# Urban Forestry Board (UFB) Swearingen Oaks
# Working Group Meeting Notes

**Date:** Friday March 1, 2013

**Time:** 10:00 AM – 12:00 PM

**Location:** West Side of Swearingen Drive Beneath Major Power Transmission Lines

**Attendees:** Gracywoods Neighborhood Association (GWNA) – Bill Glass, Craig Nazor

Austin Energy (AE) – Ray Henning, Jarrid Hohensee, Carl Schattenberg, Kathy Strittmatter

UFB – Tom Hayes, Chris Kite, Peggy Maceo

## General Background

- The current 138 kiloVolt (kV) double-circuit transmission lines supported by lattice structures were constructed in 1969.
- The highest capacity transmission lines in the greater Austin area are rated for 345 kV, and the 138 kV lines have the second highest capacity rating.
- If tree vegetation is closer than 13 feet and 2 inches to a transmission line, the Occupational Safety and Health Administration (OSHA) requires that a qualified power line clearance worker perform the needed tree pruning.
- If tree vegetation is closer than 5 feet and 2 inches to a transmission line, a forced outage must be taken on the 138 kV lines, which would require pre-approval from the Electric Reliability Council of Texas (ERCOT).
- To minimize the risk of arcing or "flashover", clearance requirements became more stringent after a major power outage occurred on August 14, 2003 in the northeastern U.S. due to the close proximity of a tree to major transmission lines.
- During the peak times of electricity demand in summer months, the power lines expand and sag due to heat buildup from increased current flow.
- AE studies have indicated that new sprouts from native live oaks within the greater Austin area tend to grow an average of 32 inches within the first year after pruning, an additional 30 inches within the second year, and roughly 25 inches in each subsequent year. The distance fluctuates due to varying weather conditions.

## Background Specific to Live Oaks Immediately West of Swearingen Drive

- An agreement was signed on October 18, 2004 among AE, GWNA, the Lower Colorado River Authority (LCRA), and the City of Austin Parks and Recreation Department (PARD). This agreement is attached as Appendix A.

- This October 2004 agreement resulted in the removal of several trees, planting of new as mitigation for the removed ones, and heavy pruning of live oaks under the power lines to meet the more stringent clearance requirements. Page 3 excerpt: "Remove one small live oak tree which can not be properly pruned for the required line clearance. Six oak trees will have to be heavily pruned for the minimum required line clearance. Austin Energy will provide mitigation for this degree of pruning required, rather than remove five of these trees at this stage of the cycle."
- The vertical regrowth that occurred on the heavily pruned six live oaks mentioned above necessitated maintenance pruning in 2009.
- GWNA discussed this matter at regularly scheduled meetings in the fall of 2009, and had a special meeting with AE staff on October 20, 2009 to discuss mitigation measures that could be pursued if the live oaks were to be removed rather than pruned every 4-5 years. The meeting minutes are attached as Appendix B.
- The live oaks were not removed because a mutually acceptable mitigation agreement was not reached between GWNA and AE. GWNA's draft mitigation plan is attached as Appendix C.
- If these 138 kV lines were at their maximum expected sag point today, there would be a 9 foot 4 inch distance between the lines and the tips of the live oak foliage. Expected spring time growth could shorten this distance to almost 7 feet.
- Due to the vertical regrowth that has occurred since 2009, the live oaks are up for maintenance prior to the summer of 2013 to meet safety line clearance requirements.

**Options**

1. Remove the heavily pruned live oaks and AE provides a mitigation budget that GWNA can decide how to allocate. This option did not receive much discussion since GWNA would like to keep the oaks intact.
2. Continue to prune the live oaks on a 4-5 year maintenance cycle. Such pruning would be limited to vertical growth that would present a safety hazard, along with removal of any dead wood identified at the time of pruning. Horizontal and/or angular growth would be left untouched if it did not present a safety hazard prior to the next scheduled pruning in 4-5 years.
3. Raise the transmission lines so that more foliage can be left on the tree after each 4-5 year pruning cycle. AE has provided a ballpark estimate of $400,000 for such work to occur, and has stated that a 6-9 month lead time would likely be required if authorization is given by City Council to proceed with this work. If this 6-9 month lead time fell during summer months with peak electricity demand, the line raising would have to occur during the subsequent fall or winter periods instead.

## Discussion

- All parties agreed that the line clearance safety issues need to be addressed to minimize the risk to people, property, and vegetation in the area. In the short term, maintenance pruning needs to be performed by AE on vertical regrowth and any dead wood identified. This approach allows 4-5 years to transpire before the next pruning would need to occur.
- GWNA would agree to the maintenance pruning now if a commitment was provided that the transmission lines will be raised in the future. Due to the potential costs involved, such a commitment can only come by vote of the City Council, so it could not be provided by anyone present at the meeting.
- GWNA requested that mulch be provided out to the drip line of each of the live oaks. AE agreed to provide some mulch around the base of the trees with exposed roots to minimize any damage that would occur from future mowing operations. AE agreed to discuss improved mowing procedures with PARD to minimize future root system damage. AE's position is that too much mulch around the base of the trees would stimulate excessive growth that would shorten the 4-5 year pruning cycle that these trees currently have. In normal circumstances where transmission lines are not located overhead, vigorous growth is desired.
- Agreement was not reached about the type of maintenance pruning to be performed by AE staff. GWNA would like to have minimal pruning performed where the vertical growth is only partially cut back so that some vertical foliage remains on top of the main trunks. AE's position is that vertical growth must be cut back to a main trunk so that the wound will properly heal, and the risk of decay and possible infection will be minimized. AE also stated that partial pruning would necessitate more frequent maintenance, which is unhealthy since pruning is a periodic shock that a tree should experience as infrequently as possible.

