ViroGroup
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931209-5

ViroGroup, Inc.
428 Pine Island Road, S.W.
Cape Coral, FL 33991
Phone 813-574-1919
FAX 813-574-8106

October 14, 1994

Mr. William H. Kirk, P.G.
Staff Hydrogeologist
Water Use Division, Regulatory Department
South Florida Water Management District
1342 Colonial Blvd., Suite B1
Fort Myers, Florida 33907

Re: Water Use Permit Modification Application #931209-5
Southern State Utilities, Collier County, Florida

Dear Bill:

Please consider this correspondence an addendum to our letter of October 7, 1994. Pursuant to Item #3 of your July 27, 1994, enclosed is a copy of the ownership documentation for the Marco Lakes property.

Do not hesitate to call should you have any questions or comments regarding this matter.

Sincerely,

Daniel J. Acquaviva 10/14/94

Daniel J. Acquaviva, P.G.
Senior Hydrogeologist

DJA:gng

pc: R. Terrero, SSU-Apopka
C. Walker, SSU-Apopka
D. Denny, SSU-Marco Island
S. Walker, Messer, Vickers et al

RECEIVED
OCT 17 1994
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02519LGG.J14

RECEIVED
JUL 12 1994
LEGAL DEPT.

IN THE CIRCUIT COURT OF THE TWENTIETH JUDICIAL CIRCUIT, IN AND FOR COLLIER COUNTY, FLORIDA

CASE NO.: 94-0793-CA-01-CTC

DIVISION:

Parcel 23

SOUTHERN STATES UTILITIES, INC., a corporation formed and existing under the laws of the State of Florida,

Petitioner,

v.

Harold S. Lynton, et al.,

Respondents.
_____/

STIPULATED ORDER OF TAKING

THIS CAUSE came on for consideration by the Court upon the stipulation and motion of Petitioner, SOUTHERN STATES UTILITIES, INC. ("SSU"), and Respondents, Harold S. Lynton, as Trustee of Trust f/b/o Juliet C. Sproul; Marguerite R. Collier, Individually; Juliet C. Sproul, Individually, and as Trustee of Trust f/b/o Juliet C. Sproul; Katherine G. Sproul as Trustee of Trust f/b/o Juliet C. Sproul; Barron Collier, III, Individually; Lamar Gable; Frances G. Villere; Phyllis G. Doane; Donna G. Keller (Owners of Parcel 23), for entry of this Stipulated Order of Taking. It appearing that proper notice was given to all Respondents and to all persons having or claiming any equity, lien, title, or other interest in or to parcel 23, and the Court being otherwise fully advised in the premises, it is thereupon,

GH&R
KLH

JUL 11 1994

ORDERED AND ADJUDGED that the Court has jurisdiction of this action, of the subject property, and of the parties in this cause pursuant to Chapters 73 and 74 and 361 of the Florida Statutes; it is further

ORDERED AND ADJUDGED that the pleadings in this cause are sufficient, that Petitioner is properly exercising its delegated authority, and that the condemnation of parcel 23 is for a valid public purpose and is necessary for such purposes; it is further

ORDERED AND ADJUDGED that petitioner is authorized by law to take possession and title in advance of the entry of a final judgment in eminent domain actions and that all conditions precedent to this action have been complied with or have occurred; it is further

ORDERED AND ADJUDGED that the interest acquired by Petitioner shall be the fee simple title to parcel 23 less that interest which will be an access easement in favor of the current owners over a portion of the fee simple interest being acquired both as described in the legal descriptions attached to the Second Amended Petition in Eminent Domain and contained in Composite Exhibit "A", attached hereto and incorporated herein by reference; it is further

ORDERED AND ADJUDGED that the estimate of value filed by Petitioner in this cause was made in good faith and based upon valid appraisals; it is further

ORDERED AND ADJUDGED that upon the payment of the good faith estimate of Four Million Seventy Thousand Six hundred and No/100 ($4,070,600.00) Dollars by the Petitioner to the Respondents, as set forth below, the right, title or interest specified in parcel 23 as described in the legal descriptions attached to the Second Amended Petition in Eminent Domain and contained in Composite Exhibit "A", attached hereto shall vest in the Petitioner; it is further

ORDERED AND ADJUDGED that the payment of the good faith estimate of Four Million Seventy Thousand Six hundred and No/100 ($4,070,600.00) Dollars by the Petitioner to the Respondents will secure the persons lawfully entitled to the compensation which will ultimately be determined by final judgment of this Court; it is further

ORDERED AND ADJUDGED that upon the payment as set forth above and without further notice or order of this Court, the Petitioner shall be entitled to possession of parcel 23 as described in the legal descriptions attached to the Second Amended Petition in Eminent Domain and contained in Composite Exhibit "A" attached hereto; it is further

ORDERED AND ADJUDGED that upon making of the payment of the good faith estimate as ordered herein, the Petitioner shall file a certificate of payment stating the date that payment was made directly to Respondents' counsel which date shall be the date of

valuation of the property and shall be the date upon which title shall vest in Petitioner and upon which date Petitioner shall be entitled to immediate possession of the property designated as parcel 23 as described in the legal descriptions attached to the Second Amended Petition in Eminent Domain and contained in Composite Exhibit "A" attached hereto;

ORDERED AND ADJUDGED that upon payment by the Petitioner, Respondents shall be responsible for payment of all unpaid taxes, delinquent tax certificates and the pro rata share of estimated current year taxes where applicable on the parcel subject to this cause.

ORDERED AND ADJUDGED that in addition to the amount of the good faith estimate of value, Petitioner shall pay to Respondents the regular monthly payments for the months of June and July as provided for under the terms of the water lease currently in effect between the parties; it is further

ORDERED AND ADJUDGED that the stipulation for entry of this Stipulated Order of Taking is approved and is incorporated by reference in this judgment; it is further

ORDERED AND ADJUDGED that this order is without prejudice to either party as to the ultimate amount of compensation;

