

APPENDIX C

General Development Guidelines to be
Addressed in the Project Environmental
Management Plan

Cross Timber Golf Course Design Guidelines

Golf Course Areas

The golf course will be comprised of the following areas and their respective acreage:

A. Tees, fairways and greens- primarily open areas with maintained bentgrass and bermudagrass comprising approximately 35 to 40 acres.

B. Roughs- full sun areas will be bermudagrass, turf beneath the existing oak trees will be primarily tall fescue, less intense play area including the practice range will be Buffalograss and non-play areas disturbed to accommodate grade changes will be re-planted using prior disturbance plant materials native to the area.

Fertilizer, Pesticide and Herbicide Program

A detailed turf management program will be developed and used on a daily basis to manage the maintained turf so as to minimize the impact to the surrounding environment. Embracing Best Management Practice, Cross Timbers will employ a fertigation system that applies nutrients in minute amounts each day to prevent leaching and run-off while being readily absorbed by the turf. This program requires lower overall nutrient level than conventional application methods while yielding more dense turf. The plan will delineate such items as what types of fertilizer is used, how to assess proper applications, contingency planning, etc.

An Integrated Pest Management (IPM) program will be put in place to identify acceptable levels of insects and weeds. This type of program has resulted in lower amounts of pesticides and herbicides being applied. Employees will be trained to evaluate insect habits and to understand their impacts and development cycles.

Integrated Pest Management is an environmentally sensitive approach to managing pests utilizing biological, cultural, physical and chemical tools in a manner that reduces economic, health and environmental risks. IPM plans have seen increased acceptance by golf course superintendents and operators within the past 10-years reducing the risks and expense associated with pesticides and herbicides. Quality playing conditions dictate healthy dense turf. The golf course industry has learned that effective IPM programs enhance the environment and course profits.

Integrated Pest Management will be a part of the detailed golf course design process. We will identify areas that will require shaping or excavation but are best suited for native vegetation that is indigenous to the area. These areas conserve water and reduce pesticides and herbicides. Locations for nesting boxes will be delineated on the plans. Nestling boxes attract birds that help control insect population.

During course grow-in our superintendent will develop a detailed plan that becomes the operating guidelines for the maintenance staff. Key points of the plan will include the following:

- 1) Set action thresholds to establish point at which pest population warrants action being taken
- 2) Monitor, identify and classify pests into harmful and beneficial categories

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- 3) Establish monthly summary of cultural maintenance practices that encourage healthy plants and minimize the risk of pests becoming a threat
- 4) Develop a list of control options that are prioritized with less risky solutions being chosen first

Drainage

The design and maintenance of golf courses adjacent to lakes and streams creates opportunities for golfers and presents stewardship issues to designers. Sand based putting greens require internal drainage for rapid water removal during rains and receive the highest intensity of fertilizers and chemicals. All greens will be drained to gravel sumps to prevent water from running off into Skiatook Lake. Where topography permits, tees, fairways and roughs will be swaled to direct surface run-off into man-made wetlands and settling basins.

Earthworks

The shaping and contouring of championship golf courses is an artistic expression to enhance the physical characteristic of land while influencing playability of individual golf holes. The design of each golf hole will be carefully crafted based upon the physical characteristic of each specific area. Open areas will be contoured to provide depth perception and framing of greens and landing areas. Wooded areas offering natural framing will receive little shaping and earth moving in order to minimize soil disturbance beneath tree canopies.

Wetlands

Man-made wetlands and water features will be integrated throughout the golf course. They will be used to enhance the course while providing areas for runoff and wildlife. The golf course architect uses experts in wetland construction and aquatic plants as consultants during design and construction.

Marina Environmental Features

The marina section of the CrossTimbers Environmental Management Plan will contain detailed information of proper operations. It is being developed with guidance from a variety of marina sources including:

The International Marine Institute's publication, "Practices & Products For Clean Marinas-A Best Management Practice Handbook.

Broward County, Florida-Pollution Prevention and Best Management Practices for Marine Facilities (BMPM)

1. Clean Marina and Boatyard
 - a. Clean and well lit restrooms
 - b. No overboard discharge of boat waste into marina or lake waters
 - c. Ample and conveniently located trash containers.
 - d. Good people habitat
 - e. Properly dispose of chemicals
 - f. Proper containment of paint and residue
 - g. Pump-out facility
 - h. Training for operators
 - i. Strict adherence to all Federal, State and Local laws and regulations
 - j. Controlled parking lot runoff
 - k. Possible engine restrictions

2. Enhanced environment
 - a. Design an operation to enhance fish habitat

3. Educate Boaters
 - a. Do not throw trash overboard-bring back to marina
 - b. Careful cleaning and oil absorption
 - c. Spill prevention
 - d. Noise prevention and reduction
 - e. Use pump-out facilities