## Actions to be Taken

- UFB stated that an action item would likely be placed on the agenda for the next regularly scheduled meeting on March 20, 2013. Such an action item would include a discussion, and the outcome would likely be a vote on a letter, resolution, or list of recommendations from UFB to AE.
- AE stated that they planned to proceed with maintenance pruning within the next two weeks, prior to the March 20, 2013 UFB meeting.

# Appendix A

## Vegetation and Mitigation Plan for LCRA's and Austin Energy's Transmission Lines Located in the Gracywoods Greenbelt

**October 18, 2004**

TO: Gracywoods Neighbors
Gracywoods Neighborhood Association
Reflections of Walnut Creek I Condominiums
Reflections of Walnut Creek II Condominiums
Reflections of Walnut Creek III Condominiums

FROM: Gracywoods Taskforce members

DATE: October 18, 2004

RE: Vegetation Management and Mitigation Plan for LCRA's and Austin Energy's Transmission Lines located in the Gracywoods Greenbelt

The Lower Colorado River Authority (LCRA) and Austin Energy are preparing to complete right-of-way maintenance for three transmission lines that run between McNeil and Marshall Ford substations. LCRA's affiliate, LCRA Transmission Service Corporation, owns and operates the two 69,000-volt lines and Austin Energy owns the 138,000-volt double circuit line. These lines cross the Gracywoods neighborhood and run through the greenbelt that was established in the transmission line corridor. LCRA committed in March 2004 to work with residents in the Gracywoods neighborhood subdivision to develop a plan for the area's green space. The plan will address concerns about removal and pruning of trees in the transmission corridor/greenbelt while ensuring that LCRA and Austin Energy have the ability to maintain required safety clearances.

LCRA has teamed with Austin Energy and the City of Austin's Parks and Recreation Department to participate in a public process for developing an open space plan for the greenbelt. Through collaboration and cooperation, the Gracywoods Task Force was formed and is comprised of representatives from the Gracywoods Neighborhood Association, landowners along the greenbelt, City of Austin's Parks and Recreation Department, Austin Energy and LCRA. This working group has met and worked together over the last five months to address the issues and concerns regarding tree removal from under the transmission lines and to develop ideas to resolve those issues that adhere to transmission line safety and reliability requirements as well as maintain the quality of the green space that is so important to neighborhood residents. The taskforce will continue to work together until elements of the plan are completed, including placement of the new trees.

LCRA and Austin Energy completed a tree survey to provide information about each tree in the publicly used green space that is within the utilities' easements. This information included the type of trees in the easements, height of these trees, height of the high-voltage lines, estimated height of the trees at maturity, and their proximity to transmission facilities. This information, and the input from neighborhood participants, served as the basis for the Gracywoods Task Force open space plan. In addition to the mitigation plan for the publicly used green space, replacement trees will be offered to the property owners where tree removals occur. Where mitigation trees are made available for right-of-way maintenance on private property, the individual property owner will be responsible for planting and watering those trees on their respective property.

The plan developed by the taskforce for the public access areas of the right-of-way is outlined on the following pages, and on the attached exhibits.

## McNeil Substation to Swearingen Drive

City property maintained by Austin Parks and Recreation Department

**LCRA:**

No action required.

**Austin Energy:**

Remove two trees (one hackberry and one Chinese tallow tree). Prune other trees, primarily oak trees, for minimum required clearance. (*See attached tree survey by Austin Energy.*)

Provide two mitigation trees. Other mitigation trees may be available for City-owned property from mitigation requirements for City-owned property between Prairie Hen and Tallowfield Way.

**City of Austin Parks and Recreation Department:**

Purchase two new trees funded by Austin Energy.

Provide back-hoe for breaking up the hard soil.

Provide shovels for digging the holes for the new trees.

Provide guidance for planting the trees.

**Reflections of Walnut Creek III Condominiums:**

Plant the new trees with assistance from the Gracywoods Neighborhood Association and Parks and Recreation Department in the public-access areas of the green space.

Water and maintain the new trees.

## Swearingen Drive to Bittern Hollow

Private and FDIC property maintained as green space

**LCRA:**

Trim 15 trees for 5-year cycle (based on 15' distance from tree to wire).

Trim two trees per Gracywoods Neighborhood Association request.

Trim five live oak trees and mitigate by providing funding for seven 2-in trees.

Prune damaged trunk on tree number 432.

**Austin Energy:**

Prune oak trees for minimum required line clearance (see attached Austin Energy tree survey). Remove one storm damaged, cedar elm tree. Remove one small live oak tree which can not be properly pruned for the required line clearance. Six oak trees will have to be heavily pruned for the minimum required line clearance. Austin Energy will provide mitigation for this degree of pruning required, rather than remove five of these trees at this stage of the cycle. If the landowner requests some other type treatment for the trees, Austin Energy will notify the Reflections II Homeowners Association and the Gracywoods Neighborhood Association, before taking action.

Provide approximately 29 mitigation trees for the live oaks pruned on FDIC property in a city-owned, public-access property where they will be maintained, either in the City-owned property of the section from Prairie Hen to Tallow Field or McNeil Substation to Swearingen Drive. All plants provided for planting in any easement must be approved, low growing specie, but if mitigation trees are planted an appropriate distance away from overhead utilities, some flexibility exists for other tree species.

**City of Austin Parks and Recreation Department:**

Advise Gracywoods Neighborhood Association members in selecting appropriate species and how to maintain them.

