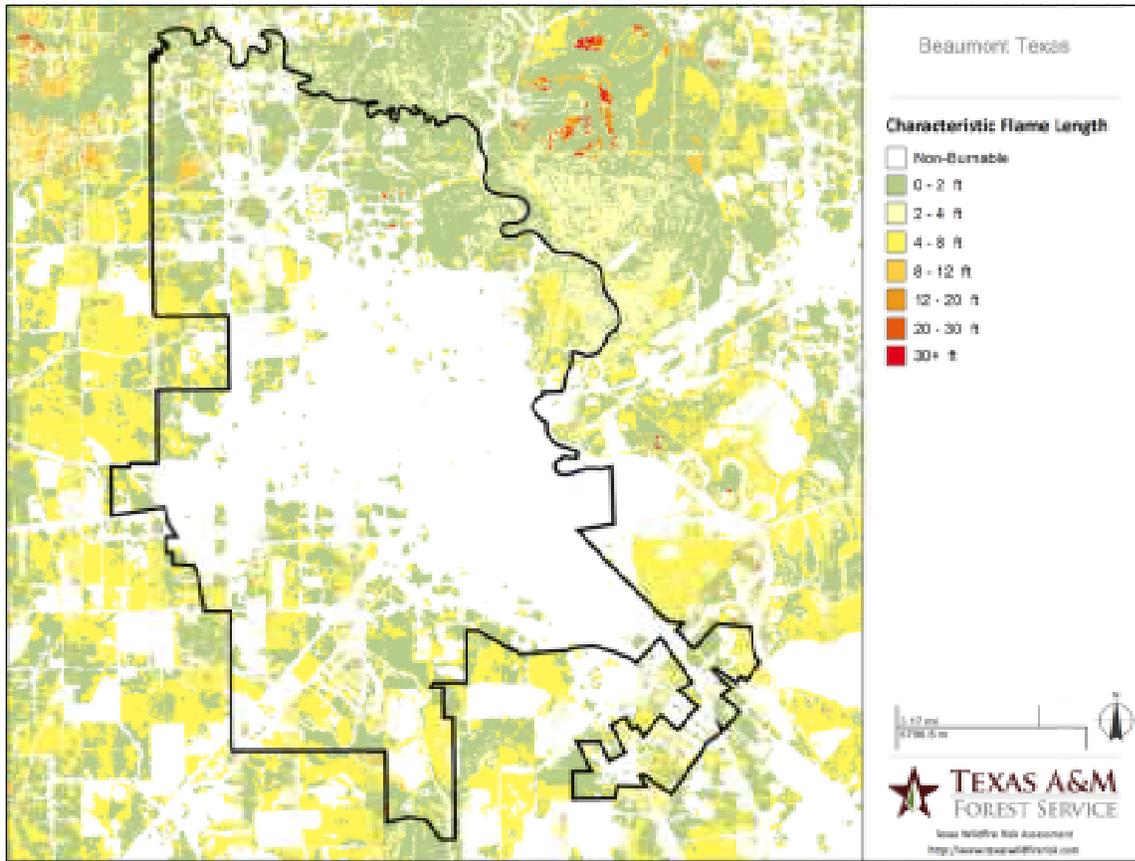
	Rate of Spread	Acres	Percent
	Non-Burnable	33,473	61.6 %
	0 - 5 (ch/hr)	9,486	17.5 %
	5 - 10 (ch/hr)	1,777	3.3 %
	10–15 (ch/hr)	3,114	5.7 %
	15 - 20 (ch/hr)	598	1.1 %
	20 - 30 (ch/hr)	202	0.4 %
	30 - 50 (ch/hr)	5,191	9.6 %
	50 - 150 (ch/hr)	500	0.9 %
	150 + (ch/hr)	0	0.0 %
Totals		54,341	100.0 %



3.4 Characteristic Flame Length

Characteristic Flame Length is the typical or representative flame length of a potential fire-based on a weighted average of four percentile weather categories. Flame Length is defined as the distance between the flame tip and the midpoint of the flame depth at the base of the flame, which is generally the ground surface. It is an indicator of fire intensity and is often used to estimate how much heat the fire is generating. Flame length is typically measured in feet.

- Since much of the fuels in the Beaumont and surrounding areas are fine grass fuels, the map on the next page shows the majority of the areas in and around the city with 8' flame lengths and below. However, it is important to note that areas with ladder fuels allowing fire to move into the canopy of mature pine stands would produce flame lengths in excess of 100 feet.
- Fire suppression tactics should be chosen based on the observed flame length and fireline intensity.



The table below is taken from the National Wildfire Coordinating Group’s Fireline Handbook, Appendix B: Fire Behavior. The table provides an interpretation of suppression strategies based on observed flame lengths. For the majority of the Beaumont area, if a severe wildfire is burning, crowning, spotting, and major fire runs are probable. Control efforts at the head of the fire will likely be ineffective.

Flame Length (Feet)	Fireline Intensity (Btu/ft/s)	Interpretation
< 4	< 100	Fire can generally be attacked at the head or the flanks by persons using hand tools, Hand line should hold the fire.
4 – 8	100 – 500	Fires are too intense for direct attack on the head by persons using hand tools. Hand line cannot be relied on to hold fire. Equipment such as plows, dozers, pumpers, and retardant aircraft can be effective.
8 – 11	500 – 1000	Fire may present serious control problems – torching, crowning, and spotting. Control effects at the fire head will probably be ineffective.
> 11	> 1000	Crowning, spotting, and major fire runs are probable. Control efforts at the head of fire are ineffective.

Source: PMS 461. Incident Response Pocket Guide. Page 69.

3.5 Where People Live

The City's population, according to the 2010 U.S. Census, was 118,296 residents but is currently estimated at 117,585. Much of the population lives within an urban and suburban environment, however many homes and infrastructure exist in the complex landscape known as the Wildland/Urban Interface (WUI).

- The WUI is described as the area where structures meet and intermingle with undeveloped wildland or vegetative fuels.
- Population growth and co-existence within the WUI substantially increases wildfire risks.
- Many individuals move into or exist in these landscapes with urban expectations. They often do not recognize wildfire hazards and assume the fire department will be able to save their home if a wildfire ignites. However, when an extreme wildfire spreads, it can simultaneously expose dozens, if not hundreds of homes to potential ignition. When this happens, firefighters can become overwhelmed and do not have the resources to protect every home.

3.6 Wildland Urban Interface

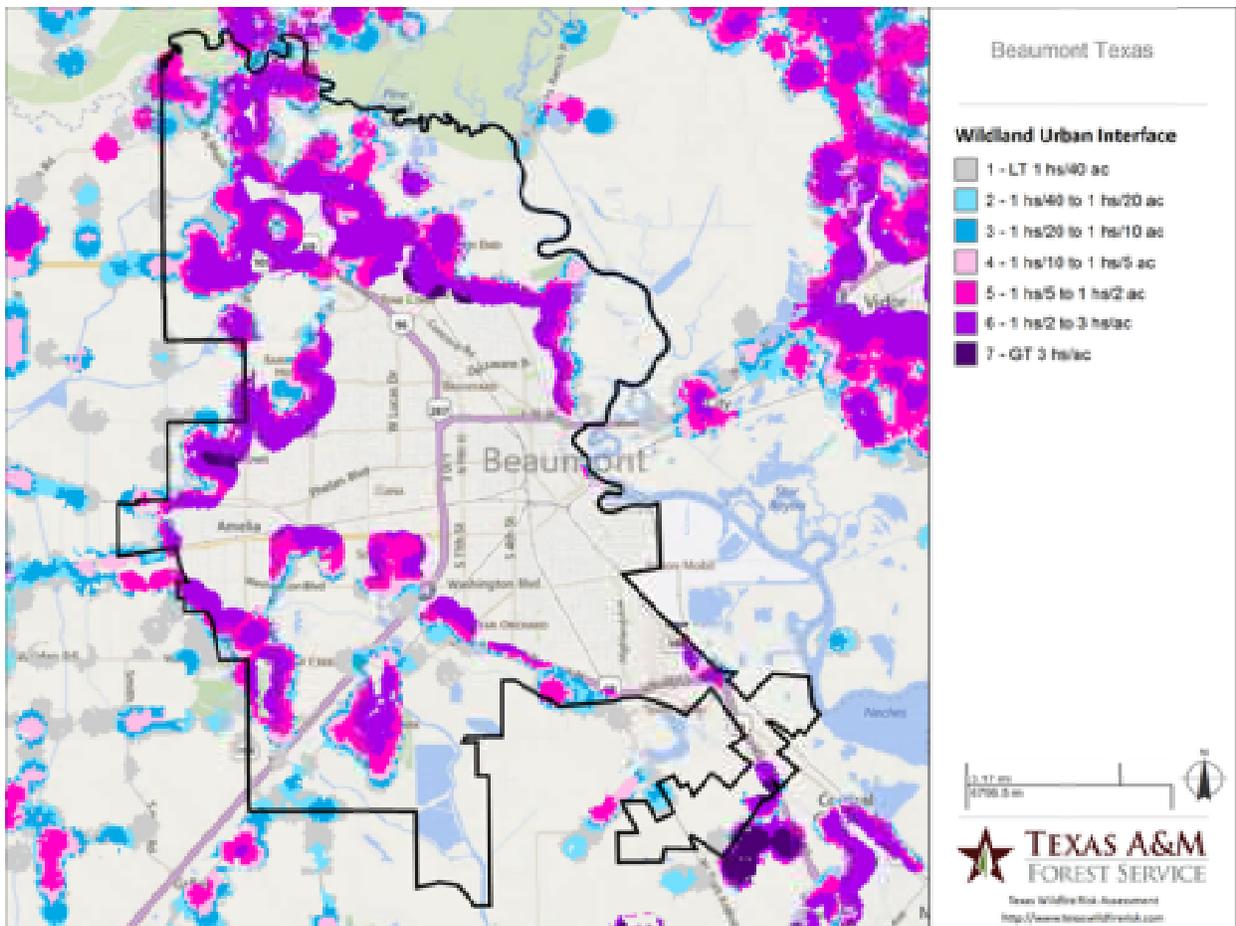
- ***It is estimated that 24,874 persons, or 21% of the population, live within the defined parameters of the WUI.***
- Population is determined by the housing density of a certain area. This is measured in the number of houses per number of acres. The higher-density areas are calculated at three houses per acre and the less dense areas are calculated at one house per 40 acres.
- This information gives planners an idea of how many homes are at risk to wildfire and how many homes would need to be protected during a wildfire, which is useful when planning evacuations.

NOTE: This number may be low because numerous other residents exist where wildland fuels do exist, but not in the scale as the areas defined with this graph and map. Also, numbers are only for the area inside Beaumont City limits, but the map shows the City as well as adjacent areas.

The chart on the next page shows the lowest density (gray) to highest density (purple) and the WUI acreage reflected for each density level in Beaumont.

- ***Over 80% of the WUI acres in Beaumont fall between the 1 house/5 acres to the 3 houses/1 acre range.***
- ***The chart indicates that even a small wildfire in terms of acreage can still threaten multiple homes and stretch available resources thin.***

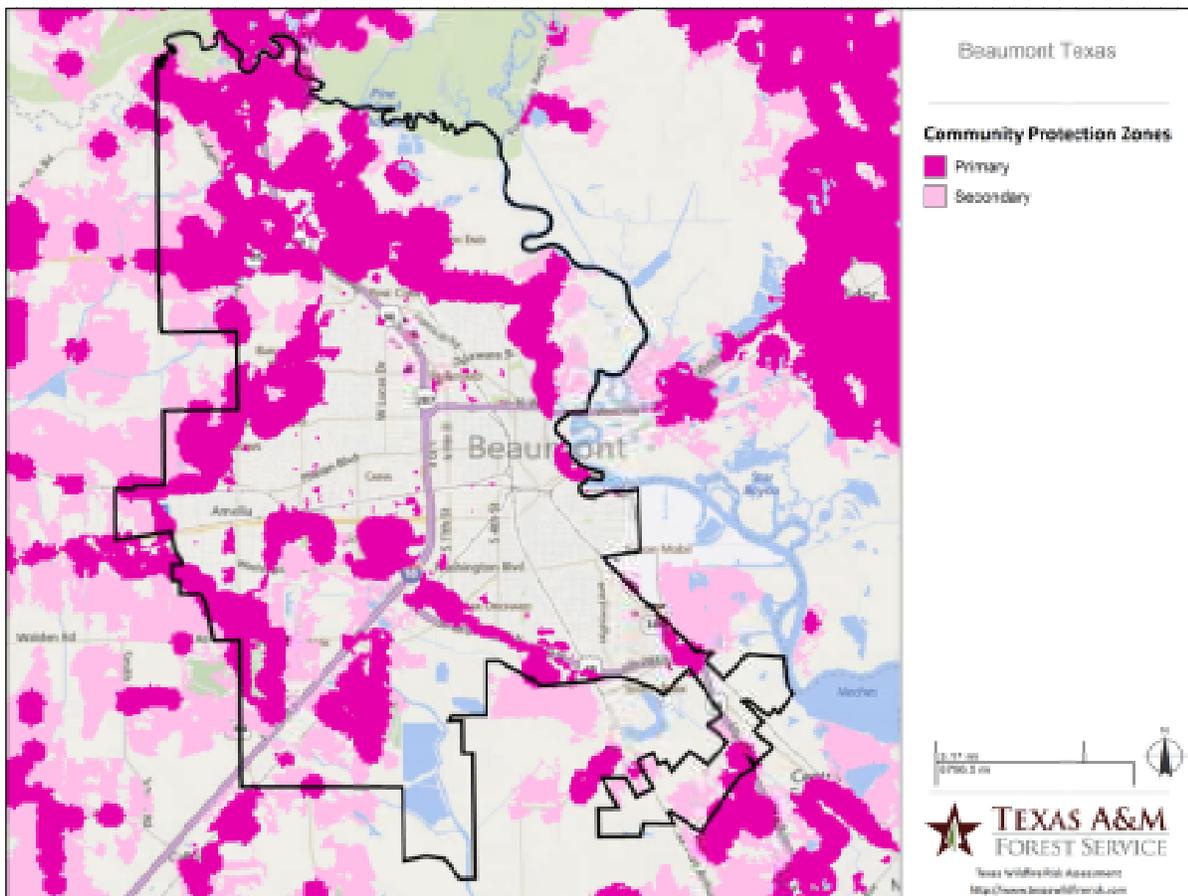
	Housing Density	WUI Population	Percent of WUI Population	WUI Acres	Percent of WUI Acres
	LT 1hs/40ac	20	0.1 %	2,035	11.6 %
	1hs/40ac to 1hs/20ac	36	0.1 %	1,132	6.5 %
	1hs/20ac to 1hs/10ac	130	0.5 %	1,531	8.7 %
	1hs/10ac to 1hs/5ac	401	1.6 %	1,983	11.3 %
	1hs/5ac to 1hs/2ac	1,952	7.8 %	3,627	20.7 %
	1hs/2ac to 3hs/1ac	20,462	82.3 %	7,049	40.2 %
	GT 3hs/1ac	1,873	7.5 %	179	1.0 %
	Total	24,874	100.0 %	17,534	100.0 %



Wildland/Urban Interface Housing Density

3.7 Community Protection Zones

- Community Protection Zones (CPZ) represent those areas considered highest priority for mitigation planning activities. CPZs are based on an analysis of the Where People Live housing density data and surrounding fire behavior potential. Rate of Spread data is used to determine the areas of concern around populated areas that are within a 2-hour fire spread distance.
- General consensus among fire planners is that for fuel mitigation treatments to be effective in reducing wildfire hazard, they must be conducted within a close distance of a community. In Texas, the WUI housing density has been used to reflect populated areas in place of community boundaries. This ensures that CPZs reflect where people are living in the wildland, not jurisdictional boundaries.
- **CPZs represent a variable width buffer around populated areas that are within a 2-hour fire spread distance.** Accordingly, CPZs will extend farther in areas where rates of spread are greater and less in areas where minimal rate of spread potential exists. CPZ boundaries inherently incorporate fire behavior conditions.



Community Protection Zones

3.8 Risk Assessment Process

Using a combination of GIS and local knowledge, the City of Beaumont was broken down into 16 separate planning units to be assessed by the Beaumont Fire Department and Texas A&M Forest Service. The Big Thicket National Preserve and the Fish and Wildlife Service also provided assessments of their lands adjacent to the City (*See Appendix A-4*). Quantitative assessments of each community took into account two scenarios:

- ***Fire department access for structure protection***
- ***Defensible space***

Defensible space is defined as the area around a structure where flammable vegetation and objects are managed to increase the chance a structure will survive a wildfire with or without active protection. This space is wide enough to prevent direct flame impingement and reduce the amount of radiant heat reaching the structure. The defensible space for each structure varies, depending on the type of vegetation and topography.

Each planning unit was identified as low, moderate, high, or extreme hazard based on the rating of the assessment. All planning units were rated using the Wildfire Risk Assessment Score Sheet Version 1.0. Using a single form to do all risk assessments allowed us to rate all units within a common system and prioritize mitigation projects/target units. Narrative assessments were also produced for each planning unit and are found latter in this document. Based on the findings:

- ***Eight planning units were identified as being at High Risk***
- ***Eight planning units were found to be at Moderate Risk***

Beaumont Wildfire Risk Assessment Results				
Unit #	Unit Description	Acres	Market Value	Wildfire Hazard Rating
1	Ameilia	4005.97	\$384,358,834	Moderate
2	City Central	4936.22	\$1,764,404,606	Moderate
3	Exxon	4434.00	\$74,270,399	High
4	I-10 Corridor	6141.71	\$2,170,946,242	Moderate
5	Landfill	2854.65	\$53,645,450	High
6	North End	4575.00	\$52,332,626	High
7	Picadilly Park	1516.00	\$206,931,237	High
8	Pine Island Bayou	2014.00	\$926,670,236	High
9	Pine Street Corridor	2924.00	\$66,630,280	High
10	South End	6347.00	\$54,647,595	Moderate
11	Tyrell Park	1916.00	\$76,322,041	High
12	Walker Branch	1533.00	\$17,089,090	High
13	Washington Area	5898.16	\$630,318,617	Moderate
14	West End	4428.00	\$675,974,564	Moderate
15	Western Hills	3129.00	\$253,279,156	Moderate
16	Willow Creek	4692.00	\$398,043,310	Moderate
17	Adjacent Areas			Moderate to High

Fire response in the City averages three minutes and the City has great fire hydrant coverage with adequate pressure. Mutual aid agreements exist from adjacent departments and Beaumont Fire Department has good working relationships with these entities.

- **Often times the hardest and most expensive issue when addressing structure ignitability is the home construction.** Beaumont has a mixture of homes that are constructed of noncombustible material and Class A rated roofing, and many are extremely volatile.
- **Focus efforts on the more cost effective and easily addressed issue of creating defensible space.** By creating a buffer in flammable vegetation between the homes and the wildland areas, we can reduce the intensity of a fire before it reaches the home. A fire burning intensely right up against a home can bypass noncombustible materials and enter the home through other avenues such as, heat fractured windows or ember intrusion.

3.9 Summary of Risk Assessment Findings

- **Beaumont not only has homes and infrastructure existing within wildland fire prone fuels; the City is unique and has additional risk due to the high volume of industry, storage, chemical and commercial facilities intermixed with these fuels and within residential areas.**
- Construction types vary throughout the City, with older pier and beam homes intermixed with abandoned lots on the north east side of town creating an environment conducive to rapid rates of wildfire spread in a WUI environment. In some areas 25% of structures are abandoned.
- **The Exxon, Pine Street Corridor and North End Units displayed the most risks and complexities relevant to anticipated wildfire spread.**
- Tracts of wooded/wildland areas exist intermixed with structures throughout the City.
- **Homeless camps and correlating warming fires increase the likelihood of unwanted wildfire ignitions in abandoned structures and other wooded areas within the City limits.**
- **Pineywoods ecosystems need disturbance.** The wooded areas within City limits would respond well to understory thinnings and shaded fuel breaks around homes and infrastructure. These treatments would give firefighters the tactical advantage in combating wildfires and also promote the establishment of resilient ecosystems.
- **Chinese Tallow, an invasive species, is establishing in wooded areas throughout the City and is a major threat to biodiversity.** A Chinese Tallow removal program would be a prudent consideration.
- **Railroad bridges throughout the City are constructed of wood with many having continuous wildland fuels growing into the bridges.** Fuel reduction along these bridges would significantly reduce the risk of loss due to a wildfire.

- **Numerous pipelines exist in the area; many are not maintained and have wildland fuels growing in and around them.** More maintenance of these lines and better identification would increase tactical options to firefighters during a wildfire response.
- Through the CWPP process, the Beaumont Fire Department’s Wildland/Urban Interface Response Team (WUIRT) has identified a detailed training and capacity building plan.
- **Beaumont’s Sanitation Division offers “green waste service” once per week allowing residents to easily create defensible space around homes. Debris and trash burning is prohibited in City limits because this service is offered, therefore reducing the threat of wildfires.**
- Schools were identified and goals were set during the CWPP process to outline wildfire prevention program goals.
- Potential Firewise Communities have also been identified.

Other areas found through the CWPP process where the Beaumont Fire’s WUIRT can benefit the City of Beaumont and its citizens:

- ***Prescribed burning of the Cattail Marsh water treatment area.*** The Cattail Marsh Nature Area, located adjacent to Tyrrell Park and accessible by the park roads, is a man-made 900 acre area consisting of levees, ponds, and mud flats. Located next to Hillebrandt Bayou, the marsh system was created as one of the final stages of wastewater filtration for the City of Beaumont. While doing our risk assessment of the Tyrrell Park unit we were asked by Molly Villarreal with the City of Beaumont Water Utilities about doing some prescribed burns on the Cattail Marsh Water Treatment units. This would take place on an annual basis and would decrease the amount of dead and decaying vegetation which would make the marsh more effective at cleaning the waste water.
- ***Assist the City of Beaumont Parks Department with falling dangerous trees.*** The WUIRT can work with the Parks Department when there are dead or storm-damaged trees that pose a hazard to the citizens that use the parks. The WUIRT will have certified fallers in the near future who will need to stay in practice falling trees and chainsaw operations. Also after major storms and hurricanes the WUIRT can assist the Parks and Streets Departments with cutting fallen trees from the streets and from other city properties allowing other emergency services to be able to function properly. An identified goal would be to have 12 BFD WUIRT members TIFMAS/ NWCG chainsaw certified.
- ***Continued involvement in the TIFMAS (Texas Intrastate Fire Mutual Aid System) Program.*** TIFMAS is a state-wide all hazard mutual aid system that is maintained by the Texas A&M Forest Service. TIFMAS can benefit the City of Beaumont during a major wildland fire, hurricane, flood, or industrial incident by providing equipment and manpower if the fire department’s response capabilities are exceeded.

- ***Conduct a similar hazard assessment process pertaining to industrial hazards in the City.*** The Fire Department’s Hazardous Materials Response Team (HMRT) could assist in assessing and documenting industrial hazards in City limits and be instrumental in creating and providing maps identifying the industrial hazards located in the industrial urban interface.

3.10 Wildfire Hazard/Risk Assessment Planning Unit Narratives

The following section contains narratives of the wildfire hazard/risk assessment findings for each predetermined planning unit. The narratives give a:

- Description of the unit
- Pros pertaining to wildfire response and anticipated fire behavior
- Hazards and concerns pertaining to wildfire response and anticipated fire behavior
- Mitigation strategies
- Public education opportunities
- Firewise Communities USA designation opportunities
- Strategically identified hazardous fuel reduction projects

Amelia Planning Unit

Date	6/3/2016	Risk Level	Moderate
Unit	Amelia	Risk Score	49
Acreage	4005.97	Market Value	\$384,358,834

Narrative

The Amelia unit is located on the west side of the City of Beaumont, consisting of 4,031.5 acres. The unit is similar to the Exxon and South End units due to the amount of industrial sites and the types of vegetation. The south part of the unit begins at the Iron Oaks Golf Club. The west side of the unit follows the City limits up to Highway 90, including the Exxon-Mobil polyethylene plant. Above Highway 90 the west border follows Keith road to Dishman Road. The north is bordered by Dishman Road and the east is bordered by South Major Drive.

- The larger industrial sites include Exxon-Mobil, GE Betz, and the City of Beaumont Municipal Airport.
- The unit also contains several production wells which include the wellhead, tanks, piping, and various oil production equipment.
- Along Highway 90 and along S. Major Drive there are a wide variety of commercial businesses.
- The homes in the Amelia unit vary from pier and beam construction to brick on slab construction with most being 60s-80s style.
- There are many access roads and canal banks throughout the unit.
- The fuels consist mostly of tall grasses with some brushy fuels mixed in. Also there are some areas with forest type growth.

Pros

- Most homes have adequate defensible space.
- The water supply system is very good throughout the unit.
- The unit contains many canals and drainage ditches which could serve as fire breaks or anchor points.

Hazards/Concerns

- Hazardous materials on roads, rail roads, and on site at the plants.
- Wooden power poles inside the fuel and pipelines throughout the unit.
- Fast burning fuels throughout the unit.
- Sparks from trains could ignite fires along the tracks.
- During the wet season the ground will be too soft for wildland vehicles.

