



Water Conservation Plan Form Fern / Nursery

GENERAL INFORMATION

DRAFT

9/2004

Applicant Name: _____

Project Name: _____

CUP Number: _____

Date Plan Submitted: _____

Agent's Name: _____

If more than one non-contiguous property is associated with this application provide:

Site Name: _____

Section 12.5.7.1 of the Applicant's Handbook States:

All individual permit applicants for agricultural, nursery and aquacultural uses must submit a water conservation plan for their operation to the District at the time of permit application. The plan must contain specific activities designed to conserve water. The water conservation plan must include provisions for the following:

- (a) A program for increasing the water use efficiency of the applicant's operation. As part of this program, each grower must conduct an analysis of the operation's current water use practices and the water saving potential of proposed practices. This analysis can be completed using the Soil Conservation Service's Farm Irrigation Rating Method (FIRM (SCS Engineering Technical Note FL-17, United States Department of Agriculture, Soil Conservation Service, 1987) or an equivalent method. Based on the results of the FIRM Analysis, the applicant must implement direct and indirect water saving measures. Appendix I provides an outline of water conservation measures which the applicant may undertake to meet

this requirement. Individual provisions in Appendix I are not requirements per se and do not exclude alternative conservation measures the applicant may wish to propose to the District.

- (b) An analysis of the economic, environmental and technical feasibility of using reclaimed water, recycling water on-site, and utilizing the lowest quality water source possible.
- (c) Procedures and timeframes for implementation and for periodic assessment and revision of the water conservation plan.

In evaluating each proposed water conservation plan, the District will consider:

- The specific proposed use relative to other similar uses
- Available technology
- Economic feasibility

Section I – WATER USE EFFICIENCY

I. Natural Resources Conservation Service Plans:

If you have any of the following information, please attach a copy:

- Natural Resources Conservation Service (formerly Soil Conservation Service) Irrigation Water Management Plan
- Natural Resources Conservation Service (formerly Soil Conservation Service) Farm Irrigation Rating Method Analysis
- Other written information describing your water conservation activities

II. Water Use Efficiency:

Answer the following questions regarding specific water use practices:

1. What type of nursery crop do you grow and how many acres?

- | | |
|---|-------------|
| <input type="checkbox"/> Fern | Acres _____ |
| <input type="checkbox"/> Containerized nursery plants | |
| Container size _____ gallons | Acres _____ |
| Container size _____ gallons | Acres _____ |
| Container size _____ gallons | Acres _____ |
| Container size _____ gallons | Acres _____ |
| Container size _____ gallons | Acres _____ |
| Container size _____ gallons | Acres _____ |
| <input type="checkbox"/> Field grown nursery plants | Acres _____ |
| <input type="checkbox"/> Field grown tree nursery | Acres _____ |
| <input type="checkbox"/> Other (explain) _____ | Acres _____ |

2. What type of irrigation system(s) do you use and how many acres are irrigated using each particular type of irrigation system?

- | | |
|--|-------------|
| <input type="checkbox"/> Overhead sprinkler irrigation | Acres _____ |
| <input type="checkbox"/> Micro-jet irrigation | Acres _____ |
| <input type="checkbox"/> Drip irrigation | Acres _____ |
| <input type="checkbox"/> Other (explain) _____ | Acres _____ |

6. How often do you irrigate (assuming no rain) and how much water is applied?

Area	Frequency number of irrigation events per week)	Duration (minutes per irrigation cycle)	Amount (inches per irrigation cycle)

If irrigation is not done weekly please explain the irrigation frequency.

7. Is the system operated manually or automatically?

Manually Automatically

If the system is operated automatically using a timer, what measures are taken to ensure that over watering does not occur?

8. Does your system utilize a surface water management system for irrigation?

YES NO

If yes,

Describe your procedure for removing and replacing control structures prior to and after storm events.

9. Do you apply fertilizer? YES NO

If yes,

Are the fertilizers applied through the irrigation system?

YES NO

Do you apply fertilizer during a regularly scheduled irrigation application?

YES NO

If no,

Propose an implementation schedule to coordinate fertilization with the irrigation cycle or provide an explanation as to why it cannot be undertaken.