**Reflections I and Gracywoods Neigbhorhood Association:**

Plant three trees on Reflections I property, and four trees on adjoining green space area adjacent to Reflections I property with assistance from Gracywoods Neighborhood Association.

Reflections I will maintain the new trees on their property.

An undetermined number of additional trees may become available for planting in this area. If additional trees do become available for planting in this area, Gracywoods Neighborhood Association will plant the trees along the creek and residents in the area have agreed to water the trees if planted.

**Bittern Hollow to Prairie Hen**

Private property maintained as green space in a recreation easement

**LCRA:**

Remove one hackberry (tree number 454).

Trim nine trees for 5-year cycle.

No mitigation trees required.

**Austin Energy:**

Prune trees for minimum required clearance.

No mitigation trees required.

## Prairie Hen to Tallow Field

City property maintained by Austin Parks and Recreation Department
and some private property maintained as green space

**LCRA:**

Remove 34 trees including one dead Arizona Ash tree. (*See attached tree survey completed by LCRA.)* To mitigate for the removal of these trees, LCRA will provide $8,000 to assist with water fees, irrigation system upgrades and construct two arbors. If money is left over after the trees are established, Gracywoods Neighborhood Association, in coordination with the Parks and Recreation Department, can use the money for other green space enhancements.

Trim 23 trees for 5-year cycle.

Create mulch piles from removed/trimmed trees and make mulch available to neighborhood residents.

**Austin Energy:**

Remove and mitigate 22 Arizona Ash trees. Austin Energy will provide mitigation trees for all 22 tree removals from the Austin Energy right-of-way.

Provide funding for approximately 25 mitigation trees. Due to limited planting space available, unless other arrangements for placement of these trees are made, all plants provided for planting in any easement must be approved, low growing species.

**City of Austin Parks and Recreation Department:**

Purchase 25 new trees funded by Austin Energy.

Provide back-hoe services for breaking up the hard soil.

Provide shovels to volunteers for digging the holes for the new trees.

Approve a Park Improvement Agreement with Gracywoods Neighborhood Association members for improvements.

Approve design and construction of new arbors to be constructed by LCRA.

Assist Gracywoods Neighborhood Association members in planting of trees and provide instruction on how to maintain them.

Establish an account for funds contributed by LCRA as well as privately contributed funds; the account is to be used for upgrading the irrigation system, two (2) years of water utility cost for the newly planted trees and other green space enhancements.

Repair and upgrade the existing irrigation system between Tallowfield and Prairie Hen.

Maintain/repair the sprinkler system for the two years of watering.

**Gracywoods Neighborhood Association:**

Plant the new trees.

Contribute to the maintenance of the park grounds.

Work on additional park improvements through grants, private donations and volunteer labor/time.

Sandy Talmadge will work with Parks and Recreation Department on layout design.

**Summary:**

**LCRA:**

Provide two 10'x 30' arbors.

Provide $8,000 to help cover water fees and upgrades to the irrigation system. If money is left over after the trees are established, Gracywoods Neighborhood Association, in coordination with the Parks and Recreation Department, can use the money for other green space enhancements

Provide funding for seven 2-inch trees.

**Austin Energy:**

Austin Energy will provide funding for 56 mitigation trees.

Austin Energy will provide funding for 50 additional mitigation trees for planting in public-access areas from another project which required planting mitigation trees.

**City of Austin Parks and Recreation Department:**

Purchase 106 new trees funded by Austin Energy, from nursery under contract to Austin Energy.

Purchase seven new trees funded by LCRA.

Provide back-hoe services for breaking up the hard soil.

Provide shovels to volunteers for digging the holes for the new trees.

Approve a Park Improvement Agreement with Gracywoods Neighborhood Association members for improvements and for new construction of engineered Arbors design by LCRA.

Assist Gracywoods Neighborhood Association members in planting of trees and how to maintain them.

Establish an account for funds contributed by LCRA as well as privately contributed funds; the account is to be used for upgrading the irrigation system, two (2) years of water utility cost for the newly planted trees and other green space enhancements.

Repair and upgrade the existing irrigation system between Tallowfield and Prairie Hen.

Maintain/repair the sprinkler system for the two years of watering.

**Gracywoods Neighborhood Association:**

Plant the new trees.

Maintain the new and existing trees.

Contribute to the maintenance of the park grounds.

Work on additional park improvements through grants, private donations and volunteer labor/time.

Sandy Talmadge will work with Parks and Recreation Department on layout design.

**Reflections of Walnut Creek I Condominiums:**

Plant the new trees with assistance from Gracywoods Neighborhood Association and Parks and Recreation Department.

Reflections I will maintain the new trees on their property.

**Reflections of Walnut Creek II Condominiums:**

Reflections II has indicated a commitment to plant and maintain up to 25 trees, if trees become available, in the common area of the Reflections II property.

**Reflections of Walnut Creek III Condominiums:**

Plant the new trees with assistance from the Gracywoods Neighborhood Association and Parks and Recreation Department in the public-access areas of the greenspace.

Water and maintain the new trees.

**This document has been agreed to and executed as of the** 18th **day of** October**, 2004**

**Austin Energy**

By: [signature]

Name: Cheryl L. Mele

Title: Sr. VP Electric Service Delivery

**City of Austin – Parks and Recreation Department**

By: [signature]

Name: RICHARD FINNEGAN

Title: PARD Gen Mgmt Mgr.