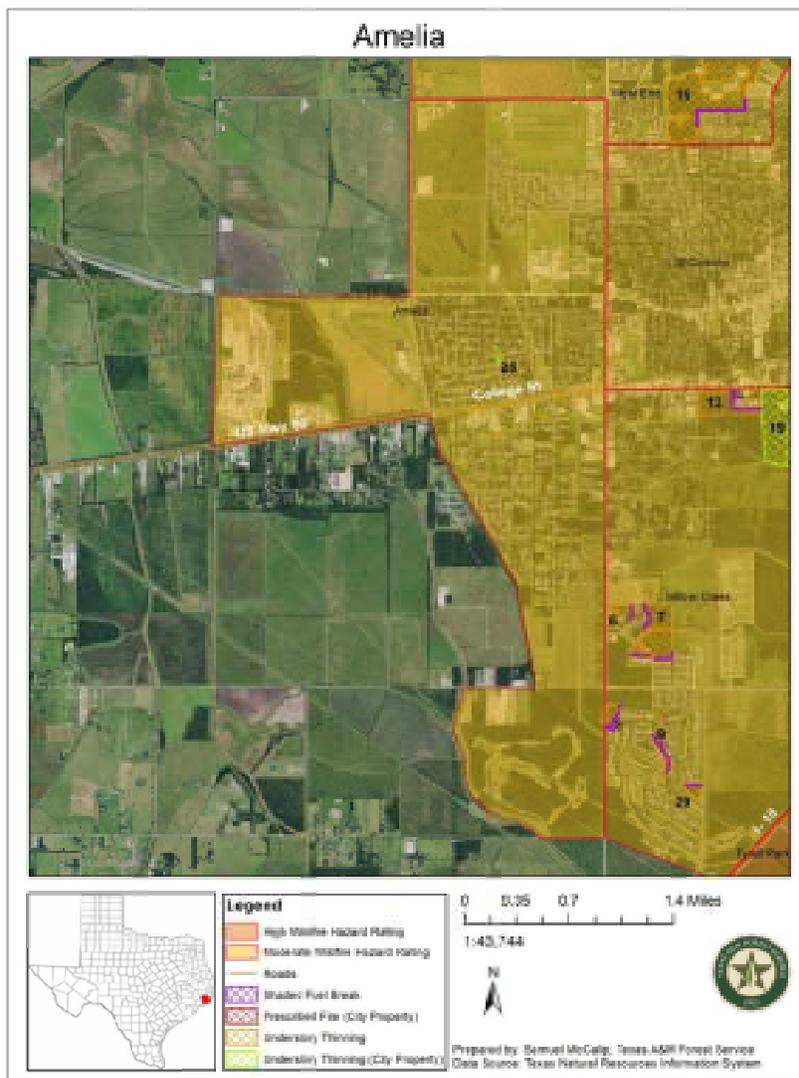
MITIGATION STRATEGIES

Public Education/Planning

- Utilize TFS materials for public education and distribute to neighborhoods.
- Work with neighboring volunteer fire departments for a coordinated attack plan.
- Preplan the unit with the Beaumont WUIRT.
- Produce pre-attack maps for the unit.

Fuel Reduction (See map below)

- Clear canal banks and levees to ensure access to firefighting vehicles.
- Clear vegetation around railroad bridges.
- Understory thinning's in various wooded areas of the unit.
- **Identified Project #25, Doty Street:** Understory Thinning (City Property)



City Central Planning Unit

Date	6/3/2016	Risk Level	Moderate
Unit	City Central	Risk Score	60
Acreage	4936.22	Market Value	\$1,764,404,606

Narrative

City Central is located in the central part of the City and is bordered by Interstate 10 to the west, Magnolia Street to the east, East Lucas Drive to the north, and College Street to the south. This unit also contains most of the downtown area.

- The unit is mostly residential with a good amount of commercial businesses scattered throughout.
- The unit contains the cities two major hospitals.
- There are two major thoroughfares that are within this unit (Interstate 10 & Eastex Freeway) along with a major rail line.

Pros

- The unit consists of mostly residential construction with very few large wooded areas within the unit.
- The typical fire response time for the unit is very fast due to surrounding fire stations and the citizens are very quick to call 9-1-1.
- Most areas utilize Firewise construction methods and have landscaped lawns.

Hazards/Concerns

- The old rice processing mill is wood/heavy timber construction and is backed on two sides by heavily wooded areas with *homeless camps in the woods*.
- The wooded area near Home Depot on Eastex Freeway also contains homeless camps.
- The railroad tracks provide access problems into the wooded areas.
- Some areas along the railroad tracks contain tall grass and brush leading to larger areas of fuel.

MITIGATION STRATEGIES

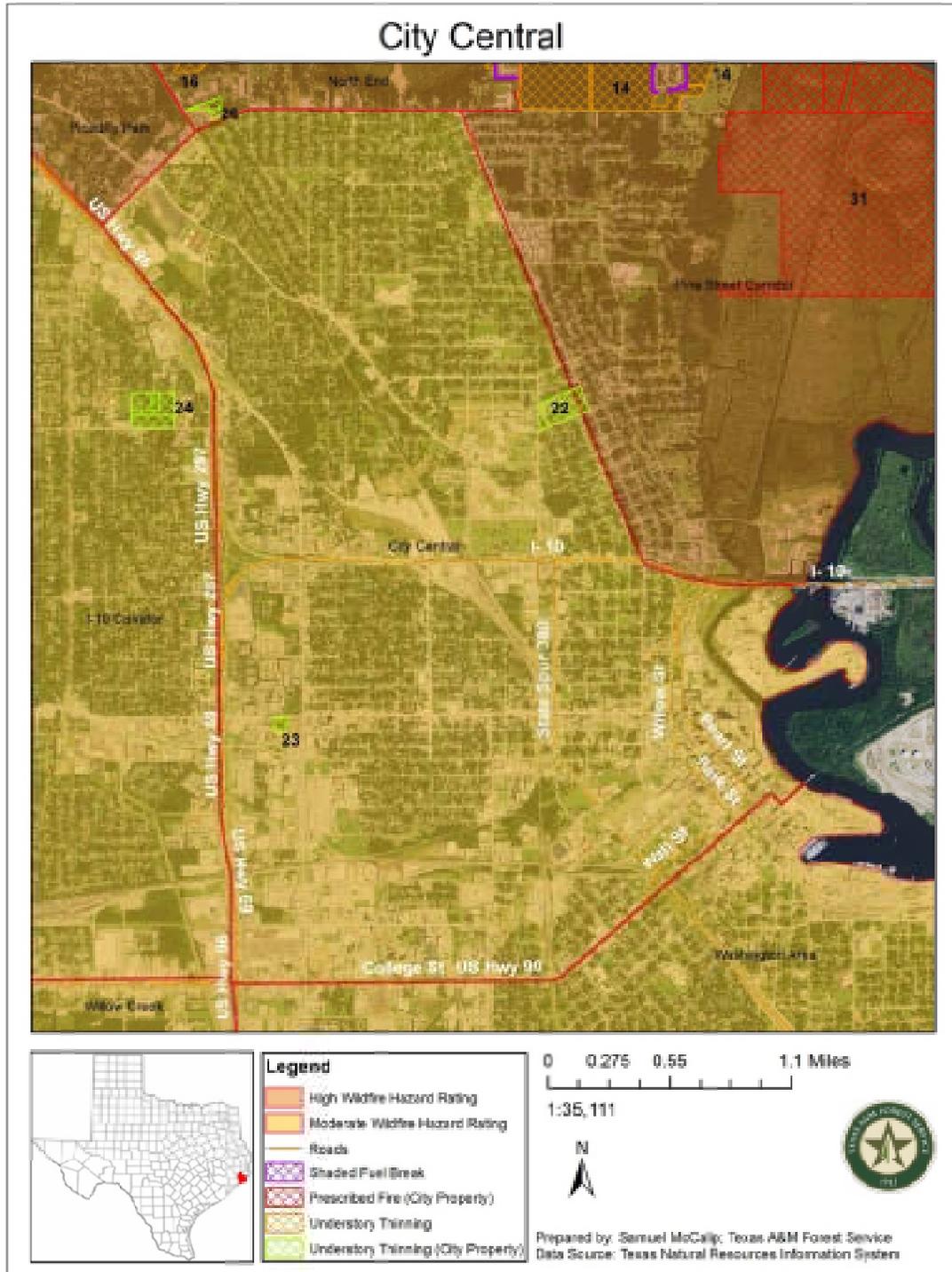
Public Education/Planning

- Work with the City on finding a way to remove homeless camps.
- Work with neighborhood associations on public education.

Fuel Reduction

- Shaded fuel breaks and thinnings along railroad tracks.
- Clear vegetation around railroad bridges.
- Hazard tree removal as needed

- **Identified Projects #22, Magnolia Park and #23 Gilbert Park:** Understory Thinning and Hazard Tree Removal (City Property) (See map below)



Exxon Planning Unit

Date:	6/3/2016	Risk Level:	High
Unit:	Exxon	Risk Score:	90
Acreage:	4434.00	Market Value	\$74,270,399

Narrative

The Exxon Unit is located within Beaumont City limits on the southeastern part of town between State Highway Spur 380 and the Neches River.

- The unit is heavily industrialized area with numerous facilities including oil refineries, chemical plants and associated infrastructure such as tank farms, pipelines, power lines, railroad tracks and ports on the Neches River.
- Residential areas intermixed with vacant lots and abandon homes exist immediately adjacent across Highway Spur 380. A large wildland area exists within the unit and is a grassland ecosystem with fuels available to burn during increased fire weather conditions.
- Beaumont Fire Department has responded to wildfires in this area including a 150 acre fire which is the largest in recent years.

Pros

- Overall, the facilities are free of vegetation adequate defensible space with metal Firewise construction.
- Each facility has a dedicated fire response team to handle fires within their respective facilities, with Beaumont Fire Department providing mutual aid as needed.
- Most well heads and tanks and have rock and gravel on average 75' around and areas where grass exists in between tanks is kept mowed.
- Roads throughout and the Neches River to the east provide adequate fuel breaks to use as anchor points.

Hazards/Concerns

- **The sheer number of high value hazardous materials facilities within the unit is a major concern.** Information about who to contact in the event of an adjacent wildfire, the types of products at each facility, and detailed maps with pre-planning information does not exist to mutual aid responders. Industrial fires could reach adjacent wildland fuels causing wildfires.
- **Access/Egress during any emergency response is an elevated concern.** No bridges or vehicular access/egress exist across the Neches River out of the unit to the east, making all roads one way into the unit and one way out back to Spur 380.
- Facilities are fenced and gated. Parking areas and turnaround for fire apparatus are sporadic along public roads. Road systems are rough and not clearly marked (signage inadequacies were observed) and several low hanging power lines were observed.
- **Wooden power poles and pipelines exist throughout the unit within wildland fuels.** Wildland fire in these “wicks” of fuels could easily ignite power poles causing them to fall. Many areas with uncleared pipeline easements were observed, and wildfire would impact the pipelines with

direct flame impingement.

- **Wildland area within the unit has a variety of wildfire suppression issues.** The area is a grassland/swamp with predominantly grass fuels but some thick brush and trees. Major concern is due to no open and maintained roads and soil conditions, dozers and wildland fire engines cannot access or operate in the area, only along the edges. Direct attack is not an option. The open area is also filled with pipelines making dozer operations unavailable. Swamp ecosystems can support long duration fire events due to the inability to directly suppress.
- **Railroads sparks could ignite fuels next to the tracks.** Numerous wooden railroad bridges were observed with fuels available to cause direct flame impingement.
- **Areas of continuous fuels exist outside the Exxon Unit to the south** and could support wildfire spread in to the unit from the south.

MITIGATION STRATEGIES

Public Education/Planning

- **Coordinate and conduct a familiarization meeting and tour.** This pre-attack planning day would involve reaching out to and inviting industry representatives, the Port Authority, Beaumont Fire Department and other interested stakeholders, including identifying and inviting the owners of the swamp. Allow BFD and other mutual aid responders the opportunity to tour the grounds and edges of each facility to gather situational awareness and develop evacuation plans.
- **Produce a map of the unit identifying each facility** with a correlating table of the types of hazardous materials, size and scale of the facility, emergency contact numbers and designated staging areas. This map would be available to all Beaumont emergency responders.
- **Produce pre-attack maps for emergency responders to augment their current 9-1-1 street guide.** Maps to include: Pipelines, Railroads, Streets, Evacuation Routes and Safety Zones.
- Utilize Texas A&M Forest Service's Mitigation and Prevention Department to deliver outreach programs fuels management, defensible space, home construction.

Fuel Reduction

- **Clear pipelines and power lines where fuels exist to cause direct flame impingement.**
- **Remove vegetation and continuously herbicide or gravel around wooden railroad bridges.**
- **Construct defensible space around any values at risk where defensible space is inadequate.**
- **Construct or grade roads in large open track to make accessible to Type 6 engines.**



View from the Exxon Unit where unmitigated wildland fuels are directly touching power lines and pipelines.

Exxon



Legend	
	High Wildfire Hazard Rating
	Moderate Wildfire Hazard Rating
	Roads
	Shaded Fuel Break
	Prescribed Fire (City Property)
	Understory Thinning
	Understory Thinning (City Property)

0 0.275 0.55 1.1 Miles

1:33,907



Prepared by: Samuel McCall; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System

I-10 Corridor Planning Unit

Date	6/3/2016	Risk Level	Moderate
Unit	I-10 Corridor	Risk Score	47
Acreage	6141.71	Market Value	\$2,170,946,242

Narrative

The I-10 Corridor unit is bounded by State Hwy 69/96 on the east, on the south by College Street, on the northwest by Dowlen Road and southwest by Major Drive, and on the north by State Highway 105.

- This area is highly developed containing both residential and commercial occupancies.
- **There are about 20 areas of concern for wildland/urban interface fires ranging in size from 4 to 25 acres.**
- All areas of concern have the same type of vegetation, tallow trees, yaupon, thick brush with a few pine and hardwoods mixed in. There are plenty of ladder fuels in these areas.

Pros

- Most areas are well kept by the property owners.
- Most commercial buildings are surrounded by parking lots that would allow us defensible space.
- Fire hydrants are easily accessible and well maintained by the Fire Department.
- With the area being so well populated a fire should be discovered quickly and quick response time from the Fire Department should allow extinguishment of the fire before it grows too large.



Aerial View of Forested Area in I-10 Corridor Unit

Hazards/Concerns

- 20 areas of wildland fuels are intermixed with WUI
- Wooden power poles and power lines throughout this unit exist within wildland fuels.
- Some areas are surrounded by ditches that would cause access problems.
- Older homes on piers with wood siding do exist in some areas.

Specific Areas of Concern

- **Areas adjacent to railroad tracks, north of College Street.** These areas are generally wooded between the tracks and homes or businesses. There have been fires here in the past. Most of these areas have a thin strip of wooded area less than 100' wide. Many of the homes are older wood frame homes with wooden soffits, brick veneer, and/or wooden siding. Some of these

homes are on small lots and some back yards may not be well maintained. Access could be established in this area along the railroad right-of-way.

- **The wooded area East of 455 South 23rd, behind the trailer park.** This wooded area is about 11 acres and backs up to the trailer houses. There is less than 10' of clear area behind most of the trailers that back up to the tree line. These are mobile homes that from the 60's and 70's. This area also backs up to the nursing home on College Street and other businesses. The one story, brick veneer nursing home located at 4150 College has very little room between the building and tree line.
- **North of the Montclair subdivision is an isolated area of about 25 acres.** There is limited access to the area from Montclair Ave. The homes located on the ally south of this area have about a 15' buffer from the tree line. There is wooden privacy fencing located next to the curb. Other homes surrounding this wooded area have privacy fencing next to the tree line, no buffer zone, and many of these homes have small yards that are just a few feet from the fence. These homes are located on the south and east areas of this tract of land. These homes are large one and two story homes. Newer construction, brick veneer, stucco, or hardy siding, composition or tile roof, and are well maintained.
- **Southwest of Bell Furniture located at 4455 Eastex is an area of approximately 9 acres.** Bell furniture is tilt wall construction, a construction type prone to collapse. There is no buffer zone between Bell Furniture and the tree line. This area also backs up to several 2 story apartment buildings on Treadway that have less than a 20' buffer zone. Vehicle access is limited to parking areas.
- **Wuthering Heights Park located at 3650 Delaware.** This park is well kept of brush and under growth but there are numerous dead pine trees still standing that need to be cut down. These are trees of about 20" in diameter and these trees pose a risk to the public that use this park.
- **The old Colonnade Theatre located at 6490 Phelan.** There is about a 6 acre tract of land north of the theatre. There is only about a 10' buffer between the theatre and the tree line. There are also 2 story apartment buildings with wood shake shingles located north of this tract of land off of Ivanhoe Lane.



Apartments with Inadequate Defensible Space

MITIGATION STRATEGIES

Public Education/Planning

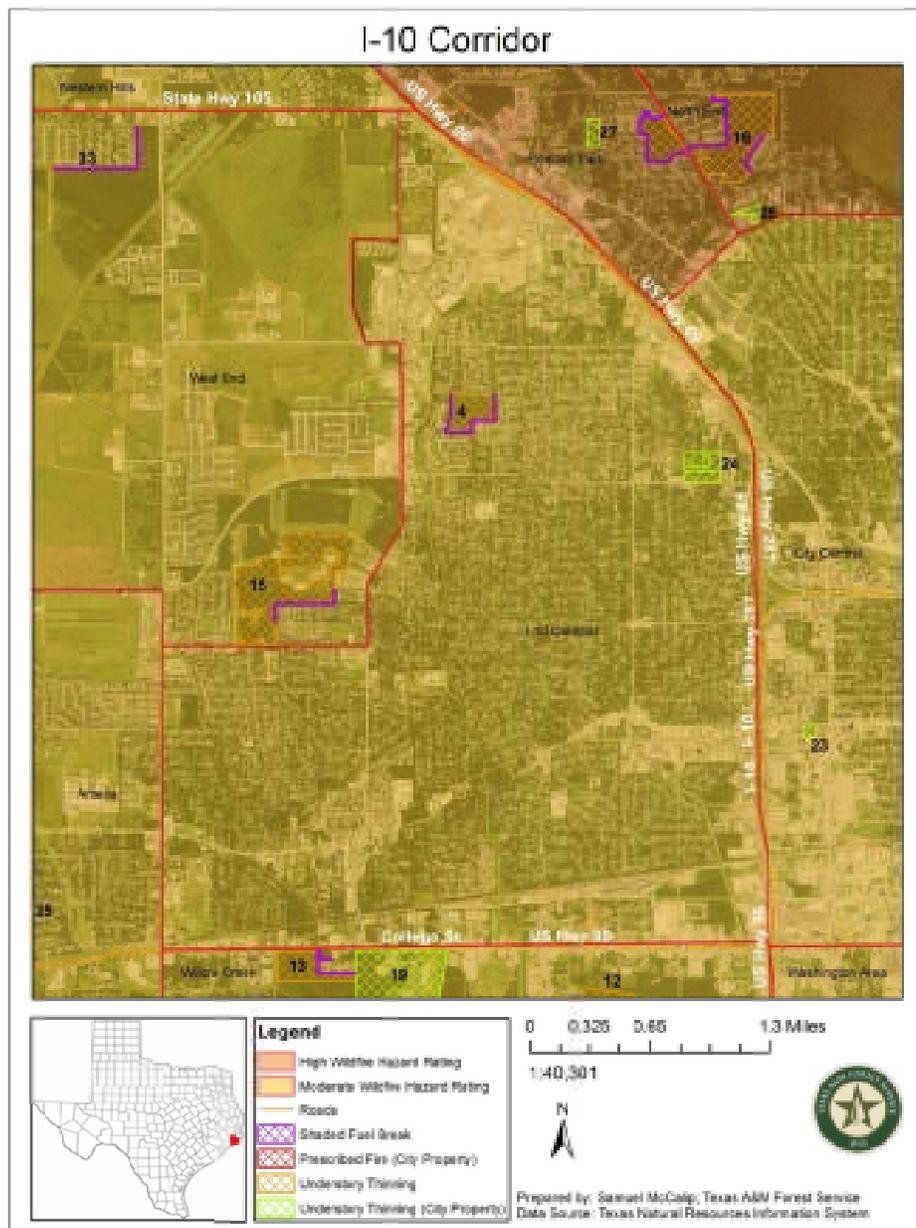
- **Coordinate and conduct a familiarization meeting and tour with BFD, City Parks Department and interested citizens.** This tour would allow fire personnel to become familiar with the numerous tracts of wildland areas and explore pre-attack planning scenarios. Identified fuels

projects and other areas that would benefit from treatments could be identified.

- **Reach out to the Montclair Subdivision, Colonnade Theater, and Bell Furniture to provide Firewise materials.**

Fuel Reduction

- Understory thinning and shaded fuel breaks in areas where defensible space is inadequate.
- **Identified Project #4, Fairmont:** Shaded fuel break and/or Understory thinning. (See map below)
- **Identified Project #24, Wuthering Heights Park:** Understory thinning and hazard tree removal (City Property) (See map below)



Landfill Planning Unit

Date	6/3/2016	Risk Level	High
Unit	Landfill	Risk Score	66
Acreage	2854.65	Market Value	\$53,645,450

Narrative

The Landfill Unit is located within Beaumont City limits on the southern edge of town. The unit is bounded on the south by unincorporated Jefferson County, on the north by State Highway 69/96, on the west by Interstate 10, Walden Road and Tyrrell Park Road.

- The City-managed landfill and sewage treatment facilities exist within this unit and are located side by side of each other. Cattail Marsh, part of the City’s wastewater treatment system, also exists within the unit. The Beaumont Police Department’s firing range is located at the wastewater treatment plant.
- ***The landfill presents a unique wildland fire hazard because of its size, topography, stability and the arrangement and continuity of fuels that exist atop the landfill.***
- Commercial facilities exist along Highway 96, including Fesco where C-4 and blasting caps are stored.
- The unit also has pine plantations and areas of continuous wild fuels.



C-4 Storage Container

Pros

- The sewage treatment plant has standalone safety zones and ample water for suppression aircraft if needed.
- Businesses along Highway 96 have good defensible space and easy access to Highway 96.
- The landfill and wastewater treatment facility are mowed regularly and have great defensible space around infrastructure. Natural and manmade fire breaks exist within the unit. Road surfaces are good overall. The top of the landfill provides a great vantage of the surrounding areas.

Hazards/Concerns

- **The landfill itself presents unique wildland fire hazards.** The landfill has been covered in many areas and now tall grass and trees growing atop the waste. Dozer and engine access would be hazardous due to the underlying material. Fires within the landfill could be of long duration and hard to extinguish.
- **Pine plantations and forests within the unit possess the arrangement and continuity to support crown fire** under hot and dry climatic conditions. This includes a DCP facility which does have good defensible space, but is surrounded by continuous fuels in the unit’s southern portion.



City Landfill

- **Access/Egress during any emergency response is an elevated concern.** Canals, ditches, fences, cement culverts, pipelines and other characteristics limits access and egress. Many roads are one-way in and out.
- **Unincorporated Jefferson County to the south presents wildfire challenges.** Oil and gas infrastructure, inadequate street signing, no burning ordinances, many acres of wildlands starting outside of the Landfill Unit could propel fires into the unit.
- **Chinese Tallow Intrusion** is occurring on a large scale disturbing the ecology of the forested ecosystems throughout public and private lands in the unit.

MITIGATION STRATEGIES

Public Education/Planning

- **Coordinate and conduct a familiarization meeting and tour.** This pre-attack planning day would involve reaching out to managers in the Water and Sanitation Divisions, BFD and other mutual aid responders to tour the grounds and edges of each facility to gather situational awareness and develop evacuation plans. Develop map of locations of dozer unloading sites.
- **Produce pre-attack maps for emergency responders to augment their current 9-1-1 street guide:** Maps to include: Pipelines, Railroads, Streets, Evacuation Routes and Safety Zones.
- **Place street signs in unincorporated areas** bordering the City.
- **Distribute Firewise and Ready, Set, Go materials** to business owners and residents within the unit.
- **Construct a Bridge over Hillebrandt Bayou connecting Cattail Marsh with the rest of the facilities.**

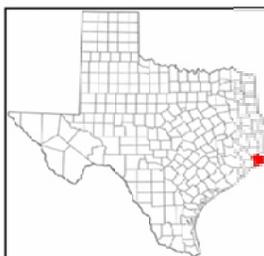
Fuel Reduction *(See map on next page)*

- **Prescribed fire and understory thinnings in private landowner plantations.** Prescribed fire in plantations and forested areas of this unit would decrease hazardous fuel loadings and contribute to more resilient ecosystems.
- **Chinese Tallow removal projects in support of resilient ecosystems.**
- **Construct defensible space around any values at risk where defensible space is inadequate.**
- **Identified Project #10, Theresa Street:** Shaded Fuel Break and Understory Thinning
- **Identified Project #18, Water Treatment Plant** and **#20 Landfill,** Understory Thinnings and hazard tree removal (City Property)
- **Identified Project #32, Cattail Marsh:** Prescribed Fire *(See map on next page)* - Landscape burning of the City-owned Cattail Marsh. Wastewater managers identified the need to improve the filtration process by utilizing prescribed burning of the marsh units on regular intervals. Burning would provide wildland fire training to BFD. Signage to be posted educating the public about the benefits of prescribed fire.



Cattail Marsh Entrance

Landfill



Legend

- High Wildfire Hazard Rating
- Moderate Wildfire Hazard Rating
- Roads
- Shaded Fuel Break
- Prescribed Fire (City Property)
- Understory Thinning
- Understory Thinning (City Property)

0 0.225 0.45 0.9 Miles

1:28,040



Prepared by: Samuel McCall; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System

North End Planning Unit

Date	6/3/2016	Risk Level	High
Unit	North End	Risk Score	67
Acreage	4575.00	Market Value	\$52,332,626

Narrative

The North End unit is located on the northeast side of the City of Beaumont. The unit is bordered on the north and east side by the Pine Island Bayou and the Neches River. On the south and west it is bordered by East Lucas Drive and Helbig Road up to the LNVA canal.

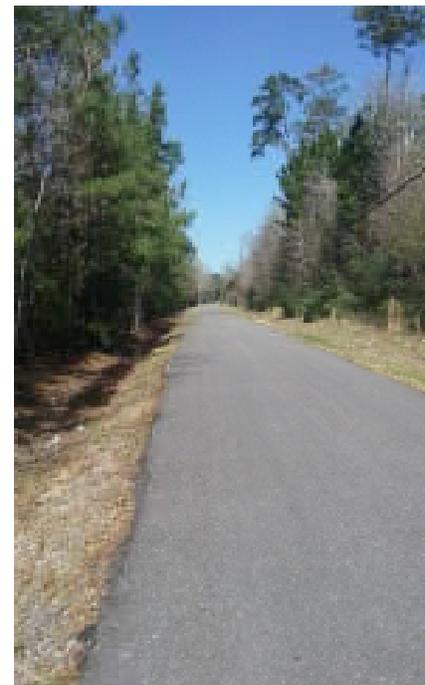
- This area has a diverse ecosystem that contains swamp, mature forest and some areas with pine plantations in different growth stages.
- The north end unit is mostly unpopulated with most of the wildland urban interface being on the western and southern area of the unit. ***It is truly a WUI zone with residential and some industrial sites extending right up into the wildland area.***
- Beaumont Fire-Rescue has responded to wildland fires in this area.

