LAW OFFICES

ROSE, SUNDSTROM & BENTLEY

A PARTNERSHIP INCLUDING PROFESSIONAL ASSOCIATIONS

2548 BLAIRSTONE PINES DRIVE

TALLAHASSEE, FLORIDA 32301

(904) 877-6555

JAMES H. BENTLEY, P.A.
JENNIFER S. BRUBAKER
F. MARSHALL DETERDING
BRIAN L. DICKSTEIN
MARTIN S. FRIEDMAN, P.A.
JOHN P. JENKINS, P.A.
STEVEN T. MINDLIN, P.A.
ROBERT M. C. ROSE
DARREN L. SHIPPY
WILLIAM E. SUNDSTROM, P.A.
DIANE D. TREMOR, P.A.
JOHN L. WHARTON

MAILING ADDRESS:
POST OFFICE BOX 1567
TALLAHASSEE, FLORIDA 32302-1567

TELECOPIER (904) 656-4029

June 3, 1996

VIA HAND DELIVERY

Blanca S. Bayo, Director
Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Spruce Creek South Utilities, Inc.
Application for Amendment of Water and Wastewater Certificates
Our File No. 28039.05

Dear Ms. Bayo:

Attached hereto is the original and 15 copies of the Application for Amendment of Water and Wastewater Certificates in Marion County for Spruce Creek South Utilities, Inc.

Also attached is a check in the amount of $3,500 for the filing fee.

Should you or any members of the Commission staff have any questions in this regard, please do not hesitate to contact me.

Sincerely,

ROSE, SUNDSTROM & BENTLEY

F. Marshall Deterding
For The Firm

FMD/lts
Enclosures
cc: Jay Thompson
Art Monnig

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June 3, 1996

VIA HAND DELIVERY

DEPOSIT TREASURY DATE

JUN 4 96

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For The Firm

FMD/lts
Enclosures
cc: Jay Thompson
Art Monnig

RECEIVED
JUN 4 8 57 AM '96
ADMINISTRATION
MAIL ROOM

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Application of Spruce Creek South Utilities, Inc. for amendment of water and wastewater certificates in Marion County, Florida.	)))))	Docket No.

APPLICATION FOR AMENDMENT OF WATER AND WASTEWATER CERTIFICATES

Applicant, SPRUCE CREEK SOUTH UTILITIES, INC., ("Spruce Creek" or "Utility") by and through its undersigned attorneys, and pursuant to Section 367.045, Florida Statutes, applies to the Florida Public Service Commission for amendment of its water and wastewater certificates to include additional territory in Marion County, Florida, and in support thereof states:

I.

The full name and address of the Applicant is:

SPRUCE CREEK SOUTH UTILITIES, INC.
17585 Southeast 102nd Avenue
Summerfield, Florida 34491

II.

The full name and address of the Applicant's attorney, to whom all Orders, notices, directives, correspondence and other communications shall be directed is:

ROSE, SUNDSTROM & BENTLEY
2548 Blairstone Pines Drive
Tallahassee, Florida 32301
Attn: F. Marshall Deterding

III.

Spruce Creek was originally organized and began providing water service pursuant to Commission Order No. 20933, issued on

March 24, 1989. The Utility applied for authority to provide wastewater service in 1991, and by Order No. 25157, issued on October 3, 1991, the Utility was issued a wastewater certificate. The names and addresses of the corporate officers and directors of Spruce Creek are as follows:

Harvey D. Erp - President/Director
Jay A. Thompson - Vice President
Brenda Erp - Vice President

The address for these officers and directors is the address given for the Utility in paragraph I.

IV.

Spruce Creek is requesting an extension of territory to serve a new area known as Spruce Creek Golf and Country Club with central water and wastewater service (hereinafter the "Country Club"). The Developer of this property is a related party, Spruce Creek Golf and Country Club, Inc.

Service is needed to this new area immediately and will ultimately involve 2,200 single family residences, 300,000 square feet of commercial development and a 22,000 square foot community center to which water and wastewater service will be provided.

V.

The Utility has the financial and technical ability to provide service to the proposed territory, and that territory is in need of the service from the Utility. The Utility has invested net rate bases totalling over $2,000,000 and is currently providing service to approximately 1,700 residential water customers and 1,000 residential sewer customers as well as other commercial customers

in its existing territory known as Spruce Creek South. The Utility is in the process of constructing the necessary water and wastewater facilities to enable it to serve the Country Club subdivision at build-out, including all residential and commercial facilities. The Utility has operated its existing facilities in conformance with all applicable regulatory requirements since its inception and will continue to employ the necessary management, technical and engineering expertise to enable it to provide high quality water and wastewater service to the Country Club subdivision. A water system including three water supply wells with a design flow of 1,600 gpm each and two 20,000 gallon hydroneumatic water storage tanks are in the process of being constructed to provide service to the 2,200 single family residential customers and 322,000 square feet of commercial development which are in need of and planned for service within the proposed area. These wells and storage facilities will enable the Utility to provide potable water service to all planned residential and commercial development within the Country Club, as well as required fire flow.

The Utility will also construct a new 800,000 gpd wastewater treatment facility in four phases which will provide Class 1 reliability treatment in order to provide wastewater service to the proposed extension area and potentially Lake Weir region if requested by Marion County. The Utility will utilize spray irrigation to a restricted access sprayfield as a temporary measure until average daily flows exceed 100,000 gpd. This method of disposal in and of itself is considered a reuse system under

applicable DEP regulation. After such flows are achieved, effluent will be diverted to a public access golf course system on the 36 hole golf course to be constructed within the Country Club development. Copies of the Water Management District Water Use Permit Application, the Wastewater Treatment Plant Permit Application, and various correspondence and reports prepared related to those permit applications are attached hereto as **Exhibit "A"**.

VI.

This territorial expansion is undertaken in order to provide water and wastewater service to the area described in **Exhibit "B"** hereto. This description utilizes township, range and section references as required by Rule 25.30.030(2), Florida Administrative Code. No other water or wastewater utility facilities are in close enough proximity to the area to offer a reasonable economic alternative to water or wastewater service by the Applicant.

VII.

Based upon a review of the water and wastewater sections of the Local Comprehension Plan approved by the Department of Community Affairs, the Utility and its representatives have concluded that proposed service within the new territories is consistent with all sections of the Local Comprehensive Plan, specifically the water and wastewater sections. In fact, the central water and wastewater service from the applicant as proposed herein has been specifically approved and required as part of the Florida Quality Development approval for the Country Club subdivision.

VIII.

Evidence that the Utility owns or has a long-term right to utilize the property upon which the Utility's water and wastewater treatment facilities are located to serve the proposed territory are attached hereto as **Exhibit "C"**.

IX.

One copy of detailed system maps for both the water and wastewater facilities showing the proposed lines, treatment facilities and territory proposed to be served, of a sufficient scale and detail to enable correlation with the description of the territory, has been marked as **Exhibit "D"**.

X.

One copy of a two map set, showing township, range and section with a scale of 1" = 660', with the proposed territory plotted thereon by use of metes and bounds and with a defined reference point of beginning is attached hereto as **Exhibit "E"**. Under the provisions of Rule 25-30.036(3)(i), Fla. Admin. Code, the Utility is required to provide a copy of the county tax assessment or other map showing township, range and section with a scale of 1" = 200' or 1" = 400', with the proposed territory plotted thereon. The Utility has supplied two maps with a scale of 1" = 660' as its Exhibit "E" which will better enable the Commission to analyze the proposed territory for service hereunder. To the extent the Commission deems it a waiver of Rule 25-30.036(3)(i), Fla. Admin. Code, is necessary, the Utility hereby requests such a waiver.

XI.

The proposed wastewater treatment plant construction will have a capacity of 800,000 gpd which will enable it to serve the 2,200 single family residential sites plus 322,000 square feet of commercial space based upon an estimated flow of 175 gpd per residential unit and .1 gpd per square foot of commercial floor space. This capacity at build-out will also enable the Utility to serve the Lake Weir region if requested by Marion County.

The water facilities planned for construction in order to serve this area will include three new wells with a design capacity of 1,600 gpm which will be more than adequate to serve the anticipated needs of the residential and commercial development planned within the Country Club.

All water and wastewater lines will be sized as necessary in order to ensure reliable water and wastewater service in accordance with industry standards and regulatory requirements.

XII.

The construction of water and wastewater facilities to serve the Country Club area will be financed through a combination of contributions-in-aid-of-construction authorized under the Utility's current water and wastewater tariffs, infusion of additional equity, and where necessary, additional debt financing from Citizens National Bank of Leesburg. This latter debt arrangement has already been bound via a Financing Commitment Letter issued by the Bank. The Utility does not anticipate any substantial effect on its current capital structure to result from such additional financing.

XIII.

As previously noted, the Utility anticipates 2,200 single family customers to be served by 5/8" x 3/4" water meters and standard residential sewer services, as well as 322,000 square feet of commercial water and wastewater service to be served through various meters ranging from 5/8" x 3/4" for the majority of such services to a predicted maximum of 2". These will be sized as necessary to serve the commercial facilities. The Community Center is anticipated to require one 2" meter.

No impact on monthly service rates or service availability charges are currently anticipated to result directly from this extension of the Utility's territory. The Utility believes that current rates and charges and service availability charges should be adequate to fund the provision of such service to the extent those new facilities are used and useful. However, changes in rates and service availability charges are possible as a result of changes in local, state and federal environmental requirements placed upon both the Utility's water source and treatment facilities, and wastewater treatment and disposal facilities and upon proper allocation of costs to Utility services.

XIV.

The original and two copies of proposed sample tariff sheets reflecting the additional service area are attached hereto as **Exhibit "F".**

XV.

The original of the Applicant's water and wastewater certificates have previously been provided to the Commission as

Exhibit "G" to the Utility's ongoing certificate extension application in Docket No. 960134-WS and are currently in the possession of the Commission. These should be held by the Commission after completion of that previous docket in order to be utilized for further amendment within this Application docket.

XVI.

An affidavit showing compliance with the provisions of Section 367.045, Florida Statutes, and the necessary compliance with Rule 25-30.030, Florida Administrative Code, is attached hereto as **Exhibit "G"**. In accordance with the requirements of Section 25-30.030(7) Fla. Adm. Code, the Utility is currently in the process of publishing Notice of this Application. Within 30 days of the date of filing this Application, the Applicant will submit proof of such publication to the Commission as **Exhibit "H"**.

XVII.

The numbers of the most recent Commission Orders establishing or amending the Applicant's rates and charges are as follows:

Order No. 20933 - Issued on March 24, 1989, establishing initial water rates

Order No. 25331 - Issued on November 13, 1991, establishing initial sewer rates

XVIII.

Attached hereto as **Exhibit "I"** is an affidavit that the Utility has tariffs and Annual Reports on file with the Commission.

XIX.

Between 2,000 and 4,000 additional ERCs will be served by the proposed water and wastewater extension requested herein. As such,

attached hereto in compliance with the provisions of Section 25-30.020(2)(b), Florida Administrative Code is a check in the amount of $3,500 which represents the filing fee required for this water and wastewater certificate application.

WHEREFORE, the Applicant, Spruce Creek South Utilities, Inc., requests that this Commission issue its Order amending the water and wastewater certificates of the applicant to include the Spruce Creek Golf and Country Club within those certificates.

Respectfully submitted this 3rd day of June, 1996, by:

ROSE, SUNDSTROM & BENTLEY
2548 Blairstone Pines Drive
Tallahassee, Florida 32301
(904) 877-6555

F. MARSHALL DETERDING

sprucelamend 3rd

SPRUCE CREEK SOUTH UTILITIES, INC.

Application for Amendment of
Water and Wastewater Certificates

Permit Applications, Correspondence, Reports
Related to Water Use Permit and DEP Wastewater
Treatment Plant Permit

EXHIBIT A

atlanta testing
& engineering

2273 lee road / suite 200 / winter park, florida 32789 / (407) 645-3400 / FAX: (407) 645-3731

SPRUCE CREEK GOLF AND COUNTRY CLUB
CONSUMPTIVE USE PERMIT APPLICATION

JANUARY 15, 1996

Prepared for:

Spruce Creek Development Company of Ocala
17585 SF 102 Avenue
Summerfield, Florida 32691

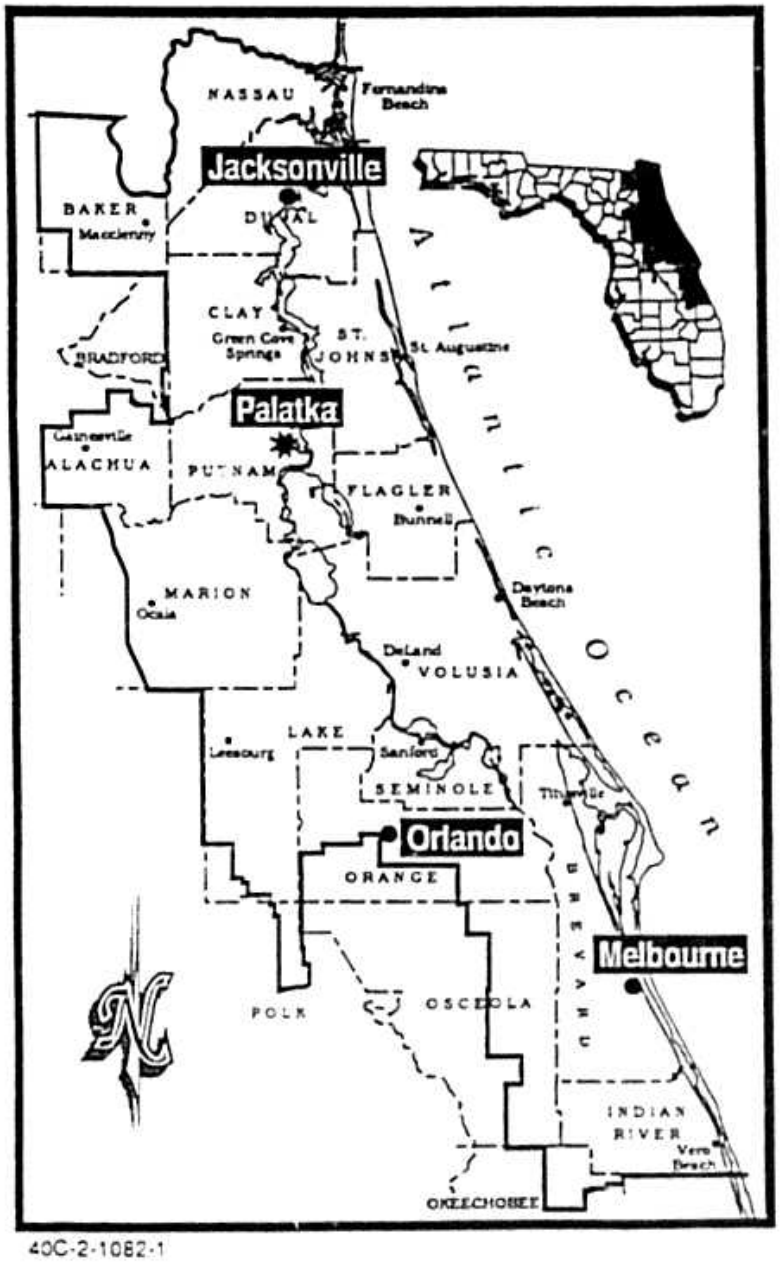
Prepared by:

ATLANTA TESTING & ENGINEERING, INC.
2273 Lee Road, Suite 200
Winter Park, Florida 32789

TABLE OF CONTENTS

St. Johns River Water Management District

CONSUMPTIVE USE INDIVIDUAL PERMIT APPLICATION



Headquarters

Palatka
Department of Resource Management
P. O. Box 1429
Palatka, FL 32178-1429
(904) 329-4560

Field Offices

Jacksonville
Department of Resource Management
7775 Baymeadows Way
Suite 102
Jacksonville, FL 32256
(904) 730-6270

Orlando
Department of Resource Management
618 E. South Street
Orlando, FL 32801
(407) 894-5423

Melbourne
Department of Resource Management
305 East Drive
Melbourne, FL 32904
(407) 984-4940

Submit application to District Headquarters (Attn: Records Division) in Palatka. Personnel are available at the Headquarters and Field Offices to provide assistance in filling out the application forms.

40C-2-1082-1

Table of Contents

Supplemental Forms:
(Fill out appropriate package for water use type requested)

SECTION I

INTRODUCTION

Unless expressly exempted by law or District regulation, an individual consumptive use permit is required for a use, diversion, or withdrawal of surface or ground water which meets any of the following criteria:

1. If the average annual daily withdrawal exceeds one-hundred thousand (100,000) gallons per day;

2. If the withdrawal equipment or facility has a capacity of more than one million (1,000,000) gallons per day;

3. If the withdrawal is from a combination of wells or other facilities, or both, having a combined capacity of more than one million (1,000,000) gallons per days.

4. If the withdrawal is from a well in which the outside diameter of the largest permanent water bearing casing is six inches or greater. For purposes of this section, the diameter of the well at ground surface will be presumed to be the diameter of the well for the entire length unless the well owner or well contractor can demonstrate that the well has a smaller diameter water bearing pipe below ground surface.

PROCESSING

Processing of permit applications is in accordance with provisions of the Water Resources Act, Chapter 373, Florida Statutes and Chapter 40C-1, Florida Administrative Code.

The District will notify an applicant if an application is incomplete within 30 days of receipt and will inform the applicant of what additional information is required to make the application complete. The Board will issue or deny permits within 90 days of receipt of the completed application. The 90-day period may be tolled in the event an administrative hearing is requested.

Projects permitted by the District or exempt from permit requirements by the District are not relieved of the permitting requirements of local or state agencies. Contact your county building codes department, the Florida Department of Environmental Regulation, the Corps of Engineers, the Department of Natural Resources or the District for additional information.

Failure to obtain a permit prior to undertaking a regulated activity is a violation of District requirements, even if the project would receive a favorable review in a standard permitting process. The District may initiate administrative, civil or criminal actions against violators, and may require restorative steps.

FEE SCHEDULE

Consumptive Use	
Individual:	
Less than 100 MGY	100.00
Between 100 and 500 MGY	200.00
More than 500 MGY	500.00
Modification with no increase (renewals, etc.)	100.00
General water use	50.00

SECTION II

INDIVIDUAL CONSUMPTIVE USE PERMIT APPLICATION

ST. JOHNS RIVER
WATER MANAGEMENT DISTRICT
RESOURCE MANAGEMENT DEPARTMENT
RECORDS DIVISION
P.O. BOX 1429
PALATKA, FLORIDA 32178-1429

OFFICIAL USE ONLY

APPLICATION NO. _____
DATE RECEIVED _____
COUNTY _____
ASSIGNED REVIEWER _____
DATE COMPLETE _____
PROJECTED BOARD DATE _____
PRE APP WITH _____ DATE _____
Hydrologist

Please type or print in ink. Complete necessary data sheets attached.
Submit 3 copies of all forms and attachments.

Application is for: New use ☒ Existing use ☐ Modification of existing permit ☐ Renewal ☐

OWNER

LAST FIRST
NAME Spruce Creek Golf & Country Club, Inc.
ADDRESS 17585 Southeast 102nd Street
CITY Summerfield
STATE Florida ZIP CODE 34491
BUS. TELEPHONE NO. (904) 347-3700
HOME TELEPHONE NO. N/A

APPLICANT

LAST FIRST
NAME Spruce Creek South Utilities, Inc. (Mr. Jay Thompson)
ADDRESS 17585 Southeast 102 Avenue
CITY Summerfield
STATE Florida ZIP CODE 34491
TELEPHONE NO. (904) 347-347-3700

AGENT OR CONSULTANT OR ENGINEER (IF APPLICABLE)

LAST FIRST
NAME Atlanta Testing & Engineering, Inc.
ADDRESS 2273 Lee Road, Suite 200
CITY Winter Park
STATE Florida ZIP CODE 32789
TELEPHONE NO. (407) 645-3400

SITE LOCATION

U.S.G.S. TOPO QUAD MAP Belleview & Lake Wier
COUNTY Marion County TOTAL ACREAGE OWNED 1,170
SECTION 9, 10, 16 TOWNSHIP 17 South RANGE 23 East
PROJECT NAME Spruce Creek (East) Golf & Country Club PROJECT ACREAGE 1,170

In compliance with the provisions of Chapter 373, Florida Statutes, 1973, and applicable rules and regulations of St. Johns River Water Management District, application is hereby made for a permit as identified above, and in accordance with support data and incidental information filed with this application and made a part thereof.

Jay A. Thompson — APPLICANT'S NAME (Please print)
_____ — APPLICANT'S SIGNATURE
2/8/96 — DATE

If person other than applicant has completed this form, that person certifies by his signature below that he is acting as an authorized agent of the applicant and his signature will be certification that he is in fact the authorized agent.

_____ — AGENT'S NAME (Please print)
_____ — AGENT'S SIGNATURE
_____ — DATE

Description of Use Classes: Each permit shall be identified with one or more of the following use classifications:

(a) Aesthetic use - the use of water for fountains, waterfalls, and landscape lakes and ponds where such uses are entirely ornamental and decorative.

(b) Agricultural use - the use of water for the commercial production of crops or the growing of farm products including, but not limited to, vegetables, citrus and other fruits, pasture, rice and sod.

(c) Aquacultural use - the use or withdrawal of water for cultivation of animal and plant life in a water environment, including but not limited to food fish, aquatic bait, game fish, aquatic plants (i.e. watercress), alligators, tropical fish, shellfish, and turtles.

(d) Commercial and industrial process use - the use of water essential to the production of the goods or services provided by a business establishment.

(e) Cooling and air conditioning use - the use of water for heating or cooling, or for air conditioning.

(f) Dewatering use - the removal of water from a specific area to facilitate mining or construction.

(g) Essential use - the use of water strictly for fire fighting purposes, health and medical purposes and the use of water to satisfy federal, state or local public health and safety requirements.

(h) Freeze protection - the periodic and infrequent use of water to protect agricultural and nursery crops from damage due to low temperatures.

(i) Golf course use - water used to irrigate an establishment designed and used for playing golf.

(j) Household type use - the use of water for personal needs or for household purposes such as drinking, bathing, heating, cooking, sanitation or cleaning, whether the use occurs in a residence or in a business or industrial establishment.

(k) Livestock use - the use of water for watering or washing of livestock.

(l) Nursery use - the use of water on premises on or in which nursery stock is grown, propagated or held for sale or distribution or sold or reshipped.

(m) Recreation area use - the use of water for the maintenance and support of intensive recreational areas such as, but not limited to, playgrounds, football, baseball, and soccer fields.

(n) Urban landscape irrigation - the outside watering or sprinkling of shrubbery, trees, lawns, grass, ground covers, plants, vines, gardens and other such flora which are situated in such diverse locations as residential landscapings, recreational areas, cemeteries, public, commercial and industrial establishments, public medians and rights of way.

(o) Water based recreation use - water used for public or private swimming and wading pools, including water slides. This term does not include pools specifically maintained to provide habitat for aquatic life.

(p) Water utility use - water used for withdrawal, treatment, transmission and distribution by potable water systems.

REQUESTED WATER USE

TYPE OF USE (Refer to page 4)

AESTHETIC 0 % AGRICULTURAL 0 % AQUACULTURAL 0 %

COOLING AND AIR CONDITIONING 0 %

DEWATERING 0 % COMMERCIAL AND INDUSTRIAL 7 %

ESSENTIAL 0 % FREEZE PROTECTION 0 % GOLF COURSE 45 % RECREATION AREA 0 %

HOUSEHOLD TYPE 39 % LIVESTOCK 0 % NURSERY 0 %

URBAN LANDSCAPE IRRIGATION 4 % WATER BASED RECREATION 0 %

UNACCOUNTED FOR WATER 0 % OTHER 5 %

AMOUNT

INCHES PER YEAR _____ MILLIONS GALLONS PER YEAR _____

MILLIONS GALLONS PER DAY (AVERAGE) 1.61 MILLIONS GALLONS PER DAY (MAXIMUM) 2.96

Date To Commence Use - 3/96

MODIFICATION OR RENEWAL

PLEASE PROVIDE INFORMATION IF APPLICATION IS FOR MODIFICATION OR RENEWAL OF AN EXISTING PERMIT.

PERMIT NO. _____ PERMITEE _____

DESCRIBE IN DETAIL REASONS FOR REQUEST FOR ADDITIONAL WATER AND/OR SOURCES _____

If application is for an initial permit, state the date upon which the use commenced or is planned to commence.

WATER USE MONITORING

All permittees are required to measure their water usage on a continuous basis. All new users must install totalizing flow meters on all wells and pumps. Meters must be 95% accurate, verifiable and installed according to manufacturers' specifications.

Permitted wells and pumps may be fitted with totalizing flow meters, or alternate methods for measuring water use may be employed. Alternative methods must be 90% accurate and verifiable. All alternative methods must be approved in advance in writing by District staff.

If you have permitted wells or pumps and plan to use an alternate method for measuring water usage, please describe in detail how you plan to measure flows. Provide any diagrams, calculations, sketch maps, cross-sections etc. necessary to evaluate the methodology and its accuracy over time. Please refer to Appendix L, Applicant's Handbook, Consumptive Uses of Water, for further information on alternate methods for measuring water usage.

EXISTING SOURCES

SUMMARY DATA SHEET

TABLE 1

Complete applicable sections only. Type or print legibly. Attach additional sheets if space provided below is not sufficient. (Include information for ALL wells and pumps on property).

EXISTING GROUND WATER SOURCE(S)

*formerly installed wells to be used for landscape and golf course irrigation

Well Number	Casing Diameter (in)	Casing Depth (ft)	Total Depth (ft)	Maximum Pump Capacity or Flow Rate* (gpm)	Pumped or Flowing (specify pump type and manufacturer)	In Use Yes or No (if no, attach explanation)	Source Aquifer (if known)	Type of Use
IR-1	12	100	600	1,600	* Pumped (tbd)	No	Floridan	Irrigation
IR-2	12	100	600	1,600	* Pumped (tbd)	No	Floridan	Irrigation
IR-3	10	100	500	1,000	* Pumped (tbd)	No	Floridan	Irrigation
IR-4	4	50	250	100	Pumped (submersable)	Yes	Floridan	Private

Attach additional sheets if necessary

*Flowing wells must be equipped with a working valve, per Chapter 373.206, F.S.

EXISTING SURFACE WATER SOURCE(S) N/A

Pump Number	Maximum Pump Capacity (gpm)	Acreage of Lake, Pond, etc.	Surface Water Source Wholly Owned Yes or No	Name of Water Source	Type of Use

NOTE: PROVIDE ALL HISTORIC WATER QUALITY INFORMATION WITH APPLICATION

PROPOSED SOURCES

SUMMARY DATA SHEET

TABLE 2

Complete applicable sections only. Type or print legibly. Attach additional sheets if space provided below is not sufficient. (Include information for ALL wells and pumps on property).

PROPOSED GROUND WATER SOURCE(S)

Well Number	Casing Diameter (in)	Casing Depth (ft)	Total Depth (ft)	Maximum Pump Capacity or Flow Rate* (gpm)	Pumped or Flowing (specify pump type and manufacturer)	In Use Yes or No (if no, attach explanation)	Source Aquifer (if known)	Type of Use
P-1	12	100	600	1,600	Pumped	No	Floridan	Household
P-2	12	100	600	1,600	Pumped	No	Floridan	Household
P-3	12	100	600	1,600	Pumped	No	Floridan	Household
IR-1	12	100	600	1,600	Pumped	No	Floridan	Irrigation
IR-2	12	100	600	1,600	Pumped	No	Floridan	Irrigation
IR-3	10	100	500	1,000	Pumped	No	Floridan	Irrigation

Attach additional sheets if necessary

*Flowing wells must be equipped with a working valve, per Chapter 373.206, F.S.

PROPOSED SURFACE WATER SOURCE(S) N/A

Pump Number	Maximum Pump Capacity (gpm)	Acreage of Lake, Pond, etc.	Surface Water Source Wholly Owned Yes or No	Name of Water Source	Type of Use

PROPERTY CONTROL, LOCATION, AND ADJACENT OWNER'S PROPERTY

I. PROPERTY CONTROL See Attachment A

1. Property Ownership - Provide a certified copy of the deed indicating the current owner of the property which is the subject of this application.

2. Leased Property - Provide a copy of the current lease, or a letter signed by the property owner describing the lease arrangement and the duration of the lease.

II. LOCATION MAPS See Attachment B - Figures 1 and 2

Provide a recent map (preferably a USGS topographic quadrangle, map from a county plat directory, or survey map) indicating the following:

(a) property boundaries (include approximate lengths of boundaries in feet);
(b) ALL withdrawal point locations. Indicate well number and casing size for groundwater withdrawals, and pump number and maximum pump capacity for surface water withdrawals (refer to Pages 6 and 7 of the Application);
(c) a north arrow;
(d) a scale designation - all maps should have a minimum scale of 1" = 2,000'; and
(e) landmarks such as roads and political boundaries.

III. ADJACENT PROPERTY OWNERS See Attachment C

Provide a complete list of adjacent property owners and mailing address as prescribed in Tables 3 and 4. Attach additional sheets if space provided below is not sufficient.

NAME	ADDRESS	CITY	STATE	ZIP CODE

TABLE 3 - Groundwater Withdrawals

	Withdrawal Amount	Property Owners to be Listed
1.	If the withdrawal during any single day is less than 1,000,000 gallons - and - if the withdrawal is less than 100,000 gallons average per day on an annual basis	None required
2.	If the withdrawal during any single day is to exceed 1,000,000 gallons but not more than 5,000,000 gallons - or - if the withdrawal is to exceed 100,000 gallons average per day on an annual basis but not more than 500,000 gallons average.	All property owners within 600 feet of the well, or within 100 feet of the property boundary.
3.	If the withdrawal during any single day is to exceed 5,000,000 gallons but not more than 10,000,000 gallons - or - if the withdrawal is to exceed 500,000 gallons average per day on an annual basis but not more than 1,000,000 gallons average	All property owners within 1,320 feet of the well, or within 200 feet of the property boundary.
4.	If the withdrawal during any single day is to exceed 10,000,000 gallons - or - if the withdrawal is to exceed 1,000,000 gallons average per day on an annual basis	All property owners within 2,640 feet of the well, or within 400 feet of the property boundary.

Table 4 - Surface water withdrawals from a non-wholly owned impoundment

1. If your withdrawal is from a lake with a surface area of less than 80 acres, list all riparian land owners on the lake and those up to 660 feet downstream if the lake has an outlet.

2. If your withdrawal is from a lake with a surface area greater than 80 acres, list all riparian land owners 660 feet from the withdrawal point.

3. If your withdrawal is from a stream and if the total daily average pumpage is less than 5,000,000 gallons, list all riparian land owners 660 feet upstream and 1,320 feet downstream from the withdrawal point.

4. If your withdrawal is from a stream and if the total daily average pumpage is greater than 5,000,000 gallons, list all riparian land owners 1,320 feet upstream and 2,640 feet downstream from the withdrawal point.

Have you obtained or are you in the process of obtaining any of the following permits for this project (Yes or No):

Development of regional impact — Yes

County Permits — Yes

EPA Ordered Environmental Impact Statements — No

Agricultural Discharge — No

If yes to any of above, please list permit type, permit number, project name, and issuing agency below:

See Attachment D

USE OF LOWEST ACCEPTABLE QUALITY WATER SOURCE

1. Are you proposing to use the lowest acceptable quality of water as a water source? yes

2. Is reclaimed water readily available as a source of water? Reclaimed water will be available as the project is developed and will be used to the greatest extent possible.

WATER CONSERVATION PLAN

A water conservation plan must be submitted with this application. Please refer to Section 12.0 and Appendix K, Applicant's Handbook, Consumptive Uses of Water, for information on plan components.

See Attachment E

SECTION III

APPLICANT CHECK LIST

Please verify that the following information has been provided as part of this application package:

		Attached
1. Appropriate Fee	$	500.00
2. Signature of Applicant and/or Agent		X
3. Authorization from Owner for Agent (if Agent is listed on application)		X
4. Certified copy of Deed or Lease Agreement		X
5. Location Map		X
6. List of Adjacent Land Owners		X
7. Completed Water Use Type Package*		X
8. Water Conservation Plan		X

* NOTE: Applications for Public Supply, Commercial/Industrial, Agricultural, Aquacultural, Nursery/Fern, Golf Course Irrigation, Landscape Irrigation and Dewatering water uses must also include the supplemental water use package specific to each use type.

PUBLIC SUPPLY AND/OR ESSENTIAL TYPE USES

(Submit 3 copies of application, supplemental information, drawings, calculations, etc.)

YEAR-ROUND PUBLIC SUPPLY

A. POTABLE WATER SUPPLY

1. Please submit a map (USGS quad) showing the service area served by the Utility or water supplier. See Attachment B

2. Please submit any of the following which apply:

   (a) A copy of the Public Service Commission (PSC) Certification describing the service area; Spruce Creek South Utilities, Inc. is petitioning the PSC to delineate the service area.

   (b) A copy of a local government franchise agreement; or N/A

   (c) Documentation that the utility or water supplier is not regulated by the PSC or local government. N/A

3. Complete Table 1- Historic Water Use, and Table 2 - Projected Water Use as a basis for the requested allocations. In addition:

   (a) Provide the past 12 months of Daily Operation Summary Sheets (MOB's) required by DER and calculate historic average daily and maximum daily per capita use; N/A

   (b) Use these calculations to provide projected average daily and maximum daily per capita use for input on Tables 1 and 2.

   (c) Explain the method of projecting population growth: Based on Projections outlined in the ADA/DRI

B. WASTEWATER DISPOSAL

1. Specify the present and projected amounts of wastewater:

	PRESENT (mgd)*	PROJECTED (7 YEARS)
Average daily disposal	0	0.562 mgd
Treatment plant maximum capacity	0	0.8 mgd

*mgd = million gallons per day

2. Specify the percentage for each type of disposal (total 100%)

	PRESENT %	PROJECTED % (7 YRS)
Reuse	0	100%
Offsite Discharge	0	0
Individual Septic Tanks	0	0
On-site Percolation Ponds	0	0
On-site Spray Fields	0	0
Other	0	0

C. REUSE OF RECLAIMED WATER

1. Describe the method of reuse by completing (a) - (c) below:

   (a) Type of site (golf course, commercial landscape, etc.) Golf Course

   (b) Name of facility accepting reclaimed water Spruce Creek Golf and Country Club

   (c) Acreage of site 280

2. What is the quantity of reclaimed water used?

	PRESENT (mgd)*	PROJECTED (7 yrs) (mgd)
Average daily flow	0	0.6
Maximum daily flow	0	1.2

*mgd - million gallons per day

3. Describe future reuse plans Once waste water flows above 100,000 gpd are achieved, reclaimed water will be used for golf course irrigation. It is anticipated that approximately 0.6 mgd of reclaimed water will be generated by the development.

4. List all potential users within a 5 mile radius of the wastewater treatment plant. Include a map locating potential users in reference to the wastewater treatment plant.

Negotiations are ongoing with Marion County to Provide waste water service to areas southeast of the site in order to utilize the full WWTP design capacity of 0.8 MGD and increase the available reuse water for irrigation.

D. WATER CONSERVATION PLAN

Please submit a water conservation plan prepared in accordance with Section 12.4.5, Applicant's Handbook, Consumptive Uses of Water. See Attachment E

E. ESSENTIAL USE

1. Are you requesting an allocation for fire protection? Yes

   (a) Specify the number and location of well(s) or pump(s) that will be used Well P-3 (1,600 gpm)

   (b) Calculate the amount of water requested based on the pump's maximum capacity (gpm) pumping continually for a 24 hour period 2.3 mgd.

TABLE 1
HISTORIC WATER USE

Not Applicable

Last 7 Years	Past Population	Number of Units	Per Capita Usage (gpcd)	Household Avg day (mgal)	Household Max day (mgal)	Commercial/Industrial Avg day (mgal)	Commercial/Industrial Max day (mgal)	Irrigation (urban landscape, recreation or common areas) (mgal)	Water Utility (mgal)	Total Annual Avg day (mgal)	Total Annual Max day (mgal)	Installed Wellfield capacity (mgal)
19												
19												
19												
19												
19												
19												
19												

Maximum SJRWMD Allocations

Household Type Use	Average daily per capita use: 150 gallons. Maximum daily per capita use: 300 gallons. These numbers are based on national averages for 1/4 acre lot, and include combined indoor and outdoor use by a household.
Commercial/Industrial Type Use	Varies by use. Use industry standards.
Irrigation Type Uses	Varies by irrigation system and soils. Contact District for allocation determination.
Water Utility Use	Water lost due to leaks in distribution system, priming pump and flushing lines. Usually 5% - 10% of total water pumped.

TABLE 2
FUTURE WATER USE

Next 7 Years	Projected Population	Number of Units	Per Capita Usage (gpcd)	Household Avg day (mgal)	Household Max day (mgal)	Commercial/Industrial Avg day (mgal)	Commercial/Industrial Max day (mgal)	Irrigation (urban landscape, recreation or common areas) (mgal)	Water Utility (mgal)	Total Annual Avg day (mgal)	Total Annual Max day (mgal)	Installed Wellfield capacity (mgal)
19 96	608	320	150	0.09	0.18	0	0	0.05	0.009	0.15	0.24	6.5
19 97	1,216	640	150	0.18	0.36	0	0	0.05	0.018	0.25	0.43	6.5
19 98	1,824	960	150	0.27	0.54	0	0	0.05	0.027	0.35	0.62	6.5
19 99	2,432	1,280	150	0.36	0.72	0.11	0.22	0.05	0.047	0.57	1.04	6.5
2000	3,040	1,600	150	0.46	0.92	0.11	0.22	0.05	0.057	0.68	1.25	6.5
2001	3,610	1,900	150	0.54	1.08	0.12	0.24	0.05	0.066	0.78	1.44	6.5
2002	4,180	2,200	150	0.63	1.26	0.12	0.24	0.05	0.075	0.88	1.63	6.5

II. SEASONAL PUBLIC SUPPLY N/A

(Mobile Home Parks, RV Parks, Campgrounds, etc.)
(Submit 3 copies of application, supplemental information, drawings, calculations, etc.)