**LCRA Transmission Services Corporation**

By: [signature]

Name: Heather Bailey

Title: Co-Chief Operating Officer

**Gracywoods Homeowners Association**

By: [signature]

Name: Sandy K Talmadge

Title: member

**Reflections of Walnut Creek I Condominiums**

By: [signature]

Name: Lesley Yarbrough
E. JEANNE SHAUB

Title: HOA - Member at Large
HOA SECRETARY

**Reflections of Walnut Creek II Condominiums**

By: [signature]

Name: KATHERINE STEWART Carol Biedrzycki

Title: Resident Board appointed representative

**Reflections of Walnut Creek III Condominiums**

By: [signature]

Name: James A. Kaplan

Title: Resident

| Tag# | DBH & Specie | AE Position | GNA ORIGINAL RECOMMENDATION 6/23/04 | AGREEMENTS BETWEEN GNA & AE 9/23/2004 |
|---|---|---|---|---|
| ***McNeil Sub to Swearingen Dr.*** | | | | |
| 403 | 3" Hackberry | **Remove** | | Remove, Mitigate |
| AE421 | 12' Tallow | **Remove** | | Remove, Mitigate |
| AE424 * | 29"Live Oak (QUAD.) | **Trim** | | Trim |
| AE425 | 13"Live Oak | **Trim** | do nothing | Trim |
| AE426 | 15"Live Oak | **Trim** | remove 5' | Trim |
| AE427 | 15"Live Oak | **Trim** | light trim | Trim |
| | | | | |
| ***Swearingen Dr. to Bittern Hollow*** | | | | |
| AE428 | 17"Live Oak | **Remove** | trim N & S sides to 25' from phase; trim 10' in 5 yrs | Trim, Mitigate, Phased Removal, if necessary |
| AE429 | 19"Live Oak (TWIN) | **Remove** | remove south stem;directional trim top twigs; trim 10' in 5yrs | Trim, Mitigate, Phased Removal, if necessary |
| AE430 | 12"Live Oak | **Trim** | trim 10' in 5 yrs; remove top branch 5' | Trim |
| AE431 | 20"Live Oak | **Remove** | remove 1 vertical branch & top twigs; 2-yr trim | Trim, Mitigate, Phased Removal, if necessary |
| AE432 | 20"Live Oak | **Remove** | remove top vert branch & adj twigs;trim 5'-15' from phase;2-yr trim | Trim, Mitigate, Phased Removal, if necessary |
| AE433 | 27"Live Oak | **Remove** | trim 5' to 15' from phase; 2-yr trim | Trim, Mitigate, Phased Removal, if necessary |
| AE434 | 34"Live Oak | **Trim** | trim 10' from canopy | Trim - Must have min. clearance; at midspan |
| AE435 | 29"Live Oak | **Trim** | light trim | Trim |
| AE436 | 13"Live Oak | | no action | |
| AE437 | 12"Live Oak | **Trim** | trim 5' to 25' from phase | Trim |
| AE438 | 12"Live Oak | **Trim** | light trim | Trim |
| AE439 | 14"Live Oak | **Trim** | | Trim |
| AE441 | 16"Live Oak | **Trim** | remove 5' | Trim |
| AE415 | 10" Cedar Elm | **Remove** | remove | Remove |
| AE442 | 16"Live Oak | **Trim** | remove dead trunk | Trim & Trim out broken top & dead stem |
| AE443 | 26"Live Oak (TRIPLE) | **Trim** | trim 4' to 15' from phase | Trim |
| AE444 | 23"Live Oak (TWIN) | **Trim** | trim 5' to 15' from phase; directionally prune canopy | Trim |
| AE445 | 12"Live Oak (TWIN) | **Remove** | trim 3' to 15' from phase | Remove, Mitigate |
| AE446 | 20"Live Oak | **Trim** | trim 9' | Trim |
| AE447 | 21"Live Oak (TWIN) | **Trim** | trim 4' | Trim |
| AE448 | 12"Live Oak (TWIN) | | no action | |
| AE449 | 26"Live Oak (TWIN) | **Trim** | trim 5' | Trim |
| AE450 | 30"Live Oak | **Trim** | trim 5' to 20' from phase | Trim |
| AE451 * | 13"Live Oak | | trim 5' from topmost canopy | Minimal trim |
| AE452 * | 21"Live Oak (TWIN) | **Trim** | trim 5' from topmost canopy | Minimal trim |
| AE453 ** | 13"Live Oak | | misplaced on LCRA map | Minimal trim |
| AE454 | 11"Live Oak | **Trim** | trim 3' off all | Minimal trim |
| AE455 | 13"Live Oak | **Trim** | trim 3' off all | Minimal trim |
| AE456 | 11"Live Oak | **Trim** | trim 3' off all | Minimal trim |
| AE457 | 12"Live Oak | **Trim** | trim 3' off all | Minimal trim |
| AE458 | 19"Live Oak | | trim 3' off all | |
| AE459 | 18"Live Oak | **Trim** | COA trim 5' from top | Minimal trim |
| AE460 | 30"Live Oak (TWIN) | **Trim** | COA trim 5' from top | Trim |