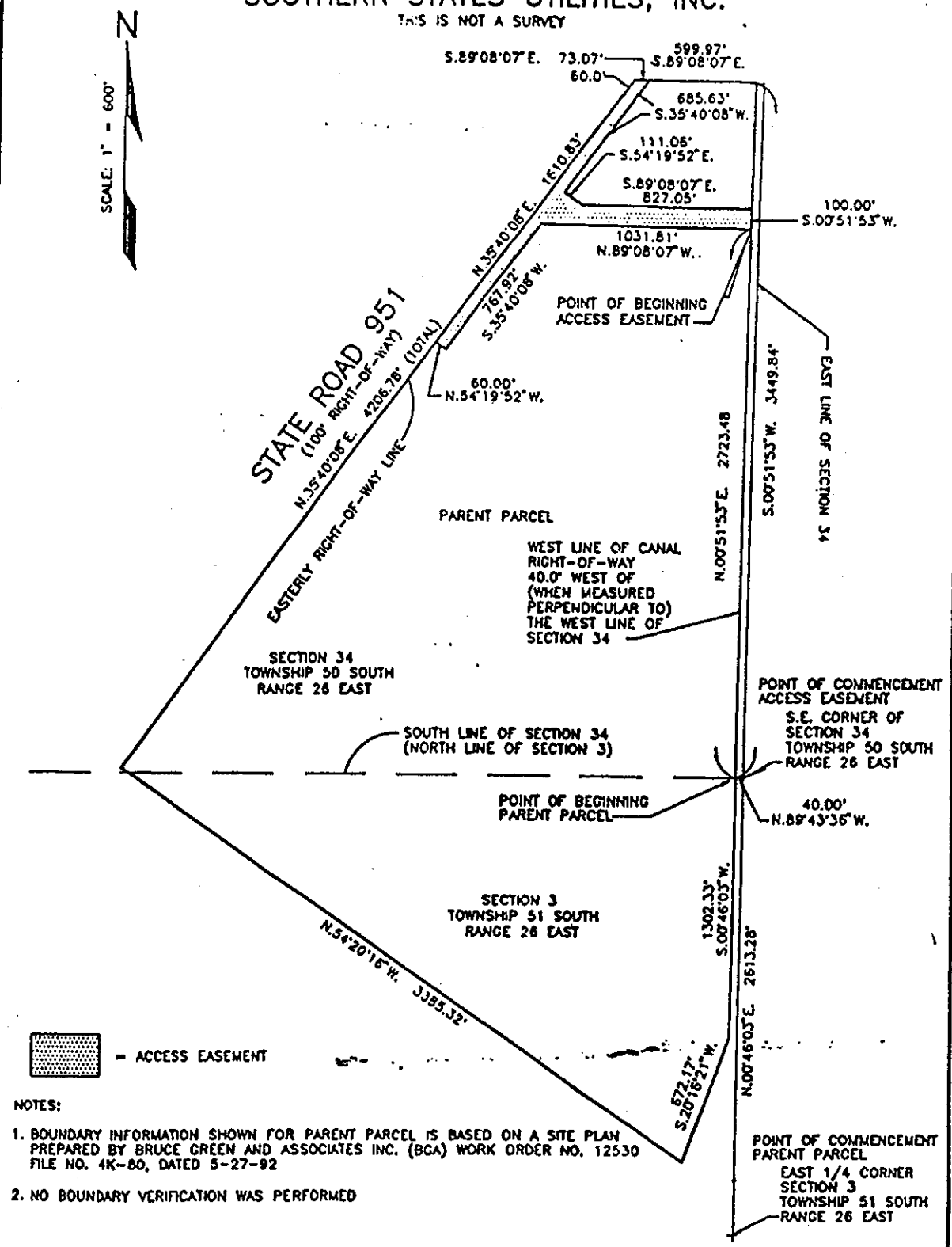
DONE AND ORDERED in chambers at Naples, Collier County, Florida, on this 27 day of June, 1994.

D/ C T Carlton
Circuit Judge

Copy furnished to:
William G. Earle, Esquire
Gordon H. Harris, Esquire
Jean Howard, Esquire
Guy L. Carlton,
Collier County Tax Collector

SKETCH OF DESCRIPTION
FOR
SOUTHERN STATES UTILITIES, INC.

THIS IS NOT A SURVEY



NOTES:

1. BOUNDARY INFORMATION SHOWN FOR PARENT PARCEL IS BASED ON A SITE PLAN PREPARED BY BRUCE GREEN AND ASSOCIATES INC. (BGA) WORK ORDER NO. 12530 FILE NO. 4K-80, DATED 5-27-92
2. NO BOUNDARY VERIFICATION WAS PERFORMED

CERTIFICATION:

I hereby certify that the description represented on this drawing was prepared under my direction in accordance with the minimum technical standards as set forth by the Florida Board of Professional Land Surveyors in Chapter 61G17-6, Florida Administrative Code, pursuant to section 472.027, Florida Statutes.

THIS DRAWING IS NOT VALID UNLESS ORIGINAL SEAL IS AFFIXED. (SHEET 1 OF 2)

94/02500L02

HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
301 EAST PINE STREET - SUITE 1000 - ORLANDO, FL. 32801
TELEPHONE (407) 839-3955 - FAX (407) 839-3790

Mark I. Luke
Professional Land Surveyor
Florida Registration #5006

Date: 5/20/94
Field Survey: N/A

PARENT PARCEL

A PARCEL OF LAND LYING WITHIN SECTION 3, TOWNSHIP 51 SOUTH, RANGE 26 EAST, AND SECTION 34, TOWNSHIP 50 SOUTH, RANGE 26 EAST, COLLIER COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST 1/4 CORNER OF SECTION 3, TOWNSHIP 51 SOUTH, RANGE 26 EAST; THENCE ALONG THE EAST LINE OF SECTION 3, NORTH 0°46'03" EAST 2613.28 FEET TO THE NORTHEAST CORNER OF SAID SECTION 3; THENCE ALONG THE NORTH LINE OF SECTION 3, NORTH 89°43'36" WEST 40.00 FEET TO THE WEST LINE OF A CANAL RIGHT-OF-WAY AND THE POINT OF BEGINNING; THENCE ALONG SAID RIGHT-OF-WAY SOUTH 0°46'03" WEST 1302.33 FEET; THENCE SOUTH 20°16'21" WEST 672.17 FEET; THENCE LEAVING SAID RIGHT-OF-WAY; NORTH 54°20'16" WEST 3385.32 FEET TO THE EAST RIGHT-OF-WAY LINE OF STATE ROAD 951 (100' RIGHT-OF-WAY); THENCE ALONG SAID RIGHT-OF-WAY NORTH 35°40'08" EAST 4206.78 FEET; THENCE LEAVING SAID RIGHT-OF-WAY SOUTH 89°08'07" EAST 599.97 FEET TO THE WEST LINE OF A CANAL RIGHT-OF-WAY BEING 40 FEET FROM AND PARALLEL TO THE EAST LINE OF SECTION 34; THENCE SOUTH 0°51'53" WEST 3449.84 FEET TO THE POINT OF BEGINNING.

BEARINGS ARE BASED ON THE EAST RIGHT-OF-WAY LINE OF STATE ROAD 951 AS BEING NORTH 35°40'08" EAST.

CONTAINING 212.67 ACRES MORE OR LESS.