1. Number of acres owned: _____
2. Total number of lots/spaces: _____
3. Average number of residents over the past 12 months: _____
4. During which month is the park most occupied?: _____
5. During which month is the park least occupied?: _____
6. Does each lot/space have an individual water meter?: _____
7. Does this facility have any of the following water uses: (yes or no)
   - _____ a) Laundry
   - _____ b) Swimming pool
   - _____ c) Common green areas under irrigation system (_____ total acres)
   - _____ d) Bath house/restrooms
   - _____ e) Club house with restrooms
   - _____ f) Other uses, please specify _____
8. Attach copies of DER monthly pumpage reports for the last 12 months. Using the past 12 months of DER monthly pumpage reports, please calculate:
   a) Averace Daily water use over the past 12 months: _____ mgd*
   b) Maximum Daily water use over the past 12 months: _____ mgd*
   c) TOTAL water used over the past 12 months: _____ mg
9. WASTEWATER DISPOSAL - please specify the percentage for each, to total 100%:

	PRESENT %	PROJECTED % 7 YRS
Offsite Discharge	_____	_____
Individual Septic Tank	_____	_____
On-site Percolation Pond	_____	_____
On-site Spray Field	_____	_____
Other: _____	_____	_____

10. If wastewater is treated on-site:
    a) Specify level of treatment: _____
    b) Maximum treatment capacity of plant: _____ mgd
    c) Average daily disposal over the past 12 months: _____ mgd
    d) Amount of water reused: _____ mgd / to be reused _____ mgd

*mgd = million gallons per day

COMMERCIAL/INDUSTRIAL TYPE USES

(Submit 3 copies of application, supplemental information drawings, calculations, etc.)

I. PROJECT DESCRIPTION

1. Type of business and/or operation, please describe: Clubhouse with small golf retail shop and restaurant. Office buildings for Development administration, warehouses for service and maintenance of golf course equpment, (i.e. golf carts, lawn movers, etc.) Water Treatment Facility, office and restroom.
2. Project acreage: 8 acres
3. Average daily use last service year N/A (mgd)*
4. Maximum daily use last service year N/A (mgd)
5. Number of days per week when maximum used Estimated @ 3 (Friday, Saturday, Sunday)
6. Months per year used 12
7. Proposed average daily and maximum daily use for each of next 7 years (complete chart):

YEAR	PROPOSED AVERAGE DAILY USE (mgd)	PROPOSED MAXIMUM DAILY USE (mgd)
19 96	0	0
19 97	0	0
19 98	0	0
19 99	0.11	0.22
19 2000	0.11	0.22
19 2001	0.12	0.24
19 2002	0.12	0.24

*mgd = million gallons per day

8. Explain method used to calculate ground water or surface water withdrawals.
   Data obtain from projections calculated during ADA/DRI process
9. Describe the flow of wastewater from the plant and its ultimate disposal. Please provide name of any receiving water body into which effluent is discharged. Also, provide the applicable Florida Department of Environmental Regulations/Environmental Protection Agency permit numbers (FDER, EPA) issued for discharge to surface waters. Attach daily flow amounts for effluent discharged to surface waters for the last 12 months. Wastewater will be treated to public access level quality stored in lined ponds, and used for golf course irrigation. There are no recieving water bodies. No effluent has been discharged to surface waters during the last 12 months.

II. WELL HISTORY

1. Provide all historic water quality data collected for each well over the last 7 years. None has been collected.

2. Provide a chronology for each well describing any alterations, casing changes, backplugging or repairs that may have been conducted over the life span of the well. N/A

3. If available, provide water level readings (National Geodetic Vertical Data) for any wells for which data has been collected over the last 7 years. N/A
   Include any predictive tools (modeling) that may have been used to evaluate the wellfields' long term impacts on ground water quantity and quality. N/A

III. REUSE

1. Provide water quality data for effluent discharged during the last 12 months. N/A

2. Provide the level of treatment required to facilitate reuse of effluent for *each* individual manufacturing and cooling process. Provide supporting documentation as to water quality and quantity limitation of reuse for each component of the process. No industrial wastewaters will be sent to the WWTF.

IV. WATER CONSERVATION PLAN See Attachment E

Please submit a water conservation plan prepared in accordance with Section 12.5.2, Applicant's Handbook, Consumptive Uses of Water.

GOLF COURSE IRRIGATION TYPE USE

(Submit 3 copies of application, supplemental information, drawings, calculations, etc.)

I. Irrigated acreage and irrigation system method

1. Breakdown irrigated acreage for the following:

	Existing (acres)	Proposed (acres)
Tees/greens	0	15
Fairways/roughs	0	265
Landscape areas	0	0
TOTAL # ACRES IRRIGATED	0	280

2. Specify irrigation system methods _____

II. Reclaimed wastewater usage

1. Amount of reclaimed wastewater currently being used for irrigation 0 mgd*
2. Name of treatment plant supplying golf course N/A
3. Amount of water use annually

	Present (mgals/yr)	Proposed (mgals/yr)
Groundwater	0	267
Surface water	0	0
Reclaimed water	0	0
TOTAL	0	267

III. New Golf Course

For new golf course areas, provide the following information regarding the grow-in period:

1. Number of months 12
2. Date irrigation to commence 3/96
3. Amount requested for grow-in 1.1 mgd

VI. Water Conservation Plan

Please submit a water conservation plan prepared in accordance with Section 12.8.1., Applicant's Handbook, Consumptive Uses of Water. See Attachment E

* mgd = million gallons per day

V. Additional Information

Attach 3 copies of the following:

_____ 1. Map delineating locations of all lakes, ponds, weirs, control structures (include elevations for each), well(s), surface water pumps. Include acreage and depth (National Geodetic Vertical Data) of each lake or impoundment.

_____ 2. As-builts for existing irrigation system. Proposed layout if not yet built.
The proposed layout for the irrigation system has not been completed.

_____ 3. Methodology (IFAS, meters etc.) used to calculate requested ground and surface water amounts. If based on metering, describe type(s) and location(s) of all meters.
See Attachment F

_____ 4. List of all pesticides and herbicides used within the last 5 years. None.

_____ 5. List of all wastewater treatment plants within a 5 mile radius of project. For each provide the following: a) design capacity (mgals/day), b) current wastewater flows (mgals/day), c) level of treatment (primary, secondary, tertiary), d) current discharge practice, e) distance from golf course to plants.

See Attachment G

ATTACHMENT A

PROPERTY CONTROL DOCUMENTS

4. Attach a notarized authorization from all persons or corporations (or authorized agents of said persons or corporations) having fee simple or lessor estate in the site indicating that each of these parties is aware of, and concurs with, the development of this property as described in this application for development approval. Include the names and addresses of all parties with an interest in the property. In addition, include descriptions of any other properties within one-half mile radius of the DRI site in which any of the parties with an interest in the DRI site hold a fee simple or lessor interest.

A listing of the persons and/or corporations having fee simple or lessor estate in the project site is listed below:

Spruce Creek Development Company of Ocala, Inc.
17585 SE 102nd Avenue
Summerfield, Florida 34491

First Fiscal Fund Corp.
c/o Lawrence Kadish
P O Box 40
Westbury, New York 11590

Daniel B & Martha Sue Sumner
P O Box 2149
Bellview, Florida 34420

Evelyn H Sumner
P O Box 2149
Bellview, Florida 34420

John C Wheaton
312 Etowah Drive
Cartersville, Georgia 30120

Alan Wheaton
652 Eric Court
Herndon, Virginia 22070

Frank B Kepner
8263 Caiman Dell Or
La Jollier, California 92037

Estate of Mary Youngberg & Harry Youngberg
14 High Street
Sayville, New York 11752-1110

The notarized authorizations and designation of agent are attached as Exhibit 4-1. Other properties owned by parties to this agreement within one-half mile are not intended to be developed and if ever proposed for development will be the subject of an aggregation determination at the time of such development proposal.

Exhibit 4-1
LETTER OF AUTHORIZATION

DESIGNATION OF AGENT

Spruce Creek Development Company of Ocala, Inc ("Spruce Creek") designates Jay A. Thompson as its agent to sign on behalf of Spruce Creek all documents necessary in its Florida Quality Development Application for Development Approval to be known as Spruce Creek Golf & Country Club, including Amendments to the Comprehensive Plan, Zoning Applications, and for submission of all property owned by Spruce Creek for those purposes as set forth in the Development Orders rendered in that process.

September 6, 1995

Spruce Creek Development Company of Ocala, Inc

By Harvey D Erp, President

STATE OF FLORIDA
COUNTY OF MARION

The foregoing instrument was acknowledged before me this 6th day of September, 1995 by Harvey D. Erp, President of Spruce Creek Development Company of Ocala, Inc., a Florida corporation, on behalf of the corporation.

Notary Signature

ELAINE J. JAROSZ
MY COMMISSION # CC455314 EXP
June 11, 1999

Notary Printed Name

Prepared by:
E. Randolph Klein
333 NW 3rd Ave., Ocala, FL 34475

LIMITED DURABLE POWER OF ATTORNEY

We, DANIEL B. SUMNER and MARTHA SUE SUMNER, his wife, hereby appoint SPRUCE CREEK DEVELOPMENT COMPANY OF OCALA, INC., a Florida corporation, as our attorney-in-fact to execute on our behalf any applications required by our attorney in fact to effect its intended development of the following described real property including, but not limited to, change of zoning, amendments to Marion County's Comprehensive Land Use Plan, preliminary plats, Development of Regional Impact or Florida Quality Development applications and applications to abrogate road reservations along Section and half Section lines:

West 1/2 of SE 1/4 of SE 1/4 of Section 9, Township 17 South, Range 23 East.

This Limited Durable Power of Attorney shall not be affected by disability of the principals except as provided by Statute.

IN WITNESS WHEREOF, this Power of Attorney has been executed this 19 day of October, 1994.

Witness #1
Printed Name

DANIEL B. SUMNER

Witness #2
Printed Name

MARTHA SUE SUMNER

STATE OF FLORIDA, COUNTY OF MARION

The foregoing instrument was acknowledged before me this 19 day of October, 1994, by DANIEL B. SUMNER and MARTHA SUE SUMNER, his wife, who are personally known to me or produced _____ as identification.

Notary Public, State of Florida
My commission expires:

BEVERLY J. MOSLEY
Notary Public, State of Florida
My comm. expires June 23, 1995
Comm. No. CC108319

Prepared by:
E. Randolph Klein
333 NW 3rd Ave., Ocala, FL 34475

LIMITED DURABLE POWER OF ATTORNEY

We, EVELYN H. SUMNER hereby appoint SPRUCE CREEK DEVELOPMENT COMPANY OF OCALA, INC., a Florida corporation, as my attorney-in-fact to execute on my behalf any applications required by my attorney in fact to effect its intended development of the real property attached hereto as Exhibit A including, but not limited to, change of zoning, amendments to Marion County's Comprehensive Land Use Plan, preliminary plats, Development of Regional Impact or Florida Quality Development applications and applications to abrogate road reservations along Section and half Section lines.

This Limited Durable Power of Attorney shall not be affected by disability of the principals except as provided by Statute.

IN WITNESS WHEREOF, this Power of Attorney has been executed this 19th day of October, 1994.

Witness #1
Sharon Luke
Printed Name

Witness #2
Printed Name

EVELYN H. SUMNER

STATE OF FLORIDA, COUNTY OF MARION

The foregoing instrument was acknowledged before me this 19 day of October, 1994, by EVELYN H. SUMNER, who are personally known to me or produced personally known as identification.

Notary Public, State of Florida
My commission expires:

BEVERLY J. MOSLEY
Notary Public, State of Florida
My comm. expires June 28, 1995
Comm. No. CC108359

LIMITED POWER OF ATTORNEY

FIRST FISCAL FUND CORP. hereby appoints SPRUCE CREEK DEVELOPMENT COMPANY OF OCALA, INC., a Florida corporation, as its attorney-in-fact to execute on its behalf any applications required to permit its intended development of the real property described on Exhibit "A" attached hereto and incorporated herein by reference, including, but not limited to, a change of zoning, amendments to Marion County's Comprehensive Land Use Plan, preliminary plats, Development of Regional Impact or Florida Quality Development applications, and applications to abrogate road reservations along Section and half Section lines.

This Limited Power of Attorney shall continue and be in effect until and unless a revocation thereof executed by the undersigned is recorded in the Public Records of Marion County, Florida. No revocation of this Limited Power of Attorney shall be effective unless there has been a breach by the Buyer or its assigns of that certain Contract for Sale and Purchase with the undersigned as Seller dated October 14, 1994, covering the property described in Exhibit "A".

IN WITNESS WHEREOF, this Limited Power of Attorney has been executed this 3rd day of November, 1994.

Signed, sealed and delivered in the presence of:

Witness - Signature

Printed Name

Witness - Signature

Printed Name

FIRST FISCAL FUND CORP.

By: _____
LAWRENCE KADISH,
Vice President

STATE OF NEW YORK
COUNTY OF NASSAU

The foregoing Limited Power of Attorney was acknowledged before me this 3rd day of November, 1994, by LAWRENCE KADISH, Vice President of FIRST FISCAL FUND CORP., who is personally known to me or produced _____ as identification and did/did not take an oath.

MARCELLA M. PRUSMACK
Notary Public, State of New York
No. 01PR5012844
Qualified in Nassau County
Commission Expires June 15, 19__

NOTARY PUBLIC - Signature

Printed Name

My Commission Expires:

Prepared by:
C. Arthur Manning
17585 S.E. 102nd Ave
Summerfield, FL 34491

LIMITED DURABLE POWER OF ATTORNEY

We, JOHN C. WHEATON, hereby appoint SPRUCE CREEK DEVELOPMENT COMPANY OF OCALA, INC., a Florida corporation, as my attorney-in-fact to execute on my behalf any applications required by my attorney in fact to effect its intended development of the real property attached hereto as Exhibit A including, but not limited to, change of zoning, amendments to Marion County's Comprehensive Land Use Plan, preliminary plats, Development of Regional Impact or Florida Quality Development applications and applications to abrogate road reservations along Section and half Section lines.

This Limited Durable Power of Attorney shall not be affected by disability of the principals except as provided by Statute.

IN WITNESS WHEREOF, this Power of Attorney has been executed this 13 day of July, 1995.

Susan Olson
Witness #1

SUSAN OLSON
Printed Name

Neale Vensari
Witness #2

NEALE VENSARI
Printed Name

J. C. Wheat
JOHN C. WHEATON

STATE OF CALIFORNIA
COUNTY OF LOS ANGELES

The foregoing instrument was acknowledged before me this 13th day of July, 1995, by JOHN C. WHEATON, who is personally known to me or produced CA D.L. #B6319787 as identification.

GERALD D. NIELSEN
Comm. # 1052785
NOTARY PUBLIC - CALIFORNIA
Los Angeles County
My Comm. Expires Mar. 31, 1999

Gerald D. Nielsen
Notary Public

Prepared by:
C. Arthur Nonnig
17525 S.E. 102nd Ave
Summerfield, FL 34491

LIMITED DURABLE POWER OF ATTORNEY

I/We, ROSEMARY J. WHEATON, hereby appoint SPRUCE CREEK DEVELOPMENT COMPANY OF OCALA, INC., a Florida corporation, as my attorney-in-fact to execute on my behalf any applications required by my attorney in fact to effect its intended development of the real property attached hereto as Exhibit A including, but not limited to, change of zoning, amendments to Marion County's Comprehensive Land Use Plan, preliminary plats, Development of Regional Impact or Florida Quality Development applications and applications to abrogate road reservations along Section and half Section lines.

This Limited Durable Power of Attorney shall not be affected by disability of the principals except as provided by Statute.

IN WITNESS WHEREOF, this Power of Attorney has been executed this 13 day of July, 1995.

Mary H. Harrington
Witness #1

Rosemary A. Wheaton
ROSEMARY J. WHEATON

MARY H HARRINGTON
Printed Name

Stephanie R. Langlois
Witness #2

Stephanie R. Langlois
Printed Name

STATE OF California
COUNTY OF Ventura

The foregoing instrument was acknowledged before me this 13 day of July 1995, by ROSEMARY J. WHEATON, who is personally known to me or produced California Driver as identification.

RONALD E. LAAS
Comm. # 956440
NOTARY PUBLIC - CALIFORNIA
Ventura County
My Comm. Expires Feb. 17, 1996

Notary Public

Prepared By
C. Arthur Manning
17585 S.E. 102nd Ave
Summerfield, FL 34491

LIMITED DURABLE POWER OF ATTORNEY

We, ALAN P. WHEATON, hereby appoint SPRUCE CREEK DEVELOPMENT COMPANY OF OCALA, INC., a Florida corporation, as my attorney-in-fact to execute on my behalf any applications required by my attorney in fact to effect its intended development of the real property attached hereto as Exhibit A including, but not limited to, change of zoning, amendments to Marion County's Comprehensive Land Use Plan, preliminary plats, Development of Regional Impact or Florida Quality Development applications and applications to abrogate road reservations along Section and half Section lines.

This Limited Durable Power of Attorney shall not be affected by disability of the principals except as provided by Statute.

IN WITNESS WHEREOF, this Power of Attorney has been executed this 21st day of July, 1995.

Witness #1

ALAN P. WHEATON

Printed Name

Witness #2

Printed Name

STATE OF Virginia
COUNTY OF Fairfax

The foregoing instrument was acknowledged before me this 31st day of July, 1995, by ALAN P. WHEATON, who is personally known to me or produced a _____ as identification.

Notary Public

My Commission expires: 7-31-96

Prepared by:
C. Arthur Mortag
17585 S.E. 102nd Ave.
Summerfield, FL 34491

LIMITED DURABLE POWER OF ATTORNEY

I, FRANK B. KEPNER, hereby appoint SPRUCE CREEK DEVELOPMENT COMPANY OF OCALA, INC., a Florida corporation, as my attorney-in-fact to execute on my behalf any applications required by my attorney in fact to effect its intended development of the real property attached hereto as Exhibit A including, but not limited to, change of zoning, amendments to Marion County's Comprehensive Land Use Plan, preliminary plats, Development of Regional Impact or Florida Quality Development applications and applications to abrogate road reservations along Section and half Section lines.

This Limited Durable Power of Attorney shall not be affected by disability of the principals except as provided by Statute.

IN WITNESS WHEREOF, this Power of Attorney has been executed this 7th day of July, 1995.

Witness #1

Printed Name

Witness #2

ROBERT E. WALTERS
Printed Name

FRANK B. KEPNER

STATE OF CALIFORNIA
COUNTY OF SAN DIEGO

The foregoing instrument was acknowledged before me this 7th day of July, 1995, by FRANK B. KEPNER, who is personally known to me or produced CALIFORNIA DRIVERS LICENSE as identification.

DAVID W RENE
COMM. # 1058954
Notary Public — California
SAN DIEGO COUNTY
My Comm. Expires MAY 14, 1999

Notary Public

Prepared by:
C. Arthur Mennig
17946 S.E. 102nd Ave.
Summerfield, FL 34491

LIMITED DURABLE POWER OF ATTORNEY

We, HARRY YOUNGBERG (ESTATE OF MARY YOUNGBERG), hereby appoint SPRUCE CREEK DEVELOPMENT COMPANY OF OCALA, INC., a Florida corporation, as my attorney-in-fact to execute on my behalf any applications required by my attorney in fact to effect its intended development of the real property attached hereto as Exhibit A including, but not limited to, change of zoning, amendments to Marion County's Comprehensive Land Use Plan, preliminary plats, Development of Regional Impact or Florida Quality Development applications and applications to abrogate road reservations along Section and half Section lines.

This Limited Durable Power of Attorney shall not be affected by disability of the principals except as provided by Statute.

IN WITNESS WHEREOF, this Power of Attorney has been executed this 5 day of SEPTEMBER, 1995.

Laurie J. Johnson
Witness #1

Laurie J. Johnson
Printed Name

Edward T Rourke
Witness #2

Edward T Rourke
Printed Name

Harry Youngberg
HARRY YOUNGBERG
(ESTATE OF MARY YOUNGBERG)

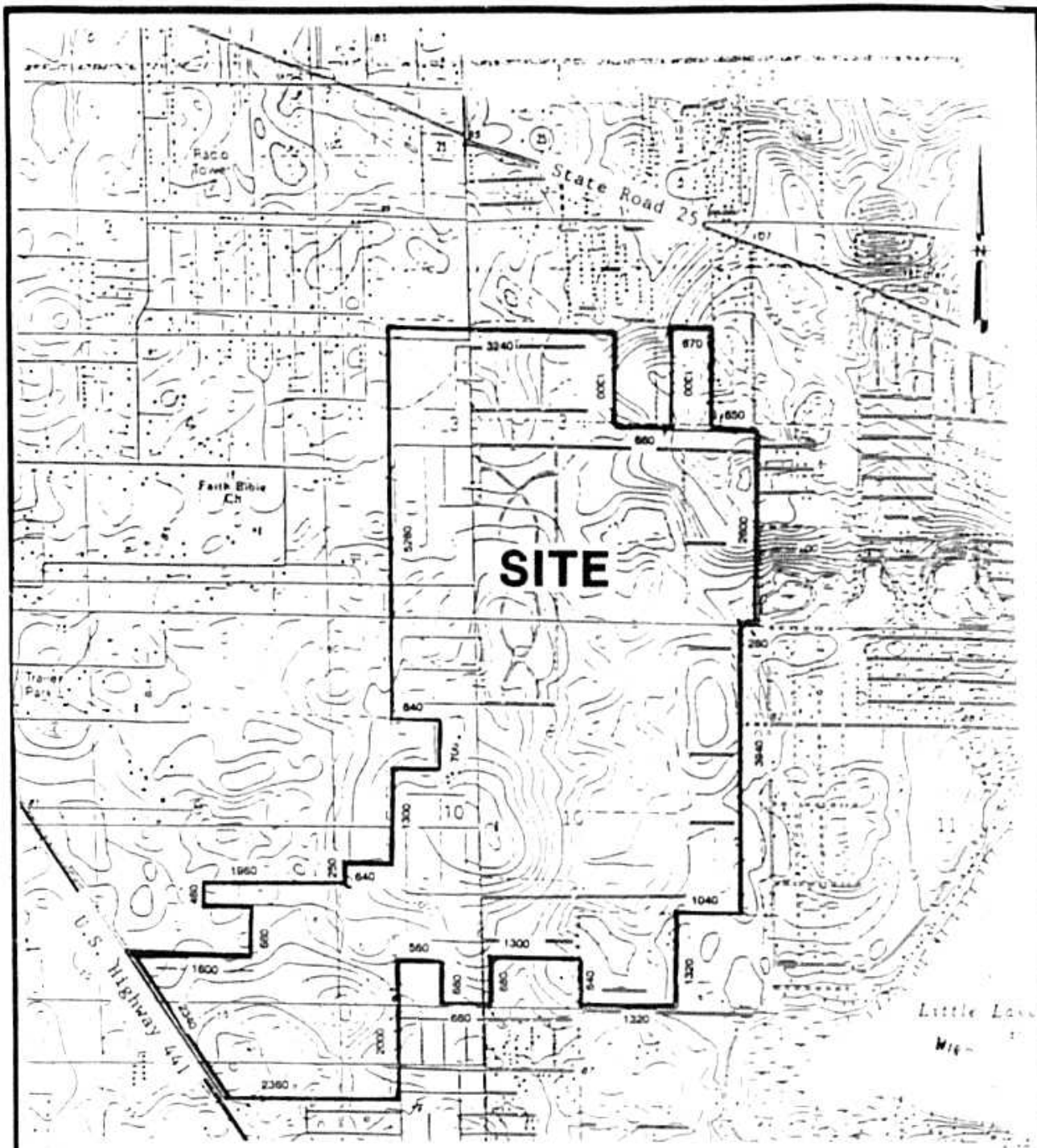
DIANE SCHAEFER
NOTARY PUBLIC, State of New York
No. 01SC5019860
Qualified in Suffolk County
Commission Expires November 1, 1995

STATE OF New York
COUNTY OF Suffolk

The foregoing instrument was acknowledged before me this 5th day of September, 1995, by HARRY YOUNGBERG, who is personally known to me or produced _____ as identification.

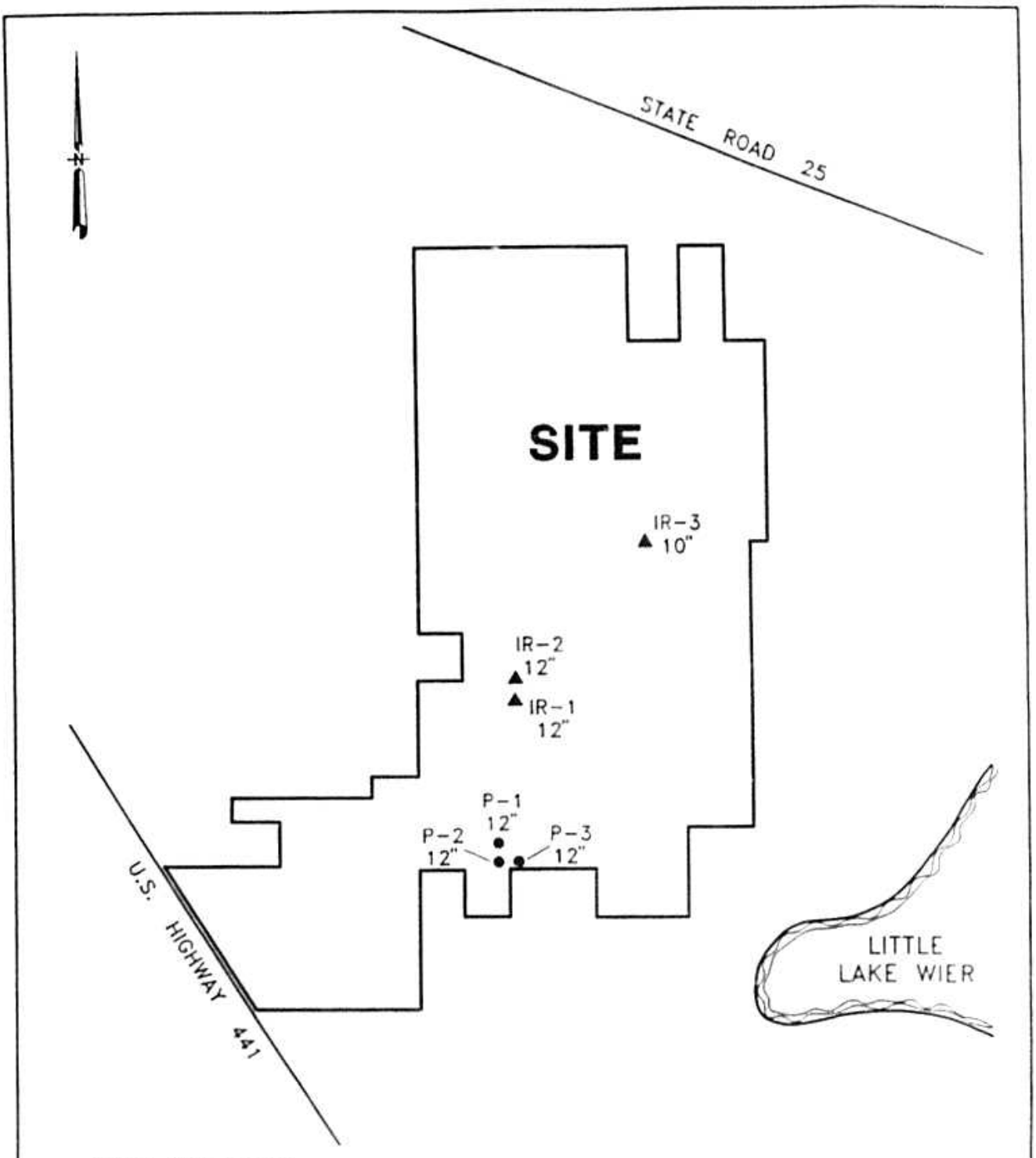
ATTACHMENT B

FIGURES



References: USGS Belleview, Florida Quadrangle, 1991
USGS Lake Wier, Florida Quadrangle, 1970 revised 1993.

PROJ. NO.: 7924	SPRUCE CREEK GOLF & COUNTRY CLUB
DATE: 9-4-95	Marion County, Florida
SCALE: 1"=2,000'	
atlanta testing & engineering	FIGURE 1



EXPLANATION

P-1 12" ● PROPOSED POTABLE SUPPLY WELL / DIAMETER

IR-1 12" ▲ EXISTING IRRIGATION WELL / DIAMETER

PROJ. NO.: 7924A	WELL LOCATION MAP
DATE: 11-29-95	SPRUCE CREEK GOLF AND COUNTRY CLUB MARION COUNTY, FLORIDA
SCALE: 1" = 2000'	
atlanta testing & engineering	FIGURE 2

ATTACHMENT C

LIST OF ADJACENT PROPERTY OWNERS

ATTACHMENT "C"
PROPERTY OWNERS TO BE NOTIFIED

The following is a list of all property owners with 600' feet of the well, or within 100' of the project boundary, per Table 3.

OWNER	ADDRESS	ACCOUNT #
North & West Property Owners		
Evelyn H. Sumner	P.O. Box 2149	45458-000-00
	Bellview, FL 34420	
Spruce Creek Development	17585 S.E. 102nd Ave.	45501-000-00
Company of Ocala, Inc.	Summerfield, FL 34491	
Services D' Administration	1200 Brouillette	45500-002-00
	St. Hyacinthe PQ, J2S 7B6 Canada	
Services D' Administration	Same as above	45458-000-00
Services D' Administration	Same as above	45500-003-00
Services D' Administration	Same as above	45509-001-00
Rupert Adams Jr., & Alice Trust	8611 S.E. 120th Place	45269-035-01 -
c/o Margaret Adams	Bellview, FL 34420	45269-035-03
Stanley & Sophia Lagosz	208 Boylston St.	45272-000-00
	Newington CT 06111	
Francis Bellerin	613 Sutton St.	3930-001-01
	Northbridge MA 05134	
Shirley & Francis Grover	474 Main St.	3930-001-02
	Danielson CT 06239	
Lillian & George Belcher	P.O. Box 201	3930-001-03
	Slatersville, RI 02876	
Jackie Goldman	10470 S.E. Hwy 441	3930-017-03
	Bellview, FL 34420	
James & Exie Wynn	921 S.E. 27th St.	3930-017-04
	Ocala, FL 34471	
John & Rosemary Wheaton	4048 Tuscon St.	3930-017-05
	Simi Valley, CA 93063	
Dewitt C. Biggers, III	306 Meadow Brook Dr.	3930-017-06
	Stallings, NC 28105	

ATTACHMENT "C"
PROPERTY OWNERS TO BE NOTIFIED

Same as above	Same as above	3930-017-07
Same as above	Same as above	3930-017-08
Anthony Catanese &	724 1st St	3930-017-09
Anne Partos	Mamaroneck, NY 10543	
Same as above	Same as above	3930-017-10
Louis Tolue	47 Adelaide St	3930-017-11
	Rye, NY 10580	
Same as above	Same as above	3930-017-12
First Fiscal Fund Corp.	c/o Lawrence Kadish	
	P.O. Box 40	
	Westbury, NY 11590	
Jern Gustafson	12550 S. Hwy 441	45164-000-00
	Bellview, FL 34420	
Obed Oglesby	3711 N.E. 17th St.	45164-001-00
	Ocala, FL 34470	
Doris Whigham	2311 Oriole Lane	45156-000-00
	Daytona, FL 32119	
Thomas & Catherine Wenzel	P.O. Box 3511	45162-000-00
	Bellview, FL 32119	
Pauline Crowe	9498 E. Hwy 25	45148-000-00
	Bellview, FL 34420	
Leander & Cynthia Wise	12460 S.E. 95th Terr.	4516-002-13
	Bellview, FL 34420	
Michael & Vicki Harmon	12498 S.E. 95th Terrace	4516-002-14
	Bellview, FL 34420	
Robert & Marguerite Waite	12443 S.E. 96th Ave	4516-004-06
	Bellview, FL 34420	
Frederick & J.K. Beaudette	9688 S.E. 122nd Place	4516-004-07
	Bellview, FL 34420	
James & Irene Rhinesmith	9669 S.E. 122nd Place	4516-004-08
	Bellview, FL 34420	

ATTACHMENT "C"
PROPERTY OWNERS TO BE NOTIFIED

Darren & Charmin Jennings	9634 S.E. 122nd Place	4516-004-09
	Bellview, FL 34420	
Dale & Rose Wilson	9600 S.E. 122nd Place	4516-004-10
	Bellview, FL 34420	
John Gibbs &	P.O. Box 1386	45146-100-01 -
O.G. Sheppard	Bellview, FL 34421	45146-100-14
Orville & Deborah Williams	12252 S.E. 96th Terr.	45146-004-07
	Bellview, FL 34420	
Donald & Cleona Parrish	2143 Island Drive	45146-001-14
	Alpena, MI 49707	
Kenneth & Janice McIlvoy	4790 Stonehurst Dr.	45151-002-00
	Woodbridge, VA 22192	
Woodrow & Johanna Fountain	P.O. Box 1432	4511-049-00
	Bellview, FL 34421	
Ann Cole Baxter	P.O. Box 369	4511-050-00
	Candler, FL 32111	
Ann Schiavove & Burke Kelliam	3 Hammond Place	4511-051-00
	Medford, MA 02155	
Donald & Zoe Ann Burrows	P.O. Box 399	4511-052-00
	Ocklawaha, FL 32179	
Zoe Burrows	Same as above	4511-053-00
Donald & Bonnie Thornton	5172 Cottrell Rd.	4511-054-00
	Vasser, MI 48768	
Margaret & Daniel Cole	P.O. Box 379	4511-055-00
	Candler, FL 32111	
Same as above	Same as above	4511-056-00
Phillip & Lorene Wine	14681 S.E. 97th Court	4511-057-00
	Summerfield, FL 34491	
Matthew Braun	2941 Southland Rd	4511-058-00
	Mt. Dora, FL 32757	
Same as above	Same as above	4511-059-00
Same as above	Same as above	4511-060-00

ATTACHMENT "C"
PROPERTY OWNERS TO BE NOTIFIED

Bruce Lee & Lisa Lee Martin	P.O. Box 3744	4511-061-00
	Bellview, FL 34421	
Walter & Margaret McIlvoy	12240 S. E. 99th Ave.	4511-062-00
	Bellview, FL 34420	
East Property Owners:		
OK Inc.	P.O. Box 429	45502-001-00
	Ocklawaha, FL 32179	
Jordan Aero Marine, Inc.	10197 S.E. 144th Place	45504-000-00
	Summerfield, FL 34491	
Leonard Elmendorf	9797 S.E. 140th St.	45505-001-01
	Summerfield, FL 34491	
Frank & Cecilia Elliott	7435 35th St. W.	45505-001-02
	West Mojave, CA 93501	
Jordan Aero Marine, Inc.	10197 S.E. 144th Place	45505-001-03
	Summerfield, FL 34491	
Jordan Klien, Tr.	Same as above	45505-001-04
Jordan Aero Marine, Inc	Same as above	45505-001-05
Jordan N. Klien, Sr.	Same as above	45505-001-06
South Property Owners:		
James & Frances Cox	9670 S.E. 140th St.	45919-004-00
	Summerfield, FL 34491	
Dave Smith	14535 S.E. Hwy 441	4593-000-28
	Summefield, FL 34491	
Clifford & Marlwyn Hoffman	915 N. Shore Dr.	4593-000-24
	Leesburg, FL 34748	
Earl & Rosemary Benefield	4551 Moraga Ave.	4593-008-03
	San Diego, CA 92117	
Cora Haywwod, Gary Abbott	14298 S.E. 87th Terr. Rd.	4593-008-06
& Darleen Brown	Summerfield, FL 34491	
Edward Rochre	P.O. Box 19411	4593-008-08
	Asheville, NC 28815	

ATTACHMENT "C"
PROPERTY OWNERS TO BE NOTIFIED

Thomas & Dorothy Ellis	14250 S.E. 87th Terr. Rd.	4593-008-09
	Summerfield, FL 34491	
George & Janet Russell	206 N.E. Blvd., Apt J	4592-001-01 -
	Gainesville, FL 32601	4592-001-03
Paul & Elsie Burkett	14230 S.E. 90th Court	4592-001-04 -
	Summerfield, FL 34491	4592-001-06
Robert & Jane Grater	19 Kingswood Dr.	4592-001-07 -
	Norma, IL 61761	4592-001-17
Bobby & Mary Trull	4308 E. Yacht Dr.	4592-001-18 -
	Long Beach, NC 28465	4592-001-21
Jane Balunas	P.O. Box 423	4592-001-22 -
	Sidney Center, NY 13839	4592-001-24
Philip & Anne Black	3811 McCracken Rd. # Rt 3	4592-001-25 -
	Salem, OH 44460	4592-001-29
Barbara Foster & Monte Flack	18 Pine Rd.	4592-001-30 -
	Ocala, FL 34472	4592-001-35
Gordon & W.L. Waithman	N. Main St.	4592-001-36 -
	Beloit, OH 44609	4592-001-38
Donald Langdon	P.O. Box 842	4592-001-39 -
	Ocklawaha, FL 32179	4592-001-41
Glenn Cross	296 Waterman Rd.	4592-001-42 -
	Lebanon CT 06249	4592-001-53
Carl Bare	310 Old Lancaster Pike	4592-002-01 -
	Shillington, PA 19607	4592-002-06
Mary J. Fish	9127 S.E. 140th Place	4592-002-07 -
	Summerfield, FL 34491	4591-002-11
Cesar Munoz	9081 S.E. 140th Place	4592-002-12 -
	Summerfield, FL 34491	4592-002-14
Juan Munoz	7945 S.E. C.R. 42	4592-002-15 -
	Summerfield, FL 34491	4592-002-17
Victor & Tina Myers	35819 Breeze Ln	4592-002-18 -
	Fruitland Park, FL 34731	4592-002-20

ATTACHMENT "C"
PROPERTY OWNERS TO BE NOTIFIED

George & Marie Pierce	9143 S.E. 140th Place	4592-002-21 -
	Summerfield, FL 34491	4592-002-26
Kathryn & Orra Sutton	5848 Brigham Rd	4592-002-27 -
	Goodrich, MI 48438	4592-002-29
Betty Williamson	9158 S.E. 140th Place	4592-003-01 -
	Summerfield, FL 34491	4592-003-04
Steven Ambler	P.O. Box 341	4592-003-05 -
	Summerfield, FL 34492	4592-003-10
Stephen & Junelle Anthony	P.O. Box 81	4592-003-11 -
	Summerfield, FL 34492	4592-003-13
Broco Group, Inc.	4500 N.E. 35th St., Suite 2	4592-003-14 -
	Ocala, FL 34479	4592-003-16
Cecil Everett, Jr.	705 Pinoak Drive	4592-003-17 -
	Grand Prairie, TX 75052	4592-003-19
William & Betty Helfrich	611 N. Whitley St.	4592-003-20 -
	Columbia City, IN 46725	4592-003-22
Joan & Wanda Lang	3000 S. Ocean Dr., Apt 16	4592-003-23 -
	Hollywood, FL 33019	4592-003-25
Roger Below	2410 C.R. 32	4592-003-26 -
	Risingsun, OH 43457	4592-003-28
Wallace & Christine Smith	53 Eggleston Rd.	4592-003-29 -
	Whitney Point, NY 13862	4592-003-35
Orville & Beatrice Phillips	9355 S.E. 140th Place	4592-004-01 -
	Summerfield, FL 34491	4592-004-04
Mary Hearn	Rt. 1, Box 151A	4592-004-05
	Laurel, DE 19956	4592-004-09
William Muldoon	9405 S.E. 140th Place	4592-004-10 -
	Summerfield, FL 34491	4592-004-13
Ronald & Alice Barnett	6046 N. State Rd. 49	4592-004-14
	Renesselaer, IN 47978	4592-004-16
William & Lois Smith	9447 S.E. 140th Place	4592-004-17 -
	Summerfield, FL 34491	4592-004-22

ATTACHMENT "C"
PROPERTY OWNERS TO BE NOTIFIED

Delbert W. Martin	P.O. Box 453	4592-004-23 -
	Mount Savage, MD 21545	4592-004-29
Estate of M.T. Pate	P.O. Box 116	45509-000-01
	Ocala, FL 34478	
Michael & Cynthia Murphy	P.O. Box 1004	45509-000-02
	Summerfield, FL 34491	
Wallace & David Smith	53 Eggleston Rd.	45509-000-00
	Whitney Point Ny 13862	
T.&B. Szwec, Trustee	337 Lincoln Ave.	45506-000-00
c/o Ronald Szwec	Lyndhurst NJ	
Luddie M. Moorer	14200 S. E. 95th Ave.	45507-000-00
	Summerfield, FL 34491	
Timothy & Margie Watkins	9025 S.E. 140th Place	45507-001-00
	Summerfield, FL 34491	
Estate of Michele Kosky	8730 N. Sherman Cir., Apt 307	45982-000-00
	Miramar, FL 33025	

ATTACHMENT D

LIST OF PERMITS

8. List all agencies (local, state and federal) from which approval and/or a permit must be obtained prior to initiation of development. Indicate the permit or approval for each agency and its status. Indicate whether the development is registered or whether registration will be required with the Division of Florida Land Sales, Condominiums and Mobile Homes under Chapter 478, Florida Statutes. Indicate whether the development will be registered with the H.U.D., Division of Interstate Land Sales Registration or with other states.