| Tag # | DBH & Specie | AE Position | GNA ORIGINAL RECOMMENDATION 6/28/04 | AGREEMENTS BETWEEN GNA & AE 9/23/2004 |
|---|---|---|---|---|
| AE461 | 08"Live Oak | | COA trim 5' from top | |
| AE462 | 11"Live Oak | | COA trim 5' from top | |
| AE463 | 09"Live Oak | **Trim** | COA trim 5' from top | Minimal trim |
| AE464 * | 22"Live Oak (TRIPLE) | | COA trim 5' from top - not on map | |
| AE465 | 11"Live Oak | **Trim** | COA trim 5' from top | Minimal trim |
| AE466 | 14"Live Oak | **Trim** | COA trim 5' from top | Minimal trim |
| AE467 | 18"Live Oak (TWIN) | **Trim** | COA trim 5' from top | Minimal trim |
| | | | | |
| ***Bittern Hollow to Prairie Hen Ln.*** | | | | |
| AE468 | 13"Live Oak | | 3' trim by AE | Minimal trim |
| AE469 | 13"Live Oak | **Trim** | 3' trim by AE | Minimal trim |
| AE470 | 11"Live Oak | **Trim** | 3' trim by AE | Minimal trim |
| AE471 | 13"Live Oak | **Trim** | 3' trim by AE | Minimal trim |
| AE472 | 11"Live Oak | **Trim** | 3' trim by AE | Minimal trim |
| AE473 | 15"Live Oak (TWIN) | | 3' trim by AE | |
| AE474 | 15"Live Oak (TWIN) | **Trim** | 3' trim by AE | Minimal trim |
| AE475 | 15"Live Oak | **Trim** | 3' trim by AE | Minimal trim, if needed |
| AE476 | 11"Live Oak | **Trim** | 3' trim by AE | Minimal trim, if needed |
| AE477 | 17"Live Oak | **Trim** | 3' trim by AE | Trim |
| AE478 | 14"Live Oak | **Trim** | 3' trim by AE | Minimal trim |
| AE479 | 12"Live Oak | **Trim** | 3' trim by AE | Trim |
| AE480 | 13"Live Oak | **Trim** | 3' trim by AE | Trim |
| AE481 | 12"Live Oak | | 3' trim by AE | |
| AE482 | 16"Live Oak (TWIN) | **Trim** | No action | Trim & cut poison ivy |
| AE483 | 18"Live Oak (TWIN) | **Trim** | No action | Trim |
| AE484 | 13"Live Oak | **Trim** | No action | Trim |
| AE485 | 11"Ash | **Trim** | trim 5' - 15' from phase | Trim |
| AE486 | 20"Live Oak (TRIPLE) | **Trim** | trim 5' - 15' from phase | Trim |
| AE487 | 21"Live Oak | **Trim** | trim 5' - 15' from phase | Trim |
| AE489 * | 22"Hackberry | **Trim** | | |
| AE490 * | 18"Hackberry | **Trim** | | |
| AE495 | 09" Gum Bumelia | | Phased removal over next 2-5 years | |
| AE496 | 18"Hackberry | **Trim** | Phased removal over next 2-5 years | Trim |
| AE497 | 15"Hackberry | **Trim** | Phased removal over next 2-5 years | Trim |
| AE498 * | 23"Hackberry | **Trim** | | |
| | | | | |
| ***Prairie Hen to Tallow Field Way*** | | | | |
| AE500 | 14"Ash | **Trim** | Phased removal over next 2-5 years | Remove, Mitigate*** |
| AE501 | 10"Ash | **Trim** | Phased removal over next 2-5 years | Directional Trim |
| AE502 * | 12"Ash | | Phased removal over next 2-5 years | |
| AE503 * | 15"Ash | **Trim** | Phased removal over next 2-5 years | Directional Trim |
| AE504 * | 16"Ash | **Trim** | Phased removal over next 2-5 years | Remove, Mitigate*** |

| Tag# | DBH & Specie | AE Position | GNA ORIGINAL RECOMMENDATION - 6/23/04 | AGREEMENTS BETWEEN GNA & AE - 9/23/2004 |
|---|---|---|---|---|
| AE505 | 15"Ash | **Trim** | Phased removal over next 2-5 years | Remove, Mitigate*** |
| AE506 | 18"Ash (TWIN) | **Trim** | Phased removal over next 2-5 years | Remove, Mitigate*** |
| AE507 * | 31"Ash (QUAD) | **Trim** | Phased removal over next 2-5 years | Directional Trim |
| AE508 | 14"Ash | **Trim** | Phased removal over next 2-5 years | Directional Trim |
| AE509 | 16"Ash | | Phased removal over next 2-5 years | |
| AE510 | 15"Ash | **Trim** | Phased removal over next 2-5 years | Remove, Mitigate*** |
| AE511 | 25"Ash (CLUMP) | **Trim** | Phased removal over next 2-5 years | Remove, Mitigate*** |
| AE512 | 14"Ash | **Trim** | Phased removal over next 2-5 years | Remove, Mitigate*** |
| AE513 | 10"Ash | | Phased removal over next 2-5 years | |
| AE515 | 12"Ash | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE516 * | 12"Ash | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE517 | 09"Ash | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE518 | 16"Ash | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE519 | 07"Ash | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| 477 | 03"Ash | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE520 | 08"Ash | | Phased removal over next 2-5 years | |
| AE522 | 10"Ash | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE523 | 12"Ash | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE525 | 07"Ash | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE526 * | 10"Ash | | Phased removal over next 2-5 years | Remove, Mitigate |
| AE527 | 10"Ash (TWIN) | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE529 | 11"Ash | **Trim** | Phased removal over next 2-5 years | Remove, Mitigate*** |
| AE530 | 15"Ash (QUAD) | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE531 | 10"Ash | | Phased removal over next 2-5 years | |
| AE532 | 13"Ash | | Save | |
| AE533 | 12"Ash, | | Phased removal over next 2-5 years | Minimal trim, if needed |
| AE535 | 09"Ash | | Save | |
| AE536 | 12"Ash | **Trim** | Phased removal over next 2-5 years | Remove, Mitigate*** |
| AE537 | 11"Ash | | Phased removal over next 2-5 years | Minimal trim, if needed |
| AE538 | 09"Ash | | Phased removal over next 2-5 years | Minimal trim, if needed |
| AE539 | 15"Ash (QUAD) | | Save | |
| AE540 | 15"Ash (QUAD) | | Save | |
| AE541 | 09"Ash | | Phased removal over next 2-5 years | |
| AE542 | 21"Hackberry | **Trim** | Save | Trim |
| AE543 | 10"Ash | | Phased removal over next 2-5 years | |
| AE544 | 17"Ash | **Remove** | Phased removal over next 2-5 years | Remove, Mitigate |
| AE545 | 14"Ash | | Phased removal over next 2-5 years | |