Pros

- The industrial areas have adequate defensible space and the large apartment complex within the unit uses mostly Firewise construction methods.
- There are several roads and utility service lanes through the unit to provide fuel breaks and anchor points.

Hazards/Concerns

- Large areas of continuous fuels exist throughout the unit.
- **Some areas will need to be evacuated depending on fire conditions.**
- On the northern portion of the unit there is a large production well with propane storage and a crude oil tank battery in close proximity to a large pile of green waste. This pile would produce a great amount of radiant heat and would be difficult to extinguish due to water supply issues in the area.
- **Access/egress during emergency response is an elevated concern.**
- There is a large amount of older homes in disrepair that could catch an ember of fire brand and ignite.
- The Stone Hearst Apartments off of East Lucas are limited with access/egress problems and there needs to be a larger fuel break around some areas of the complex.



Example of Pine Plantations in the North End Unit

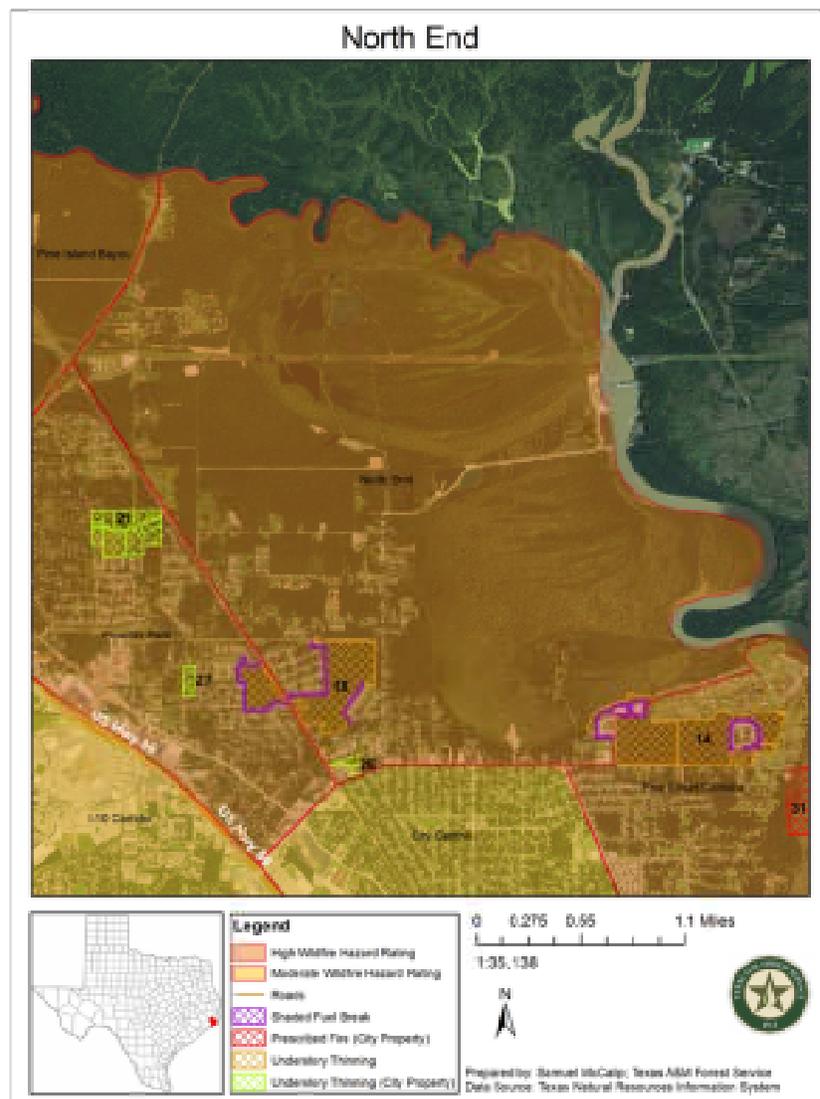
MITIGATION STRATEGIES

Public Education/Planning

- Reach out to Stone Hearst Apartments and North End home owners associations about Firewise Communities USA.
- Utilize TFS materials for public education.
- Preplan the unit with the fire department WUIRT. Work with Big Thicket for a coordinated attack plan. Produce pre-attack maps for the unit.

Fuel Reduction (See map below)

- **Identified Project #16, Karlett Lane and CN&B Development:** Shaded Fuel Break and Understory Thinning
- **Identified Project # 26, Elmo Ward Library:** Understory Thinning and Hazard Tree Removal
- **Construct defensible space around any values at risk where defensible space is inadequate**



Picadilly Park Planning Unit

Date	6/3/2016	Risk Level	High
Unit	Picadilly Park	Risk Score	73
Acreage	1516.00	Market Value	\$206,931,237

Narrative

The Picadilly Park unit is located within the Beaumont City limits in the northern part of the City, bounded on the west by Highway 69/96, on the east by Helbig Road, on the north by Pine Island Bayou and on the south by East Lucas.

- The unit is heavily populated with some commercial businesses along the Highway 69/96 corridor.
- ***The unit contains approximately 15 wooded areas of note totaling approximately 215 acres.*** The wooded areas consist mostly of pine groves of different sizes with oak and other hardwoods mixed in. The ladder fuels consist of tallows and yaupon with some palmetto in lower areas.

Pros

- Most of the woodlots have well maintained fire breaks.
- There are multiple access points to gain entry into the wooded areas.
- The area has an excellent water supply system and quick response from the Beaumont Fire Department.

Hazards/Concerns

- Some homes have little defensible space between the structures and the wooded areas.
- Multiple decaying and unmaintained homes (red tagged) in the unit that could catch an ember or firebrand.
- Wooden power poles close to and within the wildland fuels.
- Trains could ignite fuels next to the tracks, and several wooden railroad bridges have fuels up to the tracks.



Structure in Picadilly Park unit with no defensible space.

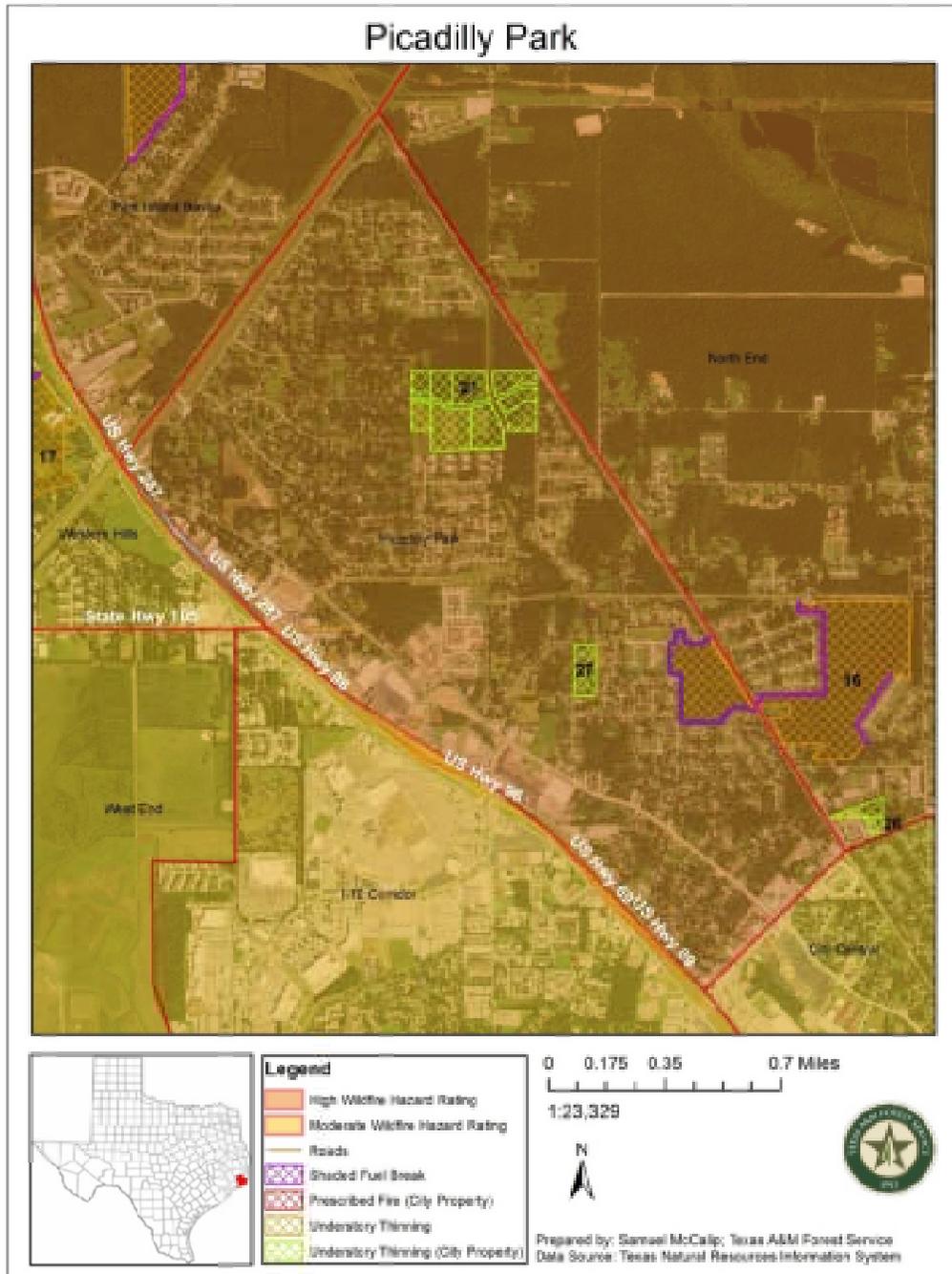
MITIGATION STRATEGIES

Public Education/Planning

- Coordinate with City’s existing program to remove red tag structures.
- Utilize TFS materials for public education.

Fuel Reduction (See map below)

- **Identified Project #16, Karlette Lane and CN&B Development:** Shaded Fuel Break and Understory Thinning (Also in North End Unit)
- **Identified Project #21, Woodland Park:** Understory Thinning and Hazard Tree Removal (City Property)
- **Identified Project #27, Halbouty Park:** Understory Thinning and Hazard Tree Removal (City Property)



Pine Island Bayou Planning Unit

Date	6/3/2016	Risk Level	High
Unit	Pine Island Bayou	Risk Score	87
Acreage	2014.00	Market Value	\$926,670,236

Narrative

The Pine Island Bayou unit is bounded the west by Hwy 69/96/287 (Eastex Freeway), on the north by Pine Island Bayou and on the south by the LNVA canal.

- Most of the area is covered by large timber and heavy brush.
- Commercial properties run along Eastex Freeway, Tram Road and Broadoak Street.
- Dangers associated with commercial properties involve large wooden mats, and one flammable gas distribution center. There is also one oil well with tanks on the north east side of the unit.
- There are two main residential areas, one around Lawrence Drive, and the other along Sherwood Drive, with fixed home and urban interface areas that could pose serious problems during fire season. There is also one mobile home site on the north end of the unit surrounded by large fuels.
- There is one railroad track running north to south through the center of the unit.
- Access into the area is limited to a few roads.

Pros

- Most areas in the residential areas in the southern part of the unit are well kept and have good defensible spaces around homes.
- There is good fire breaks in areas from railroad tracks or by canals from the LNVA.

Hazards/Concerns

- **Large amount of wooded areas with heavy fuel loads.** Over half of the acreage in the unit is forest, including pine stands with dense underbrush and ladder fuels. Pine Island Bayou borders 3.85 miles of unit on the north and east side. This could cause problems in accessing fire area by heavy equipment and fire engines. With the large areas around the bayou, fires could burn extended periods and make suppression harder and more costly.
- **Commercial properties have high fuel loads.**
 - Quality Mat is located along Tram Road. It produces large mats made of large oak timbers. During summer months the moisture level can drop causing this to be by far the greatest fire fuel load in the area. The facility butts against the large wooded areas with little defensible space.
 - Another area is Coastal Welding located along Broadoak. It has storage cylinders located on the edge of wood line with multiple types of explosive/flammable gases.



Large wooden mats stored at Quality Mat with little defensible space.

- Other commercial properties of concern are either not keeping areas well-trimmed or are warehouses that are no longer operating. Some of these warehouses have brush and trees within close proximity to buildings that could cause fire to easily spread to structures.

- **Wooden power poles and pipelines next to roads and wooded areas.** There are high voltage lines running throughout unit with wooden poles that could easily ignite causing them to fall. This would not only cause electrical dangers but could also block important access roads. There are also underground pipelines that could pose problems with access and possible fire dangers to lines themselves.



Wooded area adjacent to high voltage electrical lines on wooden poles.

- **Access/Egress during emergency conditions is a major concern.** The City roads that allow movement of the public and emergency personnel can easily become congested in any emergency. Tram Road and Broadoak Road are the only two roads that access Eastex Freeway on the north end of the unit. These roads are narrow and they both have railroad crossings. With heavy fire load both of these roads could easily be compromised during a wildfire. The only other way to exit would be using Sherwood Drive which is also bordering heavy wooded areas and runs along railroad tracks. The south end of the unit can be accessed by Lawrence Drive, Chinn and Piney Point Roads. These roads travel through residential areas, are narrow and could easily become blocked by public evacuation.

- **Wildland/Urban Interface with heavy fuels.** In the northern area east of Sherwood Drive and south of Broadoak Street has a number of urban interface problems. Vacant lots contain high fuel load where some lots have never been cleared and some lots have grown up in vegetation. Trees and brush are growing close to homes. There is no defensible area around the homes and access is limited to three cross streets. The area around this community is composed of heavy fuels with Pine Island Bayou on one side. Heavy smoke could inhibit evacuations and access for emergency personnel. House to house ignition is a real concern. Many homes have high amounts of leaf litter on roofs and fuel loads all the way up to homes, with no type of wildfire fire protection in place.



Heavy fuel loads adjacent to a mobile home park in the unit.

MITIGATION STRATEGIES

Public Education/Planning

- **Educate the residence in the Sherwood area** about the Wildland-Urban Interface and strategies for reducing fuel loads to protect structures.
- **Develop an evacuation strategy** to ensure residents along the Pine Island Bayou can get safely out of the danger area, but still allow fire crews access.
- **Contact Local Businesses.** Local businesses in the area need to be informed of possible dangers and ways to protect their property. Quality Mat has high fuel loads around its properties that could be reduced. Mats could possibly be stored in safer location during fire seasons or possibly find some way to keep moisture levels high in mats by use of sprinklers. Coastal Welding also needs to be informed of dangers and possibly store flammable gasses away from high fuel areas and remove vegetation away from edges of properties.
- **Preplan the area.** Have Beaumont Fire's WUIRT preplan area and develop maps and attack strategies. Coordinate with National Park Service for area of the Big Thicket.
- **Reach out to potential neighborhoods about Firewise Communities USA**
 - Forest Hollow Community
 - Forest Glen
 - Lawrence Drive

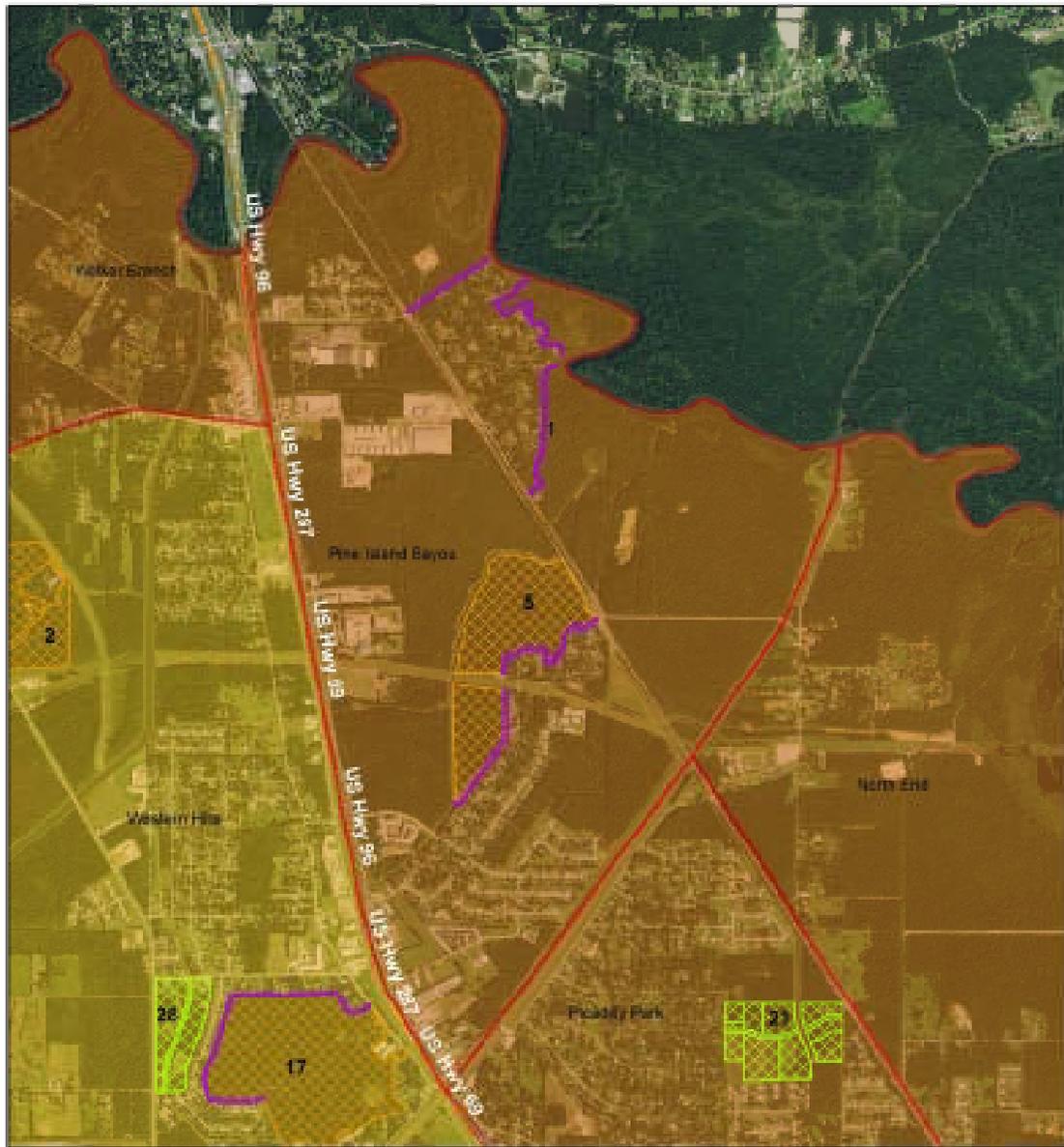


Creek bed off of Sherwood Drive that could pose access problems to fires with heavy timber.

Fuel Reduction *(See map on next page)*

- **Identified Project #1, Forest Glen:** Shaded Fuel Break
- **Identified Project #5, Lawrence Drive:** Shaded Fuel Break and Understory Thinning

Pine Island Bayou



Legend	
	High Wildfire Hazard Rating
	Moderate Wildfire Hazard Rating
	Roads
	Shaded Fuel Break
	Prescribed Fire (City Property)
	Understorey Thinning
	Understorey Thinning (City Property)

0 0.225 0.45 0.9 Miles

1:28,814



Prepared by: Samuel McCall; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System

Pine Street Corridor Planning Unit

Date	6/3/2016	Risk Level	High
Unit	Pine Street Corridor	Risk Score	82
Acreage	2924.00	Market Value	\$66,630,280

Narrative

The Pine Street Corridor unit is located in the east side of the City of Beaumont bounded on the south by Interstate 10, the west by Magnolia Street, on the north by East Lucas Drive, and on the east by the Neches River.

- The unit is mostly residential with some stores and businesses along Magnolia Street which is the West boundary of the unit. The unit consists mostly of older homes built in the 1940s and 1950s, with some newer construction mixed in. The unit also contains a large number of abandoned homes in various stages of decay.
- On the eastern side of the unit the streets and houses end right where the land slopes down into the Neches river bottom.
- On the north side of the unit there is a golf course and an apartment complex that are in a wildland area.
- The wildland area is a mix of bottom swamp land with little ladder fuels available and upland pine timber with a great deal underbrush and ladder fuels.

Pros

- The swamp land to the east has a low occurrence of fires due to the wet area.
- The golf course, river, and cemeteries provide good fire breaks.
- The water supply for the area is excellent.

Hazards/Concerns

- Heavily wooded areas surrounding Pine Club Apartments with access/egress issues in and out of the complex.
- Old, abandoned structures throughout the unit which are prone to catch embers or fire brands and burn.
- There are a good number of homes in the unit that are right along the interface with little to no defensible space.
- Large areas of continuous fuels on the north and east sections of the unit.



Home in the unit with little defensible space.

MITIGATION STRATEGIES

Public Education/Planning

- **Reach out to potential neighborhoods about Firewise Communities USA**
 - Pine Club Apartments
 - Stone Hearst Apartments
- Preplan the unit with Beaumont Fire's WUIRT. Work with Big Thicket for a coordinated attack plan. Produce pre-attack maps for the unit.
- Coordinate with City's existing program to remove red tag structures.

Fuel Reduction *(See map on next page)*

- **Identified Project #14, Pine Club and Stone Hearst Apartments**: Shaded Fuel Break and Understory Thinning
- **Identified Project #31, Neches River**: Prescribed Burn (City Property)
- Remove abandoned structures from unit and clear associated lots.



Residential properties with little defensible space.

Pine Street Corridor



Legend	
	High Wildfire Hazard Rating
	Moderate Wildfire Hazard Rating
	Roads
	Shaded Fuel Break
	Prescribed Fire (City Property)
	Understory Thinning
	Understory Thinning (City Property)

0 0.2 0.4 0.8 Miles

1:25,301



Prepared by: Samuel McCall; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System

South End Planning Unit

Date	6/3/2016	Risk Level	Moderate
Unit	South End	Risk Score	55
Acreage	6347.00	Market Value	\$54,647,595

Narrative

The South End unit is located within Beaumont City limits on the southeastern part of town, bounded on the north and east by Highway 69/96/287, and on the south and west by unincorporated Jefferson County.

- West Port Arthur Road and a railroad/rail yard bisect the unit.
- The unit is heavily industrialized with numerous industrial facilities and tank farms. The area also has an underground hydrogen storage facility in salt domes. These facilities are fenced and gated but are landscaped in a way to minimize fire spread.
- Other infrastructure includes pipelines, power lines, railroad tracks and highways. Prisons are located in open grassy areas along the unit’s southern boundary, but fuels are kept mowed. Lamar University is located in the northeast side of the unit and is built with Firewise materials and is landscaped in a Firewise fashion. Lamar would also be a great place for an incident command post.
- A subdivision surrounded by wildland fuels exists in the west side of the unit along Hillebrandt Road. This subdivision is of mixed construction types with some homes having open foundations and uncleaned roofs. The threat of spot fires from adjacent vegetation exists however the subdivision is surrounded by fuel breaks on all sides with two exit routes to the north to Hillebrandt.
- Large tracts of wildland areas exist intermixed with the open, low hazard vegetative communities such as pastures and manicured lawns. These areas do have the potential to carry a fast moving fire with spotting and present a variety of wildland fire suppression challenges.

Pros

- Overall, the facilities are free of vegetation provide adequate defensible space with metal Firewise construction.
- Hydrants exist throughout.
- Most well heads and tanks and have rock and gravel on average 75’ around and areas where grass exists in between tanks is kept mowed.
- A large dip site or water source exists in the middle of the unit and roadways are accessible.
- Mutual aid from volunteer departments to



Beaumont WUIRT and TFS members survey the unit to identify risks.

the south exists and Beaumont Fire regularly responds with these cooperators. Gladys City Park in the unit would make a safe and open area as a gathering place for staging.

Hazards/Concerns

- **The sheer number of high value hazardous materials facilities within the unit is a major concern.** Information the types of products at each facility and detailed maps with pre-planning information does not exist to mutual aid responders. Industrial fires could reach adjacent wildland fuels causing wildfires. This includes the existence of highly flammable hydrogen storage in the unit.
- **Access/Egress during any emergency response is a concern.** Roads are marked and accessible, but there are numerous dirt roads that could impede access. Also drainage ditches with cement culverts could impede fire apparatus access.
- **Wicks of wildland fuels are intermixed with Firewise areas posing threats to adjacent developments, especially with spotting.** These areas are hard to fight fires without specialized wildland fire equipment.
- **Railroads sparks could ignite fuels next to the tracks.** Numerous wooden railroad bridges were observed with fuels available to cause direct flame impingement.
- **Areas of continuous fuels exist outside the South End Unit to the south** and could support wildfire spread in to the unit from the south.
- **A large hydrant was noted at the hydrogen storage facility, but the stand pipe is made of plastic and could warp or rupture if surrounding fuels ignited.**
- **Although Firewise, prison evacuation would present major challenges in an emergency.**



Hydrogen storage unit.



Dirt roads can impede access of emergency apparatus and personnel.

MITIGATION STRATEGIES

Public Education/Planning

- **Coordinate and conduct a familiarization meeting and tour.** This pre-attack planning day would involve reaching out to and inviting industry representatives, Beaumont Fire Department, mutual aid responders and other interested stakeholders. Allow BFD and other mutual aid responders the opportunity to tour the grounds and edges of each facility to gather situational

awareness and develop written pre- attack and evacuation plans.

- **Produce a map of the unit identifying each facility** with a correlating table of the types of hazardous materials, size and scale of the facility, emergency contact numbers and designated staging areas, etc. This map would be for emergency responders.
- **Produce pre-attack maps for emergency responders to augment BFD’s current 911 street guide: Maps to include:** Pipelines, Railroads, Streets, Evacuation Routes and Safety Zones.
- **Utilize Texas A&M Forest Service’s Mitigation and Prevention Department to deliver outreach programs** (fuels management, defensible space, home construction) to local communities and businesses. Target specific hazards and raise public awareness.



Heavy fuel load adjacent to infrastructure.