ACCESS EASEMENT

A PARCEL OF LAND LYING WITHIN SECTION 34, TOWNSHIP 50 SOUTH, RANGE 26 EAST, COLLIER COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF SAID SECTION 34, TOWNSHIP 50 SOUTH, RANGE 26 EAST; THENCE RUN N.89°43'36"W. ALONG THE SOUTH LINE OF SAID SECTION 34 A DISTANCE OF 40.00 FEET TO A POINT ON A LINE LYING 40.00 FEET WEST OF (WHEN MEASURED PERPENDICULAR TO) THE EAST LINE OF SAID SECTION 34; THENCE RUN N.00°51'53"E. ALONG SAID LINE A DISTANCE OF 2723.48 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°08'07"W. A DISTANCE OF 1031.81 FEET TO A POINT ON A LINE LYING 60.0 FEET EASTERLY OF (WHEN MEASURED PERPENDICULAR TO) THE EASTERLY RIGHT-OF-WAY LINE OF STATE ROAD 951 (100.0 RIGHT-OF-WAY); THENCE RUN S.35°40'08"W. ALONG SAID LINE A DISTANCE OF 767.92 FEET; THENCE DEPARTING SAID LINE RUN N.54°19'52"W. A DISTANCE OF 60.00 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF SAID STATE ROAD 951; THENCE RUN N.35°40'08"E. ALONG SAID EASTERLY RIGHT-OF-WAY LINE A DISTANCE OF 1610.83 FEET; THENCE DEPARTING SAID RIGHT-OF-WAY LINE RUN S.89°08'07"E. A DISTANCE OF 73.07 FEET TO A POINT ON AFOREMENTIONED LINE LYING 60.00 FEET EASTERLY OF THE EASTERLY RIGHT-OF-WAY LINE OF STATE ROAD 951; THENCE RUN S.35°40'08"W. ALONG SAID LINE A DISTANCE OF 685.63 FEET; THENCE DEPARTING SAID LINE RUN S.54°19'52"E. A DISTANCE OF 111.06 FEET; THENCE S.89°08'07"E. A DISTANCE OF 827.05 FEET TO A POINT ON AFOREMENTIONED LINE LYING 40.00 FEET WEST OF THE EAST LINE OF SAID SECTION 34; THENCE RUN S.00°51'53"W. ALONG SAID LINE A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING.

BEARINGS ARE BASED ON THE EAST RIGHT-OF-WAY LINE OF STATE ROAD 951 AS BEING NORTH 35°40'08" EAST.

CONTAINING 4.63 ACRES MORE OR LESS.

94/02500L02

CERTIFICATION:

I hereby certify that the description represented on this drawing was prepared under my direction in accordance with the minimum technical standards as set forth by the Florida Board of Professional Land Surveyors in Chapter 61G17-6, Florida Administrative Code, pursuant to section 472.027, Florida Statutes.

THIS DRAWING IS NOT VALID UNLESS ORIGINAL SEAL IS AFFIXED. (SHEET 2 OF 2)

HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
301 EAST PINE STREET - SUITE 1000 - ORLANDO, FL 32801
TELEPHONE (407) 839-3030 - FAX (407) 839-3799

Mark I. Luke
Professional Land Surveyor
Florida Registration #5006

Date: 5/20/94
Field Survey: N/A

STIPULATION AND MOTION FOR ENTRY OF ORDER OF TAKING

Petitioner, SOUTHERN STATES UTILITIES, INC., and Respondents, Harold S. Lynton, as Trustee of Trust f/b/o Juliet C. Sproul; Marguerite R. Collier, Individually; Juliet C. Sproul, Individually, and as Trustee of Trust f/b/o Juliet C. Sproul; Katherine G. Sproul as Trustee of Trust f/b/o Juliet C. Sproul; Barron Collier, III, Individually, Lamar Gable; Frances G. Villere; Phyllis G. Doane; Donna G. Keller, do stipulate and move that the Court enter the foregoing Stipulated Order of Taking.

Respectfully submitted,

WILLIAM G. EARLE, ESQUIRE
EARLE & PATCHEN, P.A.
1000 Brickell Ave. Ste. 1200
Miami, Florida 33131
(305) 372-1112
Florida Bar No. 099314
Attorney for Respondents

GORDON H. HARRIS, ESQUIRE
G. ROBERTSON DILG, ESQUIRE
KENT L. HIPP, ESQUIRE
GRAY, HARRIS & ROBINSON, P.A.
Suite 1200
201 East Pine Street,
Post Office Box 3068
Orlando, FL 32602-3068
(407) 843-8880
Florida Bar No. 094513
Florida Bar No. 0362281
Florida Bar No. 0879630
Attorneys for SOUTHERN STATES UTILITIES, INC.

IN THE CIRCUIT COURT OF THE TWENTIETH JUDICIAL CIRCUIT, IN AND FOR COLLIER COUNTY, FLORIDA

CASE NO.: 94-0793-CA-01-CTC

SOUTHERN STATES UTILITIES, INC., a corporation formed and existing under the laws of the State of Florida,

Petitioner,

v.

Harold S. Lynton, et al.,

Respondents.

Parcel 23

CERTIFICATE OF PAYMENT

In accordance with the terms of the Stipulated Order of Taking to be entered in this cause, Petitioner, SOUTHERN STATES UTILITIES, INC., and Respondents, Harold S. Lynton, as Trustee of Trust f/b/o Juliet C. Sproul; Marguerite R. Collier, Individually; Juliet C. Sproul, Individually, and as Trustee of Trust f/b/o Juliet C. Sproul; Katherine G. Sproul as Trustee of Trust f/b/o Juliet C. Sproul; Barron Collier, III, Individually, Lamar Gable; Frances G. Villere; Phyllis G. Doane; Donna G. Keller, herewith file this Certificate of Payment and state and confirm that payment of the good faith estimate of value in the amount of Four Million Seventy Thousand Six hundred and No/100

($4,070,600.00) Dollars was made directly to and received by Respondents' undersigned counsel on June 23 1994.

Respectfully submitted,

WILLIAM G. EARLE, ESQUIRE
EARLE & PATCHEN, P.A.
1000 Brickell Ave. Ste. 1200
Miami, Florida 33131
(305) 372-1112
Florida Bar No. 099314
Attorney for Respondents

GORDON H. HARRIS, ESQUIRE
G. ROBERTSON DILG, ESQUIRE
KENT L. HIPP, ESQUIRE
GRAY, HARRIS & ROBINSON, P.A.
Suite 1200
201 East Pine Street,
Post Office Box 3068
Orlando, FL 32602-3068
(407) 843-8880
Florida Bar No. 094513
Florida Bar No. 0362281
Florida Bar No. 0879630
Attorneys for SOUTHERN STATES UTILITIES, INC.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing has been furnished by U.S. Mail this 27th day of June, 1994, to: William G. Earle, Esquire, Earle & Patchen, P.A., 1000 Brickell Ave., Suite 660, Miami, Florida 33131; to Guy L. Carlton, Collier County Tax Collector, 3301 Tamiami Trail East, Courthouse Complex, Naples, Florida 33962; and to Florida Power and Light Company, Jean Howard, Esquire, 9250 W. Flagler Street, Miami, Florida 33174.

GORDON H. HARRIS, ESQUIRE
KENT L. HIPP, ESQUIRE
GRAY, HARRIS & ROBINSON, P.A.
P.O. Box 3068
Orlando, FL 32802-3068
(407) 843-8880
Florida Bar Number: 094513
Florida Bar Number: 879630
Attorneys for Petitioner,
SOUTHERN STATES UTILITIES,
INC.

ViroGroup
Air • Water • Soil
TECHNOLOGY

ViroGroup, Inc.
428 Pine Island Road, S.W.
Cape Coral, FL 33991
Phone 813-574-1919
FAX 813-574-8106

11-00080-W

October 7, 1994

Mr. William H. Kirk, P.G.
Staff Hydrogeologist
Water Use Division, Regulatory Department
South Florida Water Management District
1342 Colonial Blvd., Suite B1
Ft. Myers, FL 33907

RE: Water Use Permit Modification Application #931209-5
Southern States Utilities, Collier County, FL

Dear Bill:

This correspondence is intended as the ViroGroup, Inc. (VGI) response to your letter of July 27, 1994 (copy attached) requesting additional information relative to the above-referenced permit application. A response is provided below to each of the four items requested. For staff convenience, SFWMD questions are restated in this letter.

