BENBROOK LAKE EAGLE MOUNTAIN CONNECTION EASEMENT

MITIGATION PLAN

BENBROOK LAKE, TARRANT COUNTY, TEXAS

Introduction

The U. S. Army Corps of Engineers prepared an Environmental Assessment (*Benbrook Lake Eagle Mountain Connection Easement, Benbrook Lake, Tarrant County, Texas*) based on an environmental information document (EID) submitted by Tarrant Regional Water District as part of a request for an easement for a utility corridor to cross Lake Benbrook property. The corridor would be used to install a 96-inch water pipeline (including a possible future line), pump station, storage tanks, and associated features on government owned property. The EA was made available for public and agency comment. Concerns were expressed by the U. S. Fish and Wildlife Service (USFWS) in a letter dated March 7, 2005 and a letter from Texas Parks and Wildlife Department (TPWD) dated April 27, 2005. The USFWS and TPWD requested that a plan to mitigate the loss of trees be developed before the final EA is published. This document addresses that issue.

Early in the planning process, TRWD considered the potential impacts of the project on fish and wildlife resources as well as other environmental issues. TRWD proposed to avoid and minimize environmental impacts by locating the pipeline and other features adjacent to existing rights-of way easements and selecting locations that would disturb wooded habitat to the least extent practicable. Grassland areas could be more easily restored by planting native grass and forb species than wooded areas. The alternative preferred by TRWD was described as Alternative or Route A, with five distinct segments to allow for impact analysis. Route B was developed by USACE to mitigate federal land ownership concerns. As described in the EA, Route A would have impacted fewer acres of both wooded and non-wooded areas. For example TRWD's preferred route would have impacted approximately 3.4 acres of wooded areas, while the USACE's preferred route (B) would impact 8.2 wooded acres. The good faith effort by TRWD to avoid and minimize environmental impacts of the project was offset by the changes required by the USACE to accommodate concerns about dam safety, security and other issues. However, TRWD would still be responsible for mitigating all environmental impacts as a result of the proposed pipeline(s).

Description of Wooded Habitats

The wooded areas that would be impacted by the proposed project include both maintained (mowing, trimming dead limbs, etc.) parkland and unmaintained areas. Two wooded areas that would be impacted by the proposed project are not subject to golf course or park upkeep. These areas are located at the old Trinity River channel and the eastern end of the dam embankment. The easement through the wooded area at the old channel is approximately 100 feet long and is shown in the attached Photograph No. 5. Trees species that would be impacted include predominately cedar elm, black willow and sugarberry. This area has some value as wildlife habitat although it is adjacent Lakeside Drive and flanked on both sided by parks (Photograph Nos. 4 and 6). The other wooded area that represents useable wildlife habitat is the hillside at the east end of the dam embankment. Vegetation in this area (Photograph Nos. 1, 2, and 3) consists of sugarberry, cedar elm, green ash, and osage orange with a dense shrub and vine understory. This area is surrounded by the golf course (north), a housing subdivision (east), the dam embankment (west), and Longhorn Park and USACE offices (south).

The other areas described as wooded or with scattered trees are in the parks, golf course or other mowed areas (Photograph Nos. 4 and 6). These areas generally have the larger oaks and pecan trees. These areas are regularly mowed and maintained. Dead limbs and snags are removed from the trees and no recruitment of trees is possible due to mowing. Value to wildlife is limited.

Description of Grasslands

The grasslands that would be impacted by the project include approximately 42 acres of maintained grasses consisting of mainly Bermuda grass, Johnson grass, and other grasses. Approximately 42 acres would be impacted by easements and temporary construction easements. Value to wildlife is limited.

Avoidance of Impacts to Trees

The construction contractor will be instructed to minimize clearing of trees with the permanent and temporary construction easement to only the extent necessary for installation of the pipeline and other structures

Proposed Compensation

TRWD would compensate for impacts to the wooded habitats described above that have value as wildlife habitat. The area of impacts is approximately 8.0 acres (Table 3 in EA, Segment 1B, 2B, and 3B).

The Lake Benbrook office has identified several areas that USACE would like to improve wildlife habitat by planting trees. To assist with this effort and to compensate for project impacts, TRWD would plant up to 8.0 acres (designated by the USACE) with containerized (15 gallon, approximately 1.5 inch caliper) trees. The following trees are proposed to be planted to increase the wildlife habitat value:

1. Cedar elm (*Ulmus crassifolia*) – 25 per acre.
2. Bur oak (*Quercus macrocarpa*) – 25 per acre.
3. Chinkapin oak (*Q. muhlenbergii*) – 25 per acre.
4. Live oak (*Q. virginiana*) - 25 per acre.
5. Redbud (*Cercis canadensis*) -10 per acre.

A total of 880 high quality trees, which are mostly mast producers, would be planted to improve/enhance the wildlife habitat quality on 8.0 acres of Lake Benbrook property. This is proposed to mitigate the loss of approximately 8.0 acres of lower quality trees, most of which are not mast producers.

All planted trees would have to have a 75% survival rate each year for a total of 5 years from the date of planting. (e.g. if in year one 500 trees died, 280 would be replanted, if in year two and three 500 trees died each year, 500 would have to be replanted each year.) USACE recommends some type of water system to ensure survival of mitigated trees.

All grasslands that are disturbed would be replanted with native grasses and forbs to enhance wildlife value. It is not anticipated that all 42 acres would be impacted by construction and replanted. If a grassland area is impacted it would be replanted with native grasses and forbs as soon as possible to avoid soil erosion as onsite mitigation.

Site Photographs

Photograph No. 1. View of wooded area on dam embankment (Segment Alternative 1B). Electric line ROW shown.

Photograph No. 2. View of wooded area on dam embankment (Segment Alternative 1B).

Photograph No. 3. View of wooded area on dam embankment (Segment Alternative 1B).

Photograph No. 4. View of wooded park area north of Lakeside Drive (Segment Alternative 3B) adjacent to old river channel in background.

Photograph No. 5. View of old river channel north of Lakeside Drive (Segment Alternative 3B).

Photograph No. 6. View of park grassland with scattered trees north of Lakeside Drive (Segment Alternative 3B).