A. Florida Department of Community Affairs
   1. Development Order - Florida Quality Development

B. Florida Department of Environmental Protection
   1. Wastewater collection/transmission system
   2. Water distribution system permit
   3. Public water supply permit

C. Florida Department of Transportation
   1. Utility right-of-way use permit
   2. Driveway connection permit
   3. Drainage permit

D. Florida Game and Fresh Water Fish Commission
   1. Take Permit for Gopher Tortoise
   2. Wildlife Mitigation Plan

E. St. Johns River Water Management District
   1. Management and storage of surface waters permit
   2. Consumptive use permit
   3. Water well construction permit

F. Corps of Engineers
   1. Dredge/fill nationwide permit

G. Public Service Commission
   1. Application for Amendment of Certificates

H. Marion County

1. Comprehensive Land Amendment Application
2. Preliminary plat approval
3. Improvement plan approval
4. Final plat approval
5. Site plan approval
6. Rezoning approval
7. DRI Development Order Approval (FQD approval)
8. Special Use Permit for Water Treatment Plant
9. Special Use Permit for Wastewater Treatment Plant/Effluent Disposal
10. Well Field Protection Zone Permit

ATTACHMENT E

WATER CONSERVATION PLAN

WATER CONSERVATION PLAN FOR SPRUCE CREEK GOLF AND COUNTRY CLUB DEVELOPMENT

Marion County, Florida

Public Supply

The following direct water saving measures will be implemented within the Spruce Creek Golf and Country Club Development:

1. Water Metering - Water supply sources (well heads) and individual points of use will be fully metered in accordance with water management district requirements. During construction, contractors will be required to meter and report uses for various construction activities and sources used. Complete, real-time meter record data will be maintained at the development site.

2. Wastewater Reuse - Wastewater generated by the on-site Spruce Creek WWTF will be reused for golf course supplemental irrigation once sufficient dependable generation rates become established during the course of development. Golf course turfgrass irrigation by effluent reuse will result in a reduction of projected groundwater withdrawals of about 0.8 mgd, or over 50 percent of total development groundwater use, assuming connection of the WWTF to off-site areas.

3. Builder Controls - New residential units and commercial/recreational facilities will incorporate the latest water-saving plumbing fixtures and lavatory facilities. Residential unit irrigation systems will include automatic clock timers.

The following indirect water saving measures will be implemented within the Spruce Creek Golf and Country Club Development:

1. Utility Controls - Domestic water conservation will be encouraged through implementation of an inclining-block inverted utility rate structure. The rate structure should result in significant reductions in residential lawn irrigation use through monetary penalties for lawn over-watering practices.

2. Institutional Controls - The utility will actively provide information and assistance in water conservation programs throughout the development. Water-awareness educational information, in the form of bulletins and flyers, will routinely be provided to residential customers and golf course users. The releases will focus on such issues as: xeriscape landscaping, water use/costs relationship and domestic water use reduction practices.

The combination of efficient water supply source and delivery systems, wastewater reuse and developer controls should result in dramatic reductions in groundwater withdrawals and consumptive use. We anticipate reductions on the order of 50 to 60 per cent over the annual use associated with a similar development without these controls.

Industrial/Commercial

The following direct water saving measures will be implemented within the Industrial/Commercial area Spruce Creek Golf and Country Club Development:

1. Water Metering - Water supply sources (well heads) and individual points of use will be fully metered in accordance with water management district requirements. During construction, contractors will be required to meter and report uses for various construction activities and sources used. Complete, real-time meter record data will be maintained at the development site.

2. Builder Controls - Commercial facilities will incorporate the latest water-saving plumbing fixtures and lavatory facilities. Residential unit irrigation systems will include automatic clock timers.

The following indirect water saving measures will be implemented within the Industrial/Commercial area Spruce Creek Golf and Country Club Development:

1. District Program Participation - The developer is willing to participate in a research project exploring an aspect of water use efficiency, upon request of a District contractor.

Golf Course/Recreational

The following direct water saving measures will be implemented at the Golf Course within the Spruce Creek Golf and Country Club Development:

1. Wastewater Reuse - Wastewater generated by the on-site Spruce Creek WWTF will be reused for golf course supplemental irrigation once sufficient dependable generation rates become established during the course of development. Golf course turfgrass irrigation by effluent reuse will result in a reduction of projected groundwater withdrawals of about 0.8 mgd, or over 50 percent of total development groundwater use, assuming connection of the WWTF to off-site areas.

2. Stormwater Reuse - Key water storage ponds within the golf course area will be lined. These ponds will be incorporated into the stormwater management system, the golf course irrigation system and the waste water effluent disposal system. The operation of these ponds will allow for the capture and use of a portion of the stormwater runoff from the site.

3. Modern Irrigation System - The irrigation system for the golf course will use current irrigation technology.

ATTACHMENT F

GOLF COURSE WATER USE CALCULATIONS

SPRUCE CREEK GOLF & COUNTRY CLUB
CONSUMPTIVE USE PERMIT
GOLF COURSE IRRIGATION WATER REQUIREMENTS

The following describes the procedures and data used to estimate the irrigation water requirements for the Spruce Creek East golf course. The Applicant's Handbook for Consumptive Uses of Water, published by the SJRWMD in February, 1995, recommends using a modified Blanney-Criddle method for predicting monthly evapotranspiration from the golf course grasses. The methods used in the following evapotranspiration calculations are outlined in Section 12 and Appendix J of the Applicant's Handbook. Supplemental data input into the calculations was found in the Soil Conservation Service's (SCS) publication entitled, "Water Use Requirements," Technical Release No. 21, USDA, September 1970..

I. Evapotranspiration Calculations

The formula used to calculate monthly evapotranspiration is:

$$ET = [(0.173 * t - 0.314) * (k) * (t) * (p)] / (100)$$

Where: t is the monthly air temperature in degrees Farenheit. (Average monthly values are based upon a thirty year time period of recordings from the Ocala region)

k is the crop growth stage coefficient (Values were obtained from Curve 17, in the SCS Technical Release 21. A copy of the curve is appended.)

p is the monthly percentage of annual daylight hours (Values were obtained from Table 1, in the SCS Technical Release 21. A copy of the table is appended.)

II. Effective Monthly Rainfall (80%)

To calculate the eight in ten year effective monthly rainfall the following formulas were used:

$$RE(80\%) = RE * C$$

Where: C is a constant used to adjust the value of effective monthly rainfall to an eight in ten year effective monthly rainfall. (A value of 0.858 was used for all months and this value was interpolated from Table 7, in the SCS Technical Release 21. A copy of the table is appended.)

RE is the effective monthly rainfall

Where: $RE = (0.70917 * R^{(0.82416)} - 0.11556) * (10^{(0.02426 * ET)} * f$

R is the average monthly rainfall (Average values based upon a thirty year time period of rainfall recordings in the Ocala region)

f is a formula used to calibrate the formula to reflect the appropriate crop root zone. A value of 0.77 was derived using the Depth application factors recommended under Table 6, in the SCS Technical Release 21. A copy of this table is appended.)

ET is the monthly evapotranspiration as calculated in Part I.

III. Annual Irrigation Water Requirements

The irrigation water requirements are calculated as follows:

IWR = [ET - RE(80%)]

Where: ET is the monthly evapotranspiration as calculated in Part I.

RE(80%) is the eight in ten year effective monthly rainfall as calculated in Part II.

Table of Monthly Values

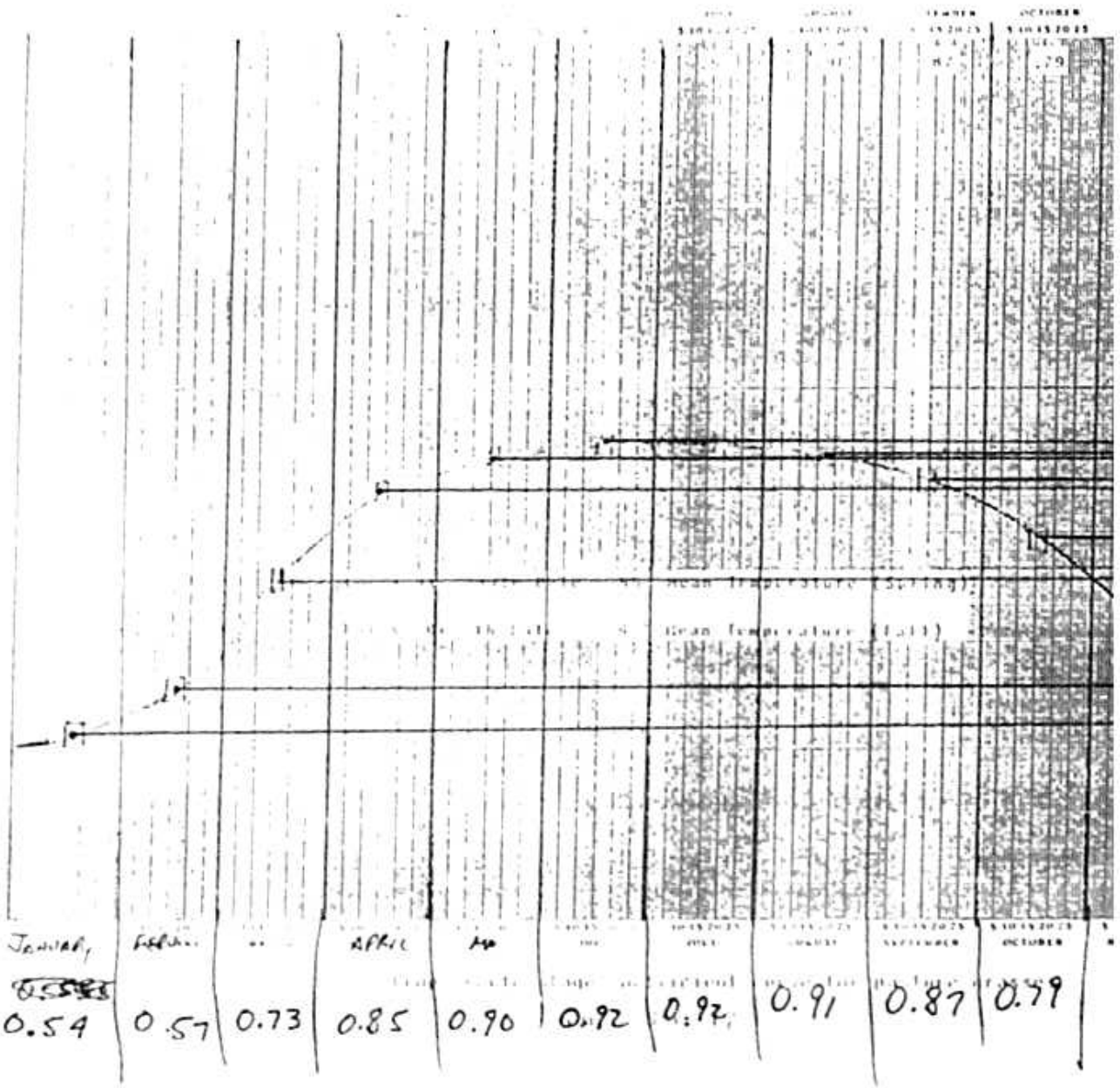
Variable	Monthly Values											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
t (deg. F)	57.8	59.4	65.1	70.2	76.0	80.3	81.6	81.5	79.3	72.7	65.2	59.6
p	7.44	7.10	8.38	8.66	9.41	9.34	9.53	9.14	8.32	8.04	7.32	7.32
K	0.54	0.57	0.73	0.85	0.90	0.92	0.92	0.91	0.87	0.79	0.67	0.55
ET (inches)	**1.59**	**1.72**	**3.24**	**4.65**	**6.44**	**7.42**	**7.86**	**7.43**	**6.07**	**4.36**	**2.60**	**1.72**
R (inches)	3.12	3.78	4.20	3.17	4.26	7.18	8.10	6.97	5.40	2.52	2.16	2.75
RE (inches)	1.42	1.71	2.03	1.72	2.46	4.06	4.61	3.97	2.95	1.38	1.09	1.28
RE(80%) (inches)	**1.22**	**1.47**	**1.74**	**1.47**	**2.11**	**3.48**	**3.95**	**3.40**	**2.53**	**1.18**	**0.93**	**1.09**
IWR (inches)	**0.37**	**0.25**	**1.50**	**3.18**	**4.33**	**3.94**	**3.91**	**4.03**	**3.54**	**3.18**	**1.67**	**0.63**

Yearly Irrigation Water Requirement = 30.53 inches

Assuming that the irrigation system delivers water at an efficieny of 85%,

Yearly Irrigation Water Requirement = 35.72 inches

K.



JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER
0.54	0.57	0.73	0.85	0.90	0.92	0.92	0.91	0.87	0.79

P = monthly percentage of Daytime Hours

Table 1.--Monthly percentage of daytime hours (p) of the year for latitudes 18° to 65° north of the equator.

de	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	3.52	5.13	7.96	9.97	12.72	14.15	13.59	11.18	8.55	6.53	4.08	2.62
	3.81	5.27	8.00	9.92	12.50	13.63	13.26	11.08	8.56	6.63	4.32	3.02
	4.07	5.39	8.04	9.86	12.29	13.24	12.97	10.97	8.56	6.73	4.52	3.36
	4.31	5.49	8.07	9.80	12.11	12.92	12.73	10.87	8.55	6.80	4.70	3.65
	4.51	5.58	8.09	9.74	11.94	12.66	12.51	10.77	8.55	6.88	4.86	3.91
	4.70	5.67	8.11	9.69	11.78	12.41	12.31	10.68	8.54	6.95	5.02	4.14
	4.86	5.76	8.13	9.64	11.64	12.19	12.13	10.60	8.53	7.00	5.17	4.35
	5.02	5.84	8.14	9.59	11.50	12.00	11.96	10.52	8.53	7.06	5.30	4.54
	5.17	5.91	8.15	9.53	11.38	11.83	11.81	10.44	8.52	7.13	5.42	4.71
	5.31	5.98	8.17	9.48	11.26	11.68	11.67	10.36	8.52	7.18	5.52	4.87
	5.44	6.04	8.18	9.44	11.15	11.53	11.54	10.29	8.51	7.23	5.63	5.02
	5.56	6.10	8.19	9.40	11.04	11.39	11.42	10.22	8.50	7.28	5.74	5.16
	5.68	6.16	8.20	9.36	10.94	11.26	11.30	10.16	8.49	7.32	5.83	5.30
	5.79	6.22	8.21	9.32	10.85	11.14	11.19	10.10	8.48	7.36	5.92	5.42
	5.89	6.27	8.23	9.28	10.76	11.02	11.09	10.05	8.47	7.40	6.00	5.54
	5.99	6.32	8.24	9.24	10.68	10.92	10.99	9.99	8.46	7.44	6.08	5.65
	6.08	6.36	8.25	9.20	10.60	10.82	10.90	9.94	8.46	7.48	6.16	5.75
	6.17	6.41	8.26	9.17	10.52	10.72	10.81	9.89	8.45	7.51	6.24	5.85
	6.25	6.45	8.27	9.14	10.45	10.63	10.73	9.84	8.44	7.54	6.31	5.95
*	6.33	6.50	8.28	9.11	10.38	10.53	10.65	9.79	8.43	7.58	6.37	6.05
*	6.40	6.54	8.29	9.08	10.31	10.46	10.57	9.75	8.42	7.61	6.43	6.14
*	6.48	6.57	8.29	9.05	10.25	10.39	10.49	9.71	8.41	7.64	6.50	6.22
*	6.55	6.61	8.30	9.02	10.19	10.31	10.42	9.66	8.40	7.67	6.56	6.31
*	6.61	6.65	8.30	8.99	10.13	10.24	10.35	9.62	8.40	7.70	6.62	6.39
*	6.68	6.68	8.31	8.96	10.07	10.16	10.29	9.59	8.39	7.72	6.68	6.47
*	6.75	6.72	8.32	8.93	10.01	10.09	10.22	9.55	8.39	7.75	6.73	6.54
*	6.81	6.75	8.33	8.91	9.95	10.03	10.16	9.51	8.38	7.78	6.78	6.61
*	6.87	6.79	8.33	8.89	9.90	9.96	10.11	9.47	8.37	7.80	6.83	6.68
*	6.93	6.82	8.34	8.87	9.85	9.89	10.05	9.44	8.37	7.83	6.88	6.74
*	6.98	6.85	8.35	8.85	9.80	9.82	9.99	9.41	8.36	7.85	6.93	6.80
*	7.04	6.88	8.35	8.82	9.76	9.76	9.93	9.37	8.36	7.88	6.98	6.87
*	7.10	6.91	8.35	8.80	9.71	9.71	9.88	9.34	8.35	7.90	7.02	6.93
*	7.15	6.94	8.36	8.77	9.67	9.65	9.83	9.31	8.35	7.92	7.06	6.99
*	7.20	6.97	8.36	8.75	9.62	9.60	9.77	9.28	8.34	7.95	7.11	7.05
*	7.25	6.99	8.36	8.73	9.58	9.55	9.72	9.24	8.34	7.97	7.16	7.11
*	7.31	7.02	8.37	8.71	9.54	9.49	9.67	9.21	8.33	7.99	7.20	7.16
*	7.35	7.05	8.37	8.69	9.50	9.44	9.62	9.19	8.33	8.00	7.24	7.22
*	7.40	7.07	8.37	8.67	9.46	9.39	9.58	9.17	8.32	8.02	7.28	7.27
*	7.44	7.10	8.38	8.66	9.41	9.34	9.53	9.14	8.32	8.04	7.32	7.32
*	7.49	7.12	8.38	8.64	9.37	9.29	9.49	9.11	8.32	8.06	7.36	7.37
*	7.54	7.14	8.39	8.62	9.33	9.24	9.45	9.08	8.31	8.08	7.40	7.42
*	7.58	7.16	8.39	8.60	9.30	9.19	9.40	9.06	8.31	8.10	7.44	7.47
*	7.62	7.19	8.40	8.58	9.26	9.15	9.36	9.04	8.30	8.12	7.47	7.51
*	7.67	7.21	8.40	8.56	9.22	9.11	9.32	9.01	8.30	8.13	7.51	7.56
*	7.71	7.24	8.41	8.55	9.18	9.06	9.28	8.98	8.29	8.15	7.55	7.60
*	7.75	7.26	8.41	8.53	9.15	9.02	9.24	8.95	8.29	8.17	7.58	7.65
*	7.79	7.28	8.42	8.51	9.12	8.97	9.20	8.93	8.29	8.19	7.61	7.70
*	7.83	7.31	8.42	8.50	9.08	8.93	9.16	8.90	8.29	8.20	7.65	7.74

80 % CHANCE FACTOR

Table 7.--Average ratios applicable to effective rainfall

Average Annual Rainfall (Inches)	Percent Chance of Occurrence				
	50	60	70	80	90
3	0.80	0.68	0.56	0.45	0.33
4	.84	.72	.61	.50	.38
5	.87	.76	.65	.54	.42
6	.88	.78	.68	.57	.45
7	.89	.79	.69	.60	.48
8	.90	.81	.71	.62	.51
9	.91	.82	.73	.63	.53
10	.92	.83	.75	.65	.55
12	.93	.85	.78	.69	.58
14	.94	.86	.79	.71	.61
16	.95	.88	.81	.73	.63
18	.95	.89	.82	.74	.65
20	.96	.90	.83	.75	.67
22	.96	.90	.84	.77	.69
24	.97	.91	.84	.78	.70
26	.97	.92	.85	.79	.71
28	.97	.92	.86	.80	.72
30	.97	.93	.87	.81	.73
35	.98	.93	.88	.82	.75
40	.98	.94	.89	.83	.77
45	.98	.94	.90	.84	.78
50	.98	.95	.91	.85	.79
55	.99	.95	.91	.86	.80
60	.99	.95	.91	.87	.81
70	.99	.95	.92	.88	.83
80	.99	.95	.92	.89	.85
90	.99	.96	.93	.90	.86

Example of Use.
It is desired to find the growing season effective rainfall that will occur or be exceeded in 8 out of 10 years at a location where the average total annual rainfall is 30 inches and for a growing season where the average effective rainfall is 12 inches. From the table, the applicable ratio is found to be 0.81. Thus the 80% chance growing season effective rainfall is 0.81 x 12 = 9.72 inches.

Table 6.--Average monthly effective rainfall[1/] as related to mean monthly rainfall and average monthly consumptive use

Average Monthly Consumptive Use, u, in Inches										
0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.00
Average Monthly Effective Rainfall, r_e, in Inches										
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.28	0.30	0.32	0.34	0.36	0.38	0.40	0.42	0.45	0.47	0.50
0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.88	0.93	0.98	1.00
0.87	0.93	0.98	1.03	1.09	1.16	1.22	1.29	1.37	1.45	1.50
1.14	1.21	1.27	1.35	1.43	1.51	1.59	1.69	1.78	1.88	1.99
1.39	1.47	1.56	1.65	1.74	1.84	1.95	2.06	2.18	2.30	2.44
	1.73	1.83	1.94	2.05	2.17	2.29	2.42	2.56	2.71	2.86
	1.98	2.10	2.22	2.35	2.48	2.62	2.77	2.93	3.10	3.28
	2.23	2.36	2.49	2.63	2.79	2.95	3.12	3.29	3.48	3.68
		2.61	2.76	2.92	3.09	3.26	3.45	3.65	3.86	4.08
		2.86	3.02	3.20	3.38	3.57	3.78	4.00	4.23	4.47
		3.10	3.28	3.47	3.67	3.88	4.10	4.34	4.59	4.85
			3.53	3.74	3.95	4.18	4.42	4.67	4.94	5.23
			3.79	4.00	4.23	4.48	4.73	5.00	5.29	5.60
			4.03	4.26	4.51	4.77	5.04	5.33	5.64	5.96
				4.52	4.78	5.06	5.35	5.65	5.98	6.32
				4.78	5.05	5.34	5.65	5.97	6.32	6.68

Note:
Values below line exceed monthly consumptive use and are to be used for interpolation only.

...ed on 3-inch net depth of application. For other net depths of application, mul-...ly by the factors shown below.

(D)	.75	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	7.0
(f)	.72	.77	.86	.93	.97	1.00	1.02	1.04	1.06	1.07

Average monthly effective rainfall cannot exceed average monthly rainfall or average monthly consumptive use. When the application of the above factors results in a value of effective rainfall exceeding either, this value must be reduced to a value equal the lesser of the two.

$$r_e = (0.70917\, r_t^{0.82416} - 0.11556)(10)^{0.02426u}\,(f)$$

where $f = (0.531747 + 0.295164D - 0.057697D^2 + 0.003804D^3)$

0385739

ATTACHMENT G

LIST OF ALL WASTEWATER PLANTS

ATTACHMENT

WASTEWATER TREATMENT PLANTS WITHIN 5.0 MILES OF SITE BOUNDARY

FACILITY NAME	FACILITY ADDRESS	DESIGN CAPACITY (MGD)	DISTANCE FROM SITE (miles)
Belleview-Santos Elementary, STP	9600 South U.S. 441 & Southeast 55th Street Belleview, Florida	0.0180	2.5-3.0
City of Belleview/STP #1	Southeast 116th Street Belleview, Florida	0.2300	2.5-3.0
City of Belleview/STP # 2A	Southeast 116th Street Belleview, Florida	0.3500	2.5-3.0
Briar Patch, STP	County Road 467 & Southeast 95th Street Belleview, Florida	0.0150	2.5-3.0
Florida Primitive Baptist Youth Camp	58th Avenue, Southeast of State Road 42 Summerfield, Florida	0.0200	2.5-3.0
Harbor View Elementary School "H", STP	8445 Southeast 147th Street Summerfield, Florida	0.0100	1.5-2.0
Hilltop Estates, STP	9573 Southeast 165th Street Summerfield, Florida	0.0300	2.5-3.0
Loch Harbour Condominium, STP	11001 Sunset Harbor Boulevard Summerfield, Florida	0.0240	0.5-1.0
Nelson's Fish Camp, STP	State Road 42 & Oklawaha River Wiersdale, Florida	0.0120	3.0-4.0
On Golden Pond Mobile Home Park, STP	3233 Southeast 110th Street (County Road 467) Belleview, Florida	0.0200	3.0-4.0
Silver Oaks Campgrounds, STP	10366 Southeast US 441 Belleview, Florida	0.0050	1.5-2.0

Smith Lake Shores MHP, STP #1 East	9701 Southeast Highway 441A / County Road 25 Belleview, Florida	0.0250	1.0-1.5
Smith Lake Shores MHP, STP #2 West	Highway 441 A (2 miles east of Belleview)	0.0250	1.0-1.5
Spruce Creek South	US Highway 27/441 Lady Lake, Florida	0.2160	3.5-4.0
Stonecrest PVD,STP	US Highway 441 (1 mile south of County Road 42) Summerfield, Florida	0.1500	3.0-4.0
Whispering Oaks Mobile Home Park, STP	6780 Southeast 125th Street, Off State Road 301 Belleview, Florida	0.0100	2.5-3.0
Young Life's Southwind, STP	County Road 314-A @ Moss Bluff Oklawaha, Florida	0.0090	3.0-4.0

EXHIBIT A

WATER PLANT SITE

DESCRIPTION:

A TRACT OF LAND SITUATED IN THE NORTHWEST 1/4 OF SECTION 10, TOWNSHIP 17 SOUTH, RANGE 23 EAST, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE NW 1/4 OF SECTION 10, TOWNSHIP 17 SOUTH, RANGE 23 EAST, PROCEED THENCE ALONG THE SOUTH BOUNDARY OF SAID NW 1/4, S 89° 48' 20" E. 1515.47 FEET; THENCE N 00° 12' 01" E 42.50 FEET TO THE POINT OF BEGINNING (P.O.B.). FROM SAID P.O.B. CONTINUE N 00° 12' 01" E 71.02 FEET TO THE POINT OF CURVE (P.C.) OF A CURVE CONCAVE EASTERLY AND HAVING A RADIUS OF 420 FEET; THENCE NORTHERLY ALONG THE ARC OF SAID CURVE 47.80 FEET, SAID ARC HAVING A CHORD BEARING AND DISTANCE OF N 3° 24' 58" EAST 47.77 FEET; THENCE DEPARTING SAID CURVE PROCEED S 83° 24' 51" E. 102.43 FEET; THENCE S 00° 12' 01" W 107.32 FEET; THENCE N 89° 47' 59" W, 104.47 FEET TO THE P.O.B..

ALL BEING IN MARION COUNTY, FLORIDA AND CONTAINING 0.27 ACRE MORE OR LESS.

WILLIAM E. FRANKLIN, JR.
PROFESSIONAL LAND SURVEYOR
FLA. CERTIFICATE NO. 1536

EXHIBIT B

SEWER TREATMENT PLANT

DESCRIPTION

A TRACT OF LAND SITUATED IN THE SW 1/4 OF SECTION 10, TOWNSHIP 17 SOUTH, RANGE 23 EAST, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS

COMMENCING AT THE NORTHWEST CORNER OF THE SE 1/4 OF THE SW 1/4 OF THE SW 1/4 OF SECTION 10, TOWNSHIP 17 SOUTH, RANGE 23 EAST, PROCEED THENCE S 00° 12' 39" W. ALONG THE WEST BOUNDARY OF SAID SE 1/4 OF SW 1/4 OF THE SW 1/4, A DISTANCE OF 253.75 FEET; THENCE DEPARTING SAID WEST BOUNDARY S 89° 52' 30" E. 60.00 FEET TO THE POINT OF BEGINNING (P.O.B.) FROM SAID P.O.B. CONTINUE S 89° 52' 30" E., 300.00 FEET; THENCE N 00° 12' 39" E., 607.50 FEET; THENCE N 89° 52' 30" W., PARALLEL TO THE NORTH BOUNDARY OF THE SW 1/4 OF THE SW 1/4 OF THE SW 1/4 OF SAID SECTION 10, A DISTANCE OF 565.00 FEET; THENCE S 00° 12' 39" W., 293.75 FEET; THENCE S 89° 52' 30" E. ALONG A LINE PARALLEL TO AND 60 FEET NORTH OF THE AFORESAID NORTH BOUNDARY OF THE SW 1/4 OF SW 1/4 OF SW 1/4, A DISTANCE OF 265.00 FEET; THENCE S 00° 12' 39" W., 313.75 FEET TO THE POINT OF BEGINNING.

ALL BEING IN MARION COUNTY, FLORIDA AND CONTAINING 7.47 ACRES MORE OR LESS.

WILLIAM E. FRANKLIN, JR.
PROFESSIONAL LAND SURVEYOR
FLA. CERTIFICATE NO. 1536

SPRUCE CREEK SOUTH UTILITIES, INC.

Application for Amendment of
Water and Wastewater Certificates

99 Year Lease

EXHIBIT C

SPRUCE CREEK SOUTH UTILITIES, INC.

Application for Amendment of
Water and Wastewater Certificates

99 Year Lease

EXHIBIT C

LEASE AGREEMENT

This Lease Agreement made and entered into this 19th day of May, 1996, by and between Spruce Creek Golf & Country Club, Inc., hereinafter referred to as "Lessor" and Spruce Creek South Utilities, Inc., hereinafter referred to as "Lessee".

WITNESSETH

WHEREAS, "Lessor" is the owner of that certain real property described in paragraph 2 below and the developer of SPRUCE CREEK GOLF & COUNTRY CLUB, a Florida Quality Development located in Marion County, Florida, and

WHEREAS, "Lessee", is a water and sanitary sewer utility company certified and capable to provide central water and central sewer utility service to the homes located in SPRUCE CREEK GOLF & COUNTRY CLUB by the Public Service Commission of the State of Florida, and

WHEREAS, "Lessee" desires to lease from "Lessor" and "Lessor" agrees to lease to "Lessee" that real property described in paragraph 2 below on which will be located a potable water well, chlorinated plant and water storage tank and a wastewater treatment facility, which will be owned by "Lessee" based upon the terms, covenants and conditions as provided for herein.

NOW THEREFORE, for and in consideration of the mutual terms, covenants and conditions as described herein and other good and valuable consideration, receipt of which each of the parties hereto acknowledge receiving from the other. The "Lessor" and the "Lessee" contract and agree as follows:

1. LEASE OF THE PREMISES: The "Lessor" hereby leases and lets unto the "Lessee" that real property described in paragraph 2 hereof.

2. LEGAL DESCRIPTION:

Legal Description for Wells and Water Plant Site
Spruce Creek Golf & Country Club

See Exhibit "A", attached hereto and made a part hereof. and,

Legal Description of the Wastewater Treatment Plant Site,
Spruce Creek Golf & Country Club

See Exhibit "B", attached hereto and made a part hereof.

3. USE OF THE PREMISES: The "Lessee", is principles, officers, employees, agents and servants shall have access to and the right to utilize the above described premises for the purposes of providing, supplying and maintaining potable water and sanitary sewer to the individual residences located in SPRUCE CREEK GOLF & COUNTRY CLUB.

4. TERM OF LEASE: The term of this lease shall be for ninety-nine (99) consecutive years commencing on the date and year first above written and terminating the date and year ninety-nine years hence, unless terminated by the "Lessee" purchasing from the "Lessor" the real property described in paragraph 2 above.

5. AD-VALOREM TAXES: The "Lessee" shall pay any and all Ad-Valorum taxes assessed to the premises on or before thirty (30) days prior to the taxes becoming delinquent. "Lessee" shall furnish to "Lessor", proof of payment of the aforementioned taxes.

6. INSURANCE: The "Lessee" shall, at all time during the term of the Lease, maintain liability insurance coverage on the premises in amounts not less than $500,000.00 per incident and $1,000,000.00 per occurrence. "Lessee" shall provide to "Lessor", a copy of the insurance policy and/or Certificate of Insurance coverage evidencing the aforementioned coverage.

7. TERMINATION OF LEASE: This Lease Agreement may be terminated by either the "Lessor" or "Lessee" with out without cause upon ninety (90) days notice of its intent to terminate to the other.

8. LAW OF GOVERNING: This Lease Agreement shall be governed by and in accordance with the laws of the State of Florida.

WITNESSES:

Stephen S. Decker

LESSOR:
SPRUCE CREEK GOLF & COUNTRY CLUB, INC.

BY: _____
HARVEY D. ERP, PRESIDENT

Allen H. Mims

Stephen S. Decker

LESSEE:
SPRUCE CREEK SOUTH
UTILITIES, INC.

BY: _____
JAY A. THOMPSON, VICE PRESIDENT

SPRUCE CREEK SOUTH UTILITIES, INC.

Application for Amendment of
Water and Wastewater Certificates

Proposed System Maps

EXHIBIT D

ONE COPY OF THESE MAPS WAS PROVIDED
TO THE CLERK AS REQUIRED BY RULE

SPRUCE CREEK SOUTH UTILITIES, INC.

Application for Amendment of
Water and Wastewater Certificates

Affidavit of Noticing

EXHIBIT G

AFFIDAVIT

STATE OF FLORIDA

COUNTY OF LEON

Before me, the undersigned authority, authorized to administer oaths and take acknowledgements, personally appeared LYNN T. SALMON, who, after being duly sworn on oath, did depose on oath and say that she is the secretary of F. Marshall Deterding, attorney for Spruce Creek South Utilities, Inc. and that on June 3, 1996, she did send by certified mail, return receipt requested, a copy of the notice attached hereto to each of the utilities, governmental bodies, agencies, or municipalities, in accordance with the list provided by the Florida Public Service Commission, which is also attached hereto.

FURTHER AFFIANT SAYETH NAUGHT.

Lynn T. Salmon

Lynn T. Salmon

Sworn to and subscribed before me this 3rd day of June, 1996, by Lynn T. Salmon, who is personally known to me and who did (did not) take an oath.

Marie Elena Brambletti

Print Name
NOTARY PUBLIC
My Commission Expires:

MARIE ELENA BRAMBLETTI
MY COMMISSION # CC443675 EXPIRES
March 30, 1999
BONDED THRU TROY FAIN INSURANCE, INC.