Q1. ***Surface Water Management Division Staff in the Fort Myers office has stated that surface water management permit application number 940615-12 was submitted for the conceptual approval of the project. Please be advised that it will also be necessary for you to obtain a construction and operations (C&O) surface water management permit for the distribution system design for this project. Please be advised that pursuant to Section 1.4 of the Water Use Basis of Review (BOR), March 1994), the water use application will be reviewed concurrently with the surface water management application, once it is received, and that the water use application will not be considered complete until both the surface waster management (C&O) application is deemed complete. Also, please be advised that if new issues relating to water use are raised during the review of the surface water management permit application, it may precipitate additional comments from Water Use Staff.***

It will also be necessary for you to incorporate the design of the wellfield itself into the surface water management (C&O) permit application. District Staff has received a

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OCT 06 1994

FT. MYERS

APPLICATION NUMBER

931209-5

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copy of a letter to the applicant from the Army Corps of Engineers (ACOE) which indicates that the existing fill material on the wellfield site was placed in a wetland, and served violation notice with Cease and Desist Order 199403255 (C&D-SB). Consequently, the surface water management permit application will need to address the placement of well pads within areas which are considered to be wetlands. If you need further information regarding this matter, please contact Karen Johnson or Deborah Marzella at this office.

R1. It is our understanding that the surface water management application, which was originally submitted by Hartman & Associates for conceptual approval, will be revised in order to obtain construction and operations surface water management approval. The proposed wellfield location and design will be incorporated in the surface water management permit application.

Southern States Utilities (SSU) representatives, along with its consulting ecologist, Coast Plan, Inc., have met with representatives of the USACOE and resolved the issue of placement of lime sludge in on-site wetlands. It has been agreed that SSU will remove fill from the narrow, elongated area shown on Figure 1. As previously stated in other correspondence, the wellfield will be constructed on upland portions of the site, not in wetland areas.

Q2. Your previous response dated April 28, 1994, included modeling output from one dry season scenario and two wet season scenarios which indicates that more than one foot of drawdown is predicted to occur beneath a small portion of the wetland system located just to the north of well group C. Please be advised that until a resolution to the previously referenced violation is reached, and consistent with the Cease and Desist Order, Natural Resource Management (NRM) Staff will consider the entire site as a jurisdictional wetland area. Therefore, please provide reasonable assurance that withdrawals from the wellfield will not result in the potential for adverse impacts to the hydroperiod of these wetlands. Staff considers cumulative drawdown of less than one foot underneath wetland areas to not represent the potential for adverse impacts.

ADDL/REVISED SUBMITTAL
OCT 06 1994
FT. MYERS

APPLICATION NUMBER
931209-5
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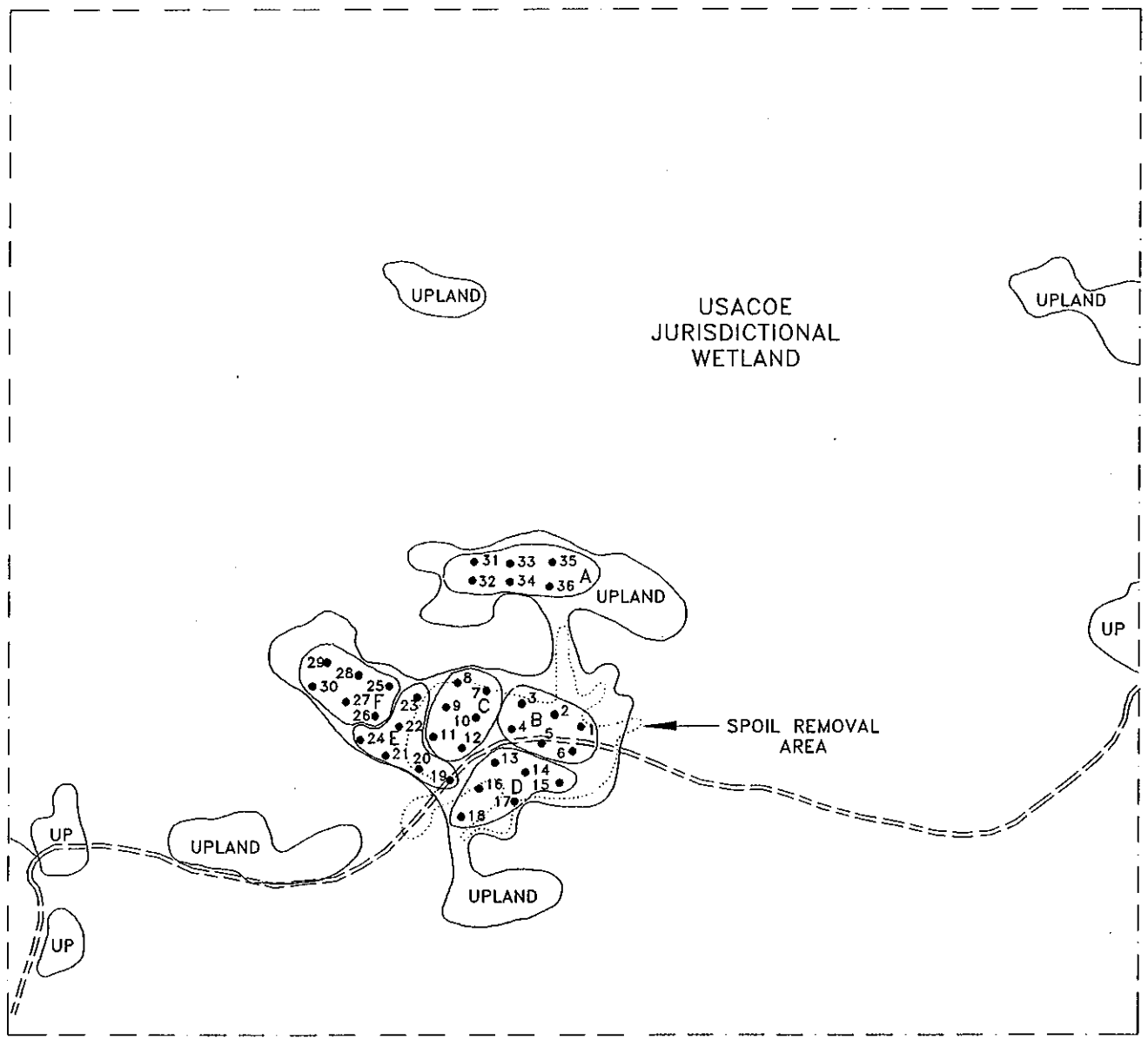

SEC. 35, T 50 S, R 27 E
COLLIER CO. FLORIDA

SCALE
400 FEET

Legend

===== – ACCESS ROAD

..... – SPOIL AREA

——— – UPLAND

17• – PROPOSED PRODUCTION WELL LOCATION AND NUMBER

A – WELL GROUP APPELLATION

ViroGroup	*AIR • WATER • SOIL TECHNOLOGY*	FLORIDA DIVISION
	DRN. BY: JCS DWG NO. A-012519GZ-5 DATE: 10/6/94	
	PROJECT NAME: SSU – SEC.35 NUMBER: 01-02519.00	

FIGURE 1. SITE MAP SHOWING SPOIL REMOVAL AREA AND WELLFIELD CONFIGURATION.