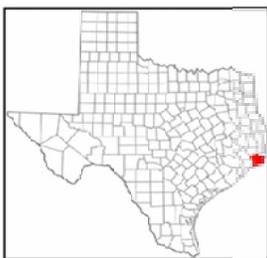
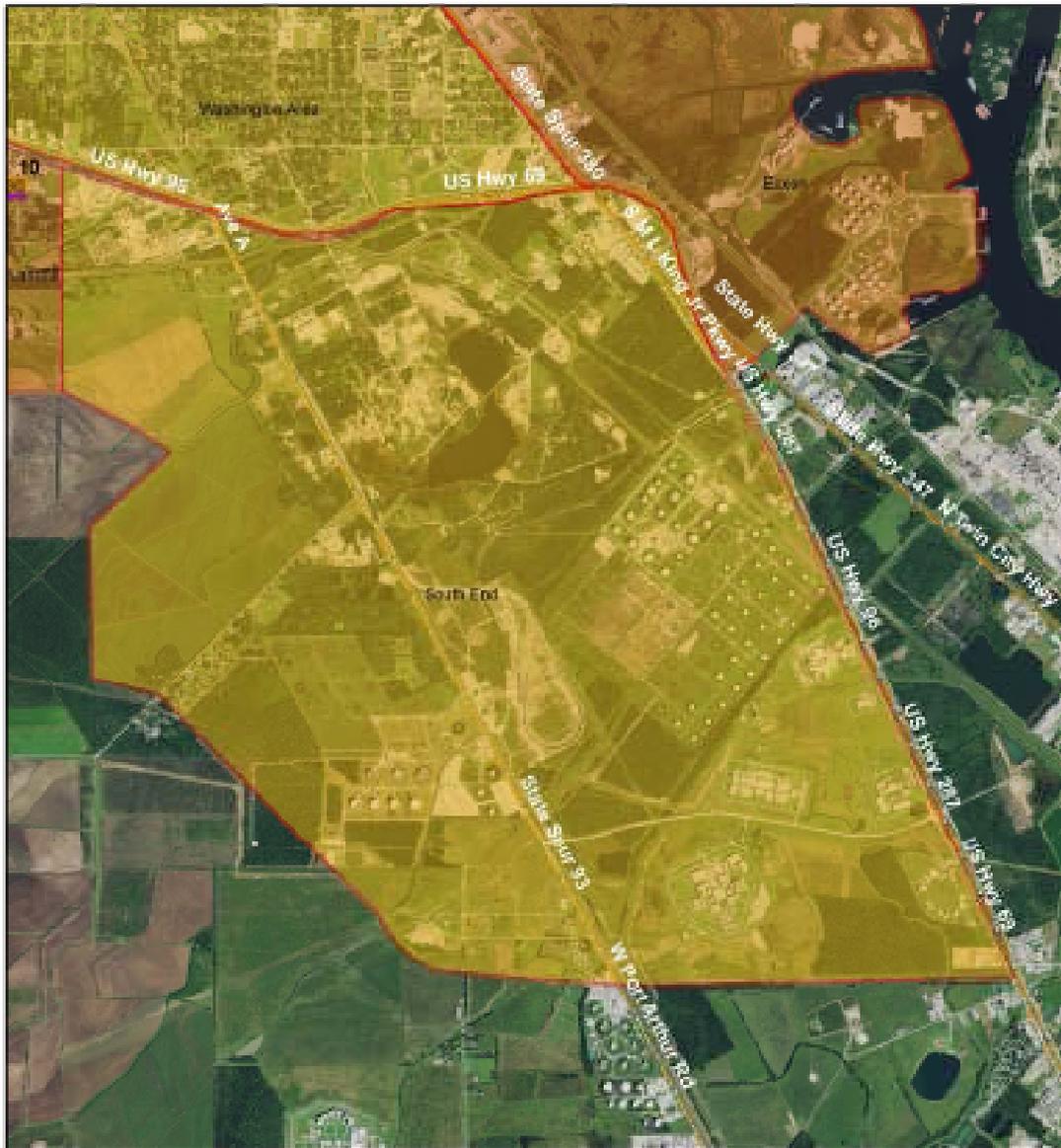
Fuel Reduction

- **Clear pipelines and power lines where fuels exist to cause direct flame impingement.**
- Remove vegetation and continuously herbicide or gravel around wooden railroad bridges.
- **Construct defensible space around any values at risk where defensible space is inadequate.**
- Ensure all plastic hydrants are free of vegetation.



TFS and Beaumont WUIRT members surveying the unit.

South End



Legend

- High Wildfire Hazard Rating
- Moderate Wildfire Hazard Rating
- Roads
- Shaded Fuel Break
- Prescribed Fire (City Property)
- Understory Thinning
- Understory Thinning (City Property)

0 0.325 0.65 1.3 Miles

1:40,017



Prepared by: Samuel McCall; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System

Tyrrell Park Planning Unit

Date	6/3/2016	Risk Level	High
Unit	Tyrrell Park	Risk Score	70
Acreage	1916.00	Market Value	\$76,322,041

Narrative

The Tyrrell Park unit boundaries are Interstate 10 on the north and west, the Hillebrandt Canal and Cattail Marsh to the east and City limits on the south.

- The unit consists of the Tyrrell Park subdivision, botanical gardens and golf course as well as interstate frontage business, Beaumont ISD Carrol A. “Butch” Thomas Football Stadium and a large Petro Truck Stop.
- Fannett Road and a railroad track run parallel with I-10 through the unit and several areas of continuous wildland fuels exist in this corridor. Other 20-30 acre pockets of continuous wildland fuels exist throughout the unit.
- The subdivisions possess mixed construction types and ages from older pier and beam with wood siding to slab foundation and brick siding. Lots are 1-2 acres and although most are manicured, wildland fuels in between structures contribute to the challenges of mixed interface fires. Access and egress to the east and south is limited to only several bridges crossing the bayous and canals.



Entrance to Tyrrell Park

Pros

- A City-owned and managed golf course makes up the eastern side of the unit providing an area of defensibility from and access to wildland fires in adjacent forested areas. The course makes an adequate safety zone and is easily accessible by foot or car from surrounding subdivisions.
- Street signs exist throughout the unit and overall the unit is easily accessible to firefighting apparatus.

Hazards/Concerns

- **20-30 acre tracts of continuous wildland fuels exist and can create “wicks” posing threats to adjacent developments, especially with spotting.** These areas are hard to fight fires without specialized wildland fire equipment.
- **Railroads sparks could ignite fuels next to the tracks, including pockets of forested fuels,** including a large wooden railroad bridges with fuels directly touching within the unit.



Wooden railroad bridge with fuels in direct contact.

- **Areas of continuous fuels exist outside the unit to the south** and could support wildfire spread in to the unit from the unincorporated south.
- **Wildland fuels abut gas tanks and other infrastructure at the Petro Truck Stop.**

MITIGATION STRATEGIES

Public Education/Planning

- **Coordinate and conduct a familiarization meeting and tour with BFD, Parks Department and interested public.**
- **Produce pre-attack maps for emergency responders to augment BFD’s current 9-1-1 street guide:** Maps to include: Pipelines, Railroads, Streets, Evacuation Routes and Safety Zones.
- **Utilize Texas A&M Forest Service’s Mitigation and Prevention Department to deliver outreach programs (*fuels management, defensible space, home construction*) to local communities and businesses.** Target specific hazards and raise public awareness.



Receptive fuels atop a house in the unit.

Fuel Reduction *(See map on next page)*

- Clear pipelines and power lines where fuels exist to cause direct flame impingement.
- Remove vegetation and continuously herbicide or gravel around wooden railroad bridges.
- Construct defensible space around any values at risk where defensible space is inadequate.
- Harden homes in neighborhood and mixed interface environments.
- Assist Park’s Department with hazard tree management.
- Understory thinning’s within the pine ecosystems in the unit.
- Burning of Cattail Marsh (as defined in Landfill Unit Assessment).
- **Identified Project #30, Tyrell Park:** Understory Thinning and Hazard Tree Removal around golf course edges (City Property)

Tyrell Park



Legend	
	High Wildfire Hazard Rating
	Moderate Wildfire Hazard Rating
	Roads
	Shaded Fuel Break
	Prescribed Fire (City Property)
	Understorey Thinning
	Understorey Thinning (City Property)

0 0.2 0.4 0.8 Miles

1:25,535



Prepared by: Samuel McCall; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System

Walker Branch Planning Unit

Date	6/3/2016	Risk Level	High
Unit	Walker Branch	Risk Score	66
Acreage	1533.00	Market Value	\$17,089,090

Narrative

The Walker Branch unit is located northern part of the City of Beaumont just west of US Hwy 69. The unit is bordered on the north by the Pine Island Bayou, on the west by the LNVA canal, on the south by Tram Road, and on the east by Highway 69/96/287.

- The unit is mostly residential with a few commercial businesses along Highway 69.
- There are several large wildland areas around the waterways and along Tram Road.
- The unit has a diverse ecosystem which contains large pastures/fields with med/high grasses, some swamp type bottom land and pine plantations with thick yaupon undergrowth.

Pros

- Most residential areas have sufficient defensible space.
- The area has a good water supply system.
- There are roads throughout and the waterways to the north and west provide adequate fuel breaks use as anchor points.

Hazards/Concerns

- There are several residential areas with only one way in/out.
- Wooden utility poles exist throughout the unit.
- There are large areas of continuous fuel. Some neighborhoods will have to be evacuated depending on fire conditions.

MITIGATION STRATEGIES

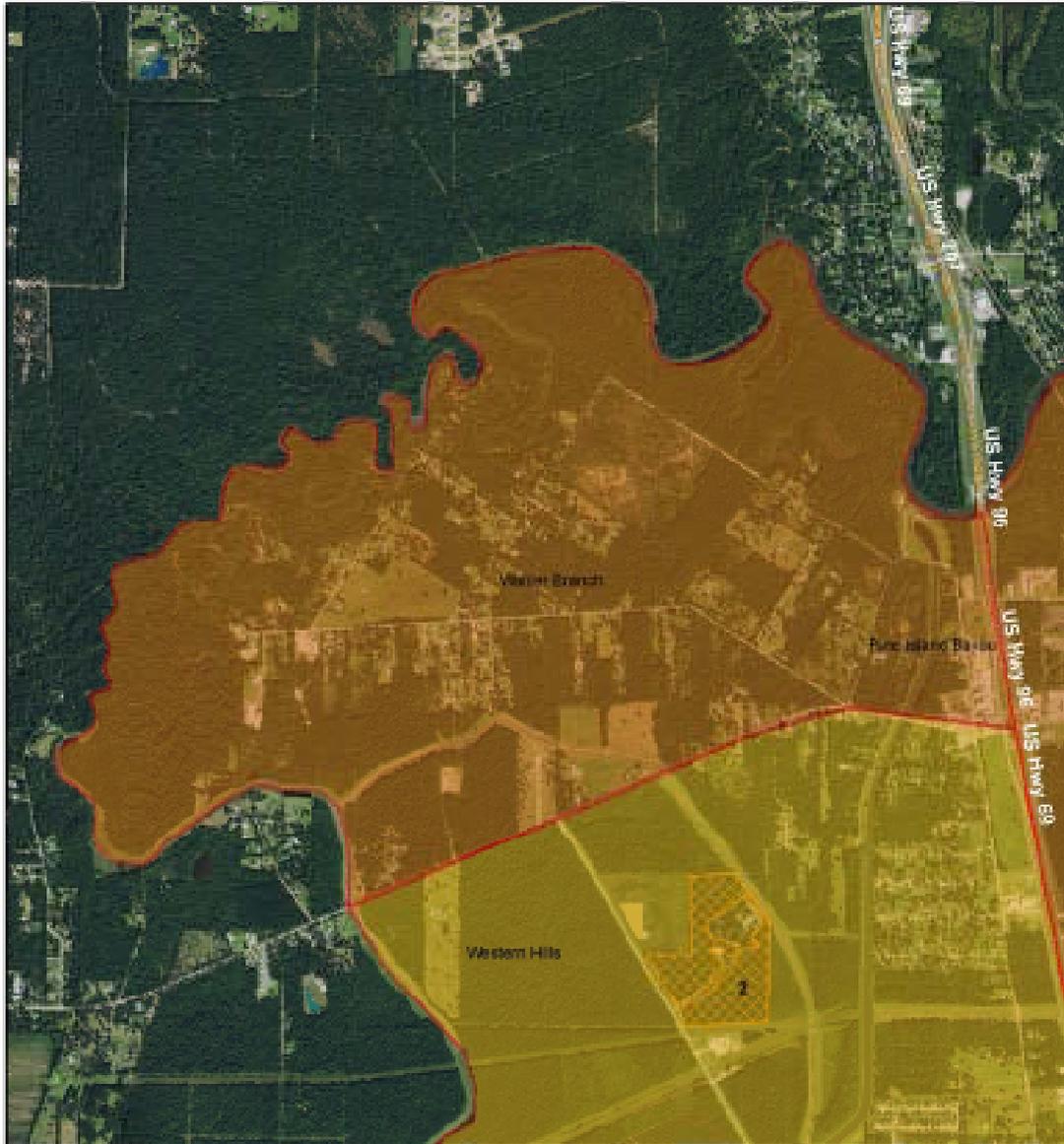
Public Education/Planning

- Ready set go training for citizens.
- Preplan the unit with the Beaumont's WUIRT. Work with Big Thicket for coordinated attack plan. Produce pre-attack maps for the unit.

Fuel Reduction

- Construct defensible space where in adequate.
- Understory Thinning throughout unit.
- Develop site specific map of potential fuel projects in collaboration with Big Thicket.

Walker Branch



Legend	
	High Wildfire Hazard Rating
	Moderate Wildfire Hazard Rating
	Roads
	Shaded Fuel Break
	Prescribed Fire (City Property)
	Understory Thinning
	Understory Thinning (City Property)

0 0.175 0.35 0.7 Miles

1:23,334



Prepared by: Samuel McCall; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System

Washington Planning Unit

Date	6/3/2016	Risk Level	Moderate
Unit	Washington Area	Risk Score	47
Acreage	5898.16	Market Value	\$630,318,617

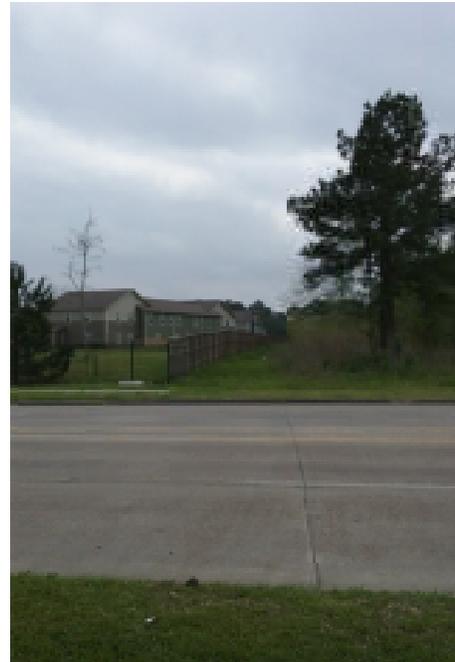
Narrative

The Washington unit is located in the southeastern part of the City. The unit is bounded by I-10 on the west, Cardinal Drive on the South, MLK Boulevard on the east, and College Street on the north.

- The unit is mostly residential with some commercial and industrial businesses located on the main travel routes within the unit. The unit also contains several schools and apartment complexes.
- The unit also contains several large woodlots on the southwestern portion of the unit and multiple smaller wooded areas scattered throughout.
- Several sets of rail road track traverse the unit.

Pros

- Most of the residential areas have landscaped yards.
- There is an excellent water supply system throughout the unit.
- Since the unit is heavily populated citizens are quick to spot a fire and call 9-1-1.



Example of wildland-urban interface zone in the unit.

Hazards/Concerns

- Vacant houses (red tagged) that are scattered throughout the area are in disrepair with grown up yards that could be easily ignited.
- Several sets of railroad tracks traverse the area and have tall grass/brush on the right-of-ways.

MITIGATION STRATEGIES

Public Education/Planning

- Educate residents on Embers Awareness.

Fuel Reduction *(See map on next page)*

- Coordinate with RR on possible fuel reduction around tracks.
- Coordinate with City’s existing program to remove red tag structures.
- **Identified Project #3, Water Tower:** Shaded Fuel Break and Understory Thinning.

Washington Area



Legend	
	High Wildfire Hazard Rating
	Moderate Wildfire Hazard Rating
	Roads
	Shaded Fuel Break
	Prescribed Fire (City Property)
	Understorey Thinning
	Understorey Thinning (City Property)

0 0.4 0.8 1.6 Miles

1:47,584



Prepared by: Samuel McCallip; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System

West End Planning Unit

Date	6/3/2016	Risk Level	Moderate
Unit	West End	Risk Score	56
Acreage	4428.00	Market Value	\$675,974,564

Narrative

The West End unit is bounded on the north by Highway 105, on the west by Keith Road, on the south by Gladys Street and Dishman Road, and on the east by Dowlen Road

- Home construction ranges from 1970s-type to present day construction with most homes being brick on concrete slab.
- Most of the commercial area is located along Dowlen Road and Eastex Freeway.
- The unit contains large areas of light fuels and some areas of heavy fuels in close proximity to structures. The northern part of the unit has some areas of pine plantation.

Pros

- Most residences in the unit are built using Firewise construction.
- There are several ways in and out of most of the neighborhoods in case evacuation is required.
- The commercial area has adequate defensible space around the structures.

Hazards/Concerns

- Large areas of continuous fuels throughout unit.
- Large areas of light fast burning fuels leading into heavier fuels near structures.
- Apartment complexes next to pine plantations with little defensible space.



Apartments adjacent to pine plantation.

MITIGATION STRATEGIES

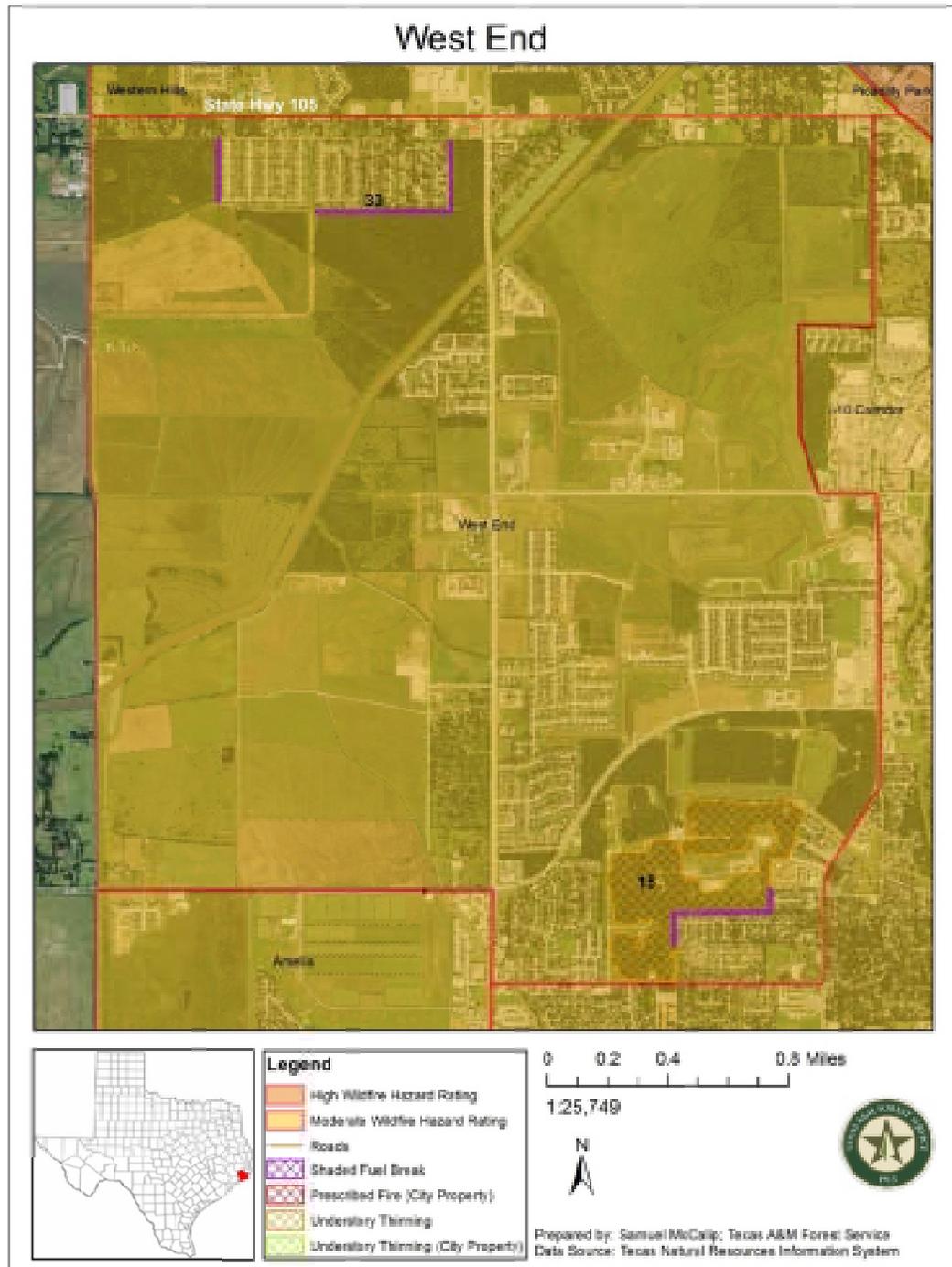
Public Education/Planning

- Utilize TFS materials for public education.
- Preplan the unit with the Beaumont Fire’s WUIRT. Produce pre-attack maps for the unit.

Fuel Reduction *(See map on next page)*

- **Remove vegetation and continuously herbicide or gravel around wooden railroad bridges.**
- **Construct defensible space around any values at risk where defensible space is inadequate.**

- Harden homes in neighborhood and mixed interface environments.
- **Identified Project #15, Windsor Parkway:** Shaded Fuel Break and Understory Thinning
- **Identified Project #33, Toliver Road:** Shaded Fuel Break



Western Hills Planning Unit

Date	6/3/2016	Risk Level	Moderate
Unit	Western Hills	Risk Score	53
Acreage	3129.00	Market Value	\$253,279,156

Narrative

The Western Hills unit is bounded by Highway 105 on the south, US 69/96/287 on the east, Keith Road and Pine Island Bayou on the west and Tram Road to the north.

- The areas along Highway 105 and US 69/96/287 are heavily populated with some commercial businesses mixed in.
- Most of the homes in the unit are from the 1960s, but also has some new construction.
- The areas to the west and north are less populated with large areas of continuous fuels.
- The unit also contains several large wooded areas that are surrounded by residential neighborhoods. These wooded areas range in size from 90 to 20 acres.
- The wildlands in the unit consist of grown up pasture lands and various growth stages of pine plantations.

Pros

- Most of the unit contains good fire breaks and good access to wildland areas by roads and canal banks.
- The area has a good water supply system.
- Most homes have good defensible space.

Hazards/Concerns

- Large areas of continuous fuels exist on the west side of the unit.
- Some areas will need to be evacuated depending on fire conditions.
- Fires on the west side of the unit could go undetected for a while causing the fire to get a head start and grow large.
- The large wooded areas within the unit surrounded by neighborhoods.

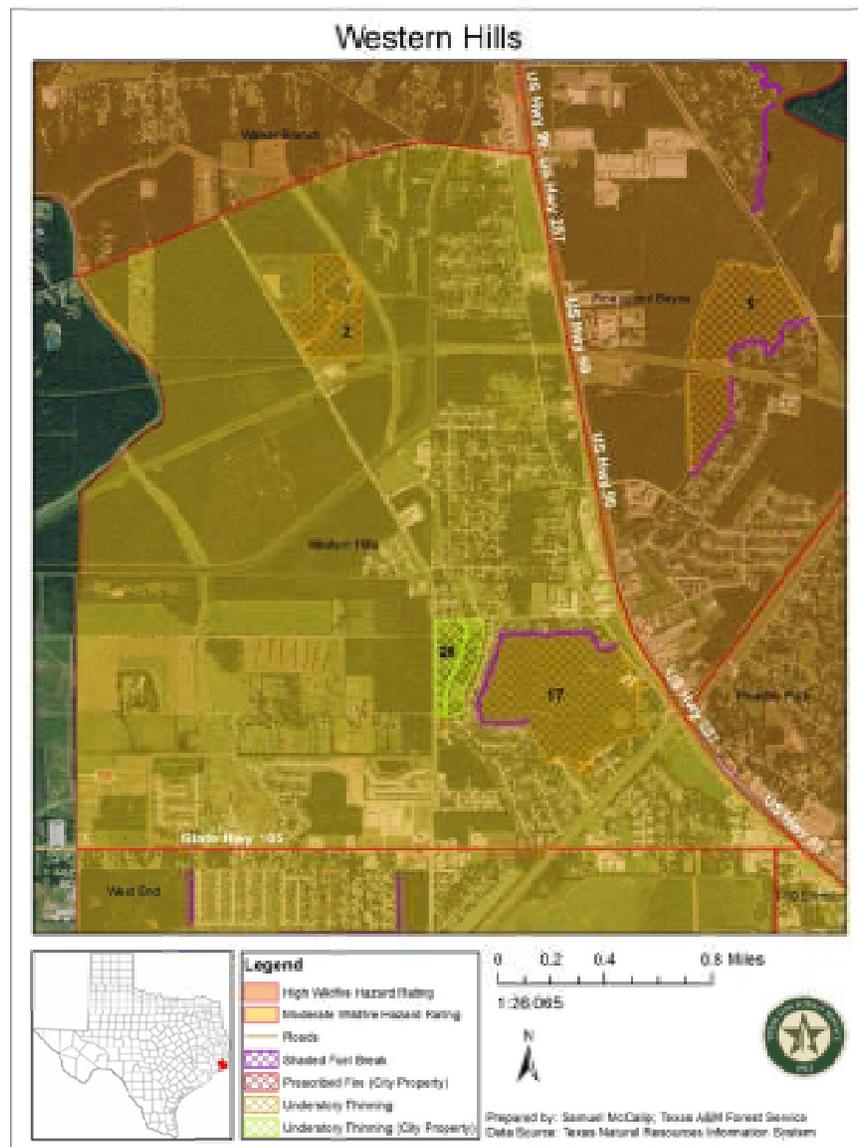
MITIGATION STRATEGIES

Public Education/Planning

- Utilize TFS materials for public education.
- Preplan the unit with the Beaumont Fire's WUIRT. Produce pre attack maps for the unit.