EXHIBIT G

NOTICE OF APPLICATION FOR EXTENSION OF SERVICE AREA

Pursuant to the provisions of Section 367.045, Florida Statutes, and the provisions of Florida Public Service Commission Rule 25-30.030, Notice is hereby given by Spruce Creek South Utilities, Inc., 17585 Southeast 102nd Avenue, Summerfield, Florida 34491, of its Application to extend its service area to provide water and sewer service to the following described lands in Marion County, Florida:

THE S 1/2 OF THE NW 1/4 AND THE W 1/2 OF THE SW 1/4 OF THE NE 1/4 AND THE W 1/2 OF THE SE 1/4 OF THE NE 1/4 AND THE S 1/2 EXCEPT THE EAST 30 FEET THEREOF, ALL IN SECTION 3, TOWNSHIP 17 SOUTH, RANGE 23 EAST, AND,

ALSO THE N 1/2 OF SECTION 10, TOWNSHIP 17 SOUTH, RANGE 23 EAST, EXCEPT THE EAST 315 FEET THEREOF, AND EXCEPT THE NW 1/4 OF THE SW 1/4 OF THE NW 1/4 OF SAID SECTION 10, AND,

ALSO THE N 1/2 OF THE S 1/2 OF SAID SECTION 10, EXCEPT THE EAST 315 FEET THEREOF, AND,

ALSO THE SW 1/4 OF THE SE 1/4 OF SAID SECTION 10, EXCEPT THE SOUTH 40 FEET THEREOF, AND,

ALSO THE N 1/2 OF THE S 1/2 OF THE SW 1/4 AND THE SE 1/4 OF THE SW 1/4 OF THE SW 1/4 OF SAID SECTION 10, AND,

ALSO THE EAST 1/2 OF THE NE 1/4 OF THE SE 1/4 OF SECTION 9, TOWNSHIP 17 SOUTH, RANGE 23 EAST, EXCEPT THE N 1/2 THEREOF, AND,

ALSO THE WEST 3/4 OF THE N 1/2 OF THE SE 1/4 OF SAID SECTION 9, EXCEPT THE NORTH 893.54 FEET THEREOF, AND,

ALSO THE S 1/2 OF THE SE 1/4 OF SAID SECTION 9, EXCEPT THE NW 1/4 OF THE SW 1/4 OF THE SE 1/4 OF SAID SECTION 9, AND,

ALSO THAT PART OF THE S 1/2 OF THE SE 1/4 OF THE SW 1/4 OF SAID SECTION 9, LYING EAST OF U.S. HIGHWAYS 441 AND 27 (200 FEET WIDE), AND,

ALSO THAT PART OF THE N 1/2 OF THE N 1/2 OF SECTION 16, TOWNSHIP 17, RANGE 23 EAST, LYING EAST OF SAID HIGHWAYS 441 AND 27.

ALSO THE SOUTH 1/2 OF THE NE 1/4 OF THE NW 1/4 OF SECTION 16, TOWNSHIP 17 S, RANGE 23 EAST, EXCEPT THOSE LANDS LYING WITHIN THE RIGHT-OF-WAY OF STATE ROAD 500 - U.S. 441 (200 FEET WIDE)

ALL BEING IN MARION COUNTY, FLORIDA AND CONTAINING 1190.27 ACRES MORE OR LESS.

Written objections of the above noted extension must be filed with the Director of the Division of Records and Reporting, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0870, and a copy provided to F. Marshall Deterding, ROSE, SUNDSTROM & BENTLEY, 2548 Blairstone Pines Drive, Tallahassee, Florida 32301, no later than 30 days after the last date this notice was mailed or published whichever is later.

LIST OF WATER AND WASTEWATER UTILITIES IN MARION COUNTY

(VALID FOR 60 DAYS)
05/24/1996-07/22/1996

UTILITY NAME	MANAGER
MARION COUNTY (continued)	
Linadale Water Company (WU148) 24901 S.E. County Highway 42 Umatilla, FL 32784-9144	Fannie J. Shields (904) 669-3589
Loch Harbour Utilities, Inc. (WS151) P.O. Box 2100 Ocala, FL 34478-2100	Joseph C. McCown (904) 732-2100
Marion Utilities, Inc. (WS160) 710 N.E. 30th Avenue Ocala, FL 34470-6460	Tim E. Thompson (904) 622-1171
Ocala Oaks Utilities, Inc. (WU174) 1343 N.E. 17th Road Ocala, FL 34470-4600	Michael Ellzey (904) 732-3504
Pine Run Utilities, Inc. (WU337) 8865 S.W. 104th Lane Ocala, FL 34481-8961	James A. Bell (352) 854-6210
Quail Meadow Utilities, Inc. (WU532) 2411 East Commercial Blvd Ft. Lauderdale, FL 33308-404[illegible]	Stephen G. Mehallis (305) 491-1722
Rainbow Springs Utilities, L.C. (WU[illegible]) P.O. Box 1850 Dunnellon, FL 34430-1[illegible]	Lowell D. Smallridge (352) 489-5264
[illegible] Water System [illegible] P.O. Box 5220 [illegible], FL 34478-5220	Charles deMenzes (352) 622-4949
[illegible] Utilities, Inc. (SU327) P.O. Box [illegible] [illegible], FL 344[illegible]	Charles Fletcher, Jr. (904) 694-3057/622-7236
[illegible] Utilities, Inc. (W[illegible]) [illegible] Avenue [illegible], FL 344[illegible]	Terry S. Roberts (904) 622-4141
[illegible]	David Small (5[illegible]) 396-2658

LIST OF WATER AND WASTEWATER UTILITIES IN MARION COUNTY

(VALID FOR 60 DAYS)
(5:24:1996-07/22/1996

UTILITY NAME	MANAGER
MARION County (continued)	
Winoustream Utilities Company (WU)(S) P. O. Box 4201 Ocala, FL 34478-4201	Sharon (Shari) Dlouhy (904) 620-8290

[illegible] OF WATER AND WASTEWATER [illegible] CITIES IN MARION COUNTY

[illegible] FOR FY [illegible]
[illegible] [illegible]

GOVERNMENTAL AGENCIES

CITY OF BELLEVIEW
5343 S.E. ABSHIER BLVD
BELLEVIEW, FL 32620

CITY OF DUNNELLON
114 S. WILLIAMS ST
DUNNELLON, FL 32630-9814

CITY OF OCALA
151 S.E. OSCEOLA AVE
OCALA, FL 32678-1270

DEP CENTRAL DISTRICT
3319 MAGUIRE BLVD., SUITE 232
ORLANDO, FL 32803-3767

DEP SOUTHWEST DISTRICT
3804 COCONUT PALM DRIVE
TAMPA, FL 33619

MARION COUNTY BOARD OF COMMISSIONERS
P.O. BOX 1030
OCALA, FL 32670

[illegible]

[illegible]

[illegible]

LIST OF WATER AND WASTEWATER UTILITIES IN MARION COUNTY

[illegible]

[illegible]

[illegible]

WITHLACOOCHEE PLANNING COUNCIL
[illegible] 10th STREET
OCALA [illegible]

STATE AGENCIES

[illegible] Public Counsel
[illegible] The House of Representatives
The Capitol
Ta[illegible] [illegible] (904) 488-9330

[illegible] Regulation and Regulatory
[illegible] Florida Public Service Commission
101 [illegible] Street
Ta[illegible] [illegible] (904) 488-2475

NAME OF COMPANY SPRUCE CREEK SOUTH UTILITIES, INC.
WASTEWATER TARIFF
(Continued from Sheet No. 3.4)

Spruce Creek Golf & Country Club - Order No. _____

THE S 1/2 OF THE NW 1/4 AND THE W 1/2 OF THE SW 1/4 OF THE NE 1/4 AND THE W 1/2 OF THE SE 1/4 OF THE NE 1/4 AND THE S 1/2 EXCEPT THE EAST 30 FEET THEREOF, ALL IN SECTION 3, TOWNSHIP 17 SOUTH, RANGE 23 EAST, AND,

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ALL BEING IN MARION COUNTY, FLORIDA AND CONTAINING 1190.27 ACRES MORE OR LESS.

HARVEY D. ERP
ISSUING OFFICER

PRESIDENT
TITLE

SPRUCE CREEK SOUTH UTILITIES, INC.

Application for Amendment of
Water and Wastewater Certificates

Proof of Publication

LATE FILED
EXHIBIT H

NAME OF COMPANY SPRUCE CREEK SOUTH UTILITIES, INC.
WASTEWATER TARIFF
(Continued from Sheet No. 3.4)

Spruce Creek Golf & Country Club - Order No. _____

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HARVEY D. ERP
ISSUING OFFICER

PRESIDENT
TITLE

SPRUCE CREEK SOUTH UTILITIES, INC.

Application for Amendment of
Water and Wastewater Certificates

Affidavit

EXHIBIT I

A F F I D A V I T

STATE OF FLORIDA)
COUNTY OF [illegible])

BEFORE ME, the undersigned authority, authorized to administer oaths and take acknowledgements, personally appeared Jay Thompson, Vice President of SPRUCE CREEK SOUTH UTILITIES, INC., who after being duly sworn, did depose on oath and say that SPRUCE CREEK SOUTH UTILITIES, INC. does currently have tariffs and annual reports on file with the Florida Public Service Commission.

FURTHER AFFIANT SAYETH NOT.

Jay Thompson

STATE OF FLORIDA)
COUNTY OF MARION)

The foregoing instrument was acknowledged before me this 28 day of May, 1996, by Jay Thompson, who is personally known to me or who has produced _____ as identification and who did (did not) take an oath.

Elaine J. Jarosz
Print Name Elaine J. Jarosz
Notary Public
State of Florida at Large
My Commission Expires:

ELAINE J. JAROSZ
MY COMMISSION # CC455314 EXPIRES
June 11, 1999
[illegible] INSURANCE, INC.

NAME OF COMPANY SPRUCE CREEK SOUTH UTILITIES, INC.
WASTEWATER TARIFF
(Continued from Sheet No. 3.4)

Spruce Creek Golf & Country Club - Order No. _____

THE S 1/2 OF THE NW 1/4 AND THE W 1/2 OF THE SW 1/4 OF THE NE 1/4 AND THE W 1/2 OF THE SE 1/4 OF THE NE 1/4 AND THE S 1/2 EXCEPT THE EAST 30 FEET THEREOF, ALL IN SECTION 3, TOWNSHIP 17 SOUTH, RANGE 23 EAST, AND,

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HARVEY D. ERP
ISSUING OFFICER

PRESIDENT
TITLE

NAME OF COMPANY SPRUCE CREEK SOUTH UTILITIES, INC.
WATER TARIFF
(Continued from Sheet No. 3.4)

Spruce Creek Golf & Country Club - Order No. _____

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ISSUING OFFICER

PRESIDENT
TITLE

SPRUCE CREEK SOUTH UTILITIES, INC.

Application for Amendment of
Water and Wastewater Certificates

Proposed Tariff Sheets

EXHIBIT F

NAME OF COMPANY SPRUCE CREEK SOUTH UTILITIES, INC.
WATER TARIFF
(Continued from Sheet No. 3.4)

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HARVEY D. ERP
ISSUING OFFICER

PRESIDENT
TITLE

DESIGN REPORT

SPRUCE CREEK GOLF & COUNTRY CLUB WASTEWATER TREATMENT FACILITY

Marion County, Florida

Prepared By:

Dyer, Riddle, Mills & Precourt, Inc.
1505 East Colonial Drive
Orlando, FL 32803

APRIL 1996

DESIGN REPORT

SPRUCE CREEK GOLF & COUNTRY CLUB WASTEWATER TREATMENT FACILITY

Marion County, Florida

Prepared By:

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1505 East Colonial Drive
Orlando, FL 32803

APRIL 1996

John P. Toomey, P.E. 4/26/96

Note: Certification for WWTF design only, refer to Append'x A, prepared by Atlanta Testing & Engineering for certification related to effluent reuse system.

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Spruce Creek Golf & Country Club Wastewater Treatment Facility

1.0 PROJECT BACKGROUND/POPULATION AND FLOW PROJECTIONS

1.1 General

This design report has been prepared in support of an application for a "Domestic Wastewater Facility Permit" in accordance with the requirements established by the Florida Department of Environmental Protection (FDEP). This report, and other support documents, are being submitted with the permit application in accordance with Chapter 62-600 of the Florida Administrative Code (FAC).

The proposed project site is located adjacent to U.S. Highway 27 in Marion County in the Summerfield area. The site includes a total land area of approximately 1,172 acres. Development at the site is to include manufactured homes, a golf course and related support facilities, and some commercial land use, along with road, stormwater and utility systems. Figure 1.1 presents the general location of the project site.

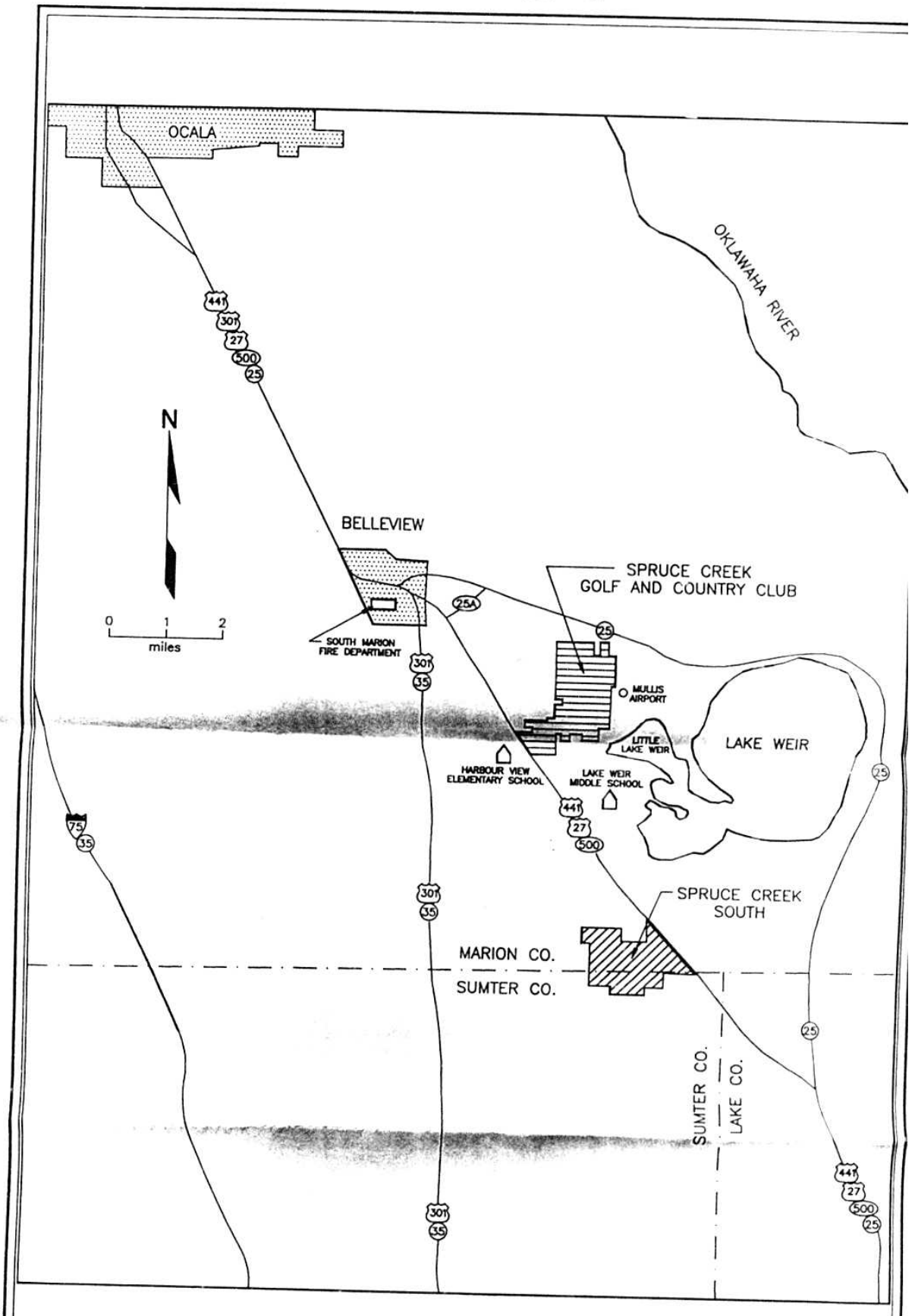
In order to provide central wastewater service, gravity sewers will be provided in all developed areas. A network of pump stations and force mains will convey wastewater to the proposed wastewater treatment facility (WWTF). Initially, effluent from the WWTF is to be discharged to lined storage ponds for holding prior to subsequent disposal by spray irrigation on a temporary restricted access sprayfield. Once flows exceed 100,000 gallons per day (gpd), the temporary sprayfield will be abandoned and effluent will be disposed of via spray irrigation at the golf course located within the development. The lined holding basins at the WWTF will then be used for "reject" storage and wet-weather effluent storage will be provided by lined ponds at the golf course. Residual solids generated by the proposed biological treatment process will be stored in an aerated holding tank and liquid hauled for further stabilization and disposal.

1.2 Population and Flow Projections

As previously stated, the development will include manufactured housing, a golf course with related support facilities and some commercial land use. Spruce Creek South Utilities, Inc. owns and operates wastewater collection, treatment, and disposal facilities that serve an existing development very similar to the proposed Spruce Creek Golf & Country Club. Operating data for the existing development indicates that the following wastewater generation rates are appropriate for similar developments:

Residential Units:	175 gpd/unit
Commercial Floor Space:	0.1 gpd/square foot

The proposed development is to be constructed in phases. Table 1.1 summarizes flow projections for each phase of the project.



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DRMP
DYER, RIDDLE, MILLS & PRECOURT, INC.

SPRUCE SREEK GOLF & COUNTRY CLUB
VICINITY MAP

FIGURE
1.1

TABLE 1.1

FLOW PROJECTIONS

DEV. PHASE	YEAR	RESIDENTIAL		COMMERCIAL		CUMULATIVE RESIDENTIAL & COMMERCIAL FLOW (gpd)	WWTF CAPACITY (gpd)
		Units (Cumulative)	Cumulative Flow (gpd)	Cumulative Space (SF)	Cumulative Flow (gpd)		
I	1996	320	56,000	0	0	50,000	200,000
I	1997	640	112,000	0	0	112,000	200,000
I	1998	960	168,000	0	0	168,000	200,000
I	1999	1,280	224,000	95,000	9,500	233,500	415,000
I	2000	1,600	280,000	200,000	20,000	300,000	415,000
II	2001	1,900	332,500	270,000	27,000	359,500	415,000
II	2002	2,200	385,000	300,000	30,000	415,000	415,000

As shown in Table 1.1, the total projected flow at "build-out" is equal to 415,000 gpd. In order to provide cost effective facilities, available capacity should roughly parallel projected flows. Accordingly, the initially proposed facilities are to have a design capacity of 200,000 gpd based on annual average daily flow. Once flows approach the initial capacity, the facilities will be expanded to provide a design capacity of 415,000 gpd in order to accommodate projected flows. However, it should be noted that this report and related permitting documents only address the initial capacity of 200,000 gpd.

2.0 BASIS OF DESIGN & SUMMARY OF PROPOSED FACILITIES

2.1 Regulatory Requirements

Florida Administrative Code (FAC) Chapter 62-610 sets forth effluent limits and reliability requirements for treatment facilities that produce effluent that will be disposed of by land application. Initially, effluent will be applied to a temporary restricted access sprayfield, however, once flows exceed 100,000 gpd, effluent disposal will be accomplished via spray irrigation on the golf course within the development. Treatment limits and reliability requirements for irrigation at golf courses and "public access areas" are more stringent than those for irrigation of restricted access areas. Since golf course irrigation will be the method of effluent disposal that will be used over the "long term", it would be prudent to design the proposed facilities to meet the effluent limits and reliability requirements associated with golf course irrigation. Table 2.1 below, summarizes treatment and reliability requirements set forth under FAC Chapter 62-610 which are applicable to the proposed "long term" method of effluent disposal.

TABLE 2.1

EFFLUENT LIMITS AND RELIABILITY REQUIREMENTS

Item/Parameter	FAC Chapter 62-610 Requirement for Spray Irrigation of Effluent in Public Access Areas
General Level of Treatment Required	Public Access
Effluent Limits BOD_5	≤ 20 mg/l
TSS	≤ 5 mg/l
Fecal Coliform	Non-detectable in 75% of daily samples and less than 25/100ml at all times.
Disinfection Level	High Level
Reliability Required	Class I

In addition to the effluent limits set forth in FAC Chapter 62-610, FAC Chapter 62-600 establishes design criteria for "High Level" disinfection. Such criteria are presented below.

High Level Disinfection

1. For a reclaimed water or effluent containing 1,000 fecal coliforms, or less, per 100 ml before disinfection, the product of the total chlorine residual used for design (expressed in mg/l) and the contact time at peak hourly flow (expressed in minutes) shall be at least 25.

2. For a reclaimed water or effluent containing greater than 1,000 and up to and including 10,000 fecal coliforms per 100 ml before disinfection, the product of the total chlorine residual used for design (expressed in mg/l) and the contact time at peak hourly flow (expressed in minutes) shall be at least 40.

3. For a reclaimed water or effluent containing greater than 10,000 fecal coliforms per 100 ml before disinfection, the product of the total chlorine residual used for design (expressed in mg/l) and the contact time at peak hourly flow (expressed in minutes) shall be at least 120.

As shown in Table 2.1, "Class I Reliability" is required for reuse systems involving spray irrigation of effluent in public access areas. Tables 2.2 and 2.3 present detailed summaries of treatment process and standby power requirements associated with Class I Reliability.

TABLE 2.2
WASTEWATER TREATMENT COMPONENT RELIABILITY REQUIREMENTS

Common Reliability Features:

1. Trash removal or comminution is required.
2. Grit removal is generally required, however, it is not necessary for treatment works which do not pump or dewater sludge (e.g., stabilization ponds).
3. Provisions for removal of settled solids is required for channels, pump wells, and piping upstream of degritting or primary sedimentation.
4. Unit operation bypass is generally required, however, it is not applicable where two or more units are provided and operating unit can handle peak flows. Unit operation bypass is applicable to comminution regardless of the number of units.

Component/Backup Features	Class I Reliability Requirement
Backup Bar Screen for Mechanically Cleaned Bar Screen or Comminutor	Yes
Backup Pumps	Yes[1]
Primary Sedimentation Basins	Multiple basins[2]
Trickling Filters	Multiple filters[3]
Aeration Basins	Minimum of two of equal volume
Aeration Blowers or Mechanical Aerators	Multiple units[4]
Air Diffusers	Multiple sections[5]
Final Sedimentation Basins	Multiple basins[3]
Chemical Flash Mixers	Minimum of two or backup[6]
Chemical Sedimentation Basins	Multiple basins[3]
Filters and Activated Carbon Columns	Multiple units[3]
Flocculation Basins	Minimum of two
Disinfectant Contact Basins	Multiple basins[2]

Notes:

1. Sufficient capacity of remaining pumps to handle peak flow with one pump out of service.
2. With largest unit out of service remaining units have capacity for at least 50 percent of design flow.
3. With largest unit out of service remaining units have capacity for at least 75 percent of design flow.
4. With largest section out of service oxygen transfer capability not measurably impaired; backup unit may be uninstalled.
5. With largest section out of service oxygen transfer capability not measurably impaired.
6. If only one basin, backup system provided with at least two mixing devices (one may be installed).

TABLE 2.3 ELECTRIC POWER SYSTEM RELIABILITY REQUIREMENTS	
Common Reliability Features: Power Sources - Two separate and independent electric power sources from either two separate utility substations or one substation and one standby generator.	
Capacity of Backup Power Source	Reliability Class I Requirement
Mechanical Bar Screens or Comminutors	Yes
Main Pumps	Yes
Degritting	Optional
Primary Sedimentation	Yes
Secondary Treatment	Yes
Final Sedimentation	Yes
Advanced Waste Treatment	Optional
Disinfection	Yes
Sludge Handling and Treatment	Optional
Critical Lighting & Ventilation	Yes

As previously stated, excess solids from the biological wastewater treatment process will be stored on site in an aerated holding tank and then liquid hauled for further stabilization and disposal. A private company specializing in residuals handling will be contracted by the permittee for hauling, stabilization, and disposal of sludge. The hauling company will be responsible for preparation and submittal of all permitting documents and related records to FDEP and the United States Environmental Protection Agency.

2.2 Design Criteria and Summary of Proposed Facilities

The proposed WWTF will be an activated sludge facility with an initial design capacity of 200,000 gpd. The facility will incorporate the "Modified Ludzack-Ettinger Process" to provide partial denitrification and effluent total nitrogen levels in the range of 7 to 10 mg/l. Sufficient aerobic detention time will be provided so that the facility can be considered to operate in the "extended aeration" mode. The proposed facilities are designed to provide levels of treatment and reliability that are appropriate for irrigation of effluent in public access areas.

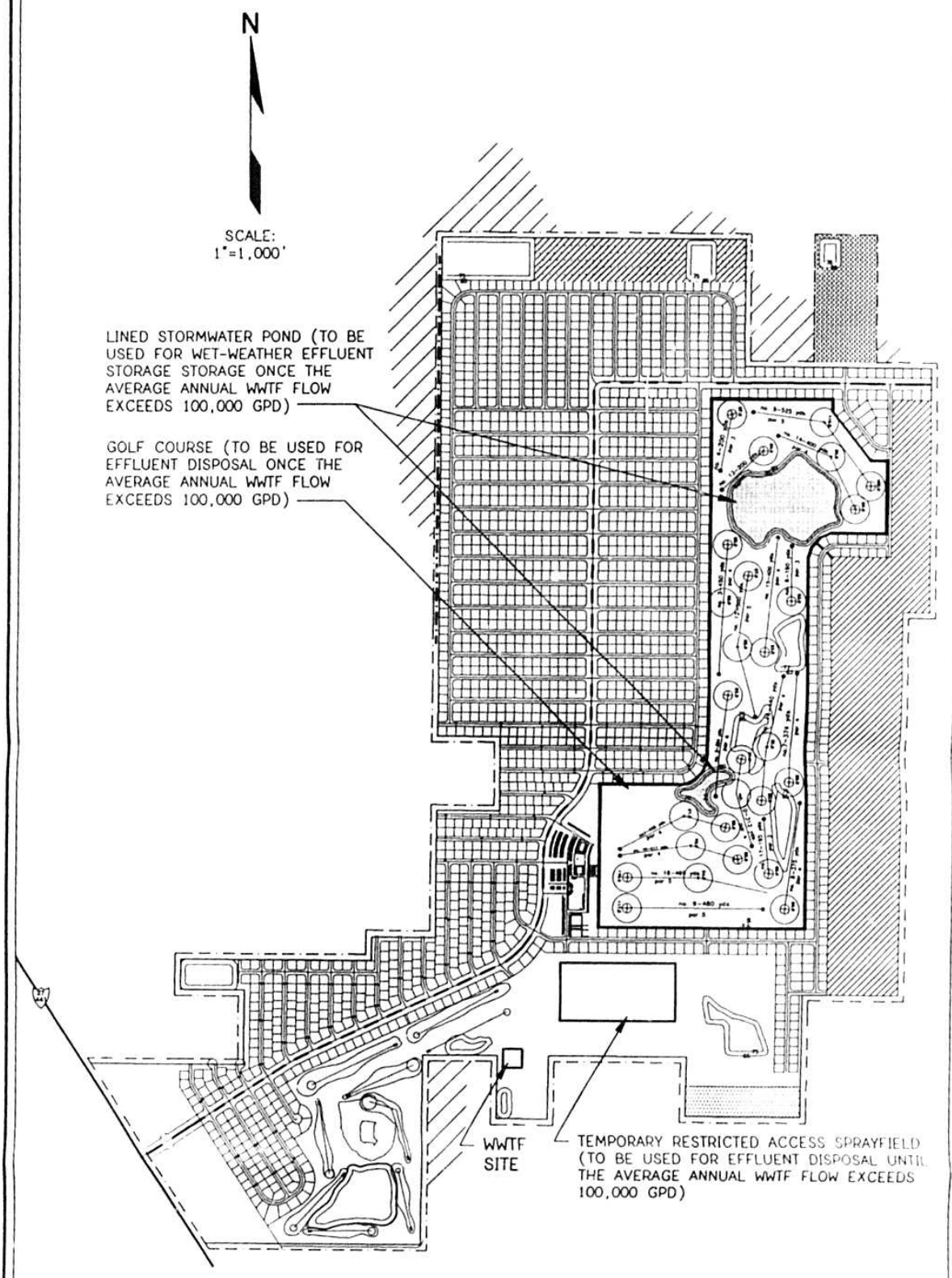
Initially, treated effluent will be discharged to lined storage basins for holding prior to application of the effluent at a temporary restricted access sprayfield. Once the average annual wastewater flows exceed 100,000 gpd, the temporary sprayfield will be abandoned and treated effluent will be applied to the golf course within the proposed development. Two lined holding ponds with a capacity of 400,000 gallons each will provide 8 days of wet-weather storage for the initial temporary sprayfield system. When the temporary sprayfield is abandoned, the lined basins will be used for storage of effluent that does not meet the required levels of treatment for irrigation of the golf course. Wet-weather storage for the golf course system will then be provided by lined "water features" within the golf course that are also used for stormwater management. The ponds will occupy an area of approximately 20 acres and have a volume that is 2,400,000 gallons greater than the volume required for stormwater management. Therefore, the pond will provide 12 days of wet-weather storage at a WWTF flow of 200,000 gpd.

As previously stated, residuals will be hauled and stabilized by a private residuals handling company prior to land application. In the proposed system, waste activated sludge will be transferred from the clarifiers to an aerated sludge holding tank for thickening and holding prior to hauling, stabilization, and land application.

Figure 2.1 presents an overall site plan of the proposed development while Figure 2.2 presents a site plan of the WWTF. Figure 2.3 presents the process schematic and hydraulic profile for the proposed facilities. Table 2.4 presents a detailed summary of proposed unit operations and related design criteria.

2.3 Electrical Facilities

Electrical service to the project will be a 480 volt, 3 phase, 60 Hertz service provided by Florida Power Corporation. A main distribution panel/motor control center with magnetic motor starters for the major electric motors will be provided. A generator will be sized to allow operation of one (1) surge tank pump, two (2) anoxic basin submersible mixers, one (1) aeration blower, one (1) filter dosing pump, one (1) effluent transfer pump and the chlorination system during a power outage. Due to the size and simplicity of the proposed facilities, a central alarm annunciator will not be provided.



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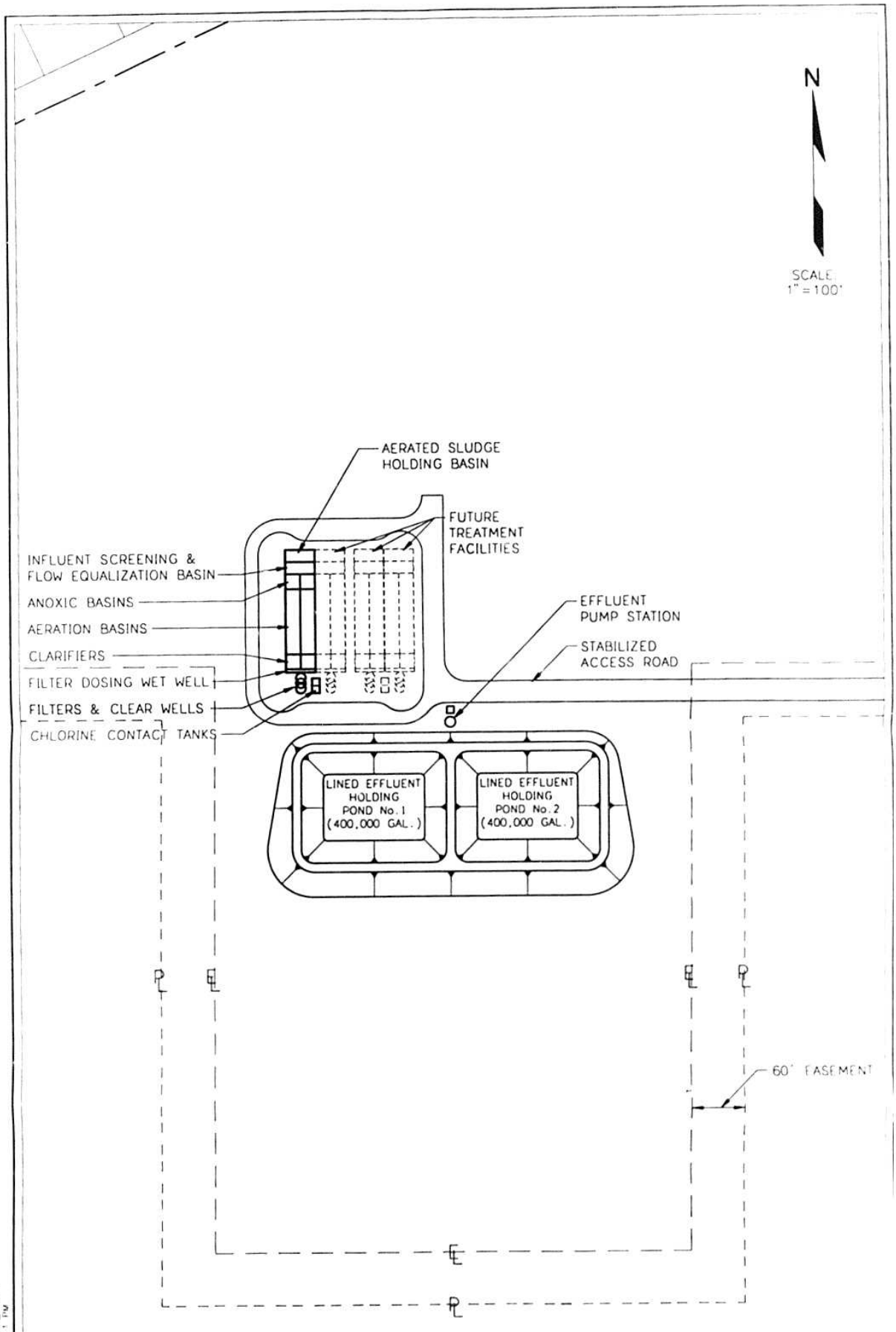
DRMP
DYER, RIDDLE, MILLS & PRECOURT, INC.

SPRUCE CREEK GOLF & COUNTRY CLUB
OVERALL SITE PLAN

FIGURE
2.1



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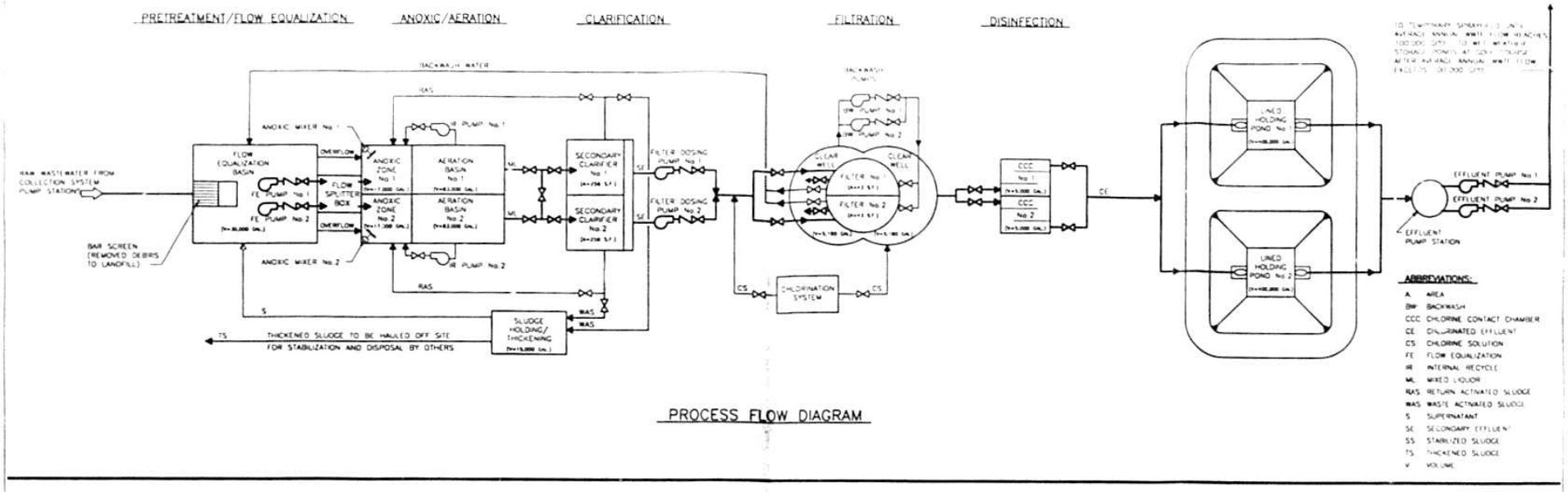
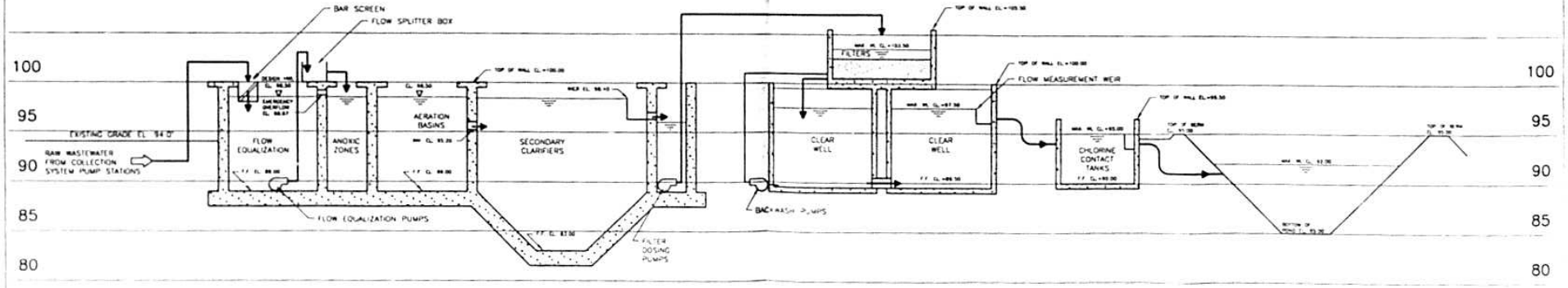
DRMP
DYER, RIDDLE, MILLS & PRECOURT, INC.

SPRUCE CREEK GOLF & COUNTRY CLUB
WASTEWATER TREATMENT FACILITY SITE PLAN

FIGURE
2.2



PROCESS FLOW DIAGRAM



HYDRAULIC PROFILE

DRMP
DYER, RIDDLE, MILLS & PRECOURT, INC.