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OCT 06 1994

FT. MYERS

APPLICATION NUMBER

931209-5

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R2. As described above, the Cease and Desist Order has been resolved to the effect that a small amount of fill will be removed from a narrow elongated wetland area. Jurisdictional boundaries, with this one minor exception, are as shown on previous submittals. Our response to Item 2, as provided in our July 1, 1994 letter (copy attached) is therefore still applicable.

Q3. ***In a supplement to your July 1, 1994, letter which was received July 15, 1994, you stated that legal issues related to the Marco Lakes property have been resolved, and that Southern States Utilities will now become the owner of the property. As soon as the ownership documentation becomes available, please submit it to Staff so that the Marco Lakes property can be included as a permitted withdrawal source in the requested five year permit.***

R3. A copy of the ownership documents for the Marco Lakes property will be supplied to the SFWMD as soon as they become available.

Q4. ***The following questions pertain to the MODFLOW modeling you submitted for the inclusion of the five additional Lower Hawthorn aquifer (LHA) wells being proposed for production from the wellfield on marco Island.***

Regarding the model layering, does Layer 1 represent the Surficial Aquifer and Layer 2 represent the Lower Hawthorn aquifer? Please explain.

Considering your response to the question above, please site the references for, and justify the use of, the same value of 34,000 gpd/ft for Transmissivity, and of .0001 day^{1} for Storage, in both Layers 1 and 2.

In order to determine the potential for an increase in saline water intrusion or upconing, an evaluation must be made with respect to whether the final head within

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OCT 06 1994
FT. MYERS
APPLICATION NUMBER
931209-5
FT. MYERS SERVICE CENTER

the LHA is lower at any location in Case II than the LHA final head in Case I. However, upon examination of the output files submitted with the response, it is noted that for the portion of the model grid containing the existing wells, the final head values are deleted out with asterisks due to significant digit capacity. Please provide Staff with a copy of an output file version which lists the actual head values in these cells for both Case I and Case II so that a determination can be made regarding the potential for saline water upconing due to an increase in gradient (Δh) between the underlying Floridan Aquifer System and the Lower Hawthorn aquifer.

R4. We would first like to clarify the hydrostratigraphic nomenclature used in reference to the Marco Island wellfield. In recent application materials we have requested the addition of five Lower Hawthorn Aquifer wells. Use of this nomenclature is not appropriate for the wellfield production zone. A more appropriate designation would be the Mid-Hawthorn Aquifer, because of the position of the production zone within the Hawthorn Group.

All of the current production wells are completed into what has been referred to as the Hawthorn Zone II, with casings set at approximately 400 feet below land surface. Attached find Figures 4-1 and 4-2 from the wellfield completion report illustrating the hydrostratigraphic relationships on Marco Island. We therefore request that the production zone be referred to as Mid-Hawthorn or Hawthorn Zone II in future correspondence. Also attached are previously submitted Figures 2, 3 and 4, with revised captions to reflect this nomenclature clarification.

The following is offered in response to Question 4:

The Modflow hydraulic model developed to assess the potential changes in the drawdown scenario resulting from the inclusion of five additional wells to the existing wellfield configuration is a quasi 3-D model with Layer 1 representing the Hawthorn Zone II Aquifer and Layer 2 representing the Floridan Aquifer System. The two layers are separated by a vertical leakance term of 0.0003 gpd/ft^3 (0.00004 day^{-1}).

ADDL/REVISED SUBMITTAL
OCT 06 1994
FT. MYERS

APPLICATION NUMBER
931209-5
FT. MYERS SERVICE CENTER

As indicated in the previously submitted model files, the Layer 2 IBOUND record (Basic package) was specified as a general head boundary (GHB) of constant head cells set to a datum of 0, the same datum used for the "active" Layer 1. A datum of 0 feet was used because the purpose of the simulations was to compare the drawdown results of two wellfield withdrawal scenarios. No computations are performed for layers set to a constant head so the aquifer parameters specified for Layer 2 are irrelevant to model results. The uniform GHB of Layer 2 provides a source of recharge to Layer 1.

Hydraulic parameters utilized in the model were determined from aquifer performance tests (APT) conducted at the Marco Island R.O. Treatment Plant site (Unit 25 site) in 1989. Additionally, an APT was also performed at the Marco Island Wastewater Treatment Plant site in 1989. Aquifer coefficients determined from the two APT's are summarized in the attached Table 1 along with appropriate references. As indicated, the less productive results obtained at the R.O. Plant site were used in the model, providing a more conservative simulation.

The hydraulic modeling submitted in the previous response letter assesses the difference in the potential for saline water upconing based on maximum gradients anticipated for the two wellfield configurations. This was accomplished by comparing the maximum cumulative drawdown of the two cases. For comparison purposes the model initial heads were set to a datum of 0 and not to actual aquifer potentiometric heads in the area. The computed drawdown output matrices for the two cases were submitted in the previous response which showed drawdown values for every cell. The computed maximum drawdown value for Case I (existing 10 wells) is 58.06 feet and the maximum drawdown for Case II (existing plus 5 proposed wells) is 57.70 feet. Both maximum values occur in Row 53, Column 41, the cell corresponding to the location of the R.O. Treatment Plant site.

The model indicates no increased potential for saline water upconing as a result of the proposed wellfield configuration and withdrawals since the Case II simulation indicates a slight reduction in the maximum gradient occurring for the proposed configuration.

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APPLICATION NUMBER
931209-5
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ViroGroup
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TECHNOLOGY

If you have any questions or comments regarding the information provided in these responses, please feel free to contact us.

Sincerely,

Gordon P. Kennedy 10-7-94

Gordon P. Kennedy, P.G.
Project Hydrogeologist

David J. Acquaviva 10/7/94

Daniel J. Acquaviva, P.G.
Senior Hydrogeologist

DJA:jmr

pc: R. Terrero, SSU-Apopka
C. Walker, SSU-Apopka
D. Denny, SSU-Marco Island
S. Walker, Messers, Vickers

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OCT 06 1994

FT. MYERS

APPLICATION NUMBER

931209-5

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TABLE 1

SUMMARY OF AQUIFER COEFFICIENTS DETERMINED FROM APT TESTING ON MARCO ISLAND

Reference & Location	Transmissivity (gpd/ft)	Storage Coefficient	Leakance (gpd/ft^3)
1. Wastewater Treatment Plant	70,000	4.2×10^{-5}	5.9×10^{-3}
2. R.O. Treatment Plant	34,000	1.4×10^{-4}	3.0×10^{-4}

References:

1. Missimer & Associates, Inc. (1989), "Hydrologic Investigation to Determine the Long Term Resource Potential of the Hawthorn Aquifer System Zone II, Marco Island, Florida", consultants report prepared for Deltona Utility Consultants, Apopka, Florida, 66 pages.