* Tree missing or incorrect on both LCRA tree survey map and 6/23/04 spreadsheet

** Tree missing on LCRA tree survey map

*** Originally indicated as a Phased-out removal over two years, but GNA & AE agreed to remove these 13 ash trees to make room for new tree plantings in this area.

| Tag # | DBH & Specie | AE Position | GNA ORIGINAL RECOMMENDATION - 6/23/04 | AGREEMENTS BETWEEN GNA & AE - 9/23/2004 |
|---|---|---|---|---|

| | Remove |
|---|---|
| McNeil to Swearingen Drive | 2 |
| | |
| Swearingen to Bittern Hollow | 2 |
| | |
| Bittern Hollow to Prairie Hen | 0 |
| | |
| Prairie Hen to Tallow Field | 22 |
| | |
| **Total** | **26** |

# Appendix B

## Minutes from Gracywoods Neighborhood Association Special Called Meeting

## October 20, 2009

**Minutes**
**Gracywoods Neighborhood Association**
**October 20, 2009**
**Special Called Meeting**

Francoise Luca called the meeting to order at 7:00pm on October 20, 2009.

Francoise explained that there would only be one agenda item – the draft mitigation plan that will be presented by the committee, appointed at the October 5, 2009 meeting, who was charged with conducting further research in response to a motion passed at the October 5th meeting. That motion was to "remove the trees contingent on the committee reaching an agreement that is mutually acceptable to the committee and the City".

Francoise introduced Carl Schattenberg, Utility Forester in Charge of the North Star Greenbelt, who attended the meeting as the representative of Austin Energy. Also introduced were the members of the Committee.

Francoise explained the protocol for the special meeting to be moderated by her and which will be limited to the one topic. Everyone concurred with the plan for the meeting.

Francoise presented the overall plan, background and prior decisions. She then read the motion that was passed at the October 5th meeting.

The meeting was then turned over to the Chairman of the Committee, Kate Stewart. Kate reviewed the draft mitigation plan. Refer to the copy of the plan attached to the minutes. A copy of the plan had also been submitted to Carl Schatennberg of Austin Energy. Kate reiterated that this was a "draft" mitigation plan. She gave a background and history of the vision and plans for the Greenbelt. She indicated that the committee had met and addressed what a mitigation plan should include. She and Steve Rand had also met with Carl. Kate expressed thanks to Carl and Austin Energy for their work.

Considerable discussion followed. A synopsis of the discussion is presented below.

Linda M. – Expressed that GWNA needs to honor their agreements; need to look at the recent Park survey as a part of the planning for the Greenbelt; will require a financial commitment and some fundraising.
Francoise – Need to develop a vision for the entire Greenbelt; wants the vision and survey as an action item for GWNA.
Kate – Gave Linda M. and Carl a lot of credit for their work to date.
Danny – Discussed potential City watering restrictions – needs to be a consideration in the plan.
Bernard – Discussed the Tallowfield end of the Greenbelt and his displeasure with how it turned out; starting to see undesirable activities in that area; expressed various ideas/opinions on what he would like to see in the Greenbelt.
Isha – Asked what guarantee we have that City will continue to maintain the Greenbelt.
Jean – Had questions on the types of plants that would be used.
Carl (Austin Energy) – Said they recommend certain trees that would work for this area; would have to be short (due to power line height restrictions) and hardy at maturity; discussed the height of the power lines and how they will sag in the summer when carrying a full load; some sag within 32 feet of the grade; discussed pros and cons of saving the trees vs. removing the trees; said that a strong commitment is needed from PARD to maintain the trees and plants. Carl said he would take the current draft mitigation plan and advance it through the process at Austin Energy. He said Austin Energy would be committed to the plan.

**Minutes**
**Gracywoods Neighborhood Association**
**October 20, 2009**
**Special Called Meeting**

Kate discussed two options for the group to act on – vote on the draft mitigation plan, or postpone the vote to allow further work by the committee. She expressed that more people than those on the committee need to be involved in the plan and vision for the Greenbelt.

A motion was made that "the committee is in agreement on the mitigation plan". The motion was withdrawn.

A motion, for a vote by the committee members, was made and seconded to "Not allow Austin Energy to remove the trees because there is not agreement on the mitigation plan." The motion passed by a unanimous vote of the Committee.

A motion was made and seconded that "GWNA will proceed to develop a mitigation plan, in exchange for the removal of the seven trees at Swearingen, with all identified stakeholders". The motion passed.

A motion was made and seconded to "Empower the existing committee, with the addition of two new members, Mike Moore and Bernard Brown, to develop the mitigation plan". The motion passed. Kate Stewart agreed to serve as the Chairman.

Carl expressed that he was not determined to cut down the trees; however, he said that it will not be a sustainable plan to keep the trees.

The meeting adjourned at 9:20.