Fuel Reduction (See map below)

- **Remove vegetation and continuously herbicide or gravel around wooden railroad bridges.**
- **Construct defensible space around any values at risk where defensible space is inadequate.** Harden homes in neighborhood and mixed interface environments.
- **Identified Project #2, Holy Family Retreat Center:** Understory Thinning
- **Identified Project #17, Griffin Road:** Shaded Fuel Break and Understory Thinning
- **Identified Project #28, Klein Park:** Understory Thinning and Hazard Tree Removal (City Property)



Willow Creek Planning Unit

Date	6/3/2016	Risk Level	Moderate
Unit	Willow Creek	Risk Score	44
Acreage	4692.00	Market Value	\$398,043,310

Narrative

The Willow Creek unit is in the southwest portion of Beaumont City limits. The unit is bounded by Interstate 10 on the east, Highway 90 on the north, and South Major Drive on the west. Hillebrandt Canal bisects the unit.

- The unit consists of a variety of mixed used lands including I-10 frontage with commercial such as hotels and restaurants, pasture land, and residential subdivisions of mixed age classes.
- Subdivisions are laid out and in the early stages of development within the unit. The subdivisions are newer in age, with slab foundation and brick siding. Lots are manicured and Home owner associations covenants have designed many Firewise landscaping requirements into the bylaws.
- Washington and Walden Roads run east and west through the center of the unit and are the main access and egress routes connecting residential areas to the freeway. The subdivisions are newer in age, with slab foundation and brick siding. Lots are manicured and HOA covenants have designed many Firewise landscaping requirements into the bylaws.
- Large tracts of continuous wildland fuels exist within the unit adjacent to structures. Arrangement and continuity of fuels combined with access and egress issues would make combating a wildfire problematic.
- South of Walden Road is a large, grazed pasture with a mostly fine fuel loading such as grass exists within a fenced agricultural setting. These fuels abut existing and planned subdivisions.
- Lands between the freeway and the new “The Crescent on Walden” gated community is a typical eastern piney woods timber stand experiencing significant tallow intrusion.
- Road systems are sparse and dirt within this forested and pasture areas creating a significant access egress issue if a wildfire were to occur.
- In the southwestern corner of the unit, 5-10 acre tracts of forest exist intermixed with the Champions and Prestwick subdivisions.
- Large assisted living facilities exist in the Northwest portion of the unit and would be difficult to evacuate speedily.

Pros

- The unit has great access to hydrants and quick response from BFD.
- Other than the Crescent subdivision, Champions and Prestwick have multiple access and egress points.
- A golf course exists in the Prestwick neighborhood. The course makes an adequate safety zone and is easily accessible by foot or car from surrounding subdivisions.
- Street signs exist throughout the unit and the residential areas of the unit are easily accessible to firefighting apparatus.

Hazards/Concerns

- **Large tracts of continuous wildland fuels exist and can create “wicks” posing threats to adjacent developments, especially with spotting.** These areas are hard to fight fires without specialized wildland fire equipment.
- **Development is occurring creating more homes within the WUI.** Growth is occurring and more structures and residents are being constructed in the fire environment.
- **Access/Egress within the large wildland tracts is a concern.** Since much of this unit is open tracts, road systems and accessibility is a hazard and a concern during wildfire response.
- **Oaks of Beaumont Nursing Home and Park Shadows Apartments are of special concern.** The nursing home and complex exists with wildland fuels on surrounding the infrastructure. Both are on way in and out and would be hard to evacuate in the event of a wildfire.

MITIGATION STRATEGIES

Public Education/Planning

- **Coordinate and conduct a familiarization meeting and tour with BFD, Parks Department and interested public.**
- **Produce pre-attack maps for emergency responders to augment BFD’s current 911 street guide:** Maps to include: Pipelines, Railroads, Streets, Evacuation Routes and Safety Zones.
- **Utilize Texas A&M Forest Service’s Mitigation and Prevention Department to deliver outreach programs** (*fuels management, defensible space, home construction*) to local communities and businesses. Target specific hazards and raise public awareness.
- Reach out to the following utilizing Firewise Communities USA designation and Ready, Set, Go materials:
 - **Oaks of Beaumont Nursing Home**
 - **Park Shadows Apartments**
 - **The Crescent at Walden**
 - **Champions and Prestwick HOA’s**
 - **Brentwood County Club**

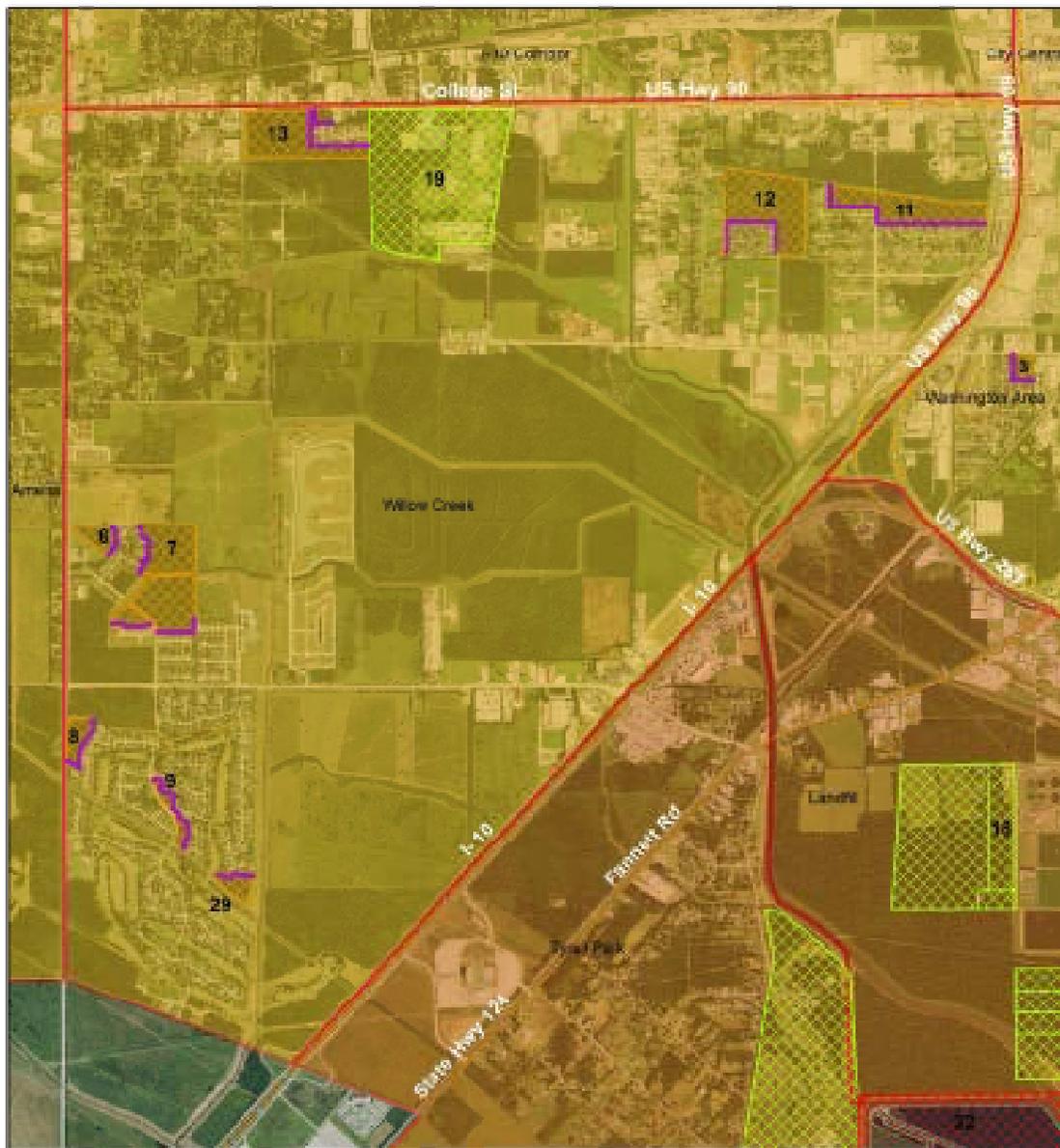
Fuel Reduction *(See map on page 82)*

- **Construct defensible space around any values at risk where defensible space is inadequate.**
- **Construct defensible space 200’ around Park Shadows Apartments and Oaks of Beaumont Nursing Home.**
- **Harden homes in neighborhood and mixed interface environments.**
- Understory thinning’s and Chinese Tallow removal within the pine ecosystems in the unit by

reaching out to landowners.

- **Identified Project #6, Brentwood 1:** Shaded Fuel Break and Understory Thinning
- **Identified Project #7, Brentwood 2:** Shaded Fuel Break and Understory Thinning
- **Identified Project #8, Brentwood 3:** Shaded Fuel Break and Understory Thinning
- **Identified Project #9, Brentwood 4:** Shaded Fuel Break and Understory Thinning
- **Identified Project #29, Brentwood 5:** Shaded Fuel Break and Understory Thinning
- **Identified Project #11, South 23rd St.:** Shaded Fuel Break and Understory Thinning
- **Identified Project #12, Vilas of Sunnyside:** Shaded Fuel Break and Understory Thinning
- **Identified Project #13, Timber Edge Apartments:** Shaded Fuel Break and Understory Thinning
- **Identified Project #19, Municipal Athletic Complex:** Understory Thinning and Hazard Tree Removal (City Property)

Willow Creek



Legend	
	High Wildfire Hazard Rating
	Moderate Wildfire Hazard Rating
	Roads
	Shaded Fuel Break
	Prescribed Fire (City Property)
	Understory Thinning
	Understory Thinning (City Property)

0 0.25 0.5 1 Miles

1:31,459



Prepared by: Samuel McCallip; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System

4.0 Community Prescription

Undertaking wildfire mitigation in the wildland urban interface can reduce the risk of wildfire to the human environment. These actions offer several benefits including:

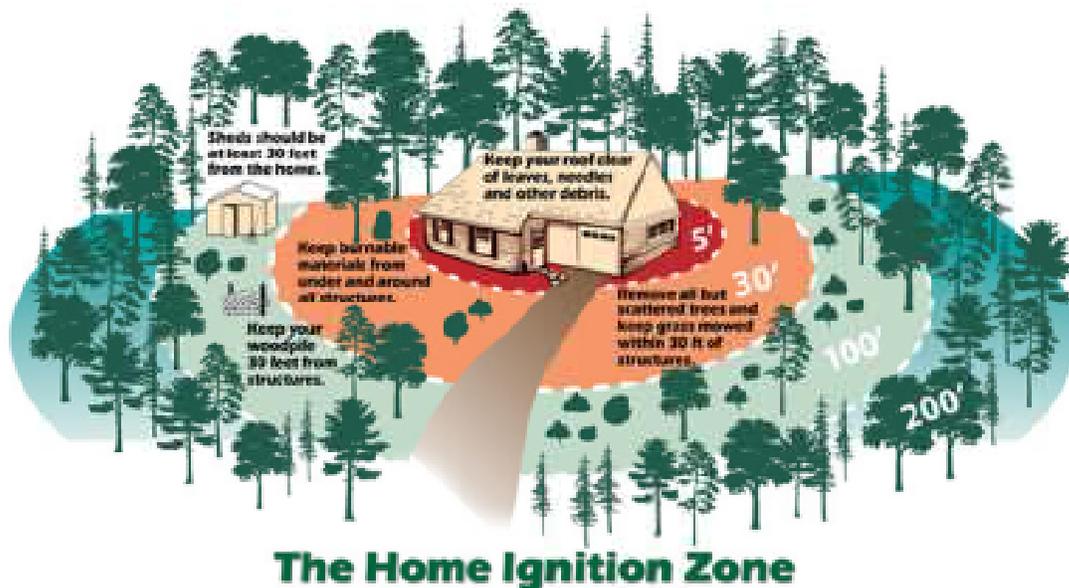
- Creating safer communities by reducing loss of life and property damage
- Allowing individuals and communities to minimize post disaster disruptions and recover more rapidly
- Lessening the financial impact on individuals, communities, and society as a whole
- Contributing to firefighter and public safety by reducing fuels or lessening the risk of structures igniting

4.1 Treatment of Structural Ignitability

The **Home Ignition Zone (HIZ)** includes the house and its immediate surroundings (within 200 feet) or to the property boundary. The vegetation surrounding the home determines the home's susceptibility to ignition during a wildfire. To minimize the chance of a home ignition, homeowners should eliminate a wildfire's potential relationship with their house. This can be accomplished by interrupting the natural path a fire takes.

The Home Ignition Zone (HIZ)

The HIZ is broken down into 3 zones:



1. **The Foundation – 30 Feet:** This area should have plants that are low to the ground, green and healthy. Homeowners should avoid large clumps of plants that can generate high heat. Noncombustible material such as rock or stone should be used instead of mulch around the homes foundation to create a buffer between the grass and foundation. The best choice for

trees is a deciduous species with wide, broad leaves. Shrubbery and bushes should be placed away from trees and planted in islands or groupings. This prevents fire from climbing through the lower vegetation into the canopy.

2. **30 – 100 Feet:** More plants can be present in this area however, Firewise principles still apply. Firewood, small brush piles, or stacks of building materials should be moved to this zone or further away. Thirty feet spacing between clusters of 2-3 trees should be maintained along with fuel breaks such as, driveways, gravel walkways, and lawns. Trees in this zone need to be pruned to height of 6-10 feet from the ground.
3. **100 – 200 Feet:** Trees in this zone should be thinned to eliminate overlapping canopies, although less space is required than in zone 3. Smaller conifers growing between taller trees should be removed along with heavy accumulations of woody debris

Firewise Communities USA Recognition Program

Because many homes are located within the HIZ of their neighbor's home, a community approach at reducing combustible material should be utilized. The Firewise Communities/USA program draws on a community's spirit, its resolve and its willingness to take responsibility for reducing wildfire risks by providing the resources needed to achieve both a high level of protection against wildland-urban interface fire and ecosystem balance.

Neighborhoods, subdivisions, and small towns in fire-prone areas can earn Firewise Communities/USA Recognition status by implementing Firewise principles tailored to their specific community needs. This nationwide initiative recognizes communities for taking action to protect people and properties from the risk of fires in the wildland-urban interface. Communities create their programs themselves with cooperative assistance from local fire staff and state forestry agencies.

By encouraging local communities to work with the Beaumont Fire Department and Texas A&M Forest Service through the Firewise Communities/USA program, efforts to reduce home ignitions during a wildfire event can be maximized. Firewise communities can work with a combination of other mitigation strategies to allow firefighters to fight wildfires safely, minimizing loss of life and property.

Fire-prone communities earn Firewise Communities/USA recognition status by meeting the following criteria:

1. Enlisting a Wildland-Urban Interface Specialist to complete an assessment and create a plan that identifies locally agreed-upon solutions that the community can implement.
2. Sponsoring a local Firewise task force, committee, commission, or department which maintains the Firewise Community program and tracks its progress or status.
3. Observing a Firewise Communities/USA Day each year that is dedicated to a local Firewise project.
4. Investing a minimum of \$2.00 annually per capita in local Firewise Communities/USA efforts. *(Work by municipal employees or volunteers using municipal and other equipment can be included, as can state/federal grants dedicated to that purpose.)*

- Submitting an annual report to Firewise Communities/USA, documenting continuing compliance with the program.

Beaumont Targeted Firewise Communities

Through the assessment process, team members identified the following areas of Beaumont as viable candidates for the Firewise Communities USA program. These communities were identified as “at risk” from wildfire based on surrounding fuel loadings, and because they also have home owners associations. Beaumont Fire and Texas A&M Forest Service would reach out to each community to promote Firewise concepts as well as guide them towards designation.

Community Name	Risk Assessment Unit	Risk Assessment Rating	Home Owners Association Contact	Contact Information
Forest Hollow	Pine Island Bayou	High	foresthollowmhp.com	409-892-5613
Forest Glen	Pine Island Bayou	High	n/a	n/a
Lawrence Drive	Pine Island Bayou	High	n/a	n/a
Brentwood County Club	Tyrrell Park	High	Willow Creek HOA	409-832-0211
Pine Club Apartments	Pine Street Corridor	High	n/a	409 899-2900
Stonehearst Apartments	Pine Street Corridor	High	n/a	409 892-1124
Griffing Place	Western Hills	Moderate	Dana Ramoran	409-201-6563
The Crescent on Walden	Willow Creek	Moderate	n/a	409-840-4340
Oaks of Beaumont	Willow Creek	Moderate	n/a	409-842-4550
Timbers Edge Apartments	Willow Creek	Moderate	n/a	409-860-4146
Walden Meadows	Willow Creek	Moderate	n/a	409-832-0211
Villas at Sunnyside	Willow Creek	Moderate	n/a	409-840-3442
Windsor Park	West End	Moderate	Allison Getz	409-351-3882
Montclair Subdivision	I-10 Corridor	Moderate	n/a	n/a

4.2 Hazardous Fuels Reduction Projects

Fuel reduction projects, such as creating shaded fuel breaks or fire breaks, can dramatically reduce the spread and intensity of wildfire. Reducing the density of fuel by thinning and trimming trees and removing ladder fuels helps keep the fire on the ground, increasing the chances for firefighters to control the fire. Determining where to administer such a specific treatment is critical. Practices implemented incorrectly and/or ignored will likely increase the fire risk. Locations of necessary treatments should be used only after all prevention measures, including Firewise modifications to the home and landscaping, have been completed.

Shaded Fuel Break and Defensible Space Specifications

Closed Canopy Woodland (Shaded Fuel Break)

A closed canopy woodland is a woodland where canopy closure is sufficient to limit growth of tall grass to less than 50% of the ground cover. The intent of creating closed-canopy woodland is to reduce the chance of a surface fire transitioning into a crown fire by the reduction of vertically connected ladder fuels. The heavy shade provided by a closed forest canopy suppresses the growth of grasses and other fine volatile fuels.

- **Do not prune or remove deciduous hardwood trees.** Thin conifers and live oaks less than 4-inches in diameter, but maintain dominant tree canopy cover. Thinning should involve removing the entire specimen, with a focus on smaller, overtopped trees.
- **Remove ladder fuels that increase the chance a surface fire will transition into a crown fire.** Fallen trees, branches, or other flammable debris occurring within 4-6 feet of the ground are considered ladder fuels.
- **Raise the canopy base height of taller trees by removing lower limbs to a height of 6-8 feet.**

Open Canopy Woodland

The goal of creating an open canopy woodland is to reduce the chance of a crown fire traveling through a closely connected canopy. Open woodland is defined as woodland where the lack of canopy closure allows grass to cover more than 50% of the ground. If the vegetation on the property is characteristic of open woodland or if there are open woodlands leading into closed woodlands, the following treatments apply:

- **Thin the woodlands to preserve deciduous hardwood trees and remove less fire resistant species** such as conifers and shrubs that compete for the same canopy space.
- **In areas consisting of mostly conifers, remove smaller-immature conifers.** Removing conifers in the understory will reduce canopy bulk density and increase canopy base height that would otherwise contribute to a sustained crown fire.
- **In areas consisting of mostly conifers, only remove conifers in the over-story where trees or branches overlap,** again, percent canopy cover should remain the same. Promoting

fewer, but larger and taller trees will reduce canopy bulk density near the ground reducing the likelihood of a sustained crown fire.

Debris Removal

The debris or slash created from fuel reduction activities will create an increased fire risk and must be eliminated throughout the duration of the treatment. Debris reduction methods include:

- **Physical removal of all debris or slash from the treatment site.**
- **Chip all slash on site and leave the remaining chips in piles not to exceed 6 feet in diameter and 3 feet in height.**
- **Chip all slash on site and leave the remaining chips in contour rows not exceeding 1 foot wide and 1 foot in height.**

Noxious and Invasive Plant Species

The Texas Department of Agriculture defines a noxious and invasive plant as: “Any plant species that has a serious potential to cause economical or ecological harm to the agriculture, horticulture, native plants, ecology and waterways of Texas.” Many of these noxious and invasive plant species may also serve as undesirable ladder fuels and should be removed. More information on the identification, management and control of these noxious and invasive plants can be found at:

<http://www.texasagriculture.gov/regulatoryprograms/plantquality/noxiousandinvasiveplants.aspx>

Note about Chinese Tallow

During the hazard assessment process, many areas were found to be experiencing Chinese Tallow intrusion; where the species is in its early stages yet proliferating fast in open wildland areas. Since Chinese Tallow is invasive and can overtake an ecosystem, it would be prudent to develop an eradication plan and outreach campaign while it is still possible to control the species with chemical treatments and vegetative removal methods.

4.3 Strategically Identified Fuel Reduction Projects

Fuels mitigation would be beneficial throughout the greater Beaumont area. Vegetation intermixes with infrastructure creating an avenue for ignition in various fuel types. The City of Beaumont manages areas with uninterrupted wildland fuels including Cattail Marsh and the City Landfill. Managing fuels with vegetative manipulations changes the way a fire would spread in the event of a wildfire. By removing ladder fuels and maintaining a canopy the intensity of a wildfire would be altered. Regular prescribed fire is beneficial to a variety of ecosystems and areas that would benefit from prescribed fire were identified through the hazard assessment process.

Strategically Identified Fuel Reduction Projects were identified in Narrative Hazard/Risk Assessment provided above in Section 3. (See pages 40-82)

Potential Projects that were identified are summarized in the following list:

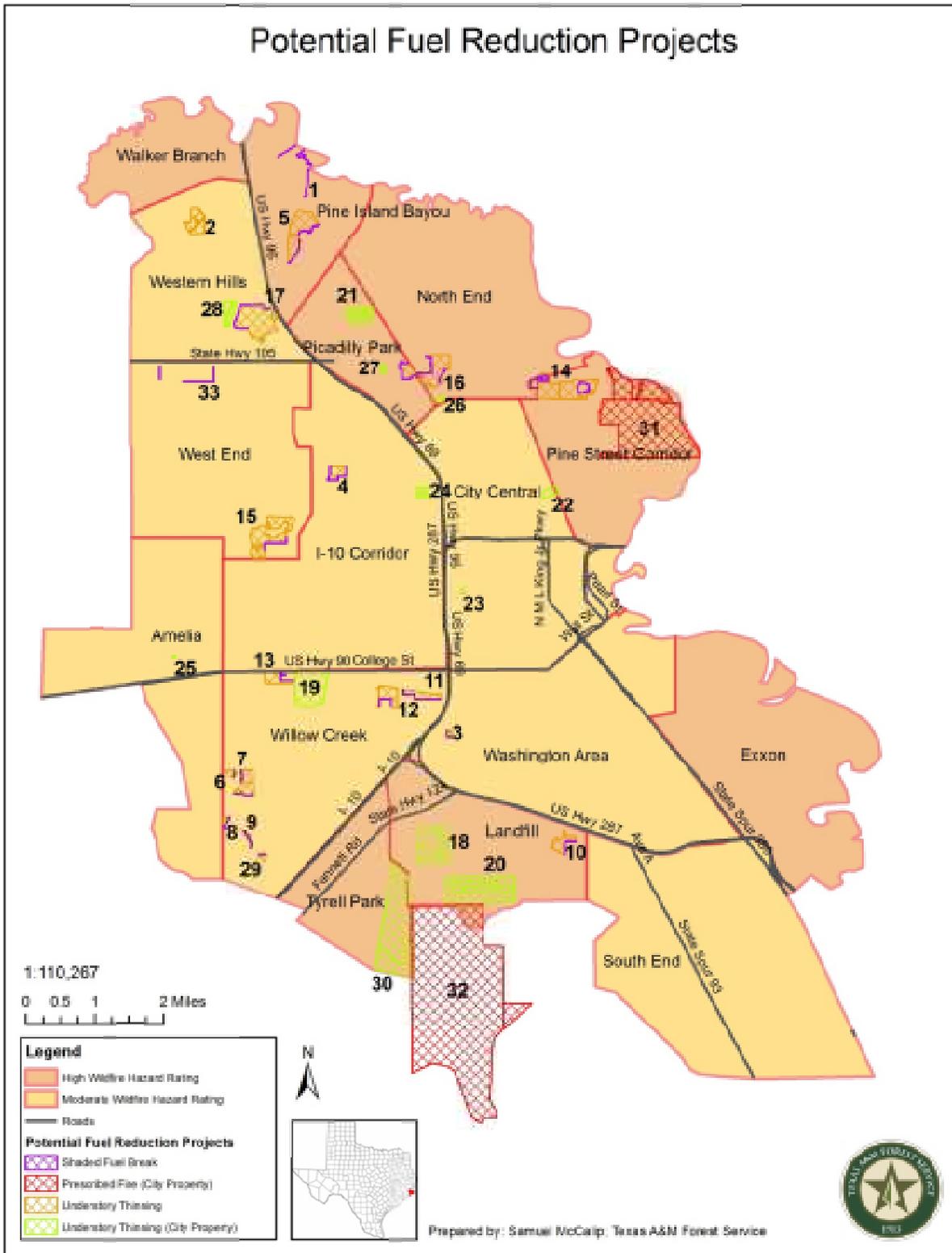
- Construct defensible space around any values at risk where defensible space is inadequate.
- Harden homes in neighborhood and mixed interface environments.
- Remove vegetation and continuously herbicide or gravel around wooden railroad bridges.
- Clear pipelines and power lines where fuels exist to cause direct flame impingement.
- Remove fire prone, abandoned “red tagged” structures.
- Remove Chinese Tallow to promote ecosystem health.
- Collaboration between Beaumont Fire’s WUIRT and the City Parks Department for Hazardous Tree Removal on City properties.
- Prescribed burning of the City-owned Cattail Marsh and other City-owned lands with assistance from the Fish and Wildlife Service and Texas A&M Forest Service.
- Construct or grade dirt roads to ensure accessibility for Type 6 and Type 1 engines.

The list and map below identifies specific fuel reduction projects that have been identified in the City of Beaumont.