2. Missimer & Associates, Inc. (1990), "Hydrologic Investigation to Evaluate Long Term Resource Potential of the Hawthorn Aquifer System Zone II at the Unit 25 Parcel, Marco Island, Florida", consultants report prepared for Southern States Utility Services, Apopka, Florida, 41 pages.

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OCT 06 1994
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931209-5
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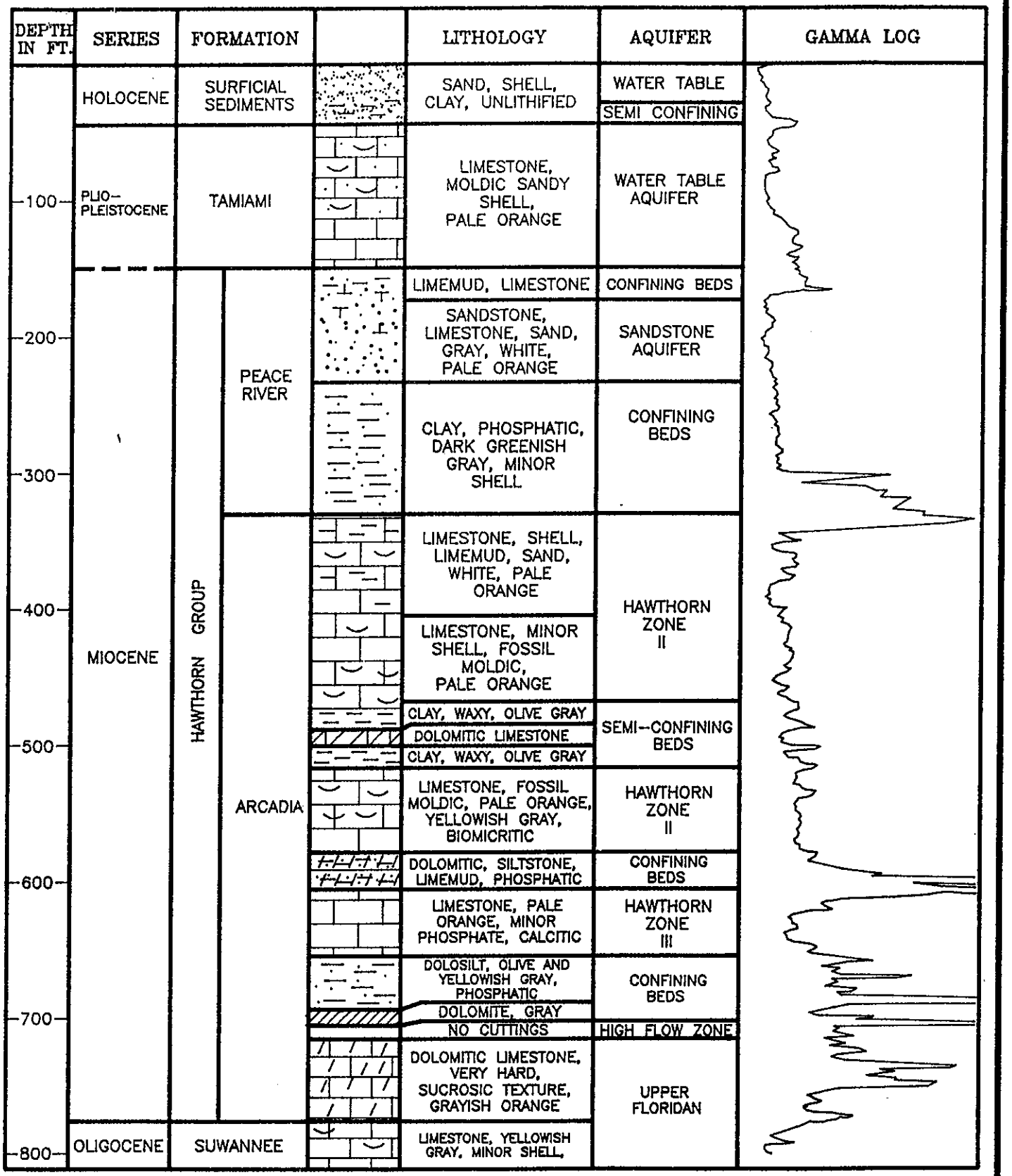

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MISSIMER & ASSOCIATES, INC.

DRN. BY– CAM DWG. NO.– A–C0128COL–2 DATE: 6/11/92

ENVIRONMENTAL AND GROUNDWATER SERVICES

FIGURE 4–1. HYDROSTRATIGRAPHIC COLUMN OF WELL CO–2305.

931209-5

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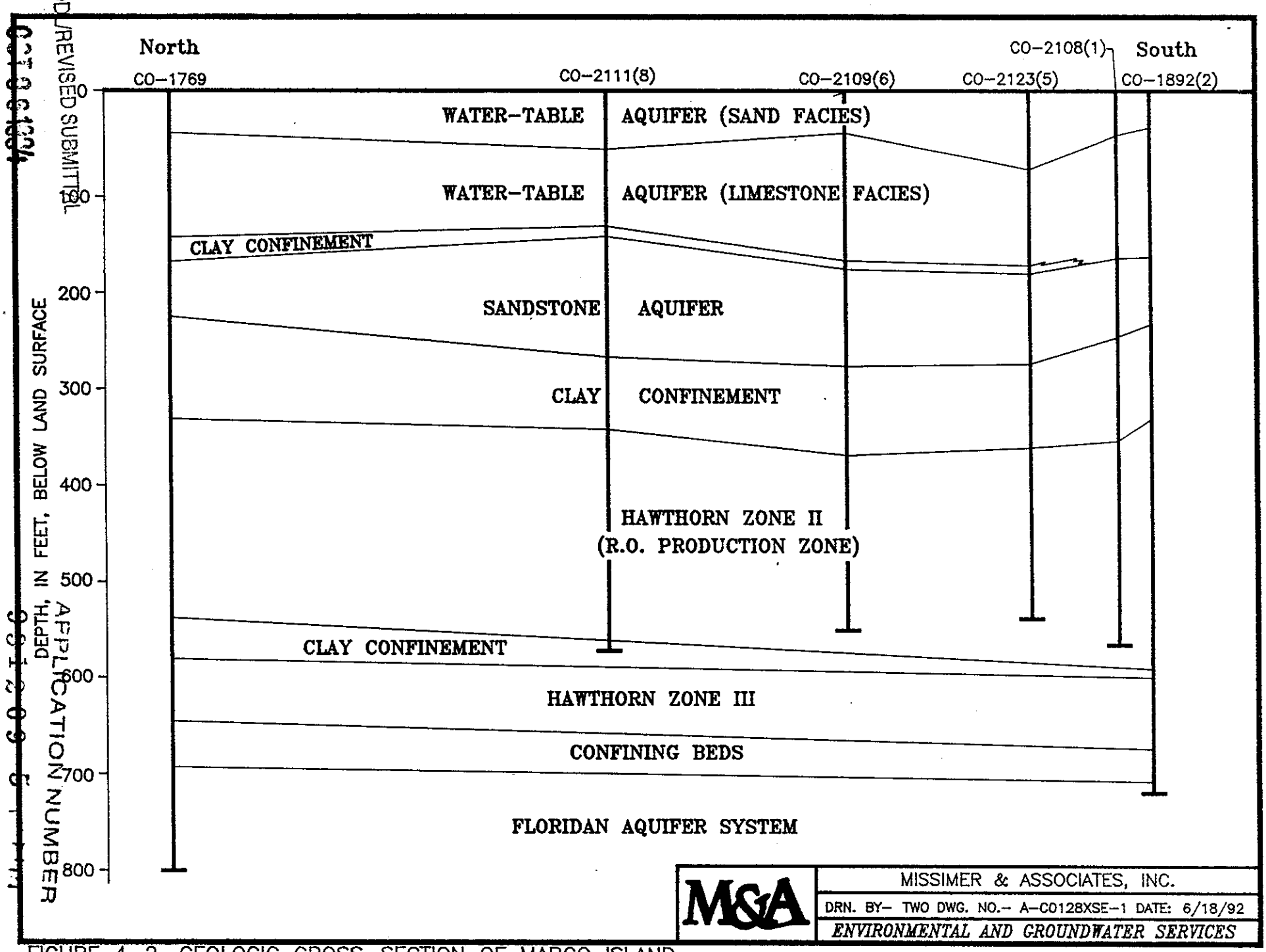