SPRUCE CREEK GOLF & COUNTRY CLUB WASTEWATER FACILITY – PROCESS FLOW DIAGRAM AND HYDRAULIC PROFILE

FIGURE 2.3

TABLE 2.4

DESIGN SUMMARY

A. Flows & Influent Characteristics	
1. Flow Rate (mgd)/(gpm)	
Average Day	0.200/139
Maximum Day	0.300/208
Peak Hour	0.700/486
2. BOD_5 (mg/l)/(lb/day)	
Average Day	200/334
Maximum Day	200/500
3. Suspended Solids (mg/l)/(lb/day)	
Average Day	200/334
Maximum Day	200/500
4. Total Kjeldahl Nitrogen (mg/l)/(lb/day)	
Average Day	35/58
Maximum Day	35/88
5. Total Phosphorus (mg/l)/(lb/day)	
Average Day	8/13
Maximum Day	8/20
B. Preliminary Treatment	
1. Screening	
Type	Manual Bar Screen
Number of Units	1
Construction	Aluminum Flat Bar
Opening Spacing (inches)	3/4
2. Flow Equalization	
Type	Side Stream Surge Tank
Number of Tanks	1
Tank Volume (gallons)	30,000
Tank Mixing Method	Diffused Air
Diffuser Type	Coarse Bubble
Aeration Intensity (scfm/1000ft^3)	30
Air Required (scfm)	120
Number of Surge Pumps	2
Surge Pump Type	Submersible
Surge Pump Capacity, Each (gpm)	280
Surge Pump Control	Automatic/24V DC Floats

TABLE 2.4

DESIGN SUMMARY
(Continued)

C. Biological Treatment	
1. Process Data	
Operation Mode	Modified Ludzack-Ettinger Process/Extended Aeration
Design MLSS (mg/l)	3,500
Solids Retention Time (days)	20
Solids Production (lb/day)	237
2. Anoxic Basins	
Number of Units	2
Volume, Each (gallons)	17,000
Volume, Total (gallons)	34,000
Denitrification Potential (lb/day)	
Average Day	39
Maximum Day	44
Mixers	
Number of Units Per Basin	1
Type	Submersible
Horsepower, Each	1.6
3. Aeration Basins	
Type	Spiral Roll Diffused Air
Number of Units	2
Volume, Each (gallons)	83,000
Volume, Total (gallons)	166,000
Air Requirements (scfm)	
Average Day	520
Maximum Day	750
4. Internal Recycle Pumps	
Number of Units	2
Type	Submersible Solids Handling Wastewater Pumps
Pump Capacity, Each (gpm)	280

TABLE 2.4

DESIGN SUMMARY
(Continued)

D. Final Clarifiers	
1. Physical Data	
Number of Units	2
Type	Rectangular, Hoppered
Surface Area, Each (ft^2)	256
Surface Area, Total (ft^2)	512
Sidewater Depth (ft)	15.33
Sludge Return System	Air Lifts
Lift Air Required (scfm)	80
2. Loading Data	
Surface Settling Rate (gpd/ft^2)	
Average Day	391
Maximum Day	586
Peak Hour	782
Solids Loading Rate ($lb/day/ft^2$)	
Average Day	17.5
Maximum Day	26.3

TABLE 2.4

DESIGN SUMMARY
(Continued)

E. Filtration System	
1. Filter Dosing Pumps	
Number of Units	2
Type	Submersible
Pump Capacity, Each (gpm)	280
2. Filters	
Number of Units	2
Type	Standard Gravity Sand Filters
Media Depths (inches)	
Silica Sand	8
1/4" - 1/2 Graded Gravel	4
1/2" - 3/4" Graded Gravel	4
3/4" - 1-1/2" Graded Gravel	8
Filter Bed Area, Each (ft^2)	43
Filter Bed Area, Total (ft^2)	86
Hydraulic Loading Rate (gpm/ft^2)	
Average Day	1.6
Maximum Day	2.4
Peak Hour	3.2
3. Clear Wells	
Number of Units	2
Volume, Each (gallons)	5,180
Volume, Total (gallons)	10,160
4. Backwash Pumps	
Number of Units	2
Type	Submersible
Pump Capacity, Each (gpm)	860
Backwash Rate, (gpm/ft^2)	20

TABLE 2.4

DESIGN SUMMARY
(Continued)

F. Disinfection System	
1. Chlorine Contact Chambers	
Number of Units	2
Volume, Each (gallons)	5,000
Volume, Total (gallons)	10,000
Flow Regime	Plug Flow
Detention Time (minutes)	
Average Day	72
Maximum Day	48
Peak Hour	36
2. Chlorination System	
Type	Hypo-Chlorination
Number of Hypochlorinators	2
Design Chlorine Dosage (mg/l)	6
Feed Rate Control	Manual
Design Chlorine Residual (mg/l)	2.0
G. Flow Metering System	
Flow Metering Location	Clear Well
Flow Meter Type	Open Channel V-Notch Weir
Flow Recorder Type	Flow Indicator/Totalizer/ Chart Recorder

TABLE 2.4

DESIGN SUMMARY
(Continued)

H. Sludge Processing	
1. Process Data	
Solids Production (lb/day)	237
Sludge Production @ 2% D.S. (gpd)	1,421
2. Aerated Sludge Holding Basin	
Number of Units	1
Volume (gallons)	15,000
Aeration Method	Coarse Bubble Diffused Air
Aeration Intensity (scfm/1,000 ft^3)	30
Air Required (scfm)	60
I. Process Aeration Blowers	
1. Air Requirements (scfm)	
Flow Equalization Basin	120
Aeration Basins	750
RAS Air Lifts	80
Aerated Sludge Holding	60
Total	1,010
2. Blower Data	
Type	Rotary Positive Displacement
Number of Units	2
Horsepower, each (HP)	50
Delivery (scfm)	1,010
Discharge Pressure (psi)	5.0

TABLE 2.4

DESIGN SUMMARY
(Continued)

K. Long Term Effluent Disposal System*	
1. Effluent Transfer Pump Station	
Type	Vertical Turbine
Number of Pumps	2
Pump Capacity, Each	600
Control System	Automatic with Float Switches
2. Wet Weather Storage Ponds	
Number of Units	2
Type	Lined Storage Pond
Effective Volume, Total (Gallons)	2,400,000
Approximate Area (acres)	20±
Additional Depth Required (inches)	4.4
3. Effluent Irrigation System	
Type	Golf Course Irrigation System
Irrigated Area (acres)	136
Effective Application Rate (in./week)	0.38
4. Reject Storage Ponds	
Number of Units	2
Type	Lined Storage Pond
Volume, Each (gallons)	400,000
Volume, Total (gallons)	800,000
Depth (ft)	7
Freeboard (ft)	3
* To be used after the average annual WWTF flows exceeds 100,000 gpd	

3.0 COST ESTIMATES

Table 3.1, below, presents preliminary estimates of construction costs for the wastewater treatment and effluent disposal facilities.

TABLE 3.1

ESTIMATED CONSTRUCTION COSTS FOR WASTEWATER TREATMENT AND EFFLUENT DISPOSAL FACILITIES

ITEM	COST
Process Tankage and Equipment	$ 300,000
Lined Storage Ponds & General Site Work	40,000
Landscaping and Fencing	10,000
Effluent Pump Station	25,000
Temporary Sprayfield	25,000
Electrical	20,000
Subtotal:	$ 420,000
Contingency @ 10%:	$ 42,000
TOTAL ESTIMATED CONSTRUCTION COST	$ 462,000

4.0 PROJECT EVALUATION

The proposed project is not expected to have any negative impacts on the environmental resources in the area or on public health, safety, and welfare. Since the project will reuse treated effluent, the proposed system will provide a beneficial aquifer recharge for the area. Due to the levels of treatment and reliability that will be provided, public health, safety and welfare are not expected to be at risk due to spray irrigation of effluent.

The impact of the project on groundwater is expected to be minimal with respect to groundwater mounding and water quality. The application system is designed to meet applicable requirements of FDEP regulations for such systems. Detailed information regarding the land application system and groundwater impacts is presented in the geotechnical engineering report (See Appendix A)

The proposed service area for the project is not expected to have any industrial customers, therefore, an industrial pretreatment system is not required for the project.

APPENDIX A

atlanta testing
& engineering

2273 lee road / suite 200 / winter park, florida 32789 / (407) 645-3400 / FAX (407) 645-3731

October 20, 1995

Dyer, Riddle, Mills & Precourt, Inc.
1505 East Colonial Drive
Orlando, Florida 32853-8505

Attention: Mr. John Toomey, P.E.

Subject: Hydrogeologic Report for Effluent Reuse
Spruce Creek Golf and Country Club
Marion County Florida
AT&E Project No. 7924C

Dear Mr. Toomey:

Atlanta Testing & Engineering, Inc. (AT&E) is pleased to present the attached report "Abbreviated Hydrogeologic Report For Effluent Reuse, Spruce Creek Golf and Country Club, Marion County, Florida" The report is intended to meet the engineering report requirements of Chapter 67-610 of the Florida Administrative Code with respect to the characterization of site soils and hydrogeology. In addition, the report provides a proposed groundwater monitoring plan, a mounding analysis and a water balance for the temporary sprayfield.

This information has been prepared in accordance with generally accepted standards of care for the geologic profession in the State of Florida. No other warranty is expressed or implied. Should there be any questions concerning the information included herein, please contact the undersigned.

Sincerely,

ATLANTA TESTING & ENGINEERING, INC.

James Hollingshead
4-24-96

James Hollingshead, P.G. #1160
Senior Projects Manager

JJH/cld

atlanta testing
& engineering

2273 lee road / suite 200 / winter park, florida 32789 / (407) 645-3400 / FAX (407) 645-3731

ABBREVIATED HYDROGEOLOGIC REPORT FOR EFFLUENT REUSE SPRUCE CREEK GOLF AND COUNTRY CLUB MARION COUNTY, FLORIDA

OCTOBER 20, 1995

Prepared for:

Dyer, Riddle, Mills, and Precourt
1505 East Colonial Drive
Orlando, Florida 32803

Prepared by:

ATLANTA TESTING & ENGINEERING, INC.
AT&E Project No. 7924C

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INTRODUCTION

The Spruce Creek Golf and Country Club development site in Marion County, Florida will include an on-site Waste Water Treatment Facility (WWTF). The WWTF will be designed to provide Class I reliability and produce public access quality effluent. The initial design treatment capacity of the WWTF is 200,000 gpd with an expandable treatment capacity of 800,000 gpd. During the initial phases of plant development, effluent disposal will be accomplished on a 13 acre temporary sprayfield. When flow rates reach 100,000 gpd, treated waste water effluent will be utiiized for golf course irrigation. This report is intended to meet the engineering report requirements of Chapter 62-610 of the Florida Administrative Code with respect to the characterization of site soils and hydrogeology. In addition the report provides a proposed groundwater monitoring plan, a mounding analysis and a water balance for the temporary sprayfield.

REGIONAL HYDROGEOLOGIC SETTING

The Spruce Creek Golf and Country Club development site lies within the North West Central Florida Groundwater Basin as defined by the Southwest Florida Water Management District (SWFWMD) in the publication "GROUND-WATER RESOURCE AVAILABILITY INVENTORY: MARION COUNTY FLORIDA" SWFWMD,1987. The basin is characterized by karst terrain, developed through the dissolution of the underlying limestone and oolomite resulting in numerous swamps, lakes, and shallow sinkhole (SWFWMD 1987).

The site is underlain by aerially extensive, thick Eocene age limestone and dolostone sequences belonging to the Ocala Group Limestones and the Avon Park Formation. These water bearing limestone and dolostone deposits are approximately 1500 feet thick in the site vicinity. A relatively thin cover of undifferentiated sands, silts and clays is present above the thick carbonate deposits.

The undifferentiated sediments are generally referred to as terrace deposits. The terrace (Penholoway) sediments were deposited during an interglacial period when a high stand of sea level occurred due to melting of the polar ice caps. These sediments were deposited during the Holocene or Pleistocene Epoch.

The terrace features in the site vicinity have been masked by subsequent karst activity. Dissolution of the limestones over a long period of time has caused the formation of depressions in the land surface that are evident in the existing surface topography. The site lies within the Oklawaha River basin, however drainage is almost entirely internal and little if any runoff leaves the site.

The primary aquifer in the site vicinity is the Floridan aquifer. Localized surficial aquifers are known to exist in the vicinity but a distinct surficial aquifer as a continuous unit does not exist. Inflow to the surficial aquifer system is primarily from rainfall. Discharge occurs via downward leakage to the Floridan aquifer system, evapotranspiration, and seepage to lakes (SWFWMD 1987).

The thickness of the confining layer between the surficial aquifer and the Floridan aquifer is highly variable in the site vicinity. The confining layer in the immediate site vicinity is considered to be 25 feet thick or less (SWFWMD 1987). The confining layer consists of clays perhaps derived from the Alachua and Hawthorn formations. It is more likely that the clay deposits in the site vicinity represent residual products derived from extensive weathering of the underlying Ocala Group limestones.

The Floridan aquifer is the major source of water in the project vicinity. The Eocene Age limestones of the Ocala Group and the Avon Park Formation are the main water bearing stratigraphic units. The site lies in a transitional area between a large unconfined portion of the aquifer to the west and a large confined portion of the aquifer to the east. The Floridan probably behaves as either a confined or an unconfined aquifer on a seasonal basis in the site vicinity. The direction of flow in the Floridan is towards the northwest. Silver Springs exerts a major influence on the direction of flow in the site vicinity. The transmissivity of the Floridan aquifer is highly variable and ranges from over 2 million to less than 15000 ft^2/day in the general site area. Transmissivity in the immediate site vicinity is probably around 100,000 ft^2/day.

The site lies within a high recharge area of the Floridan aquifer. Recharge rates are estimated to be greater than 10 and up to 20 inches per year in a large area around the site according to SWFWMD (1987). The high recharge rates are a function of the permeable surficial sands,deep water table, thin confining layers and internal drainage characteristics of the area.

SITE SPECIFIC EXPLORATIONS

Regional geologic and hydrologic characteristics of the Spruce Creek Golf and Country Club project site and vicinity were evaluated from existing literature published by the U.S.Geological Survey and the Southwest Florida Water Management District (SWFWMD). Available site-specific data were provided in the form of test borings conducted by AT&E at drainage retention areas (DRAs) and test borings drilled by Universal Engineering Sciences, Inc. in the WWTF area.

AT&E drilled 22 auger borings to depths ranging from 15 to 25 feet each at various locations within the boundaries of the project site, collected soil samples from the auger holes and conducted field laboratory permeability (hydraulic conductivity) tests at selected depths. The geologic logs derived from the test borings indicate surficial deposits of fine to medium quartz sands and slightly silty to slightly clayey fine sands ranging in thickness from 10.5 feet to greater than 25 feet. At locations where the surficial sands were penetrated, deposits of clayey sand and clay were encountered. The clayey sands were commonly underlain by additional sand layers. The water table surface was encountered in three (3) of the test borings at elevations ranging from approximately +49 to +53 feet msl. The test borings were drilled to explore soil conditions in the immediate vicinity of proposed stormwater management areas.

Additionally, a series of ten (10) Standard Penetration Test borings were drilled in the vicinity of the proposed WWTF in February 1995 (Universal Engineering Sciences, Inc. 1995) to depths ranging from 30 to 50 feet below land surface. Universal Engineering Sciences, Inc. (UES) encountered 15 to 20 feet of sands underlain by clayey sands at some locations. The clayey sands, which were absent at some test locations, were present in lenses of various thicknesses. In many cases, the sediments graded back into sands. A test boring drilled by UES in the WWTF area indicated a depth to the top of rock at about 45 feet below a land surface elevation of approximately +90 feet above msl for a top of rock elevation of about +45 feet msl.

SOILS

The various soil types identified on the Spruce Creek Development site are listed in Table 1, below, along with their approximate areal extent. The information included in this section was obtained from the Marion County Area Soil Survey published by the United States Department of Agriculture (USDA)/Soil Conservation Service (SCS,1979).

Visual inspection of the project site revealed some excavated areas identified as borrow pits, as indicated on Figure 1. Except for the borrow pit in the northeast part of the site abutting the property boundary, other borrow pits are not indicated on the SCS soil maps for the area, compiled from 1970 aerial photographs. These borrow pits were apparently excavated after 1970, probably as part of previous golf course construction for the now abandoned Monarch development project.

An existing borrow pit was identified by the SCS in the northeast portion of the site, abutting the property boundary of the development site. This borrow pit is located in a portion of the development designated as a wildlife preserve/management area. Other borrow pits identified on Figure 1 were observed on the site. These borrow pits are primarily located in proposed golf course areas, one of which will be developed as a golf course water feature.

TABLE 1

AREAL EXTENT OF SOIL TYPES

MAP SYMBOL	SOIL NAME	AREA (ACRES)	APPROXIMATE PERCENT OF PROJECT AREA
CaB	Candler sand	962.0	82.2
CaC	Candler sand	154.4	13.2
Bp	Borrow pit	25.6	2.1
ArB	Arrendondo sand	9.4	0.8
ApC	Apopka sand	6.4	0.5
AdB	Adamsville sand	5.3	0.5
ApB	Apopka sand	3.2	0.3
Pm	Placid sand	2.4	0.2
HaB	Hague sand	1.9	0.1
w	water	0.7	0.1
TOTAL		**1,170.3**	**100.0%**

The Candler sand soil types occupy approximately 95% of the project area. The soils typically occur as broad areas on the sandy uplands of Marion County, formed in thick beds of sandy marine deposits. The slope of this soil group ranges from nearly level (CaB) to strongly sloping (CaC). The

soils are excessively drained with the water table at a depth more than 72 inches below land surface. The hazard of erosion is slight during periods of high rainfall. The permeability is greater than 20 inches per hour in the upper five feet and ranges from 6.0 to 20 inches per hour in the underlying three feet. It is classified in the SCS Hydrologic Group A, representing soils of relatively low runoff potential.

The remaining SCS soil types cover approximately 5% of the project site. The Placid sand and the Adamsville sand are located around an existing man made pond. Arrendondo and Apopka sands are located in a few locations throughout the project site. These soils are similar to the Candler sands with the exception that they contain a sandy clay loam within the depth interval 40 to 80 inches below land surface.

PROPOSED LAND APPLICATION EFFLUENT DISPOSAL SYSTEM

During the initial phases of plant development, effluent disposal will be accomplished in a 13 acre temporary sprayfield. The temporary sprayfield will be located in an area adjacent to WWTF. This area will eventually be used as part of the second golf course planned for development in the future. The waste water will be of public access quality. When effluent flow rates reach 100,000 gpd, treated waste water effluent will be utilized for golf course irrigation on the main golf course. The golf course will have approximately 135 acres of irrigated area. Therefore, the waste water effluent will only serve as a supplemental source of irrigation.

MOUNDING ANALYSIS

Available site information was used to complete a mounding analysis for the temporary sprayfield. A mounding analysis was not conducted for the golf course because the waste water will not even meet the irrigation water requirements. A 13 acre sprayfield area will be used for effluent disposal until the WWTF flow rates reach 100,000 gpd. A maximum application rate of approximately 2.0 inches a week will be achieved when flow rates reach 100,000 gpd. To simulate the mounding effect of the sprayfield operation a mounding analysis program was used. A sprayfield with dimensions 500 feet by 1132 feet was loaded at 0.0238 feet per day for a period of two years. The surficial aquifer was assumed to have a fillable porosity of 0.2 and an average horizontal hydraulic

conductivity of 30 feet per day. This analysis is considered conservative because leakance to the underlying Floridan aquifer is not considered and turfgrass consumptive use (ET) of applied irrigation water is ignored. A copy of the mounding analysis input and output is provided as Attachment A.

The results of the mounding analysis suggest a maximum mound height of approximately 14 feet under the sprayfield. There is no permanent water table aquifer on the site. Ground water level elevations have been estimated to be approximately +49 to +53 feet msl, based on measurements in several on-site test borings. This corresponds with the potentiometric surface elevation in the site vicinity. Assuming the water elevation under the site is approximately +51 feet msl, the depth to water in the sprayfield area ranges from 30 to 60 feet below land surface.

An additional mounding analysis was conducted to assess the theoretical hydraulic capacity of the sprayfield area. The application rate in the model was increased until the maximum mound height as indicated by the model approached 25 feet. The results of this exercise suggest the theoretical hydraulic capacity of the sprayfield is 0.0583 feet per day or 0.7 inches per day. A copy of this mounding analysis input and output is provided as Attachment A.

PROPOSED VEGETATION SYSTEM

The proposed temporary sprayfield will consist of overhead sprinklers providing coverage on 13.0 acres of grass. Native existing vegetation in addition to Bahia grass is proposed. During the initial stages of plant operation, flows will be relatively low. Due to the low initial flow rate and the excessively drained nature of the onsite soils, other crops were not considered. The currently existing native vegetation and bahia grass will be tolerant of potential periodic dry conditions. The nitrogen concentration in the treated wastewater is expected to be less than 7 mg/l. Given the temporary nature of the sprayfield, the extremely deep water table and the relatively low effluent nitrogen concentration, nitrogen loading in the groundwater is not considered likely to occur.

STORAGE REQUIREMENTS

A minimum storage volume equivalent to three days of design flow is required for land application systems. The actual required storage is determined by running a water balance program. The Florida Department of Environmental Protection (FDEP) "Landap" program (FDEP, May 1990) was used for this purpose. The results of the Landap water balance analysis indicates that 3 days of storage will be sufficient. During the early stages of plant operation, storage will be achieved in a lined storage pond located at the WWTF. This pond will have an available storage capacity of 800,000 gallons. When the water is diverted to the golf course for irrigation use, storage will be obtained from lined ponds within the golf course area. These ponds will also be used for golf course irrigation and stormwater retention purposes. A copy of the Landap output is provided as Attachment B.

GROUNDWATER MONITORING PLAN

The recommended groundwater monitoring plan consists of four monitoring wells designed to obtain groundwater samples from the uppermost portion of the Floridan aquifer. A background monitoring well should be installed at an upgradient location identified as MW-1 in Figure 2. The 4 inch diameter, PVC well casing should extend a minimum of 10 feet into the first competent limestone layer encountered during drilling. As a minimum, the casing should extend down to elevation +40 feet msl. This casing should be grouted from the bottom up to land surface to prevent infiltrating waters near the surface from entering the limestone. Following casing installation, an open borehole approximately 20 to 40 feet in length should be drilled into the limestone. This well is intended to obtain background water quality samples which will be used to determine baseline water quality conditions and assist in the detection of any impacts of effluent disposal on the water quality of the Floridan aquifer. The well should be sampled prior to system start up to provide background water quality.

Three additional Floridan aquifer monitoring wells are proposed at locations indicated in Figure 2. Groundwater quality samples will be collected from three (3) additional monitor wells to be installed with openhole sections in the upper portions of the Eocene Age limestones underlying the site. The Floridan aquifer monitor wells will be approximately 60 to 100 feet deep and should be constructed

in a manner similar to the background monitoring well as stated above. All wells should be constructed under the supervision of a qualified hydrogeologist.

Initially, groundwater samples should be analyzed for Florida's Primary and Secondary Drinking Water Standards as listed in Chapter 17-550 of the Florida Administrative Code. The results of the initial sampling should be reviewed to select quarterly sampling parameters. Quarterly sampling parameters may include the following:

Nitrate Nitrogen	Sodium	Fecal Coliform
Turbidity	Chloride	Total Dissolved Solids
Total Organic Carbon	Phosphorus	

Field measurements for pH, Temperature and Specific Conductance should be recorded during sampling. All samples should be collected in accordance with an FDER approved Quality Assurance/Quality Control plan and should comply with all appropriate State and Federal regulations.

REFERENCES

Southwest Florida Water Management District, 1987, *Groundwater Resource Availability Inventory: Marion county, Florida.* Southwest Florida Water Management District, Brooksville, FL.

U.S.D.A., Soil Conservation Service, 1979, *Soil Survey of Marion County Area, Florida.* U.S. Department of Agriculture, Soil Conservation Service.

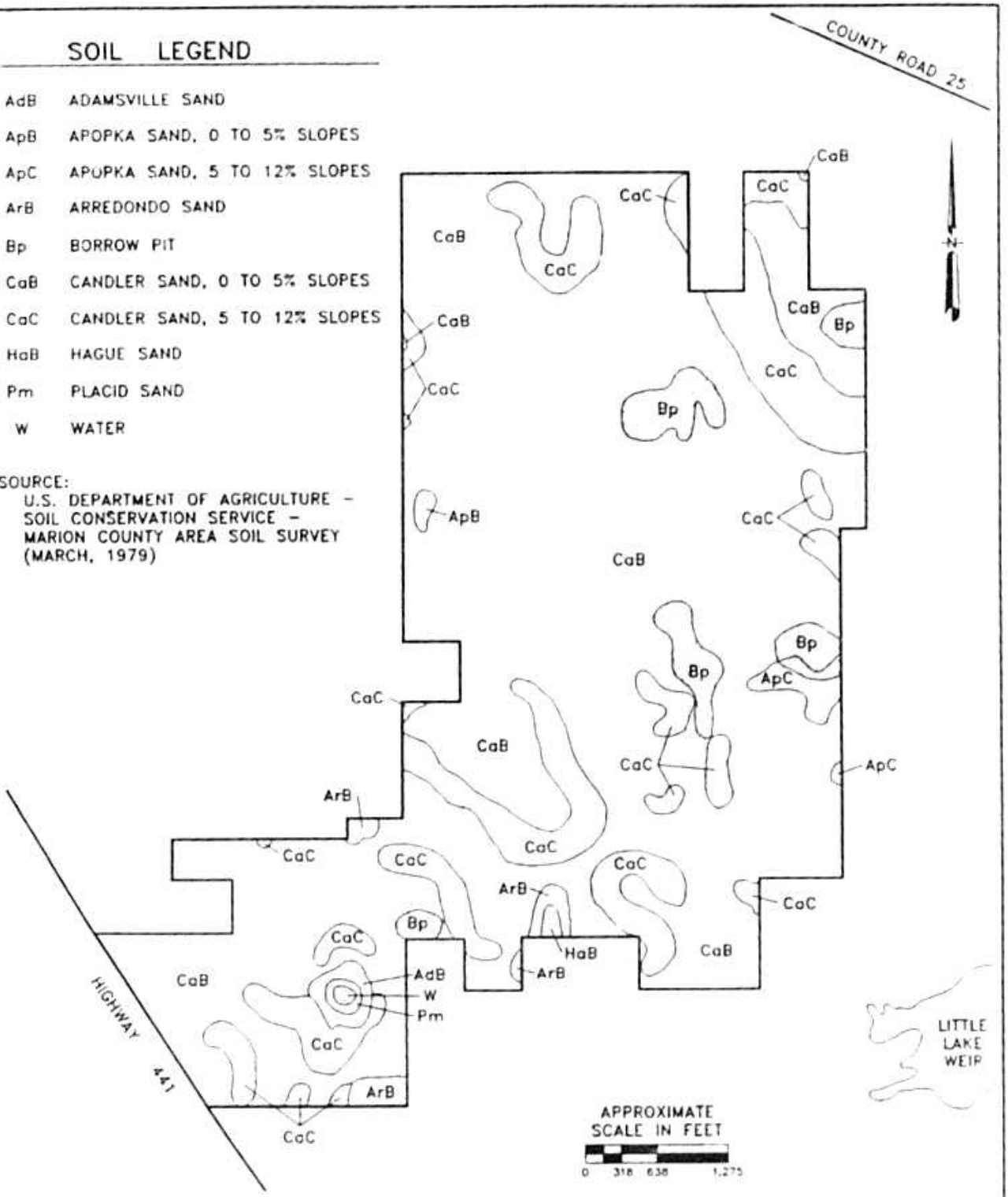
Universal Engineering Sciences, Inc. 1995, *Geotechnical Investigation for Proposed Wastewater Treatment Plant, Spruce Creek East, Marion County, Florida.* For Spruce Creek Development Company of Ocala, Inc., Summerfield, FL., Report No. 11854, February 15, 1995.

_____, 1995, *Hydrogeologic Evaluation for Spruce Creek East, Marion County, Florida.* For Spruce Creek Development Company of Ocala, Inc., Summerfield, FL., Report No. 11857, February 22, 1995.

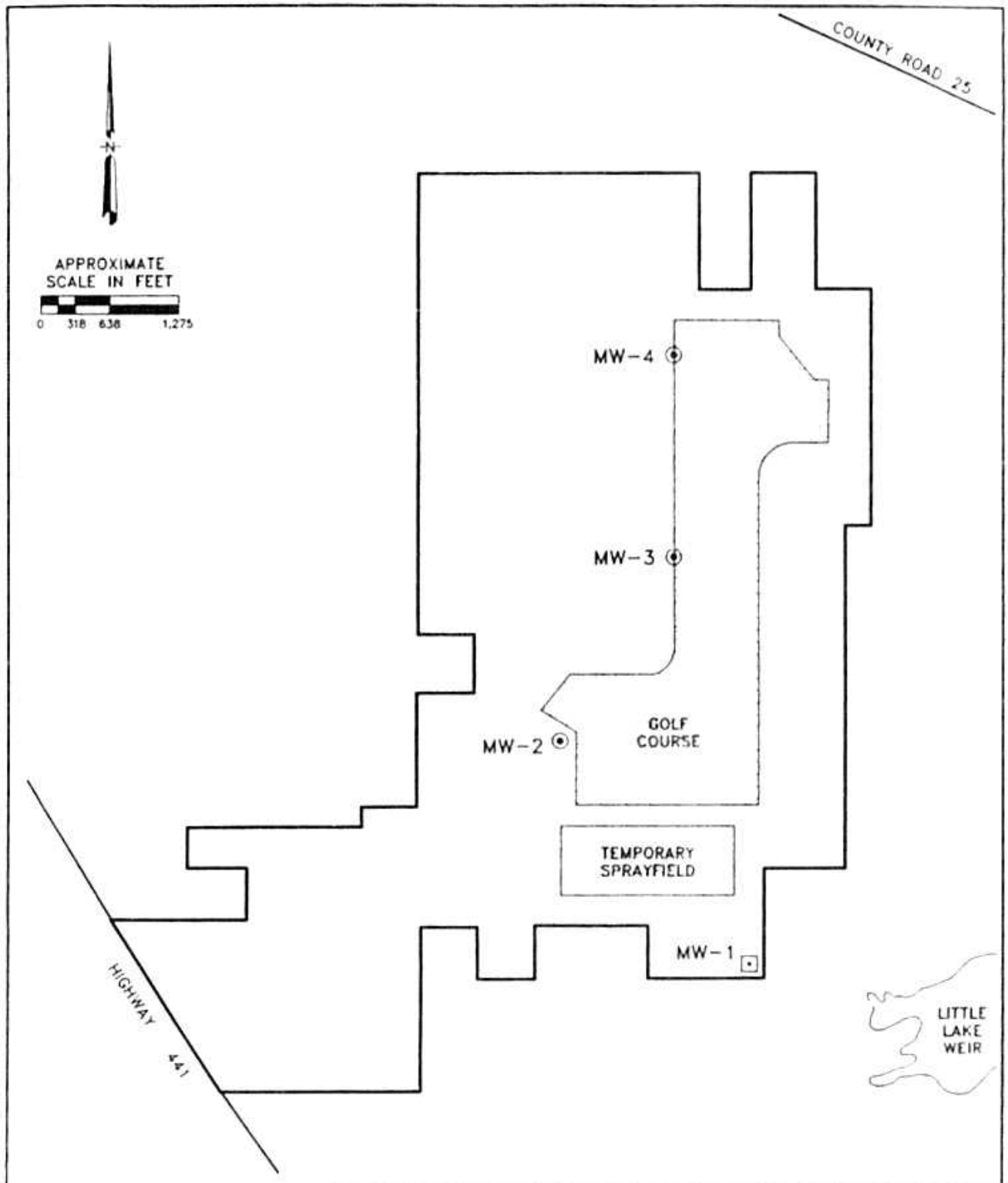
SOIL LEGEND

AdB	ADAMSVILLE SAND
ApB	APOPKA SAND, 0 TO 5% SLOPES
ApC	APOPKA SAND, 5 TO 12% SLOPES
ArB	ARREDONDO SAND
Bp	BORROW PIT
CaB	CANDLER SAND, 0 TO 5% SLOPES
CaC	CANDLER SAND, 5 TO 12% SLOPES
HaB	HAGUE SAND
Pm	PLACID SAND
W	WATER

SOURCE:
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE - MARION COUNTY AREA SOIL SURVEY (MARCH, 1979)



PROJ. NO.: 7942C	GENERAL SOIL CLASSIFICATIONS
DATE: OCTOBER 1995	SPRUCE CREEK GOLF AND COUNTRY CLUB
SCALE: AS SHOWN	MARION COUNTY, FLORIDA
atlanta testing & engineering	FIGURE 1



LEGEND

MW-1 ⊡ LOCATION OF BACKGROUND MONITORING WELL

MW-2 ⊙ LOCATION OF MONITORING WELL

PROJ. NO.: 7942C	GROUNDWATER MONITORING PLAN
DATE: OCTOBER 1995	SPRUCE CREEK GOLF AND COUNTRY CLUB
SCALE: AS SHOWN	MARION COUNTY, FLORIDA
atlanta testing & engineering	FIGURE 2

ATTACHMENT A

GROUNDWATER

MOUNDING MODEL

==

*** INPUT DATA ***

[illegible] LENGTH ---------------- [illegible]
[illegible] WIDTH ----------------- [illegible]
INITIAL GWT ----------------- 1
[illegible] POROSITY ----------- .2
[illegible] HORIZ. PERMEABILITY ---- [illegible]
[illegible] RATE ---------------- [illegible]

*** RESULTS ***

TIME (days)	X (feet)	Y (feet)	[illegible]	[illegible] (feet)	[illegible] (feet)
180.00	0.00	0.00	[illegible]	[illegible]	11.04
[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	14.20	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

GROUNDWATER

MOUNDING MODEL

*** INPUT DATA ***

BASIN LENGTH ----------	[illegible]
BASIN WIDTH ----------	[illegible]
INITIAL GW ----------	[illegible]
FILLABLE POROSITY ----------	[illegible]
AVG. HORIZ. PERMEABILITY ----	[illegible]
RAPI [illegible] ----------	[illegible]

*** RESULTS ***

TIME above	feet	feet	ft.(C)	feet	feet
[illegible]					

ATTACHMENT B

Florida Department of Environmental Regulation
Water Balance Program LANDAP2 [illegible]

ATLANTA TESTING & ENGINEERING
Summary Page 1

Project name :SPRUCE CREEK GOLF AND COUNTRY CLUB
Project number: 7924C
Site: SPRUCE CREEK
Using weather data from OCALA
Years of data: 30
Loading rate: 1.98 in/wk
Site hydrologic capacity: 0.70000 In/day.
Runoff coefficient: .00
Wetted area: 13 Acres
Design flow: 0.10 MGD
PET determined by the Thornthwaite method.

The ten year return is represented by 1959.
A required storage volume: 0.750MG.
Days of storage is required : 3.00

EXPLANATION:

Temp=Temperature (F) Pet=Potential evapotranspiration
Rain=Monthly rainfall (in) PERC=Site hydrologic capacity
Delsto= Change in monthly storage(+/- in)
Sto=monthly storage(in) MLOAD=Maximum load for month

DATA FOR 1959

MONTH	TEMP (F)	FLOW MGD	LOADING IN/WK	RATE	RAIN	SPC	PET	PERC	MLOAD	STORAGE +/-	BAL
				-----	-----	----- IN/MO	-----	-----	-----		
DECEMBER	1958										0.00
JANUARY	57.3	0.10	1.98!	8.78	4.22	0.00	0.92	21.70	18.40	-9.617	-0-
FEBRUARY	66.0	0.10	1.98!	7.93	2.25	0.00	2.08	19.60	19.43	-11.498	-0-
MARCH	62.5	0.10	1.98!	8.78	11.66	0.00	1.73	21.70	11.57*	-2.792	-0-
APRIL	70.7	0.10	1.98,	8.50	8.42	0.00	3.34	21.00	15.9[illegible]	-7.422	-0-
MAY	78.6	0.10	1.98!	8.75	5.[illegible]1	0.00	5.69	21.70	22.28	-13.502	-0-
JUNE	80.5	0.10	1.98!	8.50	8.34	0.00	6.48	21.00	19.14	-10.640	-0-
JULY	81.3	0.10	1.98!	8.78	10.22	0.00	6.70	21.70	13.17	-4.386	-0-
AUGUST	81.6	0.10	1.98!	8.78	8.23	0.00	6.45	21.70	19.92	-11.138	-0-
SEPTEMBER	79.6	0.10	1.98!	8.50	5.76	0.00	5.48	21.00	20.7[illegible]	-1[illegible]	-0-
OCTOBER	77.4	0.10	1.98!	8.78	3.40	0.00	4.60	21.70	[illegible]	-4.1[illegible]	-0-
NOVEMBER	64.5	0.10	1.98!	8.50	1.06	0.00	1.85	21.00	[illegible]	-1[illegible]	-0-
DECEMBER	58.[illegible]	0.10	1.98!	8.78	1.43	0.00	0.99	21.70	21.16	-12.48[illegible]	-0-

* MAXIMUM MONTHLY STORAGE (IN)

Florida Department of Environmental Regulation
Water Balance Program LANDAF2 10-23-1995

ATLANTA TESTING & ENGINEERING
SPRUCE CREEK GOLF AND COUNTRY CLUB 79240
Ranked Date Page 2

Year	Storage: IN/MONTH	MG	DAYS	Return (YEARS)	Rainfall (in/yr)
1982	0.67	0.237	0.95	31.000	74.71
1964	0.00	0.000	0.00	15.500	70.61
1959	**0.00**	**0.000**	**0.00**	**10.333**	**70.31*** **
1960	0.00	0.000	0.00	7.750	66.38
1979	0.00	0.000	0.00	6.200	66.21
1976	0.00	0.000	0.00	5.167	63.67
1983	0.00	0.000	0.00	4.429	62.92
1969	0.00	0.000	0.00	3.875	60.31
1970	0.00	0.000	0.00	3.444	58.94
1965	0.00	0.000	0.00	3.100	58.85
1968	0.00	0.000	0.00	2.818	57.78
1966	0.00	0.000	0.00	2.583	52.97
1974	0.00	0.000	0.00	2.385	50.98
1980	0.00	0.000	0.00	2.214	50.72
1987	0.00	0.000	0.00	2.067	50.58
1978	0.00	0.000	0.00	1.938	49.35
1975	0.00	0.000	0.00	1.824	48.93
1963	0.00	0.000	0.00	1.722	48.80
1985	0.00	0.000	0.00	1.632	48.09
1973	0.00	0.000	0.00	1.550	46.77
1961	0.00	0.000	0.00	1.476	46.21
1972	0.00	0.000	0.00	1.409	46.06
1986	0.00	0.000	0.00	1.348	45.94
1981	0.00	0.000	0.00	1.292	44.34
1977	0.00	0.000	0.00	1.240	41.85
1967	0.00	0.000	0.00	1.192	41.77
1962	0.00	0.000	0.00	1.148	41.45
1971	0.00	0.000	0.00	1.107	39.30
1984	0.00	0.000	0.00	1.068	39.64

*** MARKS 10 YEAR EVENT.

ATTACHMENT B

Florida Department of Environmental Regulation
Water Balance Program LANDAP2 10-[illegible]-1995

ATLANTA TESTING & ENGINEERING
Summary Page 1

Project name :SPRUCE CREEK GOLF AND COUNTRY CLUB
Project number: 7924C
Site: SPRUCE CREEK
Using weather data from OCALA
Years of data: 30
Loading rate: 1.98 in/wk
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Runoff coefficient: .00
Wetted area: 13 Acres
Design flow: 0.10 MGD
PET determined by the Thornthwaite method.