10. What months do you apply fertilizer? _____

11. Do you use water for any agricultural purposes not previously mentioned (i.e. soil preparation, pest control, dust control)

YES NO

If yes,

Describe the use(s) of water and all water conservation measures associated with the use(s).

12. Using the appropriate letter, indicate in the following table, the type of water use monitoring used for each of your wells, surface water pumps and connection points (reclaimed water).

(T) Totalizing in-line flow meter (required on most systems)

(P) Pump hour meter

(E) Fuel or electric record conversion

(O) Other (explain) _____

Well, Pump or Connection Point ID	Water Use Monitoring Method (T, P, E or O)

13. Please check any of the following irrigation system water conservation practices you have undertaken or plan to undertake and include implementation dates.

NRCS Farm Irrigation Rating Method analysis Date? _____

On-site weather station Date? _____

Professional irrigation consultant Date? _____

Irrigation management educational session Date? _____

Other (explain) _____

_____ Date? _____

14. Describe your procedure for maintaining an even irrigation application rate to your ferns or nursery plants.

15. Do you use irrigation system equipment with the highest water efficiency available?

YES NO

If no,

Describe the irrigation system equipment with higher water efficiency and propose an implementation schedule to convert your irrigation system to a more water efficient irrigation system or explain why it is not technically, environmentally or economically feasible to implement.

16. Summarize your maintenance and repair schedule, by using the appropriate letter, indicate when each of the following tasks are done.

(A) weekly (B) monthly (C) every time you irrigate
(D) as needed (E) not feasible (F) not applicable

Using a pressure gauge to check system pressures and flow rates for leak and clog detection.

A B C D E F

Using gauges to check line pressure to verify consistent PSI between wellhead and most distant nozzles.

A B C D E F

Checking to ensure nozzles are not irrigating non-crop areas.

A B C D E F

Repairing leaks and clogs. Repairing worn or malfunctioning nozzles.

A B C D E F

Other maintenance (explain):

A B C D E F

17. Are rainfall shut-off sensors installed on the irrigation system?

YES NO

If yes,

Do the sensors operate individual irrigation controllers or multiple irrigation controllers?

Individual Multiple

If no,

Provide a schedule for installing rainfall shut-off sensor on each irrigation controller on your irrigation system or provide an explanation as to why it is not feasible to implement.

18. Rain-sensors must be maintained and operational in accordance with the manufacturer's specifications on each irrigation controller for duration of your Consumptive Use Permit. Are the existing rainfall shut-off sensors regularly checked to ensure that they are working in accordance with the manufacturer's design specifications?

YES NO

If yes,

Describe maintenance check schedule.

If no,

Propose a maintenance check schedule.

19. Which of the following irrigation system improvements do you currently use or do you plan to implement and when.

- Computerized irrigation system Date? _____
- Flow control nozzles Date? _____
- Pressure regulation Date? _____
- Other Date? _____
(explain) _____

III. Fern Freeze Protection

Do you utilize water for freeze protection? YES NO

If yes, answer the following questions,

1. Describe in detail how you decide when to turn the irrigation system on and off for freeze protection.

2. Do you currently have windblocks installed on your operation?

North side: YES NO
West side: YES NO

If yes,

What type of windblocks are installed?

- Natural vegetation
(explain) _____
- Man-made
(explain) _____

If no,

Propose an implementation schedule to install windblocks or provide an explanation of why it cannot be done.

3. Do you have existing fern acreage under saran?

YES NO

If yes, answer the following questions.

Do you have dual sprinklers installed on your saran?

YES NO

If yes,

How many acres are freeze-protected using dual sprinklers? _____

If no,

Is a dual system planned? YES NO

If yes,

When? _____

Is your system output less than or equal to approximately 100 gallons per minute per acre? (System output can be derived from manufacturer's specification tables using PSI, sprinkler spacing and nozzle size.)

YES NO

If no,

You must retrofit the system output to approximately 100 gallons per minute per acre. Provide a schedule for this conversion or an explanation why this cannot be accomplished.