FIGURE 4-2. GEOLOGIC CROSS-SECTION OF MARCO ISLAND.

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South Florida Water Management District

Fort Myers Service Center:
1342 Colonial Blvd., Suite 81 • Fort Myers, FL 33907 • (813) 278-SFWM • 1-800-248-1201 • FAX (813) 278-7310

CON-24-06

July 27, 1994

Mr. Daniel J. Acquaviva, P.G.
Missimer & Associates, Inc.
428 Pine Island Road, S.W.
Cape Coral, FL 33991

Dear Mr. Acquaviva,

Subject: Application No.: 931209-5
Project: Marco Island Utilities Section 35 Wellfield
County: Lee (Sec 35, T50S, R27E)

Further review of the response submitted for the above referenced application indicates that additional information will be required in order to complete the evaluation, as follows, pursuant to Rule 40E-1.603(8)(a), Florida Administrative Code (FAC). Please answer all parts of the following 4 questions.

1. Surface Water Management Division Staff in the Fort Myers office has stated that surface water management permit application number 940615-12 was submitted for the *conceptual* approval of the project. Please be advised that it will also be necessary for you to obtain a *construction and operations (C & O)* surface water management permit for the distribution system design for this project. Please be advised that pursuant to Section 1.4 of the Water Use Basis of Review (BOR, March 1994), the water use application will be reviewed concurrently with the surface water management application, once it is received, and that the water use application will not be considered complete until both the surface water management (C & O) application is deemed complete. Also, please be advised that if new issues relating to water use are raised during the review of the surface water management permit application, it may precipitate additional comments from Water Use Staff.

   It will also be necessary for you to incorporate the design of the wellfield itself into the surface water management (C & O) permit application. District Staff has received a copy of a letter to the applicant from the Army Corps of Engineers (ACOE) which indicates that the existing fill material on the welllfield site was placed in a wetland, and served violation notice with Cease and Desist Order 199403255(C&D-SB). Consequently, the surface water management permit application will need to address the placement of well pads within areas which are considered to be wetlands. If you need further information regarding this matter, please contact Karen Johnson or Deborah Marzella at this office.

ADDL/REVISED SUBMITTAL
OCT 06 1994
FT. MYERS
APPLICATION NUMBER
931209-5
FT. MYERS SERVICE CENTER

Governing Board:
Valerie Boyd, Chairman
Frank Williamson, Jr., Vice Chairman
Annie Betancourt
William Hammond
Betsy Krant
Allan Milledge
Eugene K. Pettis
Nathaniel P. Reed
Leah G. Schad
Tilford C. Creel, Executive Director
Thomas K. MacVicar, Deputy Executive Director

2. Your previous response dated April 28, 1994, included modeling output from one dry season scenario and two wet season scenarios which indicates that more than one foot of drawdown is predicted to occur beneath a small portion of the wetland system located just to the north of well group C. Please be advised that until a resolution to the previously referenced violation is reached, and consistent with the Cease and Desist Order, Natural Resource Management (NRM) Staff will consider the entire site as a jurisdictional wetland area. Therefore, please provide reasonable assurance that withdrawals from the wellfield will not result in the potential for adverse impacts to the hydroperiod of these wetlands. Staff considers *cumulative* drawdown of less than one foot underneath wetland areas to not represent the potential for adverse impacts.

3. In a supplement to your July 1, 1994, letter which was received July 15, 1994, you stated that the legal issues related to the Marco Lakes property have been resolved, and that Southern States Utilities will now become the owner of the property. As soon as the ownership documentation becomes available, please submit it to Staff so that the Marco Lakes property can be included as a permitted withdrawal source in the requested five year permit.

4. The following questions pertain to the MODFLOW modeling you submitted for the inclusion of the five additional Lower Hawthorn aquifer (LHA) wells being proposed for production from the wellfield on Marco Island:

   Regarding the model layering, does Layer 1 represent the Surficial Aquifer and Layer 2 represent the Lower Hawthorn aquifer? Please explain.

   Considering your response to the question above, please site the references for, and justify the use of, the same value of 34,000 gpd/ft for Transmissivity, and of .0001 day^{-1} for Storage, in both Layers 1 and 2.

   In order to determine the potential for an increase in saline water intrusion or upconing, an evaluation must be made with respect to whether the final head within the LHA is lower *at any location* in Case II than the LHA final head in Case I. However, upon examination of the output files submitted with the response, it is noted that for the portion of the model grid containing the existing wells, the final head values are deleted out with asterisks due to significant digit capacity. Please provide Staff with a copy of an output file version which lists the actual head values in these cells for both Case I and Case II so that a determination can be made regarding the potential for saline water upconing due to an increase in gradient (Δh) between the underlying Floridan Aquifer System and the Lower Hawthorn aquifer.

ADDL/REVISED SUBMITTAL
OCT 06 1994
FT. MYERS
APPLICATION NUMBER
931209-5
FT. MYERS SERVICE CENTER

Staff cannot complete the review of the application without this missing information. Please be advised that pursuant to Chapter 40E-1.603(8)(a) and (b), FAC, your response to these questions may precipitate additional comments.

When the above information is received, we will resume processing your application in accordance with 40E-1.603, FAC. If a response is not received within 30 days this application may be processed for denial, if not withdrawn by the applicant. Please use the enclosed transmittal form when submitting your response, and include six (6) copies of the response. If you have any questions regarding this matter, please do not hesitate to call me at this office.