Andy Rainosek
Secretary

# Appendix C

## Gracywoods Neighborhood Association
## Draft Mitigation Plan

**October 2009**

Gracywoods Neighborhood Association wishes to 1. Establish a 2-3 acres demonstration grassland savannah with wildflowers for possible expansion thru the greenbelt maintained by PARD. 2. Establish a destination recreation facility, such as shade structure on the banks of the wet creek among the trees that will remain. 3. begin erosion control plantings and riparian restoration of creek that has severe erosion and undermining of established large trees. These goals are part of an overall approach. We envision partnering with several entities to accomplish these goals.

We hope that the line items below will be considered as a starting place in a plan that will meet the needs of GWNA, AE, PARD, and other stakeholders. We envision an outcome that will not only satisfy each, but also provide value for each of these stakeholders.

**Benefits of Plan:**

- Nearly eliminates AE trimming costs in this area.
- Reduces PARD landscape maintenance requirements to a minimum (mowing borders regularly; mowing entire area only twice annually). No trim requirements.
- Establishes showcase of urban wildlife habitat reclamation.
- Provides habitat for migrating bird species.
- Provides access to funding programs supporting this type of project.
- Provides a model of neighborhood/governmental cooperation.

***Plantings goals:***

Attract wildlife
Provide shade for ground and people equivalent to that provided by full canopy oaks
Local native stock or non-native varieties that will thrive here
Known provenance of plantings
Establish short grass prairie throughout area

***Design goals:***

Participation of wildlife restoration consultant
GWNA (via committee) reserves right to approve or reject final design
interpretive signage
tree groupings
retain visibility from streets for security
erosion protection
plantings and irrigation along Barchetta entrance path

***Irrigation goals:***

3 year commitment
Guarantee that it will work for 3 years
Agreement to replacement clause if water supply fails or due to drought

***Maintenance goals:***

Commitment to replace trees damaged by landscapers
Provision of white, approx. 4' PVC protectors
Semi-annual walkthrough evaluation with PARD rep
Strong relationship with primary PARD rep
PARD provide us with current list of all important contact info
and update us immediately when changes occur

***Other components:***

Arbor on ridge with kooleroo cover and picnic table
(community gathering space)
vandalism-proof marten house

Identified plantings to explore:

Mohr Oak
Sonoran Emerald (ratama)
Lacy Oak
Turk's cap/lantana border

# Appendix D

## Recommendations from Don Gardner Concerning Pruning and Maintenance of Live Oak Trees Located Beneath Transmission Lines in the Gracywoods Neighborhood Area

**March 2013**

March 10, 2013

To: Urban Forestry Board Working Group (Dr. Tom Hayes, Peggy Maceo, Chris Kite)
Re: Don Gardner's recommendations on 32 live oaks in the Gracywoods North Star Greenbelt.

Don Gardner, Consulting Arborist, looked at the many trees in the Gracywoods North Star greenbelt off Swearingen Dr. on 02/22/13. He reported that over 32 live oaks have been impacted by previous pruning.

These are Don's recommendations regarding pruning these trees for the short term while a long term solution is worked on, given to me by phone on 3/08/13:

- Lop the re-growth (sprouts) half the way back. Seal all cuts if pruning during the Oak Wilt non-recommended pruning period (Feb. 1st to June 30th). Use loppers to lop the re-growth.
- Only prune the re-growth heading into the clearance zone under the utility lines.

These are Don's comments regarding these trees, given to me by phone on 2/23/13:

- The trees including the 6 live oaks near the road that were impacted the most by the previous pruning, show good re-growth, are strong and in good health.
- The re-growth consists of many sprouts 1-2 inches in diameter, 4 ft. to 10 ft. long, growing in all directions, not just vertically.
- The trees, especially the 6 that are affected the most, should be pruned as little as possible to minimize the stress.
- The entire re-growth does not have to be pruned completely. The sprouts do not have to be pruned all the way to where the sprouts attach to the larger branches to make proper ISA pruning cuts. The sprouts are only 1-2 inches in diameter so only the tips could be cut, or the sprouts could be cut half the way. This would produce more sprouts which is good for the tree (more leaves).
- The trees could be pruned less if they could be pruned more often, as opposed to pruning them severely every 4-5 years.
- These trees, especially the 6 that are the most affected by the pruning due to the proximity to the transmission lines, will be stressed after the pruning and will benefit from compost, mulch and water after the pruning.
- Live oaks are slow growing so mulch and compost will not make these trees grow more quickly but will allow them to survive the additional stresses from pruning and drought.
- If it is not possible to provide compost, mulch would be fine.
- Mulch needs to be applied 2-3 inches deep, 3 inches away from the trunk, to the edge of the dripline, or as far as feasible.
  - ⇨ A small 3 ft. ring of mulch around the trunk does not do much for the tree except prevent mechanical damage to the trunk and surface roots from maintenance equipment.
  - ⇨ Roots extend to the dripline and beyond. Feeder roots are mostly in the outer half of the dripline.
  - ⇨ Mulch needs to be applied to the dripline to reduce evaporation, loosen the soil and provide nutrients to the feeder roots in the outer half of the dripline where it matters the most.

- These trees will benefit from supplemental water during the Summer months due to the drought and the pruning. This supplemental watering should provide the equivalent of 1 inch of water every 3-4 weeks during the months of extreme heat (possibly from June to September) if it has not rained for 2 months. The water should be applied as evenly as possible to the full dripline, whenever the soil under the canopy is dry, until the soil is wet 5 inches deep.