The ten year return is represented by 1959.
A required storage volume: 0.750MG.
Days of storage is required : 3.00

EXPLANATION:

Temp=Temperature (F) Pet=Potential evapotranspiration
Rain=Monthly rainfall (in) PERC=Site hydrologic capacity
Delsto= Change in monthly storage(+/- in)
Sto=monthly storage(in) MLOAD=Maximum load for month

DATA FOR 1959

MONTH	TEMP (F)	FLOW MGD	LOADING IN/WK	RATE	RAIN	SRO	PET	PERC	MLOAD	STORAGE +/-	BAL
			IN/MO								
DECEMBER	1958										0.000
JANUARY	57.3	0.10	1.98	8.78	4.22	0.00	0.92	21.70	16.40	-9.617	-0-
FEBRUARY	66.0	0.10	1.98	7.93	2.25	0.00	2.03	19.60	19.43	-11.498	-0-
MARCH	[illegible]	0.10	1.98	8.78	11.66	0.00	1.73	21.70	11.57	-2.792	-0-
APRIL	70.7	0.10	1.98	8.50	8.42	0.00	3.34	21.00	15.9[illegible]	-7.422	-0-
MAY	76.6	0.10	1.98	8.78	5.[illegible]1	0.00	5.69	21.70	22.29	-13.502	-0-
JUNE	80.5	0.10	1.98	8.50	8.34	0.00	6.48	21.00	19.14	-10.640	-0-
JULY	81.3	0.10	1.98	8.78	10.23	0.00	6.70	21.70	18.17	-9.386	-0-
AUGUST	81.6	0.10	1.98	8.78	8.23	0.00	6.45	21.70	19.92	-11.138	-0-
SEPTEMBER	79.6	0.10	1.98	8.50	5.76	0.00	5.46	21.00	20.70	-12.[illegible]	-0-
OCTOBER	77.4	0.10	1.98	8.78	3.40	0.00	4.60	21.70	[illegible]	-14.1[illegible]	-0-
NOVEMBER	64.5	0.10	1.98	8.50	1.06	0.00	1.83	21.00	[illegible]	[illegible]	-0-
DECEMBER	[illegible]	0.10	1.98	8.78	1.43	0.00	0.9[illegible]	21.70	21.26	[illegible]	-0-

MAXIMUM MONTHLY STORAGE (IN)

Florida Department of Environmental Regulation
Water Balance Program LANDAF2 10-23-1995

ATLANTA TESTING & ENGINEERING
SPRUCE CREEK GOLF AND COUNTRY CLUB 79240
Ranked Late Page 2

Year	Storage: IN/MONTH	MG	DAYS	Return (YEARS)	Rainfall (in/yr)
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1964	0.00	0.000	0.00	15.500	70.61
1959	**0.00**	**0.000**	**0.00**	**10.333**	**70.31*****
1960	0.00	0.000	0.00	7.750	66.38
1973	0.00	0.000	0.00	6.200	66.21
1975	0.00	0.000	0.00	5.167	62.67
1983	0.00	0.000	0.00	4.429	62.92
1969	0.00	0.000	0.00	3.875	60.31
1970	0.00	0.000	0.00	3.444	58.94
1985	0.00	0.000	0.00	3.100	58.85
1968	0.00	0.000	0.00	2.818	57.78
1966	0.00	0.000	0.00	2.583	52.97
1974	0.00	0.000	0.00	2.385	50.98
1980	0.00	0.000	0.00	2.214	50.72
1987	0.00	0.000	0.00	2.067	50.58
1978	0.00	0.000	0.00	1.938	49.35
1979	0.00	0.000	0.00	1.824	48.93
1963	0.00	0.000	0.00	1.722	48.80
1985	0.00	0.000	0.00	1.632	48.09
1977	0.00	0.000	0.00	1.550	46.77
1981	0.00	0.000	0.00	1.476	46.21
197[illegible]	0.00	0.000	0.00	1.409	46.06
1986	0.00	0.000	0.00	1.348	45.54
1961	0.00	0.000	0.00	1.292	44.34
1977	0.00	0.000	0.00	1.240	41.85
1967	0.00	0.000	0.00	1.192	41.77
1962	0.00	0.000	0.00	1.148	41.45
1971	0.00	0.000	0.00	1.107	39.30
1984	0.00	0.000	0.00	1.069	39.64

*** MAP IS 10 YEAR EVENT.

WASTEWATER APPLICATION FORM 2A

FOR A DOMESTIC WASTEWATER FACILITY PERMIT

Instructions for selected items are included in the "INSTRUCTIONS FOR FORM 2A". Refer to these instructions before filling out each item.

SECTION 1. APPLICANT AND FACILITY DESCRIPTION

1. **Application Type**

   X New
   ___ Substantial Modification
   ___ Permit Renewal

2. **Facility Type**

   X Wastewater Treatment
   X Reuse or Disposal
   ___ Limited Wet Weather Discharge
   ___ Residuals/Septage Management

3. **Treatment Facility Information**

   a. Name: Spruce Creek Golf & Country Club WWTF

   b. Facility Identification Number: N/A

   c. Location

   Number and Street: N/A
   City/State/Zip Code:
   Telephone: ( )

   Latitude: 29 o 01 . 11 "N
   Longitude: 82 o 00 . 03 "W
   Dates Coordinates Determined: 10 / 18 / 95
   Method Used to Obtain Coordinates: USGS Map, Scale

   d. Ownership Type

   ___ Municipal
   ___ County
   ___ State
   X Private

   e. Contact

Name: Jay Thompson
Telephone: (904) 347-3700

f. Facility Mailing Address

Number and Street:
City/State/Zip Code: N/A

g. Year Facility Began Operation: New Facility

h. Year of Facility's Last Substantial Modification: N/A

4. Applicant or Authorized Representative

Legal Name: Jay Thompson, Vice President
Number and Street: Spruce Creek South Utilities, Inc.
City/State/Zip Code: 17585 Southeast 102nd Avenue
Telephone: Summerfield, FL 34491
(904) 347-3700

5. Applicant's Authorized Agent

Name and Title: John P. Toomey, P.E.
Project Manager
Number and Street: Dyer, Riddle, Mills & Precourt, Inc.
City/State/Zip Code: 1505 East Colonial Drive
Telephone: Orlando, FL 32803
(407) 896-0594

6. Project Name and Description

Provide wastewater service for the Spruce Creek Golf & Country Club.

7. Collection System Length: 21 miles

8. Industrial Wastewater Contributions

N/A

a. Average Daily Flow: _____ mgd

b. Does this facility have an approved pretreatment program? N/A: ___ Yes ___ No

Coordinator Name:
Number and Street:
City/State/Zip Code:
Telephone: (___)

9. Municipalities or Areas Served

Name of Municipality or Area	Population Served
Spruce Creek Golf & Country Club	960 Units = 1,824 Residents
Total Population Served	1,824 Residents

10. Reclaimed Water Reuse and Effluent Disposal

Method of Reuse or Disposal	Number of Reuse or Disposal Points	Total Design Capacity (mgd)	Basis of Design Flow
Surface Waters - Excluding Ocean Outfalls and Wetlands (Rule 62-600.510, F.A.C.)	0		
Ocean Outfalls (Rule 62-600.520, F.A.C.)	0		
Wetlands (Rule 62-600.620, F.A.C.)	0		
Reuse of Reclaimed Water and Land Application (Rule 62-600.530, F.A.C.)	2(Temp. restricted access sprayfield and public access golf course irr.)	0.1 MD (Temp. Spray-field) 0.2 MD (Golf Course)	Half AADF AADF
Ground Water Disposal by Underground Injection (Rule 62-600.540, F.A.C.)	0		
Other (Describe.)			
Total Item 7		0.2 MD	AADF

11. Number of Seasonal or Periodic Discharges: None

12. Flows to Another Wastewater Facility

a. Does part of the facility's flow go into a collection/transmission system or reclaimed water distribution system under another responsible organization? N/A

___ Yes ___ No

b. If yes, which one? N/A

___ Collection/Transmission System
___ Reclaimed Water Distribution System

c. Responsible Organization Receiving the Flow

Name
Number and Street N/A
City/State/Zip Code

d. Name of Facility Which Receives the Flow N/A

e. Facility Identification Number of Facility Which Receives the Flow N/A

f. Average Daily Flow Discharged to the Receiving Facility N/A _____ mgd

13. Residuals Use or Disposal

a. Amount of Residuals Generated by the Facility 43.25 dry tons/year

b. Does this facility receive residuals from another facility for further treatment and disposal? ___ Yes X No

c. Method of Residuals Use or Disposal

Method	Number of Sites or Number of Receiving Facilities	Dry Tons Used or Disposed Per Year
Land Application (Chapter 62-640, F.A.C.)	1	43.25 ton/year
Distribution and Marketing (Chapter 62-640, F.A.C.)		
Landfill Disposal (Chapter 62-701, F.A.C.)	N/A	
Incineration (Chapter 62-200 Series, F.A.C.)	N/A	
Transport to Another Treatment Facility	N/A	
Other (Describe.)		
	Total	43.25

d. If residuals are transported to another facility for landfill disposal, incineration, or treatment, provide the facility name, Facility identification number and address. N/A

Name _____
Facility Identification Number _____

Number and Street _____
City/State/Zip Code _____
County _____
Telephone (___) _____

Treatment Codes for Receiving Facility ___ ___ ___ ___ ___
___ ___ ___ ___ ___

14. Permits and Applications

a. Expiration Date of Current NPDES Permit N/A ___/___/___

b. Expiration Date of Current DEP Permit N/A ___/___/___

c. Existing, Pending, or Denied Permits and Permit Applications

Issuing Agency	Permit Type	Permit Number	Date Filed	Date Issued	Date Denied	Date of Expiration
SJRWMD	C.U.P.	—	2/9/96	—/—/—	—/—/—	—/—/—
SJRWMD	MSSW	40830179 ERP	10/9/95	3/12/96	—/—/—	2/12/2001
			/ /	/ /	/ /	/ /
			/ /	/ /	/ /	/ /

d. Orders and Notices N/A

Type or Order or Notice	Issuing Agency	Date of Order or Notice
Notice or Violation		
Consent Order		
Administrative Order		
Other (Describe.)		

Serial Number(s) R001

Temp. Sprayfield Disposal

SECTION 2. TREATMENT FACILITY DESCRIPTION

1. Description

Treatment consists of flow equalization followed by biological treatment using activated sludge followed by clarification, filtration, and then disinfection. Residuals will be hauled, stabilized and disposed of by others.

2. Treatment Codes

S	JS	WNA	WN	N
FS	PH	LN	IR	H

3. Design Capacity of the Treatment Facility

Current Design Capacity	0.2	mgd
Proposed Incremental Design Capacity	+ ---	mgd
Proposed Total Design Capacity	= 0.2	mgd

4. Basis of Design Flow

- X Annual Average Daily Flow
- ___ Maximum Monthly Average Daily Flow
- ___ Three-Month Average Daily Flow
- ___ Other

If other, specify.

5. Design Treatment Levels

Parameter	Effluent Concentration	Units	Basis	Percent Removal
pH	6.5 - 8.5	Standard Units		
$CBOD_5$	≤ 20	mg/L	AADF	90%
TSS	≤ 5	mg/L	AADF	97.5%
Fecal Coliform	*			

*Non-detetable in 75% of daily samples and less than 25/100 ml at all times.

Serial Number(s) R001
Temp. Sprayfield Disposal

6. Disinfection Level Provided

___ Low-level
___ Basic
___ Intermediate
X High-level
___ High-level Alternative

If the facility disinfects by chlorination and the discharge is to surface waters, is dechlorination provided?

___ Yes ___ No N/A

7. Residuals Treatment

a. Class of Residuals

___ Class AA (Rule 62-640.850, F.A.C.)
___ Class A (Rule 62-640.600, F.A.C.)
___ Class B (Rule 62-640.600, F.A.C.)
X Other

If other, describe.

Residuals are to be stabilized and disposed of by a private company.

b. Parameter Concentrations

Total Nitrogen		_____ % dry weight
Total Phosphorus		_____ % dry weight
Total Potassium	N/A	_____ % dry weight
Cadmium		_____ mg/kg dry weight
Copper		_____ mg/kg dry weight
Lead		_____ mg/kg dry weight
Nickel		_____ mg/kg dry weight
Zinc		_____ mg/kg dry weight
pH		_____ standard units
Total Solids		_____ %
Other Parameters (Describe.)		_____ _____
		_____
		_____

Date of Sample _____/_____/_____

8. Reliability Class

X Class I
___ Class II
___ Class III
___ Other Equivalent Reliability

Serial Number(s) R002
Golf Course Irr.

SECTION 2. TREATMENT FACILITY DESCRIPTION

1. Description

Treatment consists of flow equaliaztion followed by biological treatment using activated sludge followed by clarification, filtration, and then disinfection. Residuals will be hauled, stabilized, and disposed of by others.

2. Treatment Codes

S, JS, WNA, WN, N,
FS, PH, LN, IR, H,
___, ___ ___ ___ ___
___ ___ ___ ___ ___
___ ___ ___ ___ ___

3. Design Capacity of the Treatment Facility

Current Design Capacity	0.2	mgd
Proposed Incremental Design Capacity	+ ---	mgd
Proposed Total Design Capacity	= 0.2	mgd

4. Basis of Design Flow

X Annual Average Daily Flow
__ Maximum Monthly Average Daily Flow
__ Three-Month Average Daily Flow
__ Other

If other, specify.

5. Design Treatment Levels

Parameter	Effluent Concentration	Units	Basis	Percent Removal
pH	6.5 - 8.5	Standard Units		
$CBOD_5$	≤ 20	mg/L	AADF	90%
TSS	≤ 5	mg/L	AADF	97.5%
Fecal Coliform	*			

*Non-detectable in 75% of daily samples and less than 25/100 ml at all times.

Serial Number(s) R002

Golf Course Irr.

6. Disinfection Level Provided

___ Low-level
___ Basic
___ Intermediate
X High-level
___ High-level Alternative

If the facility disinfects by chlorination and the discharge is to surface waters, is dechlorination provided?

___ Yes ___ No N/A

7. **Residuals Treatment**

a. Class of Residuals

___ Class AA (Rule 62-640.850, F.A.C.)
___ Class A (Rule 62-640.600, F.A.C.)
___ Class B (Rule 62-640.600, F.A.C.)
X Other

If other, describe.

Residuals are to be stabilized and disposed of by a private company.

b. Parameter Concentrations N/A

Total Nitrogen	_____ % dry weight
Total Phosphorus	_____ % dry weight
Total Potassium	_____ % dry weight
Cadmium	_____ mg/kg dry weight
Copper	_____ mg/kg dry weight
Lead	_____ mg/kg dry weight
Nickel	_____ mg/kg dry weight
Zinc	_____ mg/kg dry weight
pH	_____ standard units
Total Solids	_____ %
Other Parameters (Describe.)	_____ _____
	_____
	_____
Date of Sample	_____/_____/_____

8. Reliability Class

X Class I
___ Class II
___ Class III
___ Other Equivalent Reliability

Serial Number _____

SECTION 3. A. DISCHARGES TO SURFACE WATERS (including wetlands)

1. **Discharge Serial Number and Name**

Discharge Serial Number		_____
Discharge Name	N/A	_____
Previous Discharge Serial Number		_____

2. **Discharge Location**

County		_____
City or Town (if applicable)	N/A	_____
Street or Description		_____
		_____
Latitude		_____ o _____ ' _____ "N
Longitude		_____ o _____ ' _____ "W
Dates Coordinates Determined		_____ / _____ / _____
Method Used to Obtain Coordinates		_____

3. **Discharge Operating Dates**

Discharge Start Date		_____ / _____ / _____
Discharge End Date	N/A	_____ / _____ / _____

Reason for Discontinuing the Discharge _____

4. **Design Capacity of the Outfall**

	N/A	
Current Design Capacity		_____ mgd
Proposed Incremental Design Capacity		+ _____ mgd
Proposed Total Design Capacity		= _____ mgd

5. **Basis of Design Flow**

N/A

___ Annual Average Daily Flow
___ Maximum Monthly Average Daily Flow
___ Three-Month Average Daily Flow
___ Other

If other, specify. _____

Serial Number _____

6. Basis for Effluent Limitations — N/A

___ TBEL
___ Level I WQBEL
___ Level II WQBEL
___ Other

If other, specify. _____

Date Effluent Limitations Established _____/_____/_____

7. Discharge Point Description — N/A

___ Ocean
___ Stream
___ Estuary
___ Lake
___ Wetland
___ Other

If other, specify. _____

8. Receiving Waterbody Name — N/A _____

9. Type of Receiving Waterbody — N/A

___ Fresh
___ Brackish or Marine

10. Classification of Receiving Waterbody — N/A

___ Class I
___ Class II
___ Class III
___ Class IV
___ Class V

Is the receiving waterbody contiguous to, or identified as, an Outstanding Florida Water (OFW) or an Outstanding National Resource Water? ___ Yes ___ No

If yes, name and locate on a USGS map. _____

11. Outfall Information

Description of Outfall and Diffuser — N/A _____

Construction Materials _____
Length From Shore _____ feet
Diameter _____ inches
Discharge Depth Below Water Surface _____ feet
Receiving Water Bottom Depth Below Water Surface _____ feet

Serial Number _____

12. Surface Water Improvement and Management (SWIM) **N/A**

a. Will the discharge affect any SWIM plan waterbodies? ___ Yes ___ No

b. If yes, name the waterbody. _____

c. Has the SWIM plan been approved by a water management district and the Department? ___ Yes ___ No

d. If yes, attach documentation that the proposed discharge is consistent with the SWIM plan.

13. **Additional Information Required for Seasonal or Periodic Discharges** **N/A**

Frequency _____ Times Per Year
Duration _____ Days
Volume _____ Thousand Gallons Per Incident
Occurrence

	Jan		May		Sep
	Feb		Jun		Oct
	Mar		Jul		Nov
	Apr		Aug		Dec

14. **Additional Information Required for Limited Wet Weather Discharges Permitted in Accordance with Rule 62-610.860, F.A.C.**

a. Downstream Waterbody **N/A**

Name of nearest downstream lake, estuary, reservoir, OFW, or Class I water. Show location on a USGS map. _____

Downstream Waterbody Description

___ Ocean
___ Stream
___ Estuary
___ Lake
___ Wetland
___ Other

If other, specify. _____

Serial Number _____

Classification of Downstream Waterbody

___ Class I
___ Class II
___ Class III
___ Class IV
___ Class V

Distance Downstream _____ miles

Average Flow Velocity During Anticipated Periods of Discharge _____ feet per second

Travel Time During Anticipated Periods of Discharge _____ hours

b. Rainfall Information

Rainfall Gauging Station Location N/A _____

Period of Record Analyzed:
Beginning Year _____
Ending Year _____
Number of Years _____
Average Annual Rainfall _____ inches per year

c. Simulation of Operation of the Reuse, Storage, and Limited Wet Weather Discharge for an Average Rainfall Year N/A

Year Simulated _____

Annual Rainfall During Average Year _____ inches

Number of Days Limited Wet Weather Discharge is Used During Average Rainfall Year (N) _____ days

Percent of the Drys of the Year that the Limited Wet Weather Discharge will Occur During Average Rainfall Year (P) _____ %

Note:
P = [(N) / (365)] x 100%.
P cannot exceed 25% or be less than 1%.

d. Reclaimed Water Quality (maximum monthly average)

CBOD$_5$ _____ mg/L
TKN (as Nitrogen) N/A _____ mg/L

e. Minimum Acceptable Stream Dilution Factor (SDF) N/A

Note:
SDF = P(0.085 x $CBOD_5$ + 0.272 x TKN - 0.484)
The values for $CBOD_5$ and TKN should be in terms of maximum monthly average limitations as provided in 14.d. above. The value of P should be as calculated in 14.c. above.

f. Adjusted Stream Dilution Factor N/A

Note:
If the travel time shown in 14.a., above, is less than 24 hours, provide the adjusted minimum acceptable stream dilution factor.
Adjusted SDF = SDF x (24 hours)/(travel time in hours)

15. Additional Information Required for Wetland Discharges

N/A

a. Is the wetland a jurisdictional wetland (i.e. within the landward extent of waters as defined in Rule 62-301.400. F.A.C., or isolated and not owned entirely by one person, or owned entirely by the State)? ___ Yes ___ No

b. Will the wetland be used as a treatment wetland or receiving wetland? N/A
___ Treatment
___ Receiving

If the wetland is to be used as a treatment wetland, attach documentation showing ownership or the applicant's legal interest in the treatment wetland.

c. If the wetland is to be used for treatment, identify the type. N/A
___ Man-made
___ Hydrologically Altered
___ Unaltered

d. Is the wetland herbaceous or woody? N/A
___ Herbaceous
___ Woody

e. Identify the classification of surface waters within the wetland. N/A
___ Class I
___ Class II
___ Class III
___ Class IV
___ Class V

f. Are the waters within the wetland part of an OFW? N/A
___ Yes ___ No

Serial Number _____

16. Operational Data

N/A

a. Description of Influent and Effluent

	Influent	Effluent					
Parameter	Annual Average	Annual Average	Lowest Monthly Average	Highest Monthly Average	Frequency of Analysis	Number of Analyses	Sample Type
Flow mgd							
pH Units							
Fecal Coliform Bacteria Number/100 mL							
CBOD 5-day mg/L							
Chlorine Total Residual mg/L							
Total Suspended Solids mg/L							
Ammonia (as N) mg/L							
Kjeldahl Nitrogen mg/L							
Nitrate (as N) mg/L							
Total Phosphorus (as P) mg/L							
Dissolved Oxygen mg/L							

a. Description of Influent and Effluent (continued) **N/A**

	Influent	Effluent					
Parameter	Annual Average	Annual Average	Lowest Monthly Average	Highest Monthly Average	Frequency of Analysis	Number of Analyses	Sample Type

b. Additional Wastewater Characteristics

Parameter	Present	Parameter	Present	Parameter	Present
Bromide		Cobalt		Thallium	
Chloride		Chromium		Titanium	
Cyanide		Copper		Tin	
Fluoride		Iron		Zinc	
Sulfide		Lead		Algicides*	
Aluminum		Manganese		Chlorinated Organic Compounds*	
Antimony		Mercury		Oil and Grease	
Arsenic		Molybdenum		Pesticides*	
Beryllium		Nickel		Phenols	
Barium		Selenium		Surfactants	
Boron		Silver		Radioactivity*	
Cadmium					

* Provide specific compound or element as "Additional Information", if known.

Serial Number R001

SECTION 3. B. REUSE AND LAND APPLICATION SYSTEMS

Temp. Sprayfield Disposal

1. Reuse or Land Application System Serial Number and Name

Reuse or Land Application System Serial Number	R001
Reuse or Land Application System Name	Spruce Creek Temporary Sprayfield
Previous Reuse or Land Application System Serial Number	N/A

2. Reuse or Land Application System Location

County	Marion
City or Town (if applicable)	N/A
Street or Description	Approximately 1,000 feet NE of proposed WWTF
Latitude	29 o 01 ' 15 "N
Longitude	81 o 59 ' 57 "W
Dates Coordinates Determined	10 / 19 / 95
Method Used to Obtain Coordinates	Scale, USGS Map

3. Reuse or Land Application System Operating Dates

System Operation Start Date	1 / 1 / 97
System Operation End Date	/ /
Reason for Discontinuing System Operation	

4. Design Capacity of the Reuse or Land Application System

Current Design Capacity	0.1 mgd
Proposed Incremental Design Capacity	+ --- mgd
Proposed Total Design Capacity	= 0.1 mgd

5. Basis of Design Flow

- X Annual Average Daily Flow
- ___ Maximum Monthly Average Daily Flow
- ___ Three-Month Average Daily Flow
- ___ Other

If other, specify.

6. Underdrains and Perimeter Ditches

a. Is the reuse or land application system underdrained? ___ Yes X No

Serial Number: R001
Temp. Sprayfield Disposal

b. Are perimeter ditches used? ___ Yes X No

If yes, will they be excavated to a depth which will intersect the seasonal high ground water table or the ground water mound during any portion of the year? ___ Yes ___ No

7. Type of Reuse or Land Application System

X Slow-rate land application system/restricted public access (Chapter 62-610, F.A.C., Part II)
___ Slow-rate land application system/public access areas, residential irrigation, and edible crop irrigation (Chapter 62-610, F.A.C., Part III)
___ Rapid-rate land application system (Chapter 62-610, F.A.C., Part IV)
___ Absorption field system (Chapter 62-610, F.A.C., Part V)
___ Overland flow system (Chapter 62-610, F.A.C., Part VI)
___ Other land application system with additional levels of preapplication treatment (Rule 62-610.660, F.A.C.)
___ Other land application system with lower levels of preapplication treatment (Rule 62-610.670, F.A.C.)

8. Application Areas and Rates

Site/Use Type/Major User	Area (acres)	Rate (inches/week)	Capacity (mgd)
Temporary Sprayfield	12.98	2.00	0.100
Total	12.98	2.00	0.100

9. Additional Information Required for Reuse Systems Permitted Under Part III of Chapter 62-610, F.A.C.

N/A

a. Areas Irrigated

___ Residential lawns
___ Golf courses
___ Cemeteries
___ Parks, playgrounds
___ Landscape areas
___ Highway medians, rights-of-way
___ Edible crops
___ Others

If other, specify. _____

Serial Number R001
~~Temp.~~ Sprayfield Disposal

b. Other Uses of Reclaimed Water

N/A

___ Toilet flushing
___ Fire protection
___ Construction dust control
___ Aesthetic purposes (decorative ponds, fountains, etc.)
___ Others

If other, specify. _____

c. How many hours per day, seven days per week, is or will an operator be on-site at the wastewater treatment facility?

N/A

_____ hours per day

If the treatment facility is or will be staffed by an operator less than 24 hrs/day, describe the additional levels of reliability included within the treatment or reuse systems. (See Rule 62-610.462, F.A.C.)

_____
_____
_____
_____
_____

d. For permit renewals, list the dates on which the operating protocols (as described in Rule 62-610.463, F.A.C.) were submitted to the Department and the date of the Department's approvals during the last five years.

N/A

Date Submitted	Date Approved
/ /	/ /
/ /	/ /
/ /	/ /
/ /	/ /

e. For each site where edible crops are or will be irrigated with reclaimed water, describe the crops grown; the type of application system used; provisions for crop washing and for processing, if any; and provisions for control of public access, if any. (See Rule 62-610.475, F.A.C.)

N/A

_____
_____
_____
_____
_____

Serial Number R002

Golf Course Irr.

SECTION 3. B. REUSE AND LAND APPLICATION SYSTEMS

1. **Reuse or Land Application System Serial Number and Name**

Reuse or Land Application System Serial Number	R002
Reuse or Land Application System Name	Spruce Creek Golf & Country Club Reuse
Previous Reuse or Land Application System Serial Number	N/A

2. **Reuse or Land Application System Location**

County	Marion
City or Town (if applicable)	N/A
Street or Description	Approximately 1,500 feet NE of proposed WWTF
Latitude	29 o 01 ' 22 "N
Longitude	81 o 59 ' 51 "W
Dates Coordinates Determined	10 / 19 / 95
Method Used to Obtain Coordinates	Scale, USGS Map

3. **Reuse or Land Application System Operating Dates**

System Operation Start Date	1 / 1 / 97
System Operation End Date	/ /
Reason for Discontinuing System Operation	

4. **Design Capacity of the Reuse or Land Application System**

Current Design Capacity *	0.2 mgd
Proposed Incremental Design Capacity	+ --- mgd
Proposed Total Design Capacity	= 0.2 mgd

5. **Basis of Design Flow**

- X Annual Average Daily Flow
- ___ Maximum Monthly Average Daily Flow
- ___ Three-Month Average Daily Flow
- ___ Other

If other, specify.

6. **Underdrains and Perimeter Ditches**

a. Is the reuse or land application system underdrained? ___ Yes ___ No

*Ponds will occupy 20 acres in size, will provide for stormwater and reuse management, and provide 12 days wet-weather storage for reuse.

b. Are perimeter ditches used? ___ Yes X No

If yes, will they be excavated to a depth which will intersect the seasonal high ground water table or the ground water mound during any portion of the year? ___ Yes ___ No

7. Type of Reuse or Land Application System

___ Slow-rate land application system/restricted public access (Chapter 62-610, F.A.C., Part II)
X Slow-rate land application system/public access areas, residential irrigation, and edible crop irrigation (Chapter 62-610, F.A.C., Part III)
___ Rapid-rate land application system (Chapter 62-610, F.A.C., Part IV)
___ Absorption field system (Chapter 62-610, F.A.C., Part V)
___ Overland flow system (Chapter 62-610, F.A.C., Part VI)
___ Other land application system with additional levels of preapplication treatment (Rule 62-610.660, F.A.C.)
___ Other land application system with lower levels of preapplication treatment (Rule 62-610.670, F.A.C.)

8. Application Areas and Rates

Site/Use Type/Major User	Area (acres)	Rate (inches/week)	Capacity (mgd)
Golf Course	135	0.38	0.200
Total	135	0.38	0.200

9. Additional Information Required for Reuse Systems Permitted Under Part III of Chapter 62-610, F.A.C.

a. Areas Irrigated

___ Residential lawns
X Golf courses
___ Cemeteries
___ Parks, playgrounds
___ Landscape areas
___ Highway medians, rights-of-way
___ Edible crops
___ Others

If other, specify. _____

Serial Number R002
Golf Course Irr.

b. Other Uses of Reclaimed Water

N/A

___ Toilet flushing
___ Fire protection
___ Construction dust control
___ Aesthetic purposes (decorative ponds, fountains, etc.)
___ Others

If other, specify. _____

c. How many hours per day, seven days per week, is or will an operator be on-site at the wastewater treatment facility?

6 hours per day, 7 days per week

If the treatment facility is or will be staffed by an operator less than 24 hrs/day, describe the additional levels of reliability included within the treatment or reuse systems. (See Rule 62-610.462, F.A.C.)

Diversion of effluent to system storage only during periods of operator attendance.

d. For permit renewals, list the dates on which the operating protocols (as described in Rule 62-610.463, F.A.C.) were submitted to the Department and the date of the Department's approvals during the last five years.

N/A

Date Submitted	Date Approved
/ /	/ /
/ /	/ /
/ /	/ /
/ /	/ /

e. For each site where edible crops are or will be irrigated with reclaimed water, describe the crops grown; the type of application system used; provisions for crop washing and for processing, if any; and provisions for control of public access, if any. (See Rule 62-610.475, F.A.C.)

N/A

Serial Number _____

SECTION 3. C. GROUND WATER DISPOSAL BY UNDERGROUND INJECTION

1. **Underground Injection Well Facility Serial Number and Name**

Underground Injection Well Facility Serial Number	N/A
Underground Injection Well Facility Name	
Previous Underground Injection Well Facility Serial Number	

2. **Underground Injection Well Facility Location**

N/A

County	
City or Town (if applicable)	
Street or Description	
Latitude	____ o ____ ' ____ "N
Longitude	____ o ____ ' ____ "W
Dates Coordinates Determined	____/____/____
Method Used to Obtain Coordinates	

3. **Underground Injection Well Facility DEP Identification Number or Permit Application Number**

N/A

4. **Discharge Operating Dates**

N/A

Discharge Start Date	____/____/____
Discharge End Date	____/____/____
Reason for Discontinuing the Discharge	

5. **Design Capacity of the Underground Injection Well Facility**

N/A

Current Design Capacity	_____ mgd
Proposed Incremental Design Capacity	+ _____ mgd
Proposed Total Design Capacity	= _____ mgd

6. Basis of Design Flow

N/A

___ Annual Average Daily Flow
___ Maximum Monthly Average Daily Flow
___ Three-Month Average Daily Flow
___ Other

If other, specify.

Serial Number _____

SECTION 4. SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION

1. Improvements Required

N/A

a. Discharge Serial Numbers, Reclaimed Water Reuse or Land Application System Serial Numbers, and Underground Injection Well Facility Serial Numbers Affected _____

b. Authority Imposing Requirement

N/A

___ Local
___ State
___ Federal
___ Developed by Applicant
___ Other

If other, specify. _____

c. Improvement Description:

N/A

3-character General Action Description _____

3-character Specific Action Descriptions _____/_____/_____/_____

2. Implementation Schedule and Actual Completion Dates

Implementation Steps	Schedule	Actual Completion
a. Preliminary Plans Complete	4 / / 96	/ /
b. Final Plans and Specifications Complete	4 / / 96	/ /
c. Financing Complete	/ /	/ /
d. Site Acquired	/ /	/ /
e. Begin Construction	8 / / 96	/ /
f. End Construction	12 / / 96	/ /
g. Begin Reuse or Disposal	1 / / 97	/ /
h. Operational Level Attained	1 / / 97	/ /

Serial Number _____

SECTION 5. INDUSTRIAL WASTEWATER CONTRIBUTIONS

1. Significant Industrial User N/A

   Name _____
   Number and Street _____
   City/State/Zip Code _____
   County _____

2. Primary Standard Industrial Classification Code N/A _____

3. Principal Product or Raw Material N/A

	Description	Quantity per Day	Units (See Table 3)
Product			
Raw Material			

4. Flow N/A

   Volume _____ Gallons Per Day

   Frequency ___ Intermittent ___ Continuous

5. Pretreatment Provided N/A ___ Yes ___ No

6. Characteristics of Wastewater N/A

Parameter Name	Value	Units

SECTION 6. ADDITIONAL INFORMATION REQUIRED FOR PERMIT RENEWALS

1. Have there been any modifications to the treatment facilities or reuse or disposal system, since the issuance of the current permit? If yes, describe on a separate sheet and attach. ___ Yes ___ No N/A

2. For limited wet weather discharges, have any modifications been made to the operation, frequency of discharge, or stream hydrology since the original limited wet weather discharge permit or the most recent permit. If yes, describe on a separate sheet and attach. ___ Yes ___ No ___ NA N/A

3. Have there been any violations during the last six months? If yes, describe on a separate sheet and attach. ___ Yes ___ No N/A

4. Have there been any treatment facility interferences due to the discharge of industrial wastewater to the treatment facility during the last six months? If yes, describe on a separate sheet and attach. ___ Yes ___ No N/A

5. Is there any enforcement action pending against these treatment, reuse, or disposal facilities? If yes, describe on a separate sheet and attach. ___ Yes ___ No N/A

6. Have all previous permit conditions, including pretreatment requirements, monitoring requirements, and operator attendance been complied with? If no, describe on a separate sheet and attach. ___ Yes ___ No N/A

7. For permit renewals involving a limited wet weather discharge permitted under Rule 62-610.860, F.A.C., list the number of days during each of the last five years that the limited wet weather discharge was used. Also, list the total annual rainfall for each year.

N/A

Year	Number of Days Used	P (%)	Annual Rainfall (inches)
1.			
2.			
3.			
4.			
5.			
Total/Average			

8. For permit renewals involving a limited wet weather discharge permitted under Rule 62-610.860, F.A.C., provide the number of days during each of the last five years that the actual dilution ratio, as defined in Rule 62-610.860, F.A.C., was less than the minimum SDF and the number of months in which the monthly average $CBOD_5$ or TKN in the limited wet weather discharge exceeded the permit limitations. N/A

Year	Number of Days the Dilution Ratio Was Less Than SDF	Number of Months the Limits Were Exceeded	
		$CBOD_5$	TKN
1.			
2.			
3.			
4.			
5.			

SECTION 7. ADDITIONAL INFORMATION REQUIRED FOR RESIDUALS/SEPTAGE MANAGEMENT FACILITIES

1. Location of Residuals Treatment Processes — N/A

(Describe in relation to the wastewater treatment processes.)

2. Type and Amount of Waste Treated at this Facility — N/A

Type	Amount (dry tons/day)	Amount (gallons/day)
Residuals	or	
Septage		
Food Establishment Sludge		
Portable Toilet Waste		
Holding Tank Waste		
Boat or Marina Waste		
Other (Describe.)	or	
Total	or	

Is the total amount estimated or actual?

___ Estimated
___ Actual

3. Information on Treatment Facilities Transporting Residuals

N/A

a. DEP Permit Number

b. Facility Name
Number and Street
City/State/Zip Code — N/A
County
Telephone ( )

c. Facility Type — N/A

___ Type I
___ Type II
___ Type III

d. Amount of Residuals Received From This Facility — N/A _____ dry tons/day or _____ gpd

Is this amount estimate or actual?