Sincerely,

William H. Kirk

William H. Kirk, P.G.
Staff Hydrogeologist
Water Use Division
Regulation Department

Enclosure

c: Florida Game and Freshwater Fish Commission
US Army Corps of Engineers - Fort Myers
US Fish and Wildlife Service - Naples
Mr. Ralph Terrero
James F. Garner, Esq.
Stephen A. Walker, Esq.
Dr. Abdul Ahmadi

ADDL/REVISED SUBMITTAL
OCT 06 1994
FT. MYERS

APPLICATION NUMBER
931209-5
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ViroGroup
Air • Water • Soil
TECHNOLOGY

Missimer Division
ViroGroup, Inc.
428 Pine Island Road, S.W.
Cape Coral, FL 33991
Phone 813-574-1919
FAX 813-574-8106

July 1, 1994

Mr. William H. Kirk, P.G.
Staff Hydrogeologist
Water Use Division, Regulatory Department
South Florida Water Management District
1342 Colonial Blvd., Suite B1
Ft. Myers, FL 33907

RE: Water Use Permit Modification application #931209-5
Southern States Utilities, Marco Island, Collier County, FL

Dear Bill:

This correspondence is intended as the ViroGroup, Inc. (VGI) response to your letter of May 31, 1994 (copy attached) requesting additional information relative to the above-referenced permit application. A response is provided below to each of the four items identified in your May 31, 1994 letter.

Q1. ***District Staff in the Fort Myers office has stated that it will also be necessary for you to obtain a surface water management permit for the distribution system design for this project. Please be advised that pursuant to Section 1.4 of the Water Use Basis of Review (BOR, March 1994), the water use application will be reviewed concurrently with the surface water management application, once it is received, and that the water use application will not be considered complete until both the surface water management application is deemed complete. Also, please be advised that if new issues relating to water use are raised during the review of the surface water management permit application, it may precipitate additional comments from Water Use Staff.***

It may also be necessary for you to incorporate the design of the wellfield itself into the surface water management permit application. As discussed at recent meetings, district staff is awaiting the submission of materials which verify that the existing fill material on the wellfield site was not placed in a wetland. If the submitted information provides this verification, then the delineated upland/wetland boundary on the submitted map may be correct. If not, then any surface water management permit application will need to address the placement

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ADDL/REVISED SUBMITTAL
OCT 06 1994
FT. MYERS

APPLICATION NUMBER
931209-5
FT. MYERS SERVICE CENTER

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of well pads within wetland areas. If you need further information regarding this matter, please contact Karen Johnson or Deborah Marzella at this office.

R1. The surface water management permit application was submitted by Hartman & Associates on June 15, 1994.

Q2. Your response dated April 28, 1994, included modeling output from one dry season scenario and two wet season scenarios which indicates that more than one foot of drawdown is predicted to occur beneath a small portion of the wetland system located just to the north of well group C. Please provide reasonable assurance that this will not result in the potential for adverse impacts to the hydroperiod of this wetland (eg., explanation of modeling process, existing hydrologic information, wellfield operating schedule minimizing impacts, etc.).

R2. The jurisdictional wetland area which lies within the one foot drawdown contour for the 90 day no recharge impact analysis encompasses less than 1.25 acres. The area is more appropriately classified as a transitional area which is characterized by exotic vegetation and transitional-type plant species. Due to the fact that the modeling used conservative recharge (i.e. no recharge) and a conservative representation of the surface water systems, the actual drawdown in this small area would likely be less than 1.0 foot. Since SSU has agreed to a wetland enhancement program (through exotics removal) for the remainder of the 160 acre parcel, we believe that the very marginal impacts to the small area referenced should be acceptable.

Q3. Your April 28, 1994, letter indicated that until legal issues related to the Marco Lakes property are resolved, documentation showing legal control of that property could not be provided for a date beyond December 31, 1994. However, the application includes proposed withdrawals based upon the demands projected through the year 1999, and it has been stated that 1999 is the requested year for expiration. As soon as the documentation becomes available, please demonstrate ownership, control, or legal access to all sources and facilities listed in the permit

APPLICATION NUMBER
931209-5
FT. MYERS SERVICE CENTER

ADDL/REVISED SUBMITTAL
OCT 06 1994

and the application for a period of time through the requested expiration year of 1999. Otherwise, Staff will recommend a permit duration based upon the amount of water allocable from the facilities which the applicant can demonstrate legal control. If such facilities cannot meet the accepted 1999 demands, then a shorter duration permit may be necessary.

R3. As of the date of this response, the legal aspects related to continued use of the Marco Lakes have not been resolved. If all other issues related to the SSU Marco Island water use permit are resolved, and at that time the Marco Lakes legal issue remains outstanding, then a permit with the same expiration date as the present permit, namely January 17, 1996, would be acceptable.

Q4. It was stated in your response that in addition to the modification requests included in the original submittal, five Lower Hawthorn aquifer wells are now being proposed for production from the wellfield on Marco Island. This request is considered a substantial modification to the original application as specified in Chapter 40E-1.603(8)(b), and is subject to the criteria for the conditions of permit issuance as specified in chapter 40E-2.301, FAC. Therefore, based upon this new information, please provide Staff with the projected cones of influence from the existing and proposed wellfield configurations ("before and after" contours) which provide reasonable assurance that the proposed withdrawals will meet criteria specified in section 3.4, BOR, and specifically Chapter 40E-2.301(1)(a) and it's consistency with Department of Environmental Protection (DEP) criteria specified in Chapter 17-520, FAC.

R4. The present and proposed withdrawals meet the criteria specified in the SFWMD BOR Section 3.4. Specifically, Section 3.4.1 BOR states the use of saline water may cause saline water intrusion providing the applicant can provide proof of compliance with the following stated conditions:

A. Public Water Suppliers must provide finished water with dissolved chloride concentrations no greater than 250 mg/l. The Marco Island RO Treatment Plant Operating Reports are submitted to the SFWMD Regulation

ADD/REVISED SUBMITTAL
OCT 06 1994
FT. MYERS

APPLICATION NUMBER
931209-5
FT. MYERS SERVICE CENTER

Department on a monthly basis and include daily and monthly average and maximum total dissolved solids (TDS) concentrations of plant effluent and finished water. The reported TDS levels of the finished water are well below the maximum contaminant level (MCL) criteria for TDS pursuant to Chapter 17-550 FAC, and correspond to chloride concentrations below the 250 mg/l threshold specified in Sec. 3.4.1 BOR. A summary of monthly maximum and average RO plant effluent TDS levels for the past year is presented in Table 1.

B. The proposed use will not have an adverse impact on existing legal uses or the resource. The Marco Island wellfield is the southwestern-most (i.e. downgradient) currently permitted Public Water Supply facility withdrawing from the Lower Hawthorn Aquifer in peninsular Florida. The nearest municipal public water supply (PWS) permittee utilizing the aquifer is located over 40 miles to the north in Lee County. Any potential resource impacts restricted under Ch. 40E-2.301 (1)(a) would be localized and would not impact other existing legal users. Based on modeled scenarios, with proper utilization of the wellfield, (i.e. appropriate well pumping rates and scheduling) impacts to the resource and the applicant should not increase significantly under the proposed wellfield configuration and withdrawals.

In order to determine the change in the drawdown scenario resulting from the inclusion of five additional Lower Hawthorn aquifer wells to the existing wellfield configuration, a MODFLOW model was developed. A variably spaced grid was used with minimum grid dimensions of 400