4. Do you have existing fern acreage under hammock?

YES NO

If yes,

Is your system output for hammock less than or equal to approximately 120 gallons per minute per acre? (System output can be derived from manufacturer's specification tables using PSI, sprinkler spacing and nozzle size.)

YES NO

If no,

You must retrofit the system output to approximately 120 gallons per minute per acre. Provide a schedule for this conversion or an explanation why this cannot be accomplished.

Section II – LOWEST QUALITY WATER SOURCE

As part of this permit application, the SJRWMD requires that a feasibility analysis of the availability of a lower quality source of water be completed. This analysis includes an evaluation of the availability of reclaimed water, stormwater and surface water, as well as other potentially reliable sources of water.

Section 10.3 (f) and (g) of the Applicant's Handbook State:

When reclaimed water is readily available it must be used in place of higher quality water sources unless the applicant demonstrates that its use is either not economically, environmentally or technologically feasible.

The lowest quality water source, including reclaimed water or surface water (which includes stormwater), is addressed in paragraph 40C-2.301(4)(f), and must be utilized for each applicable consumptive use.

RECLAIMED WATER

Do you currently use or propose to accept reclaimed water for irrigation and/or freeze protection?

YES NO

If yes, answer the following questions:

1. Provide the name of the facility providing the reclaimed water.

2. Provide the date that reclaimed water became or will become available.

3. Is the reclaimed water discharged into a surface water body or is it delivered via a pipeline into the irrigation system?

Surface water Pipeline

If surface water,

Provide the name of the holding pond(s) _____

Is the pond lined? YES NO

Is the pond part of a stormwater management system? YES NO

If yes,

Is the pond interconnected with other ponds? YES NO

If yes,

Does the pond have a control structure that prevents water from flowing out of the holding pond into the other ponds?

YES NO

If no, answer the following questions:

1. Provide the name, address and contact person for all domestic wastewater facilities within a five-mile radius of your site.

None within five miles

2. Have you contacted these individuals about the availability of reclaimed water?

YES NO

Provide a written response from each facility listed detailing the availability of reclaimed water.

3. If you have determined that it is not feasible to accept reclaimed water at this time, you will need to demonstrate to the District that it is not economically, environmentally or technologically feasible to accept reclaimed water within the requested permit duration.

SURFACE WATER

Do you currently use or propose to use any surface water sources for irrigation and/or freeze protection?

YES NO

If yes, answer the following questions:

1. What is the source of the surface water?

- Tailwater pond
- Stormwater management system (retention pond)
- Natural lake
- River
- Other (explain) _____

If tailwater,

Do you have tile drainage installed to route excess water to the tailwater pond?

YES

NO

2. How many acres are irrigated with surface water?

Source	Acreage
Tailwater	
Stormwater Management System	
Natural Lake	
River	
Other (explain _____)	

3. How many acres are freeze protected with surface water?

Source	Acreage
Tailwater	
Stormwater Management System	
Natural Lake	
River	
Other (explain _____)	

GROUNDWATER

Is groundwater used or proposed for irrigation?

YES

NO

If yes, answer the following questions:

1. What is the source of the groundwater?

- Surficial aquifer
- Intermediate aquifer
- Floridan aquifer
- Do not know

If Floridan aquifer,

Is your project located in an area where water in the Floridan aquifer is potable (drinking water quality)?

YES

NO

Don't Know

If yes,

Provide an evaluation of the feasibility of using lower quality water from a reclaimed water source, surface water source or the surficial or intermediate aquifers instead of the Floridan aquifer for irrigation. A feasibility assessment would include an evaluation of the amount of water available from these lowest quality water sources versus the irrigation demand.

Section III – PLAN IMPLEMENTATION SCHEDULE SUMMARY

In this section please summarize the Water Conservation Plan that you have prepared using this form and be sure to apply an implementation schedule for each activity or action you have indicated will occur within your requested CUP duration. Water conservation activities must span the duration of the permit.

Activity	Proposed Date of Implementation

Note: A progress report may be required to be submitted at a time specified in permit conditions to address the implementation of the activities.

Please keep a copy of this plan for your records.

Please sign and date this plan:

Signature

Date

Phone Number