___ Estimated
___ Actual

e. Describe the treatment provided by this facility before transport. — N/A _____

f. Parameter Concentrations — N/A

Total Nitrogen	_____ % dry weight
Total Phosphorus	_____ % dry weight
Total Potassium	_____ % dry weight
Cadmium	_____ mg/kg dry weight
Copper	_____ mg/kg dry weight
Lead	_____ mg/kg dry weight
Nickel	_____ mg/kg dry weight
Zinc	_____ mg/kg dry weight
pH	_____ standard units
Total Solids	_____ %
Other Parameters (Describe.)	_____

Date of Sample _____/_____/_____

4. Describe the manifest system used for tracking residuals during transport from the facilities. — N/A _____

AGREEMENT FOR TRANSPORTATION, TREATMENT AND DISPOSAL OF DOMESTIC WASTEWATER RESIDUALS

This AGREEMENT by and between CENTRAL PROCESS and Spruce Creek So. Utilities, Inc. whose address is 17585 SE 102 Ave. Summerfield Fl. 34491 hereinafter referred to as CLIENT.

WITNESSETH THAT

WHEREAS , CENTRAL PROCESS is the owner and operator of a Lime Stabilization Treatment Plant and Agricultural Use Disposal Site, and

WHEREAS, said treatment and disposal site has been approved and operating under Florida Department of Environmental Regulation (FDEP) permit file incompliance with Chapter 17-640 FAC and

WHEREAS, the CLIENT owns and operates the domestic wastewater treatment plant permitted as Spruce Creek Golf & Country Club herein referred to as 'SOURCE' and has the need to dispose of the waste residual generated by the 'SOURCE' and

WHEREAS, the CLIENT and Central Process both operate treatment facilities in compliance with Chapter 17-600 FAC, the degree of treatment at the plants determined according to said Chapter the true identity (treatment plant) referred to as 'GENERATOR'. For the cases of permitting Central Process will be referred to as 'GENERATOR'.

WHEREAS, as a condition precedent to the obtaining a valid operating permit for the SOURCE

FDEP requires the GENERATOR to file an Agricultural Use Plan whereby the SOURCE certifies that his residuals shall be either stabilized to Class "C" or above at the plant, and meet the chemical criteria for residuals suitable for land application.

NOW THEREFORE, for and in considerations of the mutual terms, covenants and conditions to be complied with on the part of the respective parties hereto, it is agreed as follows:

1. Nothing in this Agreement shall supersede or take precedence over the obligations and responsibility of each party to operate and maintain his individual plant in compliance with the Rules of the State of Florida.

2. The CLIENT hereby covenants and agrees:

A. To provide a sludge analysis of the wastewater residuals proposed to be treated prior to the initial removal, and to provide either updated or additional sludge analysis in compliance with the frequency and schedule stated in Chapter 17-640, FAC.

B. If the CLIENT stabilizes the residuals to Level "C" or above none of said residuals can be mixed with unstabilized materials. If mixing has occurred, the entire load will be required to be stabilized at the Central Process Plant.

C. The CLIENT shall pay for the transportation, treatment and disposal as dictated in the AGREEMENT PAY SCHEDULE attached to this contract.

D. The CLIENT warrants that the residuals delivered to the generator shall not contain any hazardous, toxic or radioactive waste or substances as defined by applicable federal, state and local laws or restrictions.

3. Central Process hereby covenants and agrees:

A. To maintain, monitor and operate the lime stabilization plant and residuals disposal site in compliance with Chapter 17-640, FAC.

B. To accept all responsibility for the proper measurement, stabilization and land application for -the proper disposal of the residuals as required by Chapter 17-640 FAC.

C. To maintain a record of the total quantity of residuals land applied and file with FDEP an annual summary of the total quantity of residuals, heavy metals, and nitrogen land applied, in which this plant is a contributor thereof, to meet the Generator's certification requirements of the Agricultural Use Plan for this PLANT.

(CONTINUED ON REVERSE SIDE)

AGREEMENT PAY SCHEDULE

"A"

IN AGREEMENT WITH PARAGRAPH C, THE COST PER GALLON WILL BE 6 1/2 CENTS PER GALLON AND PAYABLE WITHIN THIRTY (30) DAYS

Initial

WASTEWATER PERMIT APPLICATION FORM 1 GENERAL INFORMATION

I IDENTIFICATION NUMBER:

Facility ID _____

II CHARACTERISTICS:

INSTRUCTIONS: Complete the questions below to determine whether you need to submit any permit application forms to the Department of Environmental Protection. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the blank in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if you activity is excluded from permit requirements. See Section B of the instructions. See also, Section C of the instructions for definitions of the terms used here.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a domestic wastewater facility which results in a discharge to surface or ground waters?	X		X
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters?		X	
C. Does or will this facility (other than those describe in A. or B.) discharge process wastewater, or non-process wastewater regulated by effluent guidelines or new source performance standards, to surface waters?		X	
D. Does or will this facility (other than those described in A. or B.) discharge process wastewater to ground waters?		X	
E. Does or will this facility discharge non-process wastewater, not regulated by effluent guidelines or new source performance standards, to surface waters?		X	
F. Does or will this facility discharge non-process wastewater to ground waters?	X		X
G. Does or will this facility discharge stormwater to surface waters?		X	
H. Is this facility a non-discharging/closed loop recycle system?		X	

III NAME OF FACILITY: (40 characters and spaces)

Spruce Creek Golf & Country Club WWTF

AGREEMENT FOR TRANSPORTATION, TREATMENT AND DISPOSAL OF DOMESTIC WASTEWATER RESIDUALS

This AGREEMENT by and between CENTRAL PROCESS and Spruce Creek So. Utilities, Inc. whose address is 17585 SE 102 Ave. Summerfield Fl. 34491 hereinafter referred to as CLIENT.

WITNESSETH THAT

WHEREAS , CENTRAL PROCESS is the owner and operator of a Lime Stabilization Treatment Plant and Agricultural Use Disposal Site, and

WHEREAS, said treatment and disposal site has been approved and operating under Florida Department of Environmental Regulation (FDEP) permit file incompliance with Chapter 17-640 FAC and

WHEREAS, the CLIENT owns and operates the domestic wastewater treatment plant permitted as Spruce Creek Golf & Country Club herein referred to as 'SOURCE' and has the need to dispose of the waste residual generated by the 'SOURCE' and

WHEREAS, the CLIENT and Central Process both operate treatment facilities in compliance with Chapter 17-600 FAC, the degree of treatment at the plants determined according to said Chapter the true identity (treatment plant) referred to as 'GENERATOR'. For the eases of permitting Central Process will be referred to as 'GENERATOR'.

WHEREAS, as a condition precedent to the obtaining a valid operating permit for the SOURCE FDEP requires the GENERATOR to file an Agricultural Use Plan whereby the SOURCE certifies that his residuals shall be either stabilized to Class "C" or above at the plant, and meet the chemical criteria for residuals suitable for land application.

NOW THEREFORE, for and in considerations of the mutual terms, covenants and conditions to be complied with on the part of the respective parties hereto, it is agreed as follows:

1. Nothing in this Agreement shall supersede or take precedence over the obligations and responsibility of each party to operate and maintain his individual plant in compliance with the Rules of the State of Florida.

2. The CLIENT hereby covenants and agrees:

A. To provide a sludge analysis of the wastewater residuals proposed to be treated prior to the initial removal, and to provide either updated or additional sludge analysis in compliance with the frequency and schedule stated in Chapter 17-640, FAC.

B. If the CLIENT stabilizes the residuals to Level "C" or above none of said residuals can be mixed with unstabilized materials. If mixing has occurred, the entire load will be required to be stabilized at the Central Process Plant.

C. The CLIENT shall pay for the transportation, treatment and disposal as dictated in the AGREEMENT PAY SCHEDULE attached to this contract.

D. The CLIENT warrants that the residuals delivered to the generator shall not contain any hazardous, toxic or radioactive waste or substances as defined by applicable federal, state and local laws or restrictions.

3. Central Process hereby covenants and agrees:

A. To maintain, monitor and operate the lime stabilization plant and residuals disposal site in compliance with Chapter 17-640, FAC.

B. To accept all responsibility for the proper measurement, stabilization and land application for -the proper disposal of the residuals as required by Chapter 17-640 FAC.

C. To maintain a record of the total quantity of residuals land applied and file with FDEP an annual summary of the total quantity of residuals, heavy metals, and nitrogen land applied, in which this plant is a contributor thereof, to meet the Generator's certification requirements of the Agricultural Use Plan for this PLANT.

(CONTINUED ON REVERSE SIDE)

4. It is further understood by both parties that:

A. Both parties understand that this Agreement is subject to the rules, regulations and directives of the regulatory agencies and agree that in the event such rules, regulations and directives require modification of this agreement, they will negotiate in good faith to make such modification.

B. Upon arrival onsite for treatment, residuals from the CLIENT'S plant, Central Process has the right to refuse treatment of said residuals, if it demonstrates properties that are not consistent with Land Application. The CLIENT will be responsible for the removal and proper disposal of material.

5. It is specifically agreed and understood by all parties hereto, that the rate stated in the Financial Agreement is for the proper treatment, transportation and disposal of residuals delivered by AMERICAN PIPE & TANK, INC. to the Central Process Site and proper disposal of the same.

6. Payment shall be made by Customer within thirty (30) days after receipt of an invoice from Contractor. In the event that any payment is not made when due, Contractor at its sole option, may, at any time, terminate this Agreement on notice to Customer and the Department of Environmental Protection. Contractor may impose and Customer agrees to pay, a late fee not to exceed the maximum rate allowed by applicable law for all past due payments.

7. Contractor shall not be responsible for damage to Customer's pavement or other driving surface resulting from the weight of Contractor's vehicles servicing the wastewater treatment plant on routes designated by Customer.

8. Changes in the Schedule of Charges, capacity and type of equipment may be agreed to orally or in writing by the parties. Consent to oral changes shall be evidenced by the actions and practices of the parties.

9. Since disposal charges and fuel costs are a significant portion of the cost of Contractor's services provided hereunder, Contractor may increase the unit price of the Schedule of Charges in an amount equal to any equivalent unit increase in disposal or fuel costs.

10. The term of this Agreement shall be for three (3) years from the effective date of service and shall be automatically renewed for like terms unless either party shall give written notice of termination (Certified Mail) to the other at least sixty (60) days prior to termination of the initial term or any renewal term. In the event the CLIENT terminates this Agreement other than as provided above, CLIENT shall pay to Contractor as liquidated damages, a sum calculated as follows: (a) if the remaining term under this Agreement is six months or more, CLIENT shall pay its most recent monthly charge multiplied by six (6); (b) if the remaining term under this Agreement is less than six months, CLIENT shall pay its most recent charge multiplied by the number of remaining months in the term.

11. In the event of a breach of this agreement by either party, the breaching party shall pay all reasonable attorney's fees, collection fees and costs of the other party incident to any action brought to enforce this Agreement.

This AGREEMENT shall be binding on the parties and their successors and assigns.

INWITNESS WHEREOF, the parties have caused these present to be executed this 23rd day of April, 19 96.

Witness

By: George S. Conomos

CENTRAL PROCESS

Witness

Client

(Print Name)

AGREEMENT PAY SCHEDULE

"A"

IN AGREEMENT WITH PARAGRAPH C, THE COST PER GALLON WILL BE 8 1/2 CENTS PER GALLON AND PAYABLE WITHIN THIRTY (30) DAYS

Initial

WASTEWATER PERMIT APPLICATION FORM 1 GENERAL INFORMATION

I IDENTIFICATION NUMBER:

Facility ID _____

II CHARACTERISTICS:

INSTRUCTIONS: Complete the questions below to determine whether you need to submit any permit application forms to the Department of Environmental Protection. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the blank in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if you activity is excluded from permit requirements. See Section B of the instructions. See also, Section C of the instructions for definitions of the terms used here.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a domestic wastewater facility which results in a discharge to surface or ground waters?	X		X
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters?		X	
C. Does or will this facility (other than those describe in A. or B.) discharge process wastewater, or non-process wastewater regulated by effluent guidelines or new source performance standards, to surface waters?		X	
D. Does or will this facility (other than those described in A. or B.) discharge process wastewater to ground waters?		X	
E. Does or will this facility discharge non-process wastewater, not regulated by effluent guidelines or new source performance standards, to surface waters?		X	
F. Does or will this facility discharge non-process wastewater to ground waters?	X		X
G. Does or will this facility discharge stormwater to surface waters?		X	
H. Is this facility a non-discharging/closed loop recycle system?		X	

III NAME OF FACILITY: (40 characters and spaces)

Spruce Creek Golf & Country Club WWTF

Facility ID ________

IV FACILITY CONTACT: (A. 30 characters and spaces)

A. Name and Title (Last, first, & title)	B. Phone (area code & no.)
Thompson, Jay, Vice-President	(904) 347-3700

V FACILITY MAILING ADDRESS: (A. 30 characters and spaces; B. 25 characters and spaces)

A. Street or P.O. Box:	17585 Southeast 102nd Avenue		
B. City or Town:	Summerfield	State: FL	Zip Code: 34491

VI FACILITY LOCATION: (A. 30 characters and spaces; B. 24 characters and spaces; C. 3 spaces (if known); D. 25 characters and spaces; E. 2 spaces; F. 9 spaces)

A. Street, Route or Other Specific Identifier:	S 1/2 Sec. 10, T17S, R23E		
B. County Name:	Marion	C. County Code (if known):	
D. City or Town:	N/A	E. State: FL	F. Zip Code: N/A

VII SIC CODES: (4-digit, in order of priority) N/A

1. Code #:	(Specify)	2. Code #:	(Specify)
3. Code #:	(Specify)	4. Code #:	(Specify)

VIII OPERATOR INFORMATION: (A. 40 characters and spaces; B. 1 character; C. 1 character (if other, specify); D. 12 characters; E. 30 characters and spaces; F. 25 characters and spaces; G. 2 characters; H. 9 characters)

A. Name: Spruce Creek South Utilities, Inc.		B. Is the name in VIII A. the owner? Yes: X No:	
C. Status of Operator: F = Federal; S = State; P = Private; O = Other; M = Public (other than F or S)	(code) P	(specify) Private	D. Phone No.: (904) 347-3700
E. Street or P. O. Box: 17585 Southeast 102nd Avenue			
F. City or Town: Summerfield		G. State FL	H. Zip Code: 34491

IX INDIAN LAND: Is the facility located on Indian lands? Yes: __ No: X

Facility ID _____

X EXISTING ENVIRONMENTAL PERMITS: N/A

A. NPDES Permit No.	B. UIC Permit No.	C. Other (specify)	D. Other (specify)

XI MAP: Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

See Figure 1-1.

XII NATURE OF BUSINESS (provide a brief description)

To provide wastewater treatment service for the Spruce Creek Golf & Country Club.

XIII CERTIFICATION (see instructions)

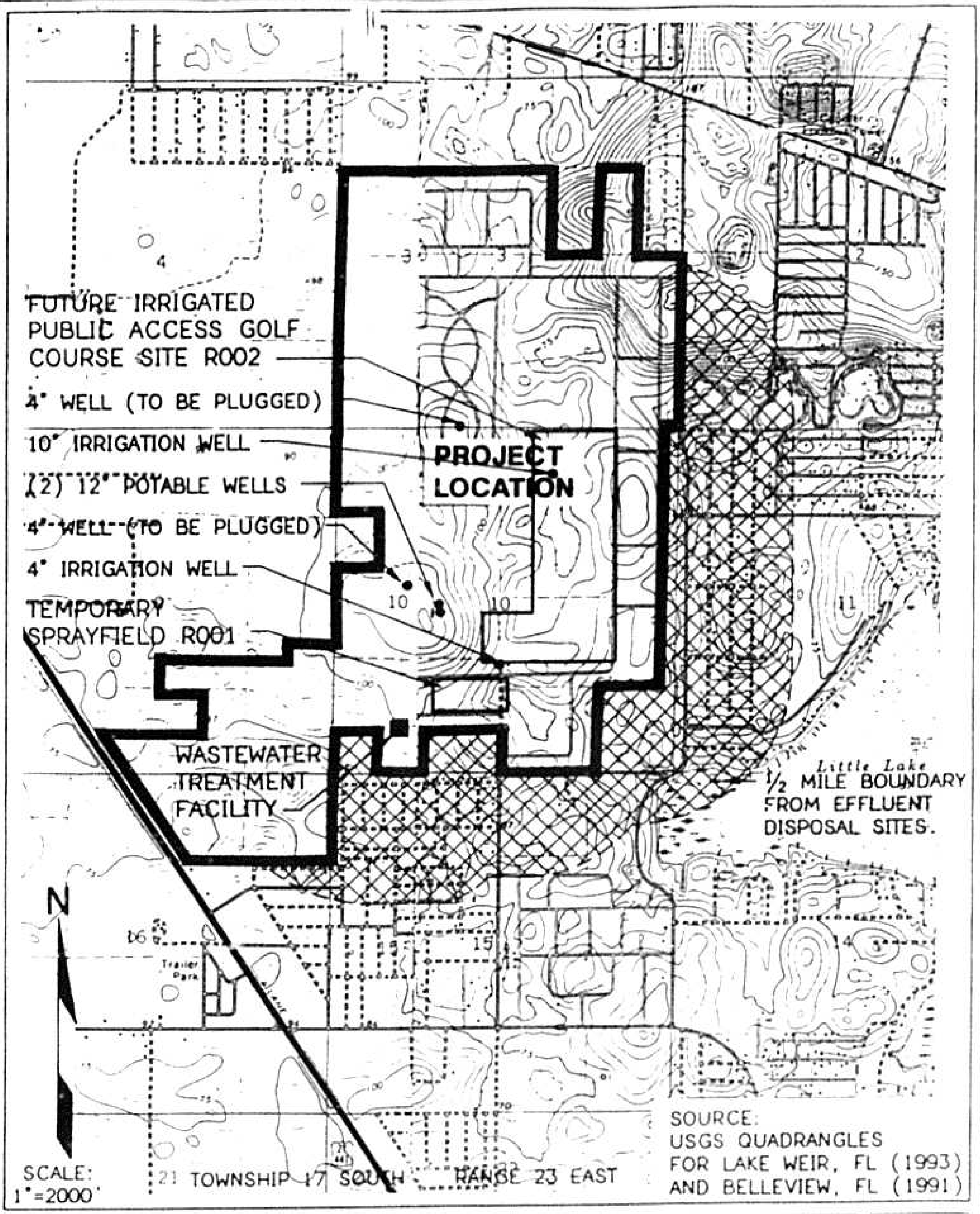
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Jay Thompson
A. Name (type or print)

B. Signature

Vice President
Spruce Creek South Utilities, Inc.
Official Title (type or print)

4/30/96
C. Date Signed



DRMP
DYER, RIDDLE, MILLS & PRECOURT, INC.

SPRUCE CREEK GOLF & COUNTRY CLUB
LOCATION MAP

FIGURE 1-1

CAD FILE 95112103
10-23-1995 10:43 AM

SECTION 9. CERTIFICATIONS

1. Certifications for Construction of New Facilities or Modifications to Existing Facilities

a. Applicant or Authorized Representative

I certify that the statements made in this application for a permit and all attachments are true, correct, and complete to the best of my knowledge and belief. I agree to retain the design engineer, or another professional engineer registered in Florida, to conduct on-site observation of construction, to prepare a notification of completion of construction, and to review record drawings for adequacy as referenced in Rule 62-620.630, F.A.C. Further, I agree to provide an appropriate operation and maintenance manual for the facilities pursuant to Rule 62-620.630, F.A.C., and to retain a professional engineer registered in Florida to examine (or to prepare or revise, if necessary) the manual. For projects regulated by Chapter 62-610, F.A.C., I agree to provide the additional operation requirements of that Chapter.

(Signature of Applicant or Authorized Representative) 4/30/96 (Date)

Name (please type) Jay Thompson
Title Vice-President
Phone (904) 347-3700
Company Name Spruce Creek South Utilities, I
Company Address 17585 SE 102nd Avenue
City/State/Zip Code Summerfield, FL 34491

b. Professional Engineer Registered in Florida

I certify that the engineering features of this domestic wastewater project have been (designed) (examined) by me and found to conform to engineering principles applicable to such projects. In my professional judgement, this facility, when properly constructed, operated, and maintained, will comply with all applicable statutes of the State of Florida and rules of the Department. *

Name (please type) John P. Toomey, P.E.
Florida Registration Number 40264
Company Name Dyer, Riddle, Mills & Precourt, Inc.
Company Address 1505 East Colonial Drive
City/State/Zip Code Orlando, FL 32803
Phone Number (407) 896-0594

(Seal, Signature, Date and Registration Number) 4/29/96 40264

c. Professional Engineer Registered in Florida N/A

I certify that this firm or individual has been retained by the applicant to prepare a notification of completion of construction, to prepare operation and maintenance manuals, and to review record drawings for adequacy as referenced in Rules 62-620.630, 62-600.717, and 62-600.720, F.A.C.

Name (please type) _____
Florida Registration Number _____
Company Name _____
Company Address _____
City/State/Zip Code _____
Phone Number (_____) _____

(Seal, Signature, Date, and Registation Number)

* Note: The above certification is for the WWTF design only and does not pertain to the effluent reuse system. Refer to Appendix "A" of the "Design Report" for certification regarding the effluent reuse system.

2. Certifications for Permit Renewals

N/A

a. Applicant or Authorized Representative

I certify that the statements made in this application for a permit and all attachments are true, correct and complete to the best of my knowledge and belief. I agree to operate and maintain these wastewater facilities in such a manner as to comply with the provisions of Chapter 403, F.S., Chapter 62-600, F.A.C., and all other applicable rules of the Department. Further, an appropriate operation and maintenance manual which has been examined by a professional engineer as certified below is available and located at _____ and can be submitted upon request as part of the permit procedure. A copy of the record drawings or other plans (as applicable) showing modifications to existing facilities, as referenced in Rule 62-600.717, F.A.C., is available at the same location. I also understand that a permit if granted by the Department, is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C., and I will notify the Department in accordance with this rule upon sale or legal transfer of the permitted facilities. In the event of abandonment or inactivation of the facilities, I will notify the Department and ensure that public health and safety are protected as required by Rule 62-620.610, F.A.C.

_____ _____

(Signature of Applicant or Authorized Representative[1]) (Date)

Name (please type)_____ Company Name _____

Title_____ Company Address_____

Phone _____ City/State/Zip Code _____

b. Professional Engineer

I certify that the engineering features of these domestic wastewater facilities have been examined by me and found to conform to engineering principles applicable to such projects. I certify that the operation and maintenance manual for these wastewater facilities has been prepared or examined by me or by individual(s) under my direct supervision and that there is reasonable assurance, in my professional judgement, that the facilities, when properly operated and maintained in accordance with this manual, will comply with all applicable statutes of the State of Florida and rules of the Department.

Name (please type) _____

Florida Registration Number _____

Company Name _____

Company Address _____

City/State/Zip Code _____

Phone Number (_____)_____ _____

(Seal, Signature, Date, and Registration Number)

[1]If signed by the authorized representative, attach a letter of authorization

SECTION 8. DOCUMENTATION SUBMITTED

1. General Application Requirements	Attached	
	Yes	No
a. Process Flow Diagram	X	
b. Site Plan	X	
c. Location Map	X	
d. Agricultural Use Plan or Dedicated Site Plan		X
e. Capacity Analysis Report		X
f. Results of Whole Effluent Biological Toxicity Testing		X
g. Reuse Feasibility Study		X
h. Binding Agreements and Documentation of Controls on Individual Users of Reclaimed Water		X

2. Additional Application Requirements for New Facilities and Modifications to Existing Facilities	Yes	No
a. Preliminary Design Report	X	
b. Documentation of Compliance with Antidegradation Requirements		X
c. Public Service Commission Certification Number and Copy of Certificate or Order Number and Copy of Order		X
d. Letter from the Management and Storage of Surface Waters Permitting Agency		X
e. Request for Approval of Monitoring Plans for Discharge of Domestic Wastewater to Wetlands		X
f. Concurrent Application for Ground Water Disposal by Underground Injection		X
g. Application for Monitoring Plan Approval		X

3. Additional Application Requirements for Permit Renewals N/A	Yes	No
a. Operation and Maintenance Performance Report		
b. Reclaimed Water of Effluent Analysis Report		
c. Technical Evaluation of Need to Revise Local Pretreatment Limits		
d. Results of Mechanical Integrity Testing		

atlanta testing
& engineering

2273 lee road / suite 200 / winter park, florida 32789 / (407) 645-3400 / FAX (407) 645-3731

May 10, 1996

St. Johns River Water Management District
618 East South Street
Orlando, Florida 32801

Attention: Ms. Sarah M. Garrett, P.G.

Subject: Consumptive Use Permit Application No. 2-083-0342AN
Spruce Creek Golf & Country Club, Inc.
Marion County, Florida
AT&E Project No. 7924A

Dear Ms. Garrett:

On behalf of our client, Atlanta Testing and Engineering, Inc. (AT&E) has reviewed your request for additional information on the above referenced consumptive use permit application. The following is a reiteration of your questions followed by our responses:

1. The permit application was not signed or dated by the agent. Please provide a copy of page 3 of the application which has been signed and dated by both the applicant and their agent or provide a letter from the applicant stating that Atlanta Testing & Engineering, Inc. is authorized to act as their agent.

   Response: Atlanta Testing & Engineering, Inc. is assisting the applicant with the permitting process. However, we are not formally the applicant's agent. Therefore, AT&E is not required to sign the permit application. Please send all correspondence directly to the applicant and send a copy to AT&E.

2. Please provide a copy of the USGS topographical quadrangle map for the Spruce Creek Development that identifies the location of well IR-4. It is our understanding that this well is to be abandoned. In addition, we are unable to locate any CUP information on the existing wells IR-1 through IR-4. Were these wells included in any permit and what was their previous use? Have the casing and total depths been actually measured or are the value provided assumed?

   Response: **Attached please find a copy of the USGS topographical quadrangle map that identifies the location of well IR-4 (Figure 1). Yes this well is to be abandoned. Wells IR-1 and IR-2 were built as potable supply wells for the failed Monarch development. This development was initiated in the 1970's. Well IR-3 was an irrigation well built for the golf course on the failed Monarch development. Well IR-4 is currently used for domestic water supply for a private residence on-site. The casing and total depths provided are assumed.**

3. Please provide a copy of the PSC certification describing the service area and a copy of the portion of the ADA\DRI that justifies the projected unit growth and population growth and explains the methodology used to calculate these figures.

   Response: The PSC certification for expansion of the Spruce Creek Utilities service area is not yet available. A copy of this documentation will be sent to you when it is complete. Please find a copy of the portion of the ADD\FQD that justifies the projected growth and explains the methodology used to calculate these figures (Attachment A).

4. Will there be any irrigation of urban landscape or commons and recreational areas? Table 2 on page PS-4 indicates that 50,000 gpd will be used for this. Please clarify. If necessary, please complete a Landscape Irrigation-Aesthetic type uses package that includes the irrigated acreage and a map showing the outline of irrigated areas according to vegetation.

   Response: Yes there be irrigation of urban landscape and common areas? Irrigated areas include the landscaped entrance way, roadway medians and landscape areas around the clubhouse. A Landscape Irrigation-Aesthetic type uses package that includes the estimated irrigated acreage and a map showing the outline of irrigated areas is provided with this submittal (Attachment B).

5. It is noted that once the wastewater treatment plant reaches a daily capacity of 100,000 gpd that reclaimed water will be supplied to the golf course for irrigation. Based on a 68% water recovery, this capacity should be met by the end of 1996 and minimum flows of 100,000 gpd could be used for irrigation. In addition, if after 7 years of 562,000 gpd of reclaimed water will be available as projected, and the golf course's irrigation needs average 731,500 gpd, where will the make-up water come from? How are the golf course's irrigation needs, in the absence of reclaimed water, accounted for in Table 2? Please address the feasibility of maximizing the surface and/or storm water system as a course for irrigation purposes. Another source for make-up water would be reuse from another WWTP such as Belleview. Based on projected flows from the Belleview plant, it would appear that reclaimed water will be available to supplement this development's irrigation needs. Please contact the City of Belleview about the availability of reclaimed water, the volumes available and date of delivery, if applicable. In addition a cost estimate for construction of a pipeline and associated hardware should be included.

   Response: The wastewater treatment facility being designed for the Spruce Creek Golf and Country Club site will have a design average daily flow capacity of 800,000 gpd. The applicant is working with Marion County to provide excess sewer capacity to adjacent unincorporated areas near Lake Wier, which currently utilize septic tank systems for sewage disposal. If these negotiations are successful, then adequate wastewater will be available to provide one hundred percent of the golf course and landscape irrigation requirements. In the interim, stormwater reuse and groundwater withdrawals will provide for a portion of the golf course irrigation requirements. Golf course ponds 2 and 4a are to be lined and tied into the wastewater, stormwater and irrigation systems for the golf courses. The quantity of stormwater that will be available for reuse is difficult to predict. It is noted that 100 percent of the stormwater generated by the project is retained on-site.

   The applicant has contacted the City of Belleview concerning the availability of treated wastewater from the city for reuse within the Spruce Creek development. A meeting with the city Public Works Director and one of the city's commissioners was held in April, 1996. At this meeting the city explained that a recent Wastewater Master Plan study suggests that the city will need to expand their treatment facilities within 5 years to accommodate projected population growth. The study estimates an additional wastewater load of about 0.8 mgd by the year 2001. At present, the city produces about 0.35 mgd of treated wastewater, currently disposed of by irrigation on the nearby Baseline Golf Course.

In anticipation of increased wastewater flows from the City of Belleview, Spruce Creek has entered into certain agreements with the city as outlined in the attached letter from AT&E to the city (Attachment C). The actual date of expected delivery of wastewater by the city and cost estimates for transmission pipeline construction are currently unavailable.

6. Based on our interpretation of the commercial industrial needs, pertaining to golf course activities, presented in Table 2 on page PS-4 and under item 7 on page C/I-1, it would appear that the golf course will not be in operation until 1999. Please clarify.

   Response: There are two 18-hole golf courses planed for this development. The first 18-hole golf courses will be constructed in 1996. The second 18-hole golf course will be constructed in the future. Water use projections for the clubhouse and golf course have been included in a revised Table 2 and a revised page C/I-1 (Attachment D).

7. Please provide a layout plan of the irrigation system and sprinkler coverage for the golf course. This plan should identify well locations, reuse connection lines, storage and stormwater ponds, and it should indicate segregated zones of sprinklers for the fairways, tees, greens and rough. In addition, it is stated that the golf course irrigation system will use the current irrigation technology. This technology must include an electronically controlled system with an on-site weather station for control of a computerized operational system. Please address this issue and provide system details for the District's review.

   A set of currently available plans is provided with this submittal. The irrigation system design for the golf course is not yet available. However, design plans include an electronically controlled irrigation system with an on-site weather station. The applicant will probably use a Rain Bird MAXI System V computer control system because this is the system they are familiar with. Spruce Creek uses this system at their existing Spruce Creek South development.

8. The requested golf course water allocation of 731,500 gpd was based on 35 inches a year, however, this is a very generalized value. Typically greens and tees require approximately 50 to 55 inches a year while, similar to urban landscape, fairways need approximately 24 to 32 inches a year. What is the acreage of the fairways versus the roughs? 265 acres of fairway and roughs appears high for an 18-hole course. In addition, following the grow in period, the roughs should not be irrigated on a regular basis and should only receive minimal irrigation during extended dry periods. Please reevaluate the golf course and landscape irrigation needs based on the above.

   Response: The requested allocation is for two 18-hole golf courses. The requested allocation was based on calculations which were provided to the SJRWMD in Attachment F to the CUP application. Best estimates are that the combined tees and greens for both golf courses will occupy 15 acres. Assuming an annual water requirement of 53 inches, these areas will require an average allocation of 59,000 gpd. The fairways and roughs will occupy approximately 265 acres. Assuming an annual water requirement of 35 inches, these areas will require an average allocation of 690,000 gpd for a total allocation of 749,000 gpd or a weighted average application rate of 36.25 inches a year. The revised Table 2 and revised page GC-1 reflect this reevaluation (Attachment D & E). The golf course is intended for use primarily by the elderly residents of the retirement community. Based on the intended use, the golf course design will include wider than normal fairways and negligible rough areas.

9. Please address the possibility of installing a dual piping system to provide reclaimed water for irrigation of residential landscape. If this cannot be done, please provide an explanation as to why it is not environmentally, technically or economically feasible.

   Response: This proposal is neither technically nor economically feasible since the applicant does not foresee the availability of sufficient Public-Access Level treated wastewater over and above that required for golf course irrigation at the Golf & Country Club site and the applicant's existing Spruce Creek South development (please refer to the attached letter to the City of Belleview).

10. Are lots being sold for individual contractors to develop or will the lots be developed prior to sale? It is noted that all residential units have irrigation systems that will include automatic clock timers. Does this indicate that the develop/builder has control over the design of irrigation systems and landscape lands? If so, please submit plans of "typical" lot irrigation and landscape design plans. Please also assure that individual irrigation systems will be equipped with rain sensors. How will the developer control or promote these xeriscape practices?

    Response: Lots will be developed prior to sale. All residential units will have irrigation systems that will include automatic clock timers and be equipped with rain sensors. The developer has control over the initial design of irrigation systems, however there is no control over modifications made by the owner. Houses are developed and sold with a basic landscape package that includes bahia grass and several basic indigenous shrubberies. The landscape bushes are located by eye. Therefore, there are no "typical" lot landscape design plans. The developer will control or promote xeriscape practices by the inverted block rate structure used to charge for water.

11. Is xeriscaping being utilized in all landscaped open space road right of ways and buffers areas? If not, please proposed plan and implementation schedule for the installation of water efficient plants. In addition, will xeriscaping be required for residential lots? If this cannot be done, please provide an explanation as to why not.

    Response: Drought tolerant indigenous species will utilized in the landscaped open space, road right of ways and buffer areas to the greatest practical extent.

12. Due to the depth to the water table at this site soil, improvements would assist the soils water retaining capacity within the shallow root zone and would limit the leaching of applied nutrients and pesticides into the water table. Are any soil improvements proposed for the residential lots, urban landscape or golf course areas?

    Response: The organic content of the uppermost soil layer will be enhanced by discing and mulching the existing vegetation into the soil during initial golf course development prior to seeding with Bermuda grass. Residential lots will be seeded with Bahia grass and landscaped areas will be planted with indigenous, drought-tolerant vegetation, effectively minimizing the need for pesticide, fertilizer and supplemental irrigation application.

13. Please include construction plans that will allow the commercial/industrial lavatories to convert to reclaimed water once it is available.

    Response: The applicant does not propose to extend wastewater reuse lines to the commercial/industrial areas. The amount of water potentially to be reused in this manner is insignificant and does not justify the cost associated with the piping that would be required. Potable water used for this purpose will be reused for golf course irrigation.

14. Please provide a copy of the inclining-block inverted rate structure for the District's review. Will all homes and units be individually metered? The District does not approve of separate irrigation meters on potable supply lines. Will these be permitted?

Response: The inclining-block inverted rate structure will be developed following the design and construction of the water utility system and the completion of the Rate Base Study. This rate structure is subject to the approval of the PSC. Yes all homes and units be individually metered. Separate irrigation meters are not planned.

15. The water conservation plan states that bulletins and flyers, providing water conservation tips, will be distributed. This information should also be included with the monthly water bills, special mailings and newsletters. What will be the frequency of the distribution of such information?

    Response: Informational flyers will be included in water bills on a quarterly basis. The applicant is requesting that the district provide appropriate literature for inclusion in the information package provided to each homeowner at the time of home purchase.

16. Who will be responsible for the implementation and oversight of the water conservation plan for this entire development? What is their title?

    Response: Mr. David Stoudt, Director of Site Operations.

17. Please submit a proposal to conduct an aquifer performance test (APT) at the proposed wellfield. The proposal should meet the minimum requirements outlined in Appendix H of the Consumptive Use Applicant's Handbook and should include observation wells to measure the response in both the surficial aquifer and the Floridan aquifer. Please also include a map showing the locations and distance between all wells to be used in the APT. A schedule of when the APT will be performed and a description of the models that will be utilized to reduce the data must also be included for the District's review.

    Response: See Attachment F.

• • •

AT&E trusts the enclosed information is adequate for your immediate needs. AT&E and the applicant would like to proceed with implementation of the APT plan. Please review and approve this plan or provide comments as soon as possible. Should you have any questions concerning this letter, the attached information or other matters concerning this application, please contact the undersigned at your convenience.

Sincerely,

ATLANTA TESTING & ENGINEERING, INC.