Zoila Vega, Ph.D.
Austin Heritage Tree Foundation
www.austinheritagetreefoundation.com

# Appendix E

## Austin Energy Timeline for Property Containing Transmission Lines and Trees in the Gracywoods Neighborhood Area

**February 2013**

F3

Austin Energy 138 kV Transmission Circuits, Tree Clearances
and Gracywoods Neighborhood Public Involvement

Austin Energy (AE) maintains two 138,000 Volt (138kV) electric transmission circuits, CKT 907 & CKT 977, from the McNeil Substation to the West through the Gracywoods neighborhood, located North of Braker Lane and West of Lamar Blvd. The two AE 138kV circuits connect McNeil Substation to Summit Substation and to Mag Plant Substation. Austin Energy line clearance activities in Gracywoods involve trees in approximately four spans of high-voltage transmission lines.

- 1939, Nov – LCRA acquired original easement on rural land for electric lines, granting "the right to remove from said lands all trees and parts thereof".

- 1968, Oct. 16 – City of Austin acquired easement for electric lines, granting the right "to cut and trim trees and shrubbery and remove obstructions to the extent necessary".

- 1969, Feb. – Dec. – CKT 907/908 were constructed on AE and LCRA easements. CKT 908 was later reconfigured and renamed CKT 977.

- 1981 – 1984 - Gracywoods Subdivision Sections platted and residential development begins in areas adjacent to AE & LCRA transmission easements.

- 2004 - Austin Energy notifies PARD and neighborhood association for line clearance and hazard tree abatement on CKT 907/977, followed by public involvement processes with Gracywoods Neighborhood Association (GNA). The resulting agreement is summarized below:

  - AE removed 22 declining/dying Arizona ash, 1 hackberry, 1 Chinese tallow tree
  - AE planted (106) 20-gal utility compatible trees (Dec 11, 2004)
  - AE pruned all trees to safe clearance for 4-5 year cycle.
  - Six live oaks trees West of Swearingen Dr. required heavy pruning to attain minimal clearance, and AE mitigated these trees with (29) 20-gal trees included in the total above. The mitigation agreement with GNA & PARD was that these live oak trees would be removed at a later date after the replacement trees are established.
  - AE mitigation costs $10,000 +

- 2005, Feb - AE purchases property in easement at 11802 Swearingen from Resolution Trust Corporation. Property is retained by AE and not transferred to PARD.

- 2009 – AE notifies PARD and neighborhood association for routine line clearance activities on CKT 907/977, followed by public involvement processes with GNA. Trees in AE easement were pruned only to remove resprouts which have re-grown since last work in 2004. All 29 mitigation trees planted in 2004 (for phased removal of 6 live oaks) have become established. No tree removals.

- 2012, March 28 – AE PIRES sends notification to AE customers in Gracywoods neighborhood regarding possible pruning in greenbelt related to CKT 907 reconductor project. No response from GNA regarding tree issues.

- 2012, May 24 – AE Forestry sends Certified letters to GNA officers regarding line clearance tree work in GNA boundaries (related to CKT 934 FV-MC). No response from GNA regarding tree issues.

- 2012, Nov – PARD Forestry approved Vegetation Work Plans for line clearance work. General Permits approved for removal of 4 oaks in easement on AE property at 11802 Swearingen Dr.

- 2012, Nov. 29 - AE Forestry sends Certified letters to GNA officers regarding line clearance tree work in GNA boundaries (related to CKT 907 & CKT 977). No response from GNA regarding tree issues. AE calls PARD Walnut Creek manager to request meeting to inform of proposed work. Meeting denied. PARD's Jeff Larsen e-mails Bill Glass of GNA to inform him of AE plans to trim and remove trees, per the PARD approved work plan from November.

- 2012, Nov.30 - Mr. Glass calls Ray Henning and Carl Schattenberg, AE Forestry Section, with concerns and requests that no trees be pruned or removed and instead the transmission lines should be raised.

- 2012, Dec 5 - In response to calls from Mr. Glass and Mr. Nazor, Carl Schattenberg e-mails that AE will prune trees to assure public safety and that there was mitigation and agreement with the GNA to remove 6 live oak trees below the lines near Swearingen Dr. This e-mail from AE also stated that "AE will not remove any oaks" in this current maintenance cycle.

- 2012, Dec 19 – Mr. Glass reports to Urban Forestry Board on AE line clearance plans.

- 2013, Jan 10 – In response to request from Mr. Glass, AE Forestry requested costs from engineering for raising two structures between Swearingen Dr. and Bittern Hollow.

- 2013, Jan 22 - Mr. Glass reports to Parks Board on AE line clearance plans.

**CONSIDERATIONS**:

Recent field observations on 6 trees (estimates) - Between Towers 2 to 3 at Swearingen Dr,

- Estimated conductor height at maximum sag above grade — 32' average for 6 trees
- Estimated tree height of six of the closest trees — 18' to 22.5'
- Current Estimated Tree Clearance on six of closest trees at maximum sag — 14' to 9.5'

Minimum Line Clearance Standards are 20 to 25 feet (25 feet for max sag at mid-span), for safe transmission line clearance to maintain a four to five year vegetation maintenance cycle.

Tree growth will resume with the onset of the growing season, further reducing safety clearances.

Once the clearances are less than 13'2", only Qualified Line Clearance tree trimmers are allowed to work on these trees, according to ANSI Z 133 minimum approach distances, and when clearance distances between trees and lines approach 5'2", AE will have to take an outage on these critical circuits to prune to prevent a tree-to-line caused fault and potential fatality.

Raising the structures on short notice is not possible.

Therefore, our only options at this time are:

- Prune or remove the most hazardous trees, and maintenance prune all other trees, as soon as possible.

- Prune all trees for line clearance maintenance and continue to investigate long-term solutions.