Unit	Treatment Type	Name	UID
Amelia	Understory Thinning	Doty Street	25
City Central	Understory Thinning	Magnolia Park	22
City Central	Understory Thinning	Gilbert Park	23
I-10 Corridor	Understory Thinning	Wuthering Heights Park	24
I-10 Corridor	Shaded Fuel Break/Understory Thinning	Fairmont Drive	4
Landfill	Understory Thinning	Water Treatment Plant	18
Landfill	Understory Thinning	Landfill	20
Landfill	Shaded Fuel Break/Understory Thinning	Theresa Street	10
Landfill	Prescribed Fire	Cattail Marsh	32

Unit	Treatment Type	Name	UID
North End	Shaded Fuel Break/Understory Thinning	Karlette Lane and CN&B Development	16
North End	Understory Thinning	Elmo Willard Library	26
Picadilly Park	Understory Thinning	Woodland Park	21
Picadilly Park	Understory Thinning	Halbouty Park	27
Pine Island Bayou	Shaded Fuel Break	Forest Glen	1
Pine Island Bayou	Shaded Fuel Break/Understory Thinning	Lawrence Drive	5
Pine Street Corridor	Shaded Fuel Break/Understory Thinning	Pine Club and Stone Hearst Apartments	14
Pine Street Corridor	Prescribed Fire	Neches River	31
Tyrell Park	Understory Thinning	Tyrell Park	30
Washington Area	Shaded Fuel Break/Understory Thinning	Water Tower	3
West End	Shaded Fuel Break/Understory Thinning	Toliver Road	33
West End	Shaded Fuel Break/Understory Thinning	Windsor Parkway	15
Western Hills	Understory Thinning	Klein Park	28
Western Hills	Shaded Fuel Break/Understory Thinning	Griffing Boulevard	17
Willow Creek	Shaded Fuel Break/Understory Thinning	Timber Edge Apartments	13
Willow Creek	Understory Thinning	Municipal Athletic Complex	19
Willow Creek	Shaded Fuel Break/Understory Thinning	Vilas of Sunnyside	12
Willow Creek	Shaded Fuel Break/Understory Thinning	S. 23 rd Street	11
Willow Creek	Shaded Fuel Break/Understory Thinning	Brentwood	6, 7
Willow Creek	Shaded Fuel Break/Understory Thinning	Brentwood	8
Willow Creek	Shaded Fuel Break/Understory Thinning	Brentwood	9
Willow Creek	Shaded Fuel Break/Understory Thinning	Brentwood	29

Potential Fuel Reduction Projects



4.4 Community Outreach and Education

Public education campaigns are designed to heighten community awareness for wildfire risks. They may be general and cover the entire City or they may be specific and target areas or issues. Texas A&M Forest Service has a large selection of public education materials on Ready, Set, Go!, Firewise Communities, home hardening, fuels management, basic fire behavior and Firewise landscaping that can be distributed in Beaumont through a variety of outreach methods.

4.5 Beaumont Community Outreach Events and Strategies

Fire Prevention Events

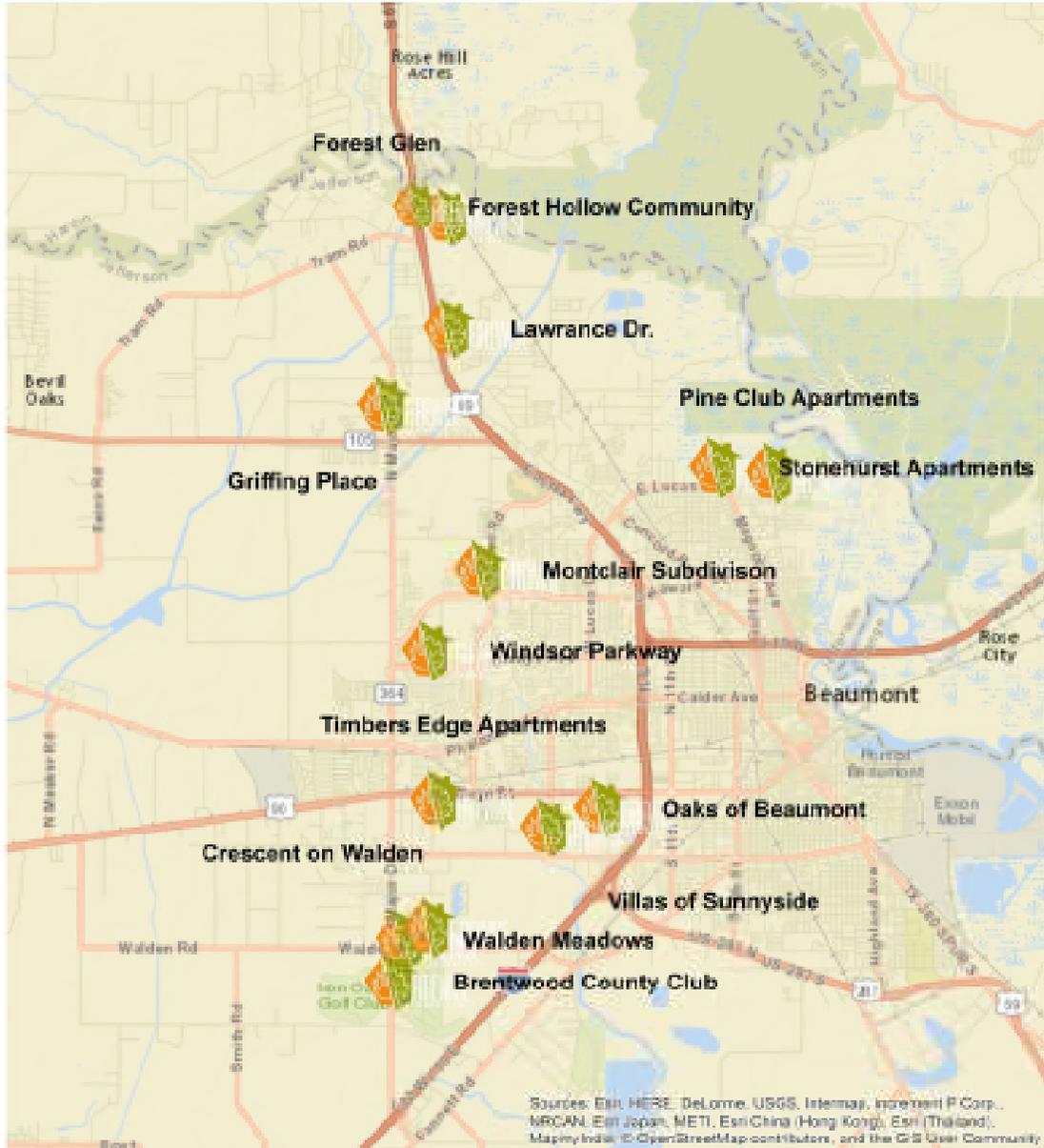
- **BFRS/Fire Museum of Texas' Fire Prevention & Family Safety Festival** (*annually in October*)
 - *Goal:* Host an interactive wildfire awareness and prevention booth with the BFD's Type 6 engine at the annual festival. Over 3,000 citizens attend the event each year.
 - *Assigned:* DC House/TFS WUI Specialist, Annually Coordinated
- **South Texas State Fair sponsored by the Young Men's Business League** (*annually in March*)
 - *Goal:* Host an interactive wildfire awareness and prevention booth with the BFD's Type 6 engine at the annual South Texas State Fair.
 - *Assigned:* DC House/TFS WUI Specialist, Annually Coordinated
- **National Night Out** (*annually September and October*)
 - *Goal:* Host an interactive wildfire awareness and prevention booth and deliver a Firewise speech and education materials at community National Night Out events.
 - *Assigned:* DC House/TFS WUI Specialist, Annually Coordinated

Firewise Communities USA Outreach

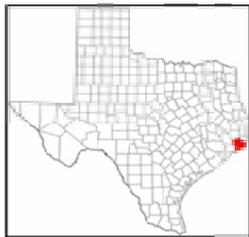
NOTE: Communities that would benefit from receiving a Firewise Communities USA message were identified on page 85.

- *Goal:* Utilizing the list in this CWPP, Beaumont Fire's WUIRT will reach out to the identified communities and offer a Firewise presentation delivery and publications at a rate of 2-3 programs per year.
 - *Assigned:* DC House, Coordinate 2-3 per programs per year

Potential Firewise Communities



Sources: Esri, HERE, DeLorme, USGS, Intermap, iPlanet, P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



Legend

 Potential Firewise Communities



1:113,570



Prepared by: Samuel McCallip; Texas A&M Forest Service
 Data Source: Texas Natural Resources Information System

Fire Museum of Texas and Fire Station Tours

- Goal: Provide and keep available handouts and other information on Wildland-Urban Interface and wildfire mitigation and prevention to be available to museum visitors.
 - Assigned: *Museum Manager/TFS WUI Specialist, As Needed*
- Goal: Create a Firewise and Ready Set Go display for the museum.
 - Assigned: *CRR PIO Specialist/Museum Manager, Summer 2017*
- Goal: Ensure wildfire prevention and mitigation publications are available at each fire station to be available to the public during fire station tours.
 - Assigned: *DC House, September 2016*
- Goal: Develop a short presentation and train all BFD WUIRT members to deliver a wildland program during fire station tours while incorporating the Type 6 engine.
 - Assigned: *DC House, April 2017*

City Websites/ Fire Department Websites

- Goal: Post educational material on the City's website educating visitors about Firewise concepts.
 - Assigned: *CRR PIO/DC House, January 2017*

Utility Bill Mail Out

- Goal: Coordinate with the City's utility billing department and mail a Ready, Set, Go or Firewise brochure with a utility bill once per year.
 - Assigned: *DC House, Annually*

Fire Station Smokey Signs

- Goal: Acquire three Smokey Bear Fire Danger Signs to be placed in front of Stations #2, #8, and #10 showing daily wildfire danger and providing highly visible prevention messaging.
 - Assigned: *DC House/ TFS WUI Specialist, June 2017*

Local Newspapers

- Goal: Utilizing local newspapers, complete one newspaper outreach article per year pertaining to fire safety messages, including wildfire preparedness and prevention.
 - Assigned: CRR PIO/TFS WUI Specialist, Annually

Local Schools

- Goal: Coordinate and complete a Smokey Bear Program for each elementary school within the City at a rate of one per year.
 - Assigned: TFS WUI Specialist/CRR PIO, Annually
- Goal: Coordinate and complete a wildfire prevention, science and ecology program for middle and high schools within the city at a rate of one per year.
 - Assigned: TFS WUI Specialist/CRR PIO, Annually

Public Information

Beaumont Fire Department assigns Public Information Officers who are tasked with disseminating quick and accurate information to the public during a wildfire event, including completing outreach messaging such as press releases and public service announcements. The PIO maintains a master contact list of Beaumont radio stations, television stations and newspapers where a message can be relayed quickly. All wildfire response, mitigation and prevention messaging to media outlets will go through Beaumont Fire's PIO utilizing these maintained lists.

- Goal: Maintain media contact lists for radio, TV, newspaper and social media outlets in order to send out wildfire information at a moment's notice and utilize the same contact lists to disseminate mitigation and prevention messages as needed.
 - Assigned: Beaumont Fire PIO, As Required

Wildfire prevention and outreach goals which utilize the media and the dissemination process are described below.

Radio

- Goal: Produce and broadcast a wildfire mitigation and prevention public service announcement (PSA) available to Beaumont radio stations at a rate of one per year.
 - Assigned: Beaumont Fire PIO/TFS WUI Specialist, Annually

Television

- Goal: Utilizing existing PIO contact lists, be able to relay information to local television stations during wildfire events and red flag warnings.
 - Assigned: *Beaumont Fire PIO/TFS WUI Specialist, As Needed*

Newspapers

- Goal: Produce and print a wildfire mitigation and prevention press release and/or message to distribute to the Beaumont Enterprise and other newspapers in the City at a rate of one per year.
 - Assigned: *Beaumont Fire PIO/TFS WUI Specialist, Annually*

Social Media

- Goal: Incorporate wildfire information and mitigation and prevention messages throughout the year through Facebook, Twitter and other City social media accounts.
 - Assigned: *Beaumont Fire PIO/TFS WUI Specialist, As Needed*

Prevention Signs and Posters

Fire prevention signs and posters are used to meet a seasonal or non-permanent need. They are normally constructed of cardstock, cardboard, or plastic. Posters range in size from small notices for use on recreation area bulletin boards to large highway posters. There are three types of messages:

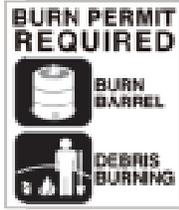
1. **General Awareness or Informational:** Provide reminders or information such as “Crush Smokes.”
2. **Regulatory:** Provide information on regulations established by law to prevent wildfires such as “Spark Arrestor Required.”
3. **Prohibitive:** Provide the most current information prohibiting the use of fire or acts creating fire risk such as “No Campfires.” In order to adequately post a unit during periods of fire restrictions it is desirable to have a poster mount at each road entering the unit. Visitors can’t be expected to comply with special restrictions unless they are informed.

When used correctly posters are an economical and effective method of reaching targeted audiences with timely messages. Posters relay information to the public in our absence. They may be your only public contact with visitors in certain locations. It is likely that most bulletin boards, interpretive sites, and roadside rest area signs are in place for purposes other than fire. Remember to coordinate your messages with the people who maintain these signs. This is an opportunity to share duties with others such as recognized Firewise Communities.

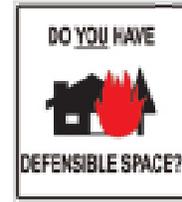
Sign Ordering

The UNICOR Sign Factory in Lompoc, California is the source of posters and signs for the USDA Forest Service. UNICOR will sell their posters to wildland fire organizations and fire

departments. Access the UNICOR website for their most current price list.



**Federal Prison Industries
UNICOR Sign Factory
3901 Kline Boulevard
Lompoc, California 93436
805-735-6211,
FAX 805-735-4507
www.unicor.gov**



To order posters fax your order to UNICOR and follow up your fax with a phone call to provide payment information. Do not put credit card information on your order form. Standard shelf stock orders are shipped within twenty working days.

In the case of a fire emergency UNICOR offers fast delivery. In the event of a fire emergency request quick shipment and UNICOR will pull your order within 24-48 hours and ship via Federal Express on your Fed-Ex number.

Special Orders

Shelf stock posters have the USDA Forest Service logo. You can special order posters of your own design or order these designs with your organization's logo. Allow additional time on special orders for design, printing, and shipping.

4.6 Resource and Training Needs

Currently Beaumont Fire's WUIRT is actively engaged in prescribed fire and wildfire operations with the National Parks Service's Big Thicket National Preserve and the U.S. Fish and Wildlife Service's southeast Texas refuges. Seven WUIRT members hold NWCG red cards at the FFT2 qualification and complete the annual pack test.

The following section and training plan is designed to build upon the work and relationships already in place by outlining NWCG programs and qualifications, TIFMAS qualifications and crosswalk, and a detailed NWCG training plan for Beaumont Fire's WUIRT members.

4.7 National Wildfire Coordinating Group (NWCG) Information

The *National Incident Management System Wildland Fire Qualification System Guide, PMS 310-1*, developed under the sponsorship of the National Wildfire Coordinating Group (NWCG), is designed to:

1. Establish minimum requirements for training, experience, physical fitness level, and currency standards for wildland fire positions, which all participating agencies have agreed to meet *for national mobilization*. Standards may be augmented to meet specific needs within an agency,

but the augmentation cannot be imposed by an agency on its cooperators who meet the minimums outlined in this guide.

2. Allow cooperating agencies to jointly agree upon training, experience, physical fitness level, and currency standards to meet fire management needs for wildland fire (*wildland fire includes wildfire and prescribed fire*).
3. Establish minimum qualifications for personnel involved in prescribed fires on which resources of more than one agency are utilized—unless local agreements specify otherwise.

NWCG recognizes the ability of cooperating agencies at the local level to jointly define and accept each other's qualifications for initial attack, extended attack, large fire operations, and prescribed fire.

Position Qualifications

Required Training

Required training provides a direct link between training and job performance to provide for responder health and safe operations on wildland fires. Required training cannot be challenged.

- **NOTE:** The only exception to the PMS 310-1 required training is for structural firefighters using the Crosswalk for qualification in FFT2, FFT1, ENGB and/or STEN. Those using the Crosswalk must use the identified gap course material (G-130, G-131, G-231, G-330) and obtain appropriate course certificates. Refer to the Crosswalk for Structural and Wildland Firefighters section of the PMS 310-1 for further guidance.

Physical Fitness Levels

Personnel must meet established physical fitness levels for wildland fire assignments. Agencies may determine the method of evaluating the physical fitness level of their personnel. However, the testing method should be a measurable evaluation process. Four levels of physical fitness have been established.

- **Arduous** – Duties involve fieldwork requiring physical performance calling for above-average endurance and superior conditioning. These duties may include an occasional demand for extraordinarily strenuous activities in emergencies under adverse environmental conditions and over extended periods of time. Requirements include running, walking, climbing, jumping, twisting, bending, and lifting more than 50 pounds; the pace of work typically is set by the emergency situation.
- **Moderate** – Duties involve fieldwork requiring complete control of all physical faculties and may include considerable walking over irregular ground, standing for long periods of time, lifting 25 to 50 pounds, climbing, bending, stooping, squatting, twisting, and reaching. Occasional demands may be required for moderately strenuous activities in emergencies over long periods of time. Individuals usually set their own work pace.
- **Light** – Duties mainly involve office-type work with occasional field activity characterized by

light physical exertion requiring basic good health. Activities may include climbing stairs, standing, operating a vehicle, and long hours of work, as well as some bending, stooping, or light lifting. Individuals can usually govern the extent and pace of their physical activity.

- **None required** – Positions that do not require a physical fitness level.

Other Training Which Supports Development of Knowledge and Skills

Personnel are not required to complete NWCG courses referenced under “Other Training Which Supports Development of Knowledge and Skills” in order to qualify for an NWCG position—unless specific agency policy dictates otherwise. Although training referenced here is not “required,” the training provided in the identified courses is a primary means by which personnel can prepare for position performance evaluation by obtaining specific knowledge and skills required to perform tasks identified in the PTB.

Qualification	Required Training	Other Training
FFT2 Firefighter Type II	ICS 100 - Introduction to ICS L180 - Human Factors in the Wildland Fire Service S130 - Firefighter Training S190 - Introduction to Wildland Fire Behavior IS700 - NIMS: An Introduction	N/A
FFT1 Firefighter Type I	S131 - Firefighter Type 1 S133 - Look Up, Look Down, Look Around	S219 - Firing Operations S211 - Portable Pumps and Water Use S212 - Wildland Fire Chainsaws
ENGB Engine Boss	ICS200 - ICS for Single Resources S230 - Crew Boss (Single Resource) S290 - Intermediate Wildland Fire Behavior	S270 - Basic Air Operations S231 - Engine Boss (Single Resource) L280 - Followership to Leadership S219 - Firing Operations S-260 - Interagency Incident Business Management
STEN Strike Team Leader Engines	ICS300 - Intermediate ICS for Expanding Incidents IS800b - NRF: An Introduction S215 - Fire Operation in the Wildland Urban Interface S330 - Task Force/Strike Team Leader	L380 - Fireline Leadership S336 - Tactical Decision Making in Wildland Fire

RT-130, Annual Fireline Safety Refresher Training

Annual Fireline Safety Refresher Training is required for all positions as identified in the Wildland Fire Qualifications System Guide (NWCG 310-1). This training must include the following core topics:

- **Entrapment Avoidance** – Use training and reference materials to study the risk management process (*as identified in the Incident Response Pocket Guide*) and rules of engagement (*as appropriate to the participants, e.g. LCES, Standard Firefighting Orders,*

Eighteen Watch Out Situations, WFSA direction, Fire Management Plan priorities, etc.).

- **Current Issues** – Review and discuss identified hot topics and national emphasis topics as found on the current WFSTAR web site. Review forecasts and assessments for the upcoming fire season and discuss implications for firefighter safety.
- **Fire Shelter** – Review and discuss last resort survival. Conduct hands on fire shelter inspections. Practice shelter deployments in applicable crew/module configurations and while wearing typical fireline personal protective equipment. When possible, practice shelter deployments should be conducted in rough terrain and windy conditions. No live fire exercises for the purpose of fire shelter deployment training will be conducted.
- **Other Hazards and Safety Issues** – Choose additional hazard and safety subjects, which could include SAFENET, current safety alerts, site/unit specific safety issues and hazards.
- **CE hours** – CE Hours are per calendar year (January through December). Four hours are required each year following the year you receive your training for Basic Wildland (130/190/L180).
- The Authority Having Jurisdiction (AHJ) is responsible for insuring and documenting the 4 hours of CE annually. Fire Shelter review and discussion are a mandatory part of CE each year.

NWCG Chainsaw Certification Standards:

A Faller 3 is an individual being trained or evaluated in introductory level, non-complex chain saw operations. Work of a Faller 3 trainee should be under the supervision of a qualified Faller 3, 2 or 1. The TIFMAS Certification Committee has established the following minimum qualification and certification process for Chainsaw Operators (*Red Card certified as Class 3 Faller*).

- Successful completion of S-212, including the field exercise.
- Successful completion of NWCG Faller Class 3 position taskbook.
- Successful completion of biennial refresher training, including chainsaw maintenance, safety review, successful evaluation in introductory level, noncomplex chain saw operations, including demonstrating proficiency in limbing, bucking, and brush removal under various conditions.

Source: PMS 310-1, Wildland Fire Qualification System Guide

4.8 Texas Intrastate Fire Mutual Aid System (TIFMAS) Crosswalk

The Skills Crosswalk identifies critical wildland firefighting skills that structural firefighters need to be safe and effective in either of two situations: **when making an initial attack on a wildland fire in their jurisdiction**, or **when working with state and federal wildland firefighter agencies**. The Crosswalk

was developed by analyzing and comparing National Fire Protection Association (NFPA) structural firefighting standards with National Wildland Coordinating Group (NWCG) wildland firefighting Position Task Books. The resulting Crosswalk identifies wildland skills and knowledge not incorporated within standard structural firefighting training. By incorporating a structural firefighter’s existing fire suppression knowledge and skills, use of this Crosswalk reduces required classroom hours, minimizes curriculum redundancies, and makes efficient use of limited training hours. Coursework, practical demonstration of skills using NWCG Task Books, and the use of materials in resource kits assembled for each position have been incorporated into the Crosswalk. Four specific NWCG positions are incorporated in Crosswalk, each paired with a counterpart structural position, as shown below:

Structural Fire Counterpart Position	Entering Qualifications	NWCG Position
Non-Supervisory Structural Firefighter, Basic	Meets NFPA 1001 for Firefighter 1, or equivalency	Firefighter 2 (FF2)*
Non-Supervisory Structural Firefighter, Advanced	Meets NFPA 1001 for Firefighter 2, or equivalency	Firefighter 1 (FF1)*
Driver/Operator/Engineer or Company Officer	Meets NFPA 1021 for Fire Officer 1, or equivalency	Single-Engine Resource Boss (ENGB)
Experienced lieutenants, captains, chief officers	Meets NFPA 1021 s for Fire Officer, or equivalency	Strike Team Leader (STEN)

Crosswalk can be used as an NWCG equivalency and certification tool by structural firefighters and fire officers who meet the qualifications of firefighters as specified by NFPA 1001 and NFPA 1021, respectively, or the training standard determined as equivalent by the AHJ. The following table portrays training hours savings with use of the Crosswalk.

NWCG Positions	NWCG Curriculum Hours	Structural Equivalent Positions	Skills Crosswalk Hours
Firefighter 1 (FF1)	54	Non-Supervisory Structural Firefighter, Advanced	17.5
Single-Engine Resource Boss (ENGB)	88	Driver/Operator/Engineer or Company Officer	44
Strike Team Leader (STEN)	24	Experienced lieutenants, captains, chief officers	12.25

Source: Texas Intrastate Fire Mutual Aid System (TIFMAS) Buisness and Mobilization Procedures. P. 47-50

TIFMAS position task books can now be approved by the Fire Chief or his/her designee. The task book must then be submitted to TIFMAS for review by the TIFMAS Task Book Committee for final approval.

4.9 Wildland Fire Training Plan for Beaumont Fire’s WUIRT

The Beaumont Fire Department’s WUIRT consists of one Program Manager, three Shift Team

Leaders and 26 team member positions. Each Operations Section shift (A, B, C) is allocated 8 WUIRT positions, and there are two positions allocated to non-Operations Section assignments. District Chief Ben House, who is the Program Manager, is assigned to the C-Shift.

Beaumont's WUIRT has been engaged in the TIFMAS program since 2014. All team members hold TIFMAS blue cards and seven team members hold NWCG recognized Red Cards administered through the Big Thicket National Preserve's Fire Program. The WUIRT regularly provides support to prescribed burns conducted by the Big Thicket and the Anahuac National Wildlife Refuge. These relationships have provided for collaboration between the federal government and the Fire Department with support hands on training. Collaboration also occurs and will continue to occur during wildfire response.