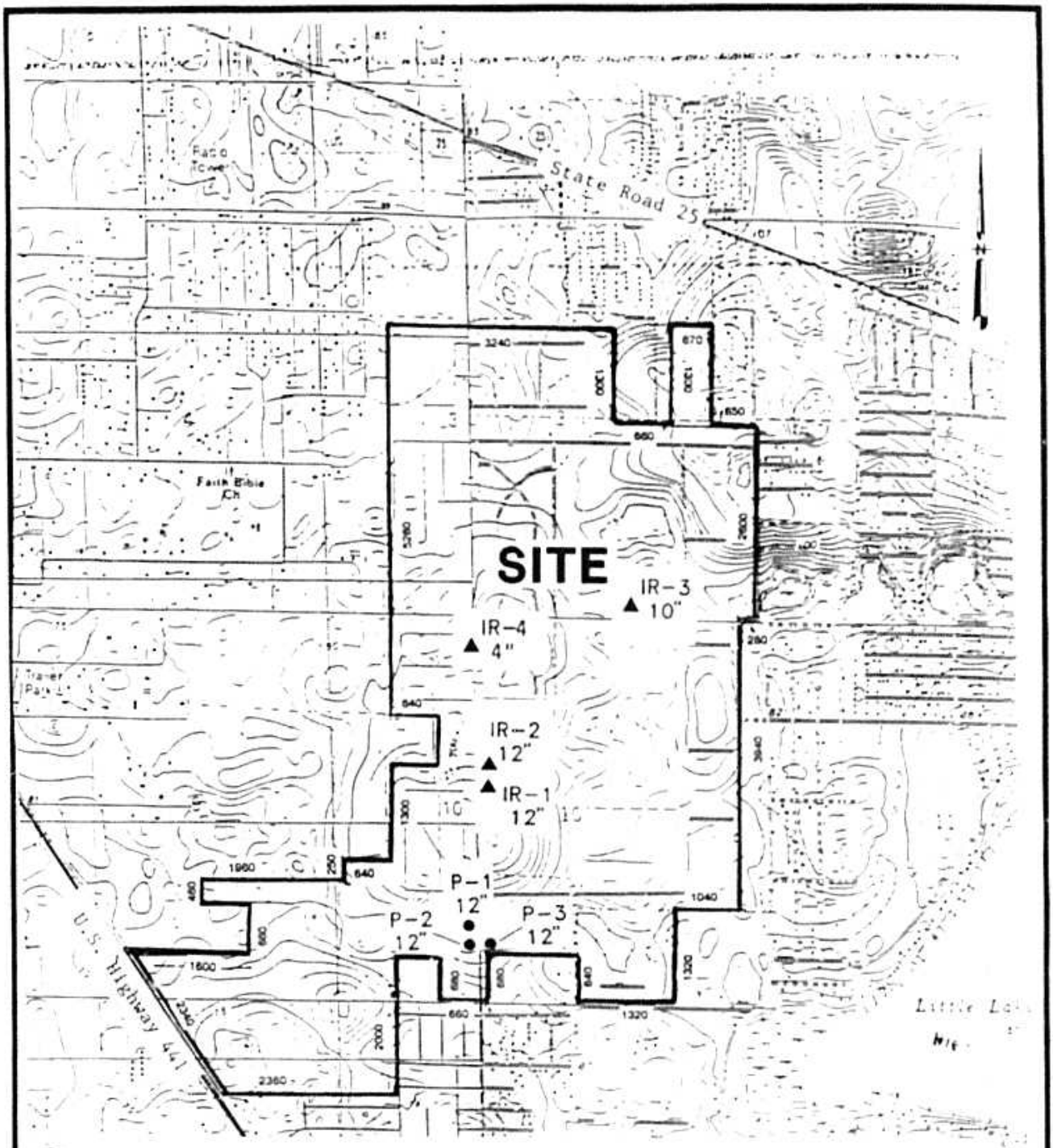
James Hollingshead

James Hollingshead, P.G.
Senior Projects Manager

JJH/cld

Attachments

copy to: Mr. Jay Thompson, Spruce Creek Golf & Country Club, Inc.



References: USGS Belleview, Florida Quadrangle, 1991
USGS Lake Wier, Florida Quadrangle, 1970 revised 1993.

EXPLANATION

P-1 12" ● PROPOSED POTABLE SUPPLY WELL / DIAMETER

IR-1 12" ▲ EXISTING IRRIGATION WELL / DIAMETER

PROJ. NO.: 7924	WELL LOCATION MAP
DATE: 9-4-95	SPRUCE CREEK GOLF AND COUNTRY CLUB MARION COUNTY, FLORIDA
SCALE: 1"=2,000'	
atlantic testing & engineering	FIGURE 1

ATTACHMENT A

PREAPPLICATION CONFERENCE FOR THE
SPRUCE CREEK GOLF AND COUNTRY CLUB FQD
MARION COUNTY

SUMMARY OF AGREEMENTS REACHED AT CONFERENCE
JULY 19, 1995

A preapplication conference for the Spruce Creek Golf And Country Club FQD was held on July 19, 1995, at the Withlacoochee Regional Planning Council office in Ocala. The list of attendees is attached (**Attachment A**).

I. AGREEMENTS AND METHODOLOGIES TO BE USED

Items are listed in chronological order in accordance with form RPM-BSP-ADA-1. The structure and questions of form RPM-BSP-ADA-1 will be used in the Application for Development Designation (ADD), as modified by the following agreements reached at the Preapplication Conference. Questions not specifically referenced below are to be answered completely, using the guidance of the ADA form.

QUESTION 10: GENERAL PROJECT DESCRIPTION

Part 1-A. Development will be in two phases. Developer is looking at a 7-8 year buildout. The first phase will begin in 1996 and end in 2000. Phase I will include 1,600 single family detached units, 200,000 square feet of commercial space, and all recreational areas. Phase II will commence in the year 2001 and end in 2002. Phase II will include 600 single family detached units and 150,000 square feet of commercial on 1,171 acres. Master Development Plan Map H is attached (**Attachment B**).

Part 2-A. A comprehensive plan amendment will be required. The property is partially Urban Reserve and the balance Rural. There's some mixed-up zoning. 948 acres of the property was a former DRI (Monarch of Ocala). Monarch built a 3,000 square foot clubhouse, 4 or 5 model homes and a golf course, which can be seen on some older aerials. A meeting to discuss this plan amendment was held immediately following the preapplication conference. A summary of this meeting is attached (**Attachment C**).

QUESTION 11: REVENUE GENERATION SUMMARY

Developer presented a series of tables in response to this question (**Attachment D** - Tables 11-1 through 11-5). Developer will adjust figures based on most recent Marion County rates and include revised tables with the ADD. Developer will add two revenues (using existing rates) that will be generated through the non-ad valorem assessment -- parcels that would be subject to waste disposal assessment and fire assessment.

EXHIBIT 6-2

The development schedule for Spruce Creek Golf & Country Club is Three Hundred Twenty (320) residential units per year for the build-out of seven (7) years. This schedule reflects the average number of new units constructed per year based upon residential absorption rates of Spruce Creek South a similar FQD located in the proximity of the proposed Spruce Creek Golf & Country Club

Population & Household Impacts

With a development pace of 320 households per year, annual population growth in the proposed Spruce Creek Golf & Country Club is estimated at 608 person per year. This is based upon the assumption that the absorption rate will follow the trend set at the Spruce Creek South FQD, and that the average household size at the development will be 1.9 persons per household.

Property Value Assumptions

Based upon data generated by the Spruce Creek South FQD, it is estimated that the property value of each single family home to be developed within Spruce Creek Golf & Country Club to be approximately $83,700.00 per unit. This consists of a vertical (building) value of $68,700.00, and a land (lot) value of $15,000.00. Commercial development is estimated to be valued at $75.00 per square foot.

Taxable Property Values

Taxable property values were estimated on an annual basis by using the total value of homes in the development for that year and subtracting 20 percent of this amount to account for residential costs of sale. This 20 percent cost of sale assumption was validated by the percentage reduction assessed by the Marion County Tax Collector in determining taxable values. All estimates are in 1995 dollars. Annual residential and non residential taxable property value estimates were totaled to provide the total taxable property value estimates for the years 1996 - 2002.

Ad Valorem Taxes

Property tax revenues are dependent on location and the types of residential and nonresidential development planned -- factors which vary widely from the county average across different developments. To calculate the additional property taxes to be generated by the developments, the anticipated sales values of the development nonresidential and household properties were used to estimate the additions to the county tax rolls that would result as the project is being built. We have made the conservative assumption that there will not be real appreciation (inflation) of developed properties over the buildout period

PART 3

Demographic and Employment Information

A. COMPLETE THE FOLLOWING DEMOGRAPHIC AND EMPLOYMENT INFORMATION TABLES.

Table 10-3, Demographic Information related to the Project's Population, provides a phase by phase estimate of on-site households that would be generated by the Spruce Creek Golf & Country Club development. This table was constructed from phasing information provided by the Developer. Nearly 4,180 residents will live in the Spruce Creek Golf & Country Club by project buildout in 2002.

Table 10-4, Estimated Employment Generated by Income Range, provides an estimate of employment generated by non-residential development at Spruce Creek Golf & Country Club. Average non-residential employment is estimated to be 592 for Phase 1, and 293 for Phase 2

TABLE 10-3
Project Population Demographics

	Total Dwelling Units	Persons Per Household	Total Population	Children Per Household	Total School Age Children	Elderly Per Household	Total Elderly
Phase 1	1600	1.9	3040	0	0	1	1520
Phase 2	600	1.9	1140	0	0	1	570
Totals	2200	1.9	4180	0	0	1	2090

* 1.9 pph assumption based on current Spruce Creek South occupancy.
* Deed Restrictions prohibit occupancy by residents under 18 years of age.
* Housing market toward retirees; Assumes 50 percent of residents are elderly (65 years or older)

ATTACHMENT B

LANDSCAPE IRRIGATION - AESTHETIC TYPE USES

(Submit 3 copies of application, supplemental information, drawings, calculations, etc.)

1. Complete this chart if water is requested for irrigation of lawns, greenbelts, aesthetic or recreational areas.

TYPE OF VEGETATION IRRIGATED	NO. OF ACRES	IRRIGATION METHOD	AMOUNT REQUESTED (Mgals/Year)*	SOURCE NAME (lake or well ID)
Grass, Trees and Shrubs	20	Center Pivot	18.25	IR-1 or IR-2

2. Attach 3 copies of the following:

__X__ a. Map showing outline of irrigated areas according to vegetation type.

__X__ b. List of all surface water bodies on or within 1 mile radius of property boundary. Include lakes, ponds, rivers, canals etc. Lake Wier

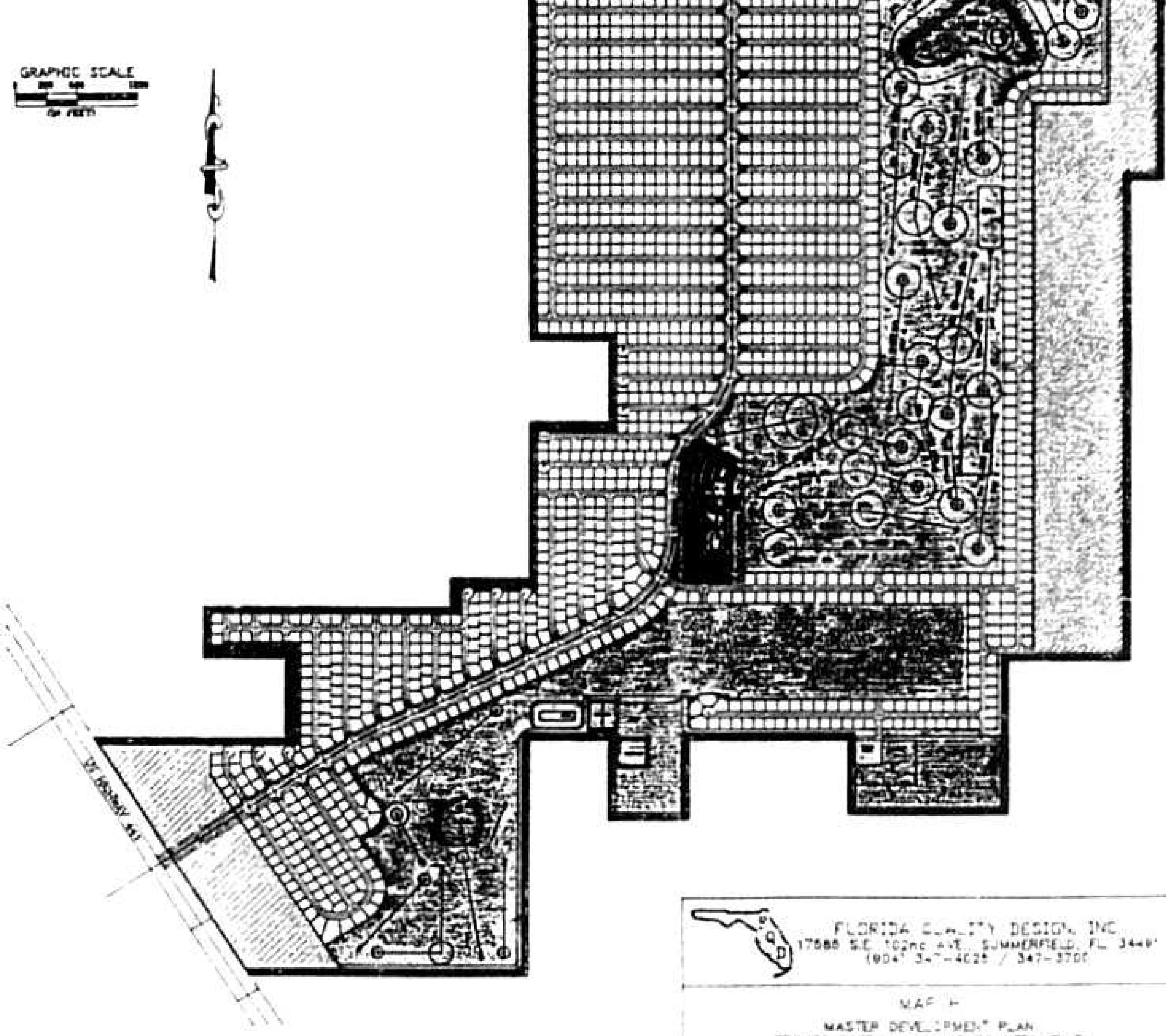
__X__ c. List of all wastewater treatment plants within a 5 mile radius of project. For each provide the following: a) design capacity (mgals/day), b) current wastewater flows (mgals/day), c) level of treatment (primary, secondary, tertiary), d) current discharge practice for each WWTP.

__X__ d. Submit a water conservation plan prepared in accordance with Section 12.9, Applicant's Handbook, Consumptive Uses of Water.
A water conservation plan has been previously submitted.

*mgals = million gallons

LEGEND

	FLUCCS CODE	DESCRIPTION	ACREAGE
	121	FIXED SINGLE FAMILY UNITS	430.51
	140	SITE SUPPORT OFFICES & WAREHOUSE	24.82
	147	COMMERCIAL AND SERVICE	33.77
	182	GOLF COURSE	303.30
	186	COMMUNITY RECREATIONAL FACILITIES	13.87
	184	WILDLIFE PRESERVE/MANAGEMENT AREA	125.00
	524	LAKES < 10 ACRES	11.38
	534	RESERVOIRS < 10 ACRES	4.86
	814	ROADS	157.09
	830	BOUNDARY (UTILITY) EASEMENT	58.47
	833	WATER TREATMENT PLANT/WELLFIELD	1.02
	834	WASTEWATER TREATMENT PLANT/PERCOLATION PONDS	4.78
	TOTAL		1170.27



FLORIDA QUALITY DESIGN, INC.
17588 S.E. 102nd AVE., SUMMERFIELD, FL 3449
(904) 347-4025 / 347-3700

MAP H

MASTER DEVELOPMENT PLAN
SPRUCE CREEK GOLF AND COUNTRY CLUB

SCALE: AS SHOWN	APP BY: M.C.	DESIGN: M.C.	AGAS TECH: M.C.
DATE: 10-20-84	REF		
JOB NO. 10206 / FILE NO. 10206-1		DRAWN BY: M.C.	CHECKED BY: M.C.

PREPARED BY ENVIRONMENTAL SERVICES & PERMITTING 08/17/90

SHEET 1 OF 1

34_0073.DWG

ATTACHMENT C

atlanta testing
& engineering

2273 lee road, suite 200 / winter park, florida 32789 / (407) 645 3400 / FAX (407) 645 3731

April 17, 1996

Mr. Dennis W. Monroe
Director of Public Works
City of Belleview
5343 Southeast Abshier Boulevard
Belleview, Florida 34420

Subject: Wastewater Reuse
Spruce Creek Golf & Country Club
Marion County, Florida
AT&E Project No. 7924E

Dear Mr. Monroe:

It was a pleasure meeting with you and Commissioner Young last Friday. On behalf of Spruce Creek Development Company, thank you for your interest in Spruce Creek Golf & Country Club and for your more than helpful assistance.

As we discussed, the owner of Spruce Creek G&CC is interested in accepting treated wastewater from the city for use within the project development to supplement irrigation of two planned golf courses. We understand that while the city does not currently have excess wastewater flows for this purpose, your recent Wastewater Master Plan study identifies a need to expand treatment facilities within five years to accommodate anticipated population growth. The study suggests that the city may need to dispose of, in round numbers, an additional 0.8 mgd of wastewater in five years.

Spruce Creek believes that we can accept, store and reuse treated wastewater at an average daily rate of 0.8 mgd to supply irrigation water to our two championship 18-hole golf courses. As we discussed, we have agreed in principle to offer reuse capacity to Marion County, should the county decide to bring unsewered areas around Lake Weir into the Spruce Creek G&CC WWTF. Should the county's plans come to fruition prior to expansion of your facilities, we believe that we still can accommodate your wastewater flows in the future through connection to the existing Spruce Creek South development with 27 holes of golf.

In demonstration of our commitment to the City of Belleview, Spruce Creek Development Company will:

1. Install a suitably-sized wastewater reuse transmission main during initial construction of the Spruce Creek G&CC project. We anticipate a 12-inch diameter pipeline extending from our property boundary along U.S.441 to lined storage ponds on our east golf course.

2. In the event that Marion County participates in the Spruce Creek WWTF prior to the expansion of the city's facilities, Spruce Creek agrees to install a wastewater reuse transmission main from the G&CC site south along the right-of-way of U.S.441 to connect with our existing Spruce Creek South golf courses. Under this scenario, we believe that we can accept and reuse additional wastewaters provided by the city and the county.

I trust that this letter accurately presents the major points discussed in our meeting. Spruce Creek is willing and able to participate with the City of Belleview to assist you with expansion of your facilities while helping us reduce our dependency on groundwaters for non-potable uses within our neighborhoods. We look forward to working together in the future.

Very truly yours,

ATLANTA TESTING & ENGINEERING, INC.

Richard L. Potts, Jr., P.G.
Regional Manager
Principal Consultant

RLP/cld

copies to: Mr. Sonny Erp
Mr. Jay Thompson

ATTACHMENT D

TABLE 2
FUTURE WATER USE

Next 7 Years	Projected Population	Number of Units	Per Capita Usage (gpcd)	Household Avg day (mgal)	Household Max day (mgal)	Commercial/Industrial Avg day (mgal)	Commercial/Industrial Max day (mgal)	Irrigation (urban landscape, * recreation or common areas) (mgal)	Water Utility (mgal)	Total Annual Avg day (mgal)	Total Annual Max day (mgal)	Installed Wellfield capacity (mgal)
1996	608	320	150	0.09	0.18	0.12	0.24	0.80	0.009	1.02	1.23	6.5
1997	1,216	640	150	0.18	0.36	0.12	0.24	0.80	0.018	1.12	1.42	6.5
1998	1,824	960	150	0.27	0.54	0.12	0.24	0.80	0.027	1.22	1.61	6.5
1999	2,432	1,280	150	0.36	0.72	0.12	0.24	0.80	0.047	1.33	1.81	6.5
2000	3,040	1,600	150	0.46	0.92	0.12	0.24	0.80	0.057	1.44	2.02	6.5
2001	3,610	1,900	150	0.54	1.08	0.12	0.24	0.80	0.066	1.53	2.19	6.5
2002	4,180	2,200	150	0.63	1.26	0.12	0.24	0.80	0.075	1.63	2.38	6.5

* This value is the sum of the golf course irrigation water requirements (749,000 gpd) and the aesthetic landscaping irrigation water requirements (50,000 gpd).

COMMERCIAL/INDUSTRIAL TYPE USES

(Submit 3 copies of application, supplemental information drawings, calculations, etc.)

I. PROJECT DESCRIPTION

1. Type of business and/or operation, please describe: Clubhouse with small golf retail shop and restaurant. Office buildings for development administration, warehouses for service and maintenance of golf course equipment, (i.e. golf carts, lawn mowers, etc.) Water Treatment Facility, office and restrooms.
2. Project acreage: 8 acres
3. Average daily use last service year N/A (mgd)*
4. Maximum daily use last service year N/A (mgd)
5. Number of days per week when maximum used Estimated @3 (Friday, Saturday, Sunday)
6. Months per year used 12
7. Proposed average daily and maximum daily use for each of next 7 years (complete chart):

YEAR	PROPOSED AVERAGE DAILY USE (mgd)	PROPOSED MAXIMUM DAILY USE (mgd)
19 96	0.12	0.24
19 97	0.12	0.24
19 98	0.12	0.24
19 99	0.12	0.24
2000	0.12	0.24
2001	0.12	0.24
2002	0.12	0.24

*mgd = million gallons per day

ATTACHMENT E

GOLF COURSE IRRIGATION TYPE USE

(Submit 3 copies of application, supplemental information, drawings, calculations, etc.)

I. Irrigated acreage and irrigation system method

1. Breakdown irrigated acreage for the following:

	Existing (acres)	Proposed (acres)
Tees/greens	0	15
Fairways/roughs	0	265
Landscape areas	0	0
TOTAL # ACRES IRRIGATED	0	280

2. Specify irrigation system methods _____

II. Reclaimed wastewater usage

1. Amount of reclaimed wastewater currently being used for irrigation 0 mgd*
2. Name of treatment plant supplying golf course N/A
3. Amount of water use annually

	Present (mgals/yr)	Proposed (mgals/yr)
Groundwater	0	273.4
Surface water	0	0
Reclaimed water	0	0
TOTAL	0	273.4

III. New Golf Course

For new golf course areas, provide the following information regarding the grow-in period:

1. Number of months 12
2. Date irrigation to commence 3/96
3. Amount requested for grow-in 1.1 mgd

VI. Water Conservation Plan

Please submit a water conservation plan prepared in accordance with Section 12.8.1., Applicant's Handbook, Consumptive Uses of Water.

* mgd = million gallons per day

ATTACHMENT F

atlanta testing
& engineering

2273 lee road / suite 200 / winter park, florida 32789 / (407) 645-3400 / FAX (407) 645-3731

PROPOSED AQUIFER PERFORMANCE TESTING
SPRUCE CREEK GOLF AND COUNTRY CLUB SITE
CUP APPLICATION NO. 2-009-0068ANGRM2
MARION COUNTY, FLORIDA

MAY 10, 1996

Prepared for:

St. Johns River Water Management District
Orlando Service Center
Department of Resource Management
618 E South Street
Orlando, FL 32801
Attention: Ms. Sarah M. Garret, P.G.

Prepared by:

Atlanta Testing & Engineering, Inc.
2273 Lee Road, Suite 200
Winter Park, Florida 32789

Atlanta Testing & Engineering, Inc. proposes to conduct a short term Aquifer Performance Test (APT) on one (1) of the existing on-site 12-inch wells, denoted IR-1 and IR-2, at the Spruce Creek Golf and Country Club in Marion County, Florida. A third well, denoted IR-3 (10-inch diameter) and located approximately 2,500 feet northeast of the two (2) 12-inch wells, will be used as a background monitoring well. The purpose of this test is to provide hydraulic performance data for estimating the transmissivity of the production zone and for pump design considerations. AT&E has adhered to the SJRWMD Guidelines for Developing a Standard Aquifer Performance Test Program as outlined the Appendix H of the Consumptive Use Applicant's Handbook, 1993, in preparation of this test plan.

Prior to the conduct of an APT, AT&E will have geophysical logs conducted on wells IR-1 and IR-2 to determine well and aquifer characteristics. Following evaluation of geophysical logs, one of the wells will be selected as a pumping well. The remaining well will be used as an observation well during the test. AT&E proposes a test duration of 24 hours. The pumping rate for the APT will be determined following preliminary test pumping of the selected well. Preliminary estimates are that the pumping rate will be approximately 1,000 GPM.

A water quality testing program will be employed during the discharge phase of the APT. Following the discharge, well recoveries will be measured for four (4) hours or until the water level recovers to within 0.05 feet of the initial static water level within each well. Following the field data collection and data reduction, AT&E will prepare an appropriate hydrogeologic report as a final step in the APT.

The proposed protocol for this pumping test is as follows:

- **Item 1.** Geophysical explorations are proposed for existing supply wells IR-1 and IR-2 in order to assess the occurrence of production zones, the lithology and dimensions of these wells. These wells were constructed approximately 20 years ago and appropriate data are no longer available. The geophysical exploration is proposed to include caliper, gamma ray, long and short normal resistivity, temperature, and fluid conductivity logs. Supply well IR-3 will not be logged.

- **Item 2.** Background water level data will be collected using a *Stevens* water level recorder installed at well IR-3 for a period of 72 hours prior to the start of the APT.

During the APT, this device will also be used to record dynamic water levels in well IR-3. Water levels in IR-1 and IR-2 during and after the test will be measured manually using electric water level meters. Additionally, an electronic data logger with pressure transducers will be used for recording water levels in these wells.

- **Item 3.** Existing 12-inch supply well IR-1 or IR-2 will be equipped with a temporary discharge line, measurement port, shut off valve and flow measurement device (inline flowmeter or orifice and pitot tube assembly). This well will be pumped using a temporary turbine pump at a rate estimated to be between 1000 and 2000 gpm for 24 hours to conduct the discharge phase of the APT. Existing supply well IR-3 and the non-pumping 12-inch well will be used for monitoring purposes.

- **Item 4.** Discharged groundwater from the pumping well will be directed to a lined trench or closed conduit for a distance of 500 feet and discharged to the land surface downgradient (northwest) of the pumping well. Laboratory water quality samples will be collected at the beginning (after 5 to 10 minutes of pumping) and at the end of the discharge phase of the test. Water quality parameters including Chlorides, pH, Specific Conductance and Temperature will be monitored during the discharge period of the test on a regular basis. Groundwater samples collected for laboratory testing will be analyzed for the following parameters:

chlorides	total hardness
sodium	total dissolved solids
potassium	temperature (field)
calcium	specific conductance
total iron	pH (field)
magnesium	
total alkalinity	

The laboratory water quality analyses will be performed by Environmental Conservation Laboratories, Inc. (ENCO) in Orlando, Florida. ENCO is approved by the Health and Rehabilitative Services of the State of Florida and operates by Comprehensive Quality Assurance Plan No. 960038.

- **Item 5.** The water levels in the pumping well and the nearby 12-inch monitoring well will be measured using pressure transducers and a data logger. The water level in the 10-inch monitoring well (IR-3), located approximately 2,500 feet northeast of the two 12-inch wells (IR-1 and IR-2), will be measured with a Stevens water level recorder. Approximately 72 hours of pre-test data and four (4) hours of recovery data will be collected using these measuring devices. Pre-test data will be collected at 15 minute intervals. The frequency of measurements during the discharge period will be as follows:

Frequency of Measurements	Time After Pumping Started
approx every 15 seconds	0 to 2 minutes
approx every 30 seconds	2 to 5 minutes
approx every 1 minute	5 to 15 minutes
approx every 5 minutes	15 to 60 minutes
approx every 10 minutes	60 to 120 minutes
approx every 30 minutes	2 to 5 hours
approx every 1 hour	5 to 24 hours

The frequency of measurements during the recovery period will be as follows or until recovery is within 0.05 feet of static levels:

Frequency of Measurements	Time After Pumping Stopped
approx every 15 seconds	0 to 2 minutes
approx every 30 seconds	2 to 5 minutes
approx every 1 minute	5 to 15 minutes
approx every 5 minutes	15 to 60 minutes
approx every 10 minutes	60 to 120 minutes
approx every 30 minutes	2 to 4 hours

- **Item 6.** As part of the data reduction and analyses of the constant rate discharge test, AT&E will employ a series of graphical and analytical methods deemed appropriate based on the obtained test data. The methods utilized will be presented as part of the hydrogeologic report documenting the aquifer testing activities.

Item 7. A hydrogeologic report will be prepared following completion of the APT to document its findings. This report shall include sections describing the findings of the geophysical exploration, appropriate maps and illustrations of the well locations, constant rate discharge test procedures and test data analyses.

ST JOHNS RIVER WATER MANAGEMENT DISTRICT

Henry Dean, Executive Director
John R. Wehle, Assistant Executive Director
Charles T. Myers III, Deputy Assistant Executive Director

POST OFFICE BOX 1429 PALATKA, FLORIDA 32178-1429
TELEPHONE 904 329-4500 SUNCOM 860-4500
TDD 904 329-4450 TDD SUNCOM 860-4450
FAX (EXECUTIVE/LEGAL) 329-4125 (PERMITTING) 329-4315 (ADMINISTRATION) 329-4508

SERVICE CENTERS

618 E. South Street, Orlando, Florida 32801, 407-897-4300, TDD 407-897-5960
7775 Baymeadows Way, Suite 102, Jacksonville, Florida 32256, 904-730-6270, TDD 904-730-7900
PERMITTING, 305 East Drive, Melbourne, Florida 32904, 407-984-4940, TDD 407-727-5362
OPERATIONS, 2133 N. Wickham Road, Melbourne, Florida 32935, 407-254-1762, TDD 407-254-1951

March 7, 1996

Certified Mail No.Z 361 245 950

Mr. Jay A. Thompson
Spruce Creek Golf & Country Club, Inc.
17585 Southeast 102nd Street
Summerland, Florida 34491

SUBJECT: Consumptive Use Permit Application No. 2-083-0342AN
Spruce Creek Golf & Country Club, Inc., Marion County
Request for Additional Information

Dear Mr. Thompson:

Thank you for submitting a Consumptive Use Permit (CUP) application for the Spruce Creek Golf & Country Club, Inc. Our review of the submittal indicates that you plan to supply water to supply potable water for household needs to a population of 4180 within your service area using three proposed wells and irrigate 280 acres of golf course using water from three existing wells.

We received your application on February 9, 1996, however, additional information is needed to complete your application so that we can recommend appropriate action to our Governing Board. The information requested below is required in the District's Rule Section 40C-2.101, Florida Administrative Code (F.A.C.), and in section 4.3.1 of the Applicant's Handbook (A.H.).

In order to expedite the review of your application, please include the District permit application number, shown above, on all correspondence, and submit two (2) copies of all requested information, unless otherwise specified. All responses for additional information should be addressed to Sarah Garrett at the Orlando Service Center.

Please note, this is a request for a substantial ground water withdrawal and the District is concerned with increased ground water withdrawals in the Lake Weir area and the apparent impacts that withdrawals may have on the lake's water level. Therefore the use of ground water for purposes other than potable water supply, should be minimized and every feasible attempt to utilize reclaimed water and/or stormwater should be fully explored.

The following additional information is requested:

1. The permit application was not signed or dated by the agent. Please provide a copy of page 3 of the application which has been signed and dated by both the applicant and their agent or provide a letter from the applicant stating that Atlanta Testing & Engineering, Inc. is authorized to act as their agent [40-C-2.101, F.A.C.; Paragraph 10.2(r), A.H.)

2. Please provide a copy of the USGS topographical quadrangle map for the Spruce Creek Development that identifies the location of well IR-4. It is our understanding that this well is to be abandoned. In addition, we are unable to locate any CUP information on the existing wells IR-1 through IR-4. Were these wells included in any permit and what was their previous use? Have the casing and total depths been actually measured or are the value provided assumed? [Paragraphs 10.2(a)(b)(g)(r); 10.3(a)(b)(e), A.H.]

3. Please provide a copy of the PSC certification describing the service area and a copy of the portion of the ADA/DRI that justifies the projected unit growth and population growth and explains the methodology used to calculate these figures. [Paragraphs 10.2(a)(b)(d)(f)(h)(k)(r); 10.3(a)(b), A.H.]

4. Will there be any irrigation of urban landscape or commons and recreational areas? Table 2 on page PS-4 indicates that 50,000 gpd will be used for this. Please clarify. If necessary, please complete a Landscape Irrigation-Aesthetic type uses package that includes the irrigated acreage and a map showing the outline of irrigated areas according to vegetation. [Paragraphs 10.2(a)(b)(f)(i); 10.3(a)(b)(d)(e), A.H.]

5. It is noted that once the wastewater treatment plant reaches a daily capacity of 100,000 gpd that reclaimed water will be supplied to the golf course for irrigation. Based on a 68% water recovery, this capacity should be met by the end of 1996 and minimum flows of 100,000 gpd could be used for irrigation. In addition, if after 7 years only 562,000 gpd of reclaimed water will be available as projected, and the golf course's irrigation needs average 731,500 gpd, where will the make-up water come from? How are the golf course's irrigation needs, in the absence of reclaimed water, accounted for in Table 2? Please address the feasibility of maximizing the surface and/or storm water system as a source for irrigation purposes. Another source for make-up water would be reuse from another WWTP such as Belleview. Based on projected flows from the Belleview plant it would appear that reclaimed water will be available to supplement this development's irrigation needs. Please contact the City of Belleview about the availability of reclaimed water, the volumes available and dates of delivery, if applicable. In addition a cost estimate for construction of a pipeline and associated hardware should be included. [Paragraphs 10.2(a)(b)(c)(d)(f)(h)(i)(j)(k)(r); 10.3(a)(b)(d)(e)(g), A.H.]

6. Based on our interpretation of the commercial industrial needs, pertaining to golf course activities, presented in Table 2 on page PS-4 and under item 7 on page C/I-1, it would appear that the golf course will not be in operation until 1999. Please clarify. [Paragraphs 10.2(a)(b)(r); 10.3(a)(b), A.H.]

7. Please provide a layout plan of the irrigation system and sprinkler coverage for the golf course. This plan should identify well locations, reuse connection lines, storage and stormwater ponds, and it should indicate segregated zones of sprinklers for the fairways, tees, greens and roughs. In addition, it is stated that the golf course irrigation system will use the current irrigation technology. This technology must include an electronically controlled system with an on-site weather station for control of a computerized operational system. Please address this issue and provide system details for the District's review. [Paragraphs 10.2(a)(b)(c)(d)(f)(i)(k); 10.3(a)(b)(c)(e), A.H.]

8. The requested golf course water allocation of 731,500 gpd was based on 35 inches a year, however, this is a very generalized value. Typically greens and tees require approximately 50 to 55 inches a year while, similar to urban landscape, fairways need approximately 24 to 32 inches a year. What is the acreage of the fairways versus the roughs? 265 acres of fairway and roughs appears high for an 18-hole course. In addition, following the growing period, the roughs should not be irrigated on a regular basis and should only receive minimal irrigation during extended dry periods. Please reevaluate the golf course and landscape irrigation needs based on the above. [Paragraphs 10.2(a)(b)(f)(h)(i)(k); 10.3(a)(b)(c)(e), A.H.]

9. Please address the possibility of installing a dual piping system to provide reclaimed water for irrigation of residential landscape. If this cannot be done please provide an explanation as to why it is not environmentally, technically or economically feasible. [Paragraphs 10.2(a)(b)(c)(d)(f)(g)(h)(i)(j)(k)(l)(m)(r); 10.3(a)(b)(d)(e)(f)(g), A.H.]

10. Are lots being sold for individual contractors to develop or will the lots be developed prior to sale? It is noted that all residential units have irrigation systems that will include automatic clock timers. Does this indicate that the developer/builder has control over the design of irrigation systems and landscape plans? If so, please submit plans of "typical" lot irrigation and landscape design plans Please also assure that individual irrigation systems will be equipped with rain sensors. How will the developer control or promote these xeriscape practices? [Paragraphs 10.2(a)(b)(c)(d)(f)(h)(i); 10.3(a)(b)(d)(e), A.H.]

11. Is xeriscaping being utilized in all landscaped open space road right of ways and buffers areas? If not, please propose plan and implementation schedule for the installation of water efficient plants. In addition, will xeriscaping be required for residential lots? If this can not be done, please provide an explanation as to why not. [Paragraphs 10.2(a)(b)(c)(d)(f)(h)(i); 10.3(a)(b)(d)(e), A.H.]

12. Due to the depth to the water table at this site soil improvements would assist the soils water retaining capacity within the shallow root zone and would limit the leaching of applied nutrients and pesticides into the water table. Are any soil improvements proposed for the residential lots, urban landscape or golf course areas? [Paragraphs 10.2(a)(b)(c)(d)(f)(h)(i)(r); 10.3(a)(b)(d)(e), A.H.]

13. Please include construction plans that will allow the commercial/industrial lavatories to convert to reclaimed water once it is available. [Paragraphs 10.2(a)(b)(c)(d)(f)(h)(i); 10.3(a)(b)(d)(e), A.H.]

14. Please provide a copy of the inclining-block inverted rate structure for the District's review. Will all homes and units be individually metered? The District does not approve of separate irrigation meters on potable supply lines. Will these be permitted? [Paragraphs 10.2(a)(b)(c)(d)(f)(h)(i); 10.3(a)(b)(d)(e), A.H.]

15. The water conservation plan states that bulletins and flyers, providing water conservation tips, will be distributed. This information should also be included with the monthly water bills, special mailings and newsletters. What will be the frequency of the distribution of such information? Please provide examples of the type of literature to be distributed. [Paragraphs 10.2(h)(i)(r); 10.3(e), A.H.]

16. Who will be responsible for the implementation and oversight of the water conservation plan for this entire development? What is their title? [Paragraphs 10.2(a)(c)(f)(h)(i); 10.3(a)(b)(d)(e), A.H.]

17. Please submit a proposal to conduct an aquifer performance test (APT) at the proposed wellfield. The proposal should meet the minimum requirements outlined in Appendix H of the Consumptive Use Applicant's Handbook and should include observation wells to measure the response in both the surficial aquifer and the Floridan aquifer. Please also include a map showing the locations and distance between all wells to be used in the APT. A schedule of when the APT will be performed and a description of the models that will be utilized to reduce the data must also be included for the District's review. Paragraphs 10.2(a)(b)(c)(d)(e)(f)(i)(p)(r); 10.3(a)(b)(d), A.H.]

In accordance with Subsection 120.57, F.S., if the applicant desires to dispute the necessity for any additional information requested in this letter, the applicant may do so at a regularly scheduled regulatory meeting of the Governing Board. An applicant should submit a written request to present evidence regarding such a dispute at least 21 days prior to the regulatory meeting at which the applicant plans to present evidence.

Please be advised that, pursuant to Subsection 40C-1.605 (5), F.A.C., any application which has not been technically and administratively completed within 60 days from the date of receipt of a Request for Additional Information by the District, will be prepared for an Intent to Deny at the Governing Board meeting. Should you require more than 60 days to respond, please indicate your reasons to the District, and one additional 60-day period to respond may be granted, based on evaluation of your specific circumstances.

Should you have any questions, please contact Sarah Garrett at (407) 897-4305, at the Orlando Service Center.

Sincerely,

Sarah M. Garrett, P.G.
Hydrologist
Department of Resource Management

cc: PDS/RAIL, Dave Dewey

James Hollingshead, P.G., Atlanta Testing & Engineering, Inc., 2273 Lee Rd. # 200
Winter Park, Florida 32789