The goals of the Beaumont Fire Department WUIRT training plan are:

- By early 2017, provide Beaumont Fire Department the opportunity for Texas A&M Forest Service to carry and administer red cards for WUIRT members. This would allow WUIRT members to participate in out-of-state assignments and increase availability to support wildfire operations in Texas and nationally, while still allowing the Fire Department to continue working with Big Thicket National Preserve and U.S. Fish & Wildlife Service. MOU's and MOA's would be signed. *(Follow up in 2017 between DC House and TFS.) (Early 2017)*
- Utilize the TIFMAS Crosswalk Evaluation Program to earn NWCG qualifications based on previous experience with Beaumont Fire Department. *(See Process Above) (Summer 2017)*
- Establish and implement NWCG a Wildland-Urban Interface training program for all members of Beaumont's WUIRT. *(See table on the next page)*
- Provide S-130/190 and L-180 to all of BFD personnel. *(2017)*
- Provide training opportunities to have 12 of BFD's WUIRT members qualified at ENGB level. *(2020)*
- Provide training opportunities to have 25 of BFD's WUIRT members qualified at FFT1 level. *(2020)*
- Provide S-212 Wildland Power Saws to identified members of BFD's Wildland Team and qualify at the FAL3 level. *(2020)*
- Provide training opportunities to have eight of BFD's WUIRT members qualified at STEN level. *(2022)*
- Provide training opportunities to have six of BFD's WUIRT members qualified at FIRB level. *(2020)*
- Provide training opportunities to have three of BFD's WUIRT members qualified at the RXB2 level *(2022)*

Beaumont Fire Wildland Training Needs			
Class	Personnel/Number	Target Date	Completed Date
Training for all BFD Firefighting personnel (235) by 2017			
ICS-100 Introduction to ICS	ALL BFD Firefighters	June 2017	COMPLETE
L-180 Human Factors in the Wildland Fire Service	ALL BFD Firefighters	June 2017	
S-130 Firefighter Training	ALL BFD Firefighters	June 2017	
S-190 Introduction to Wildland Fire Behavior	All BFD Firefighters	June 2017	
IS700 NIMS: An Introduction (ONLINE)	All BFD Firefighters	ASAP	COMPLETE
Training plan for all BFD WUIRT members/FFT1's (25) by 2020			
S-131 Firefighter Type 1	25	May 2017	
S-133 Look Up, Look Down, Look Around	25	Dec 2017	
S-219 Firing Operations	25	May 2018	
S-211 Portable Pumps and Water Use	25	Dec 2018	
S-215 Fire Operations in the WUI	25	May 2019	
Training plan for BFD WUIRT members identified as <u>Sawyers</u>			
S-212 Wildland Fire Chainsaws	12	Dec 2016	
Training plan for BFD WUIRT members identified for the <u>Engine Boss</u> level			
S-231 Engine Boss (Single Resource)	12	Dec 2016	
ICS-200 ICS for Single Resources and Initial Attack Incidents	12	May 2017	COMPLETE
S-290 Intermediate Wildland Fire Behavior	12	Dec 2017	
L-280 Followership to Leadership	12	May 2018	
S-270 Basic Air Operations	12	Dec 2018	
S-230 Crew Boss (Single Resource)	12	May 2019	
S-260 Interagency Business Management	12	Dec 2019	
ICS-300 Intermediate ICS for Expanding Incidents	12	May 2020	
IS800B NRF: An Introduction	12	Dec 2020	COMPLETE
Training Plan for BFD WUIRT members identified for <u>Strike Team Leader</u>			
S-330 Task Force/Strike Team Leader	8	May 2021	
L-380 Fireline Leadership	8	Dec 2021	
S-336 Tactical Decision Making in Wildland Fire	8	May 2022	
Training plan for BFD Wildland Team Members identified for <u>Firing Boss</u> and <u>Prescribed Fire Burn Boss</u>			
RX-310 Intro to Fire Effects	3	Dec 2018	
RX-301 Prescribed Fire Implementation	3	Dec 2019	
RX-341 Prescribed Fire Plan Preparation	3	Dec 2020	

SIMTABLE Workshop/TFS Presentation			
SIMTABLE Workshops with Texas A&M Forest Service with Mitigation and Prevention Departments Overviews (TxWRAP, Firewise, RSG)	OPEN ENROLLMENT	Dec 2017	
<p>Opportunities to complete this training:</p> <ul style="list-style-type: none"> • Conducting the trainings in house in Beaumont utilizing private, state and federal cooperators as coordinated by BFD training officer. • East Texas Interagency Wildfire and Incident Management Academy in Lufkin, TX each May • Capital Area Interagency Wildfire and Incident Management Academy in Bastrop, TX each October. • National Wildfire Academies in surrounding areas. <p>Visit: http://ticc.tamu.edu/Training/TrainingMain.htm for specific training schedules and application for TIFMAS Grant Assistance for training tuition</p>			

4.10 Capacity Building Needs for Beaumont Fire’s WUIRT

Specialized wildland fire fighting is essential to combat fires locally, statewide and nationally; as well as provide safety to personnel. Equipment and gear needs identified through the CWPP process are listed below.

- 1 **UTV with slip in pump and tank; backboard transport set up, and trailer to pull the unit.** The UTV would be utilized primarily as a wildland apparatus, but could serve other needs for the department such as medical extractions, event support and prescribed burning.

- 1 **Type 6 wildland fire engine.** Adding an additional engine to the fleet would increase the probability of success in combatting local fires, but would allow the opportunity for an engine to be available in town while one engine could be sent out statewide through the TIFMAS program and nationally through the TFS Red Card program when implemented in 2017. Having this additional type 6 engine in town would allow team members to assist within City limits but also outside of Beaumont while gaining valuable experience.

- 1 **Mark 3 pump and associated kit and hoses** (or equivalent make)
- 36 **Nomex wildland fire fighting jumpsuits** to be distributed onto type 1 engines in town.
- 36 **Hardhats** (wildland fire specific)
- 36 **Headlamps** (heavy duty)
- 15 **Fire Shelters** (currently only 7 are available to personnel)
- 13 **Wildland Fire Packs**
- 10 **Sets of overnight gear for out of area assignments** (Red Bag, Sleeping Bag, Tent, Pad, tarps)
- 12 **Hand Tools** (3-Combis, 3 Pulaskis, 3-Flappers, 3-Council Rakes)
- 6 **Drip Torches**
- 3 **Smokey Bear Fire Danger Signs**

NOTE: In order to work towards achieving the goals of acquiring all equipment and training needs by 2020; additional annual funding is needed at an amount double to the existing budget of \$22,000 per year.

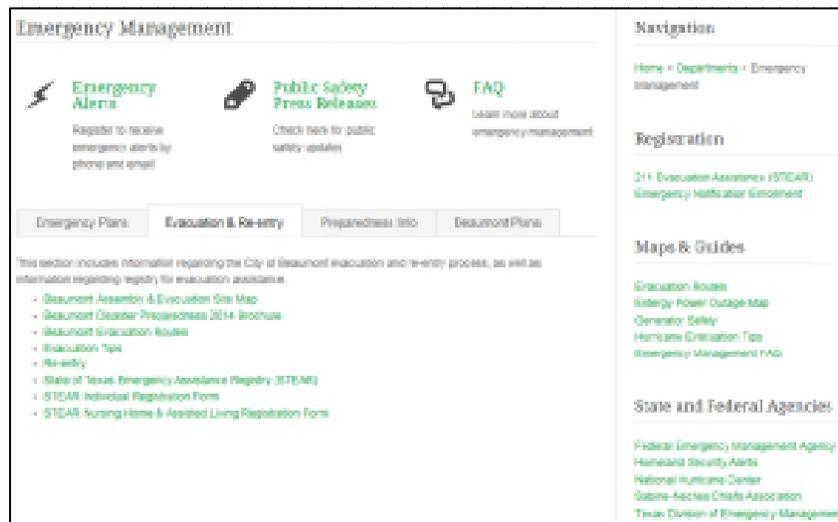
2016 BFD Wildland Team Budget Synopsis	
Training	\$10,000
Personal Protective Equipment	\$8,300
Equipment	\$2700
TIFMAS Conference	\$1000

4.11 Emergency and Evacuation Planning

The City of Beaumont’s Emergency Management Plan and annex’s provide clear and concise direction related to emergency management for the City of Beaumont. Annex F-Firefighting provides direction related to fire response within the City of Beaumont. The plan and annexes are maintained through the City’s Office of Emergency Management, along with state planning standards checklists and is available at:

<http://beaumonttexas.gov/departments/eoc/>

Resources available at this website include: Emergency Plans, Evacuation and Re-entry, Preparedness Info and the Beaumont Emergency Plans. A screen shot of the web page is provided below. Some other information pertaining to wildfire management available at this site are but not limited to: evacuation checklists, go kit checklists, prep-supply lists, evacuation routes and maps, evacuation tips, STEAR Registry and other valuable links.



Screenshot of: <http://beaumonttexas.gov/departments/eoc/> showing resources and emergency planning documents for the City of Beaumont.

4.12 Wildfire Emergency Response

Large wildfires are of low frequency, but are of high complexity. When critical weather and fuel thresholds are realized, rapid and large fire growth can be expected where fuels and infrastructure are available to burn. Planning for these wildfire events is imperative to ensure efficient management of time, resources and monies during a wildfire event.

Wildfire response protocol is defined in the Emergency Management Plan, Annex F-Firefighting available at: http://beaumonttexas.gov/wp-content/uploads/pdf/eoc/annex_f.pdf

During a wildfire, resources can become exhausted early requiring the need to acquire additional resources. Annex F provides the following direction pertaining to requesting external assistance:

F. Requesting External Assistance

1. If our local fire resources are inadequate to deal with an emergency situation, the Fire Chief or other authorized official may request additional resources pursuant to inter-local (mutual aid) agreements to which local fire departments are a party. The Fire Chief may also request assistance from industries and businesses with firefighting resources that have agreed to assist us during emergencies.
2. If our fire department resources and those obtained pursuant to inter-local agreements are insufficient to deal with an emergency situation, State-wide mutual aid will be requested in accordance with the *Texas Fire and Rescue Mutual Aid Plan* (see *State of Texas Emergency Management Plan*, Annex F, Section IV.H).
3. If the foregoing resources are inadequate to deal with an emergency situation, the Mayor or designee may request State firefighting assistance, in accordance with Section.V.F. of the Basic Plan, from the DDC 2B in Beaumont.
4. During times of extreme fire danger, the Texas will pre-stage firefighting resources in several parts of the State. Jefferson County does fall within the 52 County Fire Suppression Zone identified by the TFS. TFS assistance is limited to forest or grassland fires, not structure fires. The Mayor or designee may make requests for these resources to the DDC. ***During emergency situations where time is of the essence, IC/UC or EMC may make resource requests directly to the TFS Regional Fire Coordinator.***

Wildfire could be used as an act of terrorism, especially under red flag conditions. Annex F provides the following direction pertaining to a Terrorist Incident Response:

E. Terrorist Incident Response

1. The Fire Department will respond in accordance with Emergency Service Functions (ESF), rescuing, providing emergency medical care, establishing and controlling safe zones (hot, warm and cold), extinguishing fires, and providing specialty/technical support services, as required, to manage the incident.

2. The Fire Department will collaborate with law enforcement and other agencies to provide appropriate incident stabilization that minimizes disturbing or destroying actual or potential evidence related to a terrorist act.
3. If a terrorist incident occurs, a UC structure will be used to provide law enforcement and other emergency response disciplines coordinated direction and control during crisis management operations. Refer to Annex V, Terrorist Incident Response, for more information on the response to terrorist threats and activities.
4. Coordination through Emergency Management will be paramount during terrorist incident consequence management activities due to multi-agency involvement and potentially overlapping roles and responsibilities. UC should be utilized, with the fire service normally having the lead role in consequence management for situations involving fires and explosions, chemical agents and radiological materials, and law enforcement normally having the lead local role for terrorist incidents.
5. During consequence management, the UC will coordinate response and recovery operations with law enforcement authorities conducting crisis management operations. Refer to Annex V, Terrorist Incident Response, Section V.B.2, for further information on terrorist incident consequence management.

4.13 Wildfire Evacuation Planning

Wildfire evacuation plans are similar to other evacuation protocol, but due to the fast paced environment and many times limited warning; wildfire evacuations can be complex. Wildfire evacuation plans can be created per neighborhood, especially for high-risk neighborhoods with minimal egress routes, large populations or special populations. Plans should incorporate routes of ingress for emergency responders. Emergency management, law enforcement, fire department, public works and the mayor's office may all be involved in the evacuation process.

During the hazard assessment process and outreach plan highlighted above, readiness and evacuation information will be disseminated to the citizens of Beaumont. Annex F provides the following direction pertaining to wildfire evacuations:

D. Evacuation Operations

1. The IC/UC may direct an expedient evacuation from the incident site, isolation zone, or protective action zone associated with a hazard. Fire Department and/or other emergency responders on site will normally initiate the evacuation pending the arrival of supplemental forces.
2. The Emergency Management Office is responsible for coordinating the pre-planning for evacuation of known risk areas.
3. The fire service and law enforcement have lead roles in carrying out large-scale evacuation operations. Fire Department and the Public Health Department handle

Functional Needs Support Services (FNSS) evacuation, while law enforcement handles general evacuation. Emergency Management supports evacuation operations by coordinating necessary resources. During such evacuations, City personnel may be tasked to:

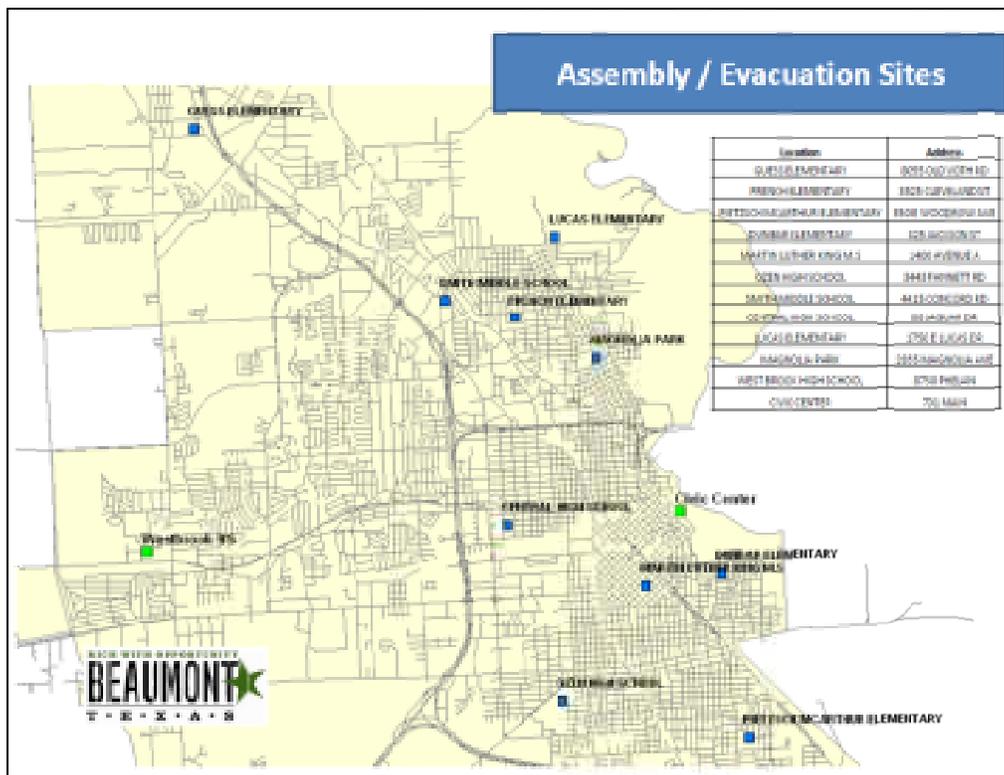
- a. Alert residents in the affected area who have not been warned by other means.
- b. Evacuate individuals who require assistance.
- c. Participate in activities to support evacuation operations.

STEAR Registry

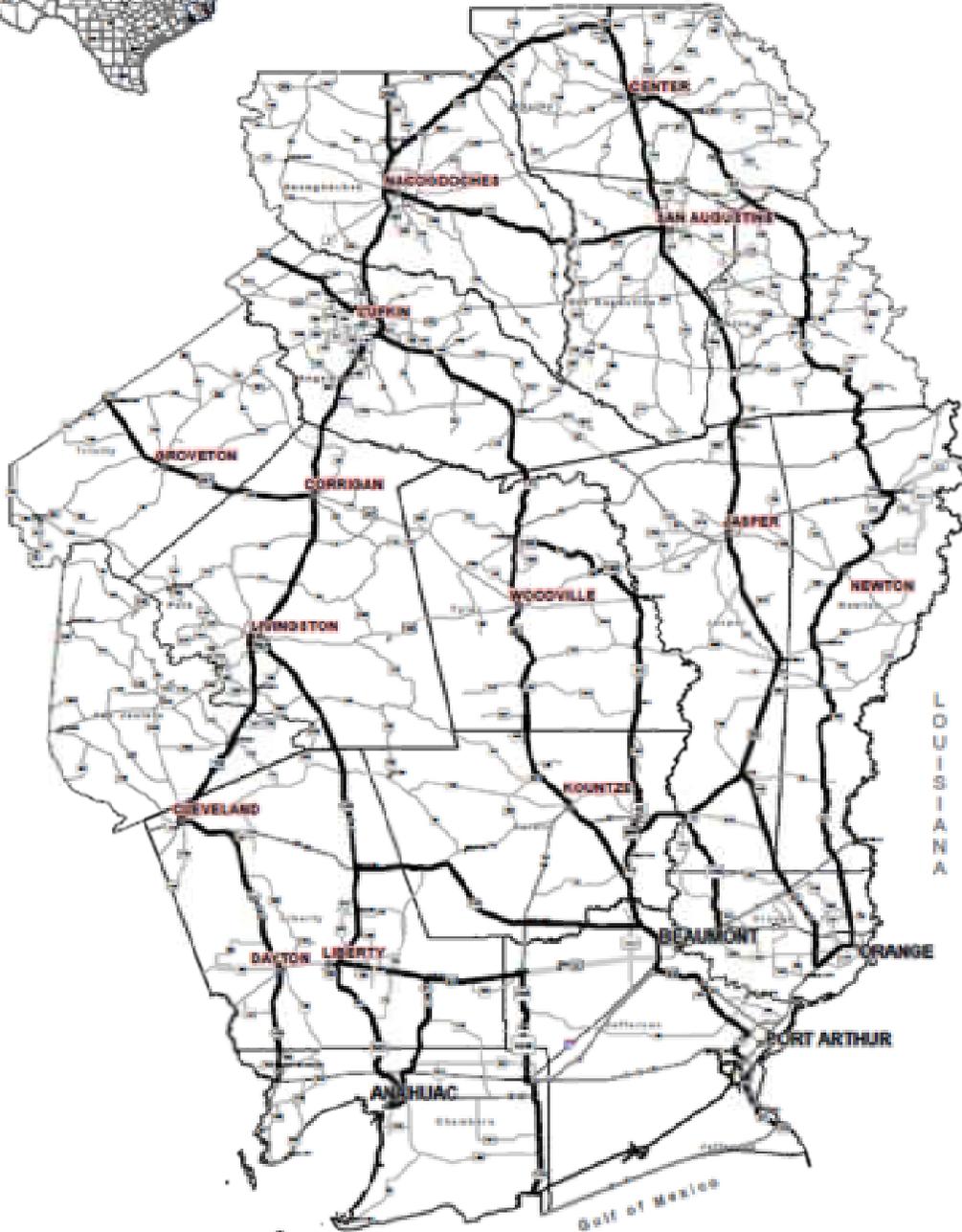
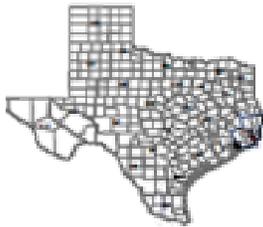
Citizens of Beaumont are encouraged to register with the **2-1-1 State of Texas Emergency Assistance Registry (STEAR)** at: <https://publicregistry.csr.utexas.edu/enroll/>

The STEAR Public website allows you to register yourself and/or other family members, friends and contacts in the State of Texas Emergency Assistance Registry. Please understand that the Emergency Assistance Registry assists emergency officials in planning for emergency events. Having your information helps to determine what kinds of services might be required during a disaster, and helps responders plan and train more effectively. Communities use the information in different ways, so realize that having your information in the registry DOES NOT guarantee that you will receive a specific service during an emergency. Registration is not a substitute for developing and maintaining your own family disaster plan.

Evacuation Maps



Inland Evacuation Map Beaumont District



Emergency Evacuation Routes

Alternate Evacuation Routes



Revised May 2009
Map Projection: NAD 83
Scale: 1:50,000
Source: Texas Department of Transportation

4.14 Other Wildfire Evacuation Considerations

Evacuation

- Advise neighboring jurisdictions and the local Disaster District that evacuation recommendation or order will be issued.
- Disseminate evacuation recommendation or order to special needs facilities and populations.
- Provide assistance in evacuating, if needed.
- Disseminate evacuation recommendation or order to the public through available warning systems, clearly identifying areas to be evacuated.
- Provide amplifying information to the public through the media. Emergency public information should address:
 - What should be done to secure buildings being evacuated
 - Where evacuees should go and how should they get there
 - Provisions for special needs population and those without transportation
- Staff and open temporary shelters.
- Provide traffic control along evacuation routes and establish procedures for dealing with vehicle breakdowns on such routes.
- Provide transportation assistance to those who require it.
- Provide security in or control access to evacuated areas.
- Provide Situation Reports on evacuation to the local Disaster District.

Advance Warning

- Provide advance warning to special needs facilities and advise them to activate evacuation, transportation and reception arrangements.
- Determine if requirements exist for additional support from local government and provide advance warning of possible need for evacuation to the public, clearly identifying areas at risk.
- Develop traffic control plans and stage traffic control devices at required locations.
- Coordinate with special needs facilities regarding precautionary evacuation.
- Identify and alert special needs populations.
- Ready temporary shelters selected for use.

- Coordinate with transportation providers to ensure vehicles and drivers will be available when and where needed.
- Coordinate with school districts regarding closure of schools.

Pets

Depending on the situation and availability of facilities, one or more of the following approaches will be used to handle evacuees arriving with pets:

- Provide pet owners information on nearby kennels, animal shelters and veterinary clinics that have agreed to temporarily shelter pets.
- Direct pet owners to a public shelter with covered exterior corridors or adjacent support buildings where pets on leashes and in carriers may be temporarily housed.
- Set up temporary pet shelters at fairgrounds, rodeo or stock show barns, livestock auctions and other similar facilities.

Special Consideration for Livestock

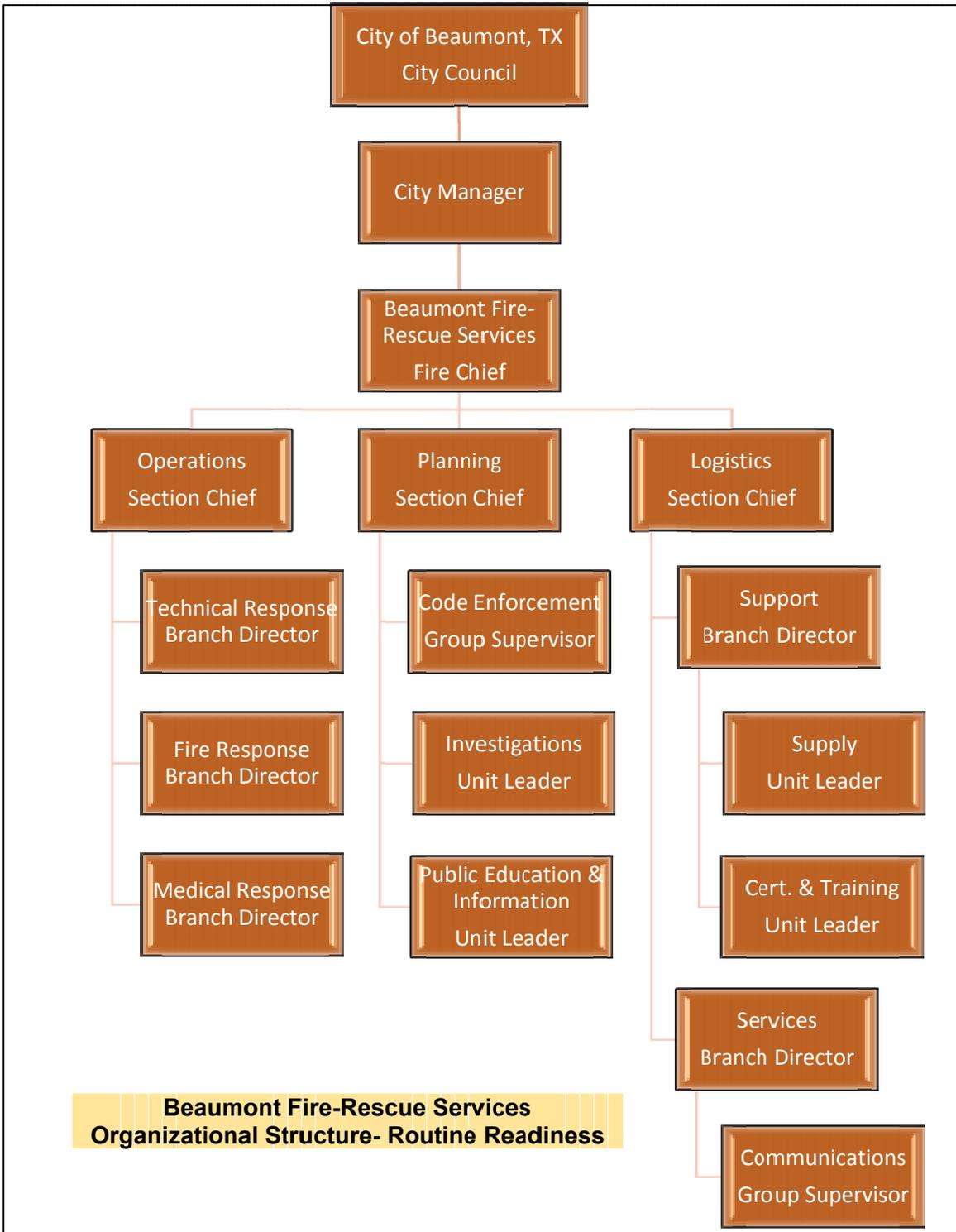
- Livestock are sensitive and responsive to wildfire anywhere within their sensory range. Normal reactions vary from nervousness to panic to aggressive and resistive escape attempts. Livestock often are injured or killed by fleeing from a wildfire into fences, barriers and other fire risks. Once the flight syndrome kicks in, it is retained long after the smoke, heat and noise stimuli are removed. Some animal species such as alpacas, llamas and especially horses become virtually unmanageable in the face of oncoming wildfire. In situations like this, experienced handlers (as many as possible), proper equipment and a firm and prompt evacuation approach is needed. ***If time is limited because of fire ground speed, open possible escape routes and recapture animals later.***
- In the case of a fast-moving fire, some landowners spray paint their phone numbers on the sides of livestock before setting them free. Others attach identification tags to animals. If you choose to leave a halter on your animal, consider attaching identification, such as a luggage tag. Firefighters may cut fences and open gates if time and safety concerns allow.

Return of Evacuees

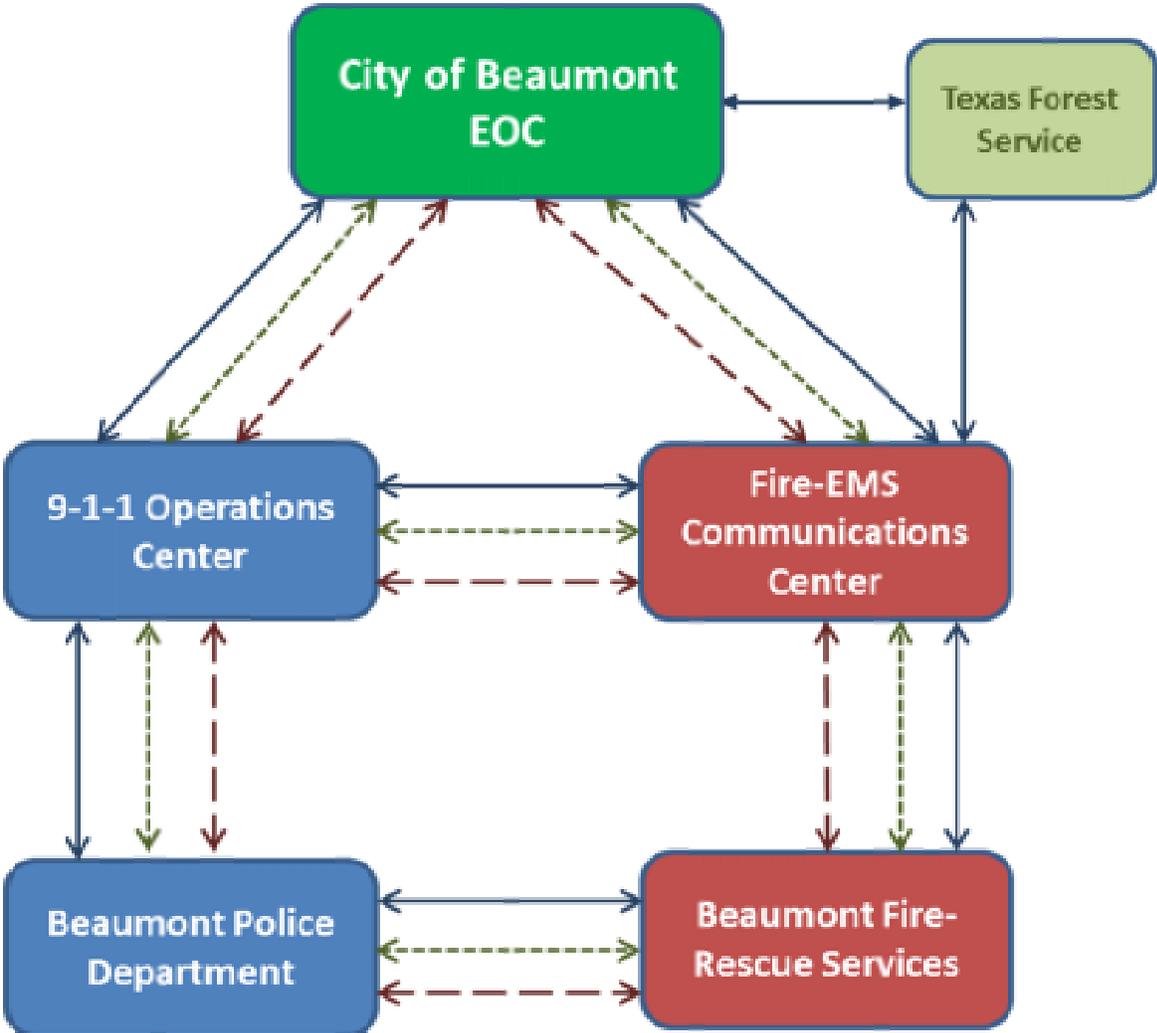
- If evacuated areas have been damaged, reopen roads, eliminate significant health and safety hazards and conduct damage assessments.
- Determine requirements for traffic control for return of evacuees.
- Determine requirements for and coordinate provision of transportation for return of evacuees.
- Advise neighboring jurisdictions and local Disaster District that return of evacuees will begin.
- Advise evacuees through the media that they can return to their homes and businesses; indicate preferred travel routes.

- Provide traffic control for return of evacuees.
- Coordinate temporary housing for evacuees who are unable to return to their residences.
- Coordinate with special needs facilities regarding return of evacuees to those facilities.
- If evacuated areas have sustained damage, provide the public information that addresses:
 - Documenting damage and making expedient repairs
 - Caution in reactivating utilities and damaged appliances
 - Cleanup and removal/disposal of debris
 - Recovery programs
- Terminate temporary shelter and mass care operations. Maintain access controls for areas that cannot be safely reoccupied.

4.14 Organizational and Communication Flow Charts



**City of Beaumont
Communications Structure**



Legend:

- Land-Line Phone
- Cell Phone
- Radio

4.15 Wildland-Urban Interface Code

The following information is included in this CWPP to provide information about codes and regulations available pertaining to the wildland urban interface.

International Wildland Urban Interface Code

The International Wildland Urban Interface Code (IWUIC) is a model code that is intended to be adopted and used supplemental to the adopted building and fire codes of a jurisdiction. The unrestricted use of property in wildland-urban interface areas is a potential threat to life and property from fire and resulting erosion. The IWUIC has as its objective the establishment of minimum special regulations for the safeguarding of life and property from the intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to prevent structure fires from spreading to wildland fuels, even in the absence of fire department intervention.

NFPA 1141

Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural and Suburban Areas

NFPA 1141, Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas, was prepared by the technical committee on Forest and Rural Fire Protection. The technical committee responded to the rapid development of structures into areas that present unusual characteristics to responding fire agencies and worked extensively on making NFPA 1141 current with other documents and more usable by adopting jurisdictions. The committee was particularly interested in keeping the flexibility in the application of the standard by jurisdiction so that it works with existing codes and standards that may or may not adequately cover planned building groups.

The scope of the document was revised to focus on providing guidance on the development of the community infrastructure necessary to eliminate fire protection problems that result from rapid growth and change. Additional guidance was taken from the USDA Forest Service and the National Wildland/Urban Interface Fire Program (Firewise Communities), as well as input from several committee members and outside experts.

NFPA 1144

Standard for Reducing Structure Ignition Hazards from Wildland Fire

NFPA 1144, Standard for Reducing Structure Ignition Hazards from Wildland Fire, was prepared by the Technical Committee on Forest and Rural Fire Protection. It was officially adopted by state and local governments and adapted for use by numerous jurisdictions involved in planning Firewise Communities. The committee tested various assessment system versions in several Firewise Communities workshops, sponsored by the National Wildland/Urban Interface Fire Program, before arriving at the relative values and hazard levels given in the document. The committee increased the severity values for non-rated roofing, inadequate separation of vegetation from structures, and separation of structures from one another.

4.16 Mitigation Funding Sources

FEMA Hazard Mitigation Grant Program

The Hazard Mitigation Grant Program (HMGP) provides grants to states 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 mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

<http://www.fema.gov/hazard-mitigation-grant-program>

Texas A&M Forest Service Capacity Building

Texas A&M Forest Service provides eligible fire departments with programs designed to enhance their ability to protect the public and fire service personnel from fire and related hazards. Ten highly successful programs are currently administered to help fire departments discover and achieve their potential. Citizens are better served by well-trained and equipped fire department personnel.

<http://texasfd.com>

5.0 Tracking of Progress/Fire Planning Checklist

Tracking of Progress					
Year	Public Education Events Hosted	Firewise Communities Registered	Fuel Reduction Projects Completed	Ingress/Egress Issues Addressed	Fire Department Wildland Training Classes
2016					
2017					
2018					
2019					
2020					

6.0 Glossary

Active Crowning – A fire in which a solid flame develops in the crowns of trees, but the surface and crown phases advance as a linked unit dependent on each other.

Best Management Practices (BMP's) – Acceptable practices that could be implemented to protect water quality and promote soil conservation during forestry activities.

Burn Out – Setting fire inside a control line to consume fuel between the edge of the fire and the control line.

Burning Index (BI) – An estimate of the potential difficulty of fire containment as it relates to the flame length at the head of the fire. A relative number related to the contribution that fire behavior makes to the amount or effort needed to contain a fire in a specified fuel type. Doubling the burning index indicates that twice the effort will be required to contain a fire in that fuel type as was previously required, providing all other parameters are held constant.

Chain (ch) – Unit of measure in land survey, equal to 66 feet (20 M) (80 chains equal 1 mile). Commonly used to report fire perimeters and other fireline distances, this unit is popular in fire management because of its convenience in calculating acreage (e.g., 10 square chains equal one acre).

Community Wildfire Protection Plan (CWPP) – A plan developed in the collaborative framework established by the Wildland Fire Leadership Council and agreed to by state, tribal, and local government, local fire department, other stakeholders and federal land management agencies managing land in the vicinity of the planning area. A Community Wildfire Protection Plan (CWPP) identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment on Federal and non-Federal land that will protect one or more at-risk communities and essential infrastructure and recommends measures to reduce structural ignitability throughout the at-risk community. A CWPP may address issues such as wildfire response, hazard mitigation, community preparedness, or structure protection – or all of the above.

Crown Fire – A fire that rises from ground into tree crowns and advances from tree top to tree top. To intermittently ignite tree crowns as a surface fire advances.

Defensible Space – An area either natural or manmade, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur.

Direct Attack – Any treatment applied directly to burning fuel such as wetting, smothering, or chemically quenching the fire or by physically separating the burning from unburned fuel.

Edwards Aquifer Recharge Zone (EARZ) – Basins in the drainage area of the Edwards Aquifer region collect rainfall and funnel it into fractures, faults, and fissures in the ground. These geologic conduits are direct pathways into the aquifer and, while allowing recharge to occur, contamination is also a possibility.

Energy Release Component (ERC) – The computed total heat release per unit area (British thermal units per square foot) within the flaming front at the head of a moving fire.

Engine Boss (ENGB) – Leads crew members and resources. The Engine Boss directs a wildland fire engine and crew.

Extended Attack – Actions taken on a wildfire that has exceeded the initial response.

Fire Break – A natural or constructed barrier used to stop or check fires that may occur, or to provide a control line from which to work.

Firefighter Type 1 (FFT1) – The Squad Boss/Firefighter Type 1 oversees a squad, three to seven personnel is typical, in prescribed fire or wildfire activities as directed by a Single Resource Boss, Burn Boss, or other incident command position.

Firefighter Type 2 (FFT2) – The Firefighter Type 2 (FFT2) participates in prescribed fire and other wildland fire operations, including: ignition, control, mop-up, suppression, monitoring, etc.

Flame Length – The length of flames in a fire front measured along the slant of the flame, from the midpoint of its base to its tip. Flame length is mathematically related to fireline intensity and tree crown scorch height

Fuel Break – A natural or manmade change in fuel characteristics which affects fire behavior so that fires burning into them can be more readily controlled.

Fuel Loading – Amount of fuel present expressed quantitatively in terms of weight of fuel per unit area. This may be available fuel (consumable fuel) or total fuel and is usually dry weight.

Geographic Information System (GIS) – A geographic information system (GIS) lets us visualize, question, analyze, and interpret data to understand relationships, patterns, and trends.

Hazard Mitigation Grant Program (HMGP) – The purpose of the HMGP program is to help communities implement hazard mitigation measures following a Presidential major disaster declaration. Hazard mitigation is any action taken to reduce or eliminate long term risk to people and property from natural hazards. The HMPG is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

Healthy Forest Restoration Act – Contains a variety of provisions aimed at expediting the preparation and implementation of hazardous fuels reduction projects on federal land and assisting rural communities, States and landowners in restoring healthy forest and watershed conditions on state, private and tribal lands.

Home Hardening – Process that reduces a home’s risk to wildfire. This involves using non-combustible building materials and keeping the area around your home free of debris.

Home Ignition Zone (HIZ) – Area of up to 200 feet immediately surrounding a home.

Incident Command System (ICS) – A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.

Indirect Attack – A method of suppression in which the control line is located some considerable distance away from the fire’s active edge. Generally done in the case of a fast-spreading or high intensity fire; utilizes natural or constructed firebreaks or fuel breaks and favorable breaks in topography as a means of controlling the fire. The intervening fuel is usually back fired; but occasionally the main fire is allowed to burn to the line, depending on conditions.

International Wildland Urban Interface Code (IWUIC) – Establishes minimum regulations for land use and the built environment in designated wildland-urban interface areas using prescriptive and performance-related provisions. It is founded on data collected from tests and fire incidents, technical reports and mitigation strategies from around the world.

Ladder Fuels – Fuels which provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

Mitigation Action Plan – A document outlining procedures to reduce adverse environmental impacts.

Passive Crowning – A fire in the crowns of trees in which trees or groups of trees torch, ignited by the passing front of the fire. The torching trees reinforce the spread rate, but these fires are not basically different from surface fires.

Position Task Book (PTB) – A document listing the performance requirements (competencies and behaviors) for a position in a format that allows for the evaluation of individual (trainee) performance to determine if an individual is qualified in the position. Successful performance of PTB tasks, as observed and recorded by a qualified evaluator, will result in a recommendation to the trainee's home unit that the individual be certified in the position.

Remote Automated Weather Station (RAWS) – A weather station that transmits weather observations via GOES satellite to the Wildland Fire Management Information system.

SAFENET – A form and process, used by wildland firefighting agencies, for reporting and resolving incidents relating to firefighter safety. The information collected is used to determine long-term trends and problem areas within the wildland fire industry.

Spotting – Behavior of a fire producing sparks or embers that are carried by the wind and which start new fires beyond the zone of direct ignition by the main fire.

Strike Team Leader Engine (STEN) – This ICS position is responsible for the direct supervision of an engine strike team.

Structural Ignitability – A home’s design, construction materials and immediate surroundings are factors that contribute to how easily a home will ignite when wildfire threatens.

Surface Fire – Fire that burns loose debris on the surface, which include dead branches, leaves, and low vegetation.

Texas Intrastate Fire Mutual Aid System (TIFMAS) – Maintained by Texas A&M Forest Service. The program includes grants, training, qualifications and mobilization systems to make statewide use of local resources.

Texas Wildfire Risk Assessment Portal (TxWRAP) – The primary mechanism for the Texas A&M Forest Service to deploy risk information and create awareness about wildfire issues across the state.

Torching – The burning of the foliage of a single tree or a small group of trees, from the bottom up.

Wildland-Urban Interface (WUI) – The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. Describes an area within or adjacent to private and public property where mitigation actions can prevent damage or loss from wildfire.

6.1 Acronyms

AWR	Anahuac Wildlife Refuge
BI	Burning Index
BFR	Beaumont Fire-Rescue
BMP	Best Management Practices
BTNP	Big Thicket National Preserve
CE	Continuing Education
CWPP	Community Wildfire Protection Plan
EARZ	Edwards Aquifer Recharge Zone
ENGB	Engine Boss
ERC	Energy Release Component
FEMA	Federal Emergency Management Agency
FFT1	Firefighter Type 1
FFT2	Firefighter Type 2
GCSNA	Government Canyon State Natural Area
GIS	Geographic Information System
HIZ	Home Ignition Zone
HMGP	Hazard Mitigation Grant Program
ICS	Incident Command System
IWUIC	International Wildland Urban Interface Code
LCES	Lookouts, Communication, Escape Routes, Safety Zones
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NFPA	National Fire Protection Association
NWCG	National Wildfire Coordinating Group
PTB	Position Task Book
ROSS	Resource Ordering and Staffing System
RAWS	Remote Automated Weather Station

STEN	Strike Team Leader (Engine)
TIFMAS	Texas Intrastate Fire Mutual Aid System
TPWD	Texas Parks and Wildlife
TXWRAP	Texas Wildfire Risk Assessment Portal
USDA	United States Department of Agriculture
WFSTAR	Wildland Fire Safety Training Annual Refresher
WUI	Wildland Urban Interface

7.0 Appendices

A-1 Proclamation

WHEREAS, the State of Texas has experienced unprecedented growth and development in areas that were once rural, as well as a sharp increase in the occurrence of catastrophic fires affecting thousands of homes and businesses that are located within wildland/urban interface zones; and

WHEREAS, developed properties within the City of Beaumont are located within definable wild/urban interface zones so that their placement, combined with the topography of these zones, poses a significant risk to lives and property both within these areas and to the community as a whole should fire occur; and

WHEREAS, the best defense to fires is through public education and preparedness efforts aimed at minimizing the risk of fire occurrence, and taking full advantage of the community's collective capability to respond to the threats posed by uncontrolled fire to the residents, businesses, natural resources, and economic viability of the City; and

WHEREAS, a Community Wildland/Urban Interface Protection Plan (CWPP) is a written document, developed collaboratively with local, state and federal representatives and that identifies how a community hopes to reduce fire risk within defined wildland/urban interface zones; and

WHEREAS, a CWPP addresses population density, the number and value of affected structures, vegetation and structural ignitability, and the prioritization of hazardous fuel reduction efforts within zones to enhance the protection of lives, public and private property, and the environment within the community; and

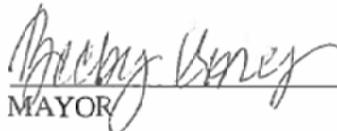
WHEREAS, partnering with the Texas Forest Service to develop a CWPP for Beaumont provides needed technical expertise and most cost effective solution for identifying and effectively mitigating said risks; and

WHEREAS, communities with a CWPP receive priority when state and federal funding is allocated for mitigation efforts;

NOW, THEREFORE, I, Becky Ames, Mayor of the City of Beaumont, do hereby proclaim support for the efforts to develop a Community Wildland/Urban Interface Protection Plan (CWPP) and urge all citizens of Beaumont to assist in the effort to protect their families and homes by supporting these efforts.



ACCORDINGLY, the Mayor has hereunto set her hand and caused the Seal of the City of Beaumont to be affixed.


MAYOR

March 24, 2015
DATE

A-2 A Leader's Guide to Developing a CWPP

A LEADER'S GUIDE TO DEVELOPING A COMMUNITY WILDFIRE PROTECTION PLAN	
PHASE 1 : PLAN	<p><input type="checkbox"/> Engage local Texas A&M Forest Service, Contact local Wildland Urban Interface Specialist at www.texasfirewise.org</p> <p><input type="checkbox"/> Contact fire association/local law enforcement and fire services.</p> <p><input type="checkbox"/> Contact state and federal partners.</p> <p><i>If the above are supportive, then continue with:</i></p> <p><input type="checkbox"/> Adopt Community Wildfire Protection Plan. Discuss adopting CWPP into Annexes of county's emergency management plan and mitigation action plan.</p> <p><input type="checkbox"/> Declare proclamation. Present proclamation to county judge and county commissioners during commissioners' court for approval and signatures.</p>
PHASE 2 : ASSESS	<p><input type="checkbox"/> Form core working group. Possible partners:</p> <ul style="list-style-type: none"> ▶ County Officials <ul style="list-style-type: none"> • County Judge • County Commissioners • County Sheriff • Emergency Management Coordinator (EMC) • County Planner ▶ Local Texas A&M Forest Service ▶ Fire services <ul style="list-style-type: none"> • Volunteer Fire Departments • Municipal Fire Departments • Fire Association • Fire Marshal ▶ Law Enforcement <ul style="list-style-type: none"> • Local and Municipal • State Police ▶ Federal partners <ul style="list-style-type: none"> • US Forest Service (USFS) • National Park Service (NPS) • US Army Corps of Engineers (USACE) • Conservation Service (NRCS) • Resource Conservation & Development (RC&D) ▶ Identify other stakeholders to invite in the CWPP process. <ul style="list-style-type: none"> • Private stakeholders • Industry stakeholders • Municipal stakeholders
PHASE 3 : FINALIZE	<p><input type="checkbox"/> Assemble draft county CWPP using information gathered from risk assessments and fire department CWPPs.</p> <p><input type="checkbox"/> Research and identify potential funding sources.</p> <ul style="list-style-type: none"> ▶ Recovene core group for second meeting. ▶ Present findings from assessments. <p><input type="checkbox"/> Prioritize projects within county plan. <ul style="list-style-type: none"> • Fuel reduction • Education • Structural Ignitability </p> <p><input type="checkbox"/> Finalize county CWPP with edits from core group.</p> <p><input type="checkbox"/> Present for public opinion.</p> <p><input type="checkbox"/> Deliver draft to core group participants.</p> <p><input type="checkbox"/> Present final copy to commissioner's court.</p> <p><input type="checkbox"/> Plan signing/recognition ceremony.</p>
<div style="border: 1px solid black; padding: 10px; min-height: 100px;"> <p style="text-align: center; margin-top: 0;">NOTES</p> </div>	

A-3 Wildfire Risk Assessment Score Sheet

Wildfire Risk Assessment Score Sheet

Community Name: _____
 LAT: _____ N LONG: _____ W
 County: _____ City: _____ Fire Protection District: _____
 Homes: _____ Acres: _____ One Way In/Out: Yes / No
 Primary Residential Type: Fixed/Mobile/RV Road Width: > 24ft; 24ft < 20ft; < 20ft

Overview of Surrounding Environment

A. Characteristics of Predominant Vegetation

1	Landscaped Lawn	
10	Light (eg., short grasses, forbs)	
15	Medium (e.g., taller grasses, light brush and small trees)	
20	Heavy (e.g., dense brush, timber, and hardwoods)	
20	Slash (e.g., timber harvesting residue)	

B. Defensible Space

1	> 100 ft. of vegetation treatment from the structure(s)	
3	71 to 100 ft. of vegetation treatment from the structure(s)	
10	30 to 70 ft. of vegetation treatment from the structure(s)	
20	< 30 ft. of vegetation treatment from the structure(s)	

C. Possible Structure to Structure Ignition

0	No	
+5	Yes	

D. Slope

1	Slope < 8%	
4	Slope 8-19%	
7	Slope 20-30%	
10	Slope > 30%	

E. Saddles, Box Canyons, Chimneys Present

0	No	
+5	Yes	

F. Area with History of High Fire Occurrence

0	No	
+5	Yes	

G. Area Exposed to Southern Plains Wildfire Outbreak

0	No	
+5	Yes	

Surrounding Environment		
Total:		

Home Construction

A. Roofing Materials

1	Rated/Noncombustible	
15	Nonrated	

B. Debris on Roof

0	No	
+5	Yes	

C. Ventilation and Soffits

1	With mesh or screening	
5	Without metal mesh or screening	

D. Gutters

1	Noncombustible	
5	Combustible, leaf litter present	

E. Building Construction

1	Noncombustible siding	
15	Combustible siding	

F. Wooden Attachments

0	No	
+5	Yes	

G. Windows

1	Multi-paned	
5	Single-paned	

H. Utilities

1	Both underground	
3	One underground, one aboveground	
5	Both aboveground	

Home Construction Total:

--	--

Hazard Totals and Rating

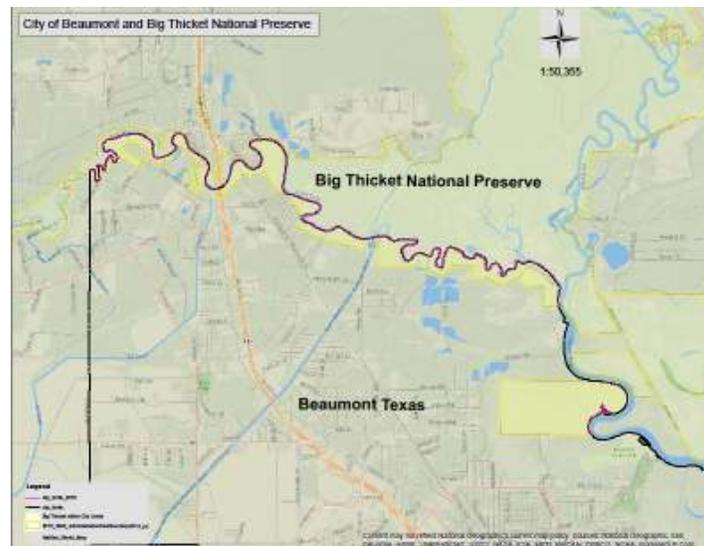
A. Hazard Totals

B. Hazard Rating

Surrounding Environment Total		Total Hazard Rating			
		0-30	31-60	61-90	91+
Home Construction Total		Low	Moderate	High	Extreme
Total Hazard Rating		Assessed by:			Date:
Structure Ignition Hazard		Comments:			
0-15	16-30	31-45			
Slight	Moderate	Significant			

A-4 CWPP for the Big Thicket National Preserve

Big Thicket National Preserve is a unit of the National Park Service and consists of approximately 110,000 acres in seven counties of southeast Texas. 1439 acres of the preserve are located within the city limits of Beaumont with 15.79 miles of boundary along the northern city limits. Big Thicket land sits along Pine Island Bayou and the Neches River. Firefighter/public safety and the protection of public and preserve resources are the primary fire management objectives for all preserve lands.



Fire History – There is minimal fire history in this portion of the preserve, two records were found on the preserve within the city limits of Beaumont. Fires that were suppressed by other agencies on the preserve and not reported to the NPS do not have a fire report.

Fuels/ Fire Behavior – This portion of the preserve is located along Pine Island Bayou and the Neches River, the vegetation is predominately bottomland hardwoods. There are scattered pines and brush in pockets on better drained soils where the slope leaves the waterways. In the hardwood areas leaf litter is the primary fire carrier with pockets of down and dead fuels adding intensity. In the areas with mixed pine the hardwood and pine litter is the primary fire carrier. Pockets of down and dead fuels and brush can add intensity but are not primary fire carriers. Fuel and soil moisture is generally high throughout the year due to the hardwood component, standing water, and proximity to the waterways. Fire behavior is generally a slow moving ground fire with minimal resistance to control. Extended periods of hot and dry weather or drought will make these fuels more available for fire starts or spread. Big Thicket lands in this area are dissected by numerous sloughs, drainages, and waterways that would limit fire spread.

Values at Risk – The Edge Water Day Use area is located along Pine Island Bayou and consists of picnic tables and a pit toilet for visitor use, there is minimal threat of damage or loss to this infrastructure during a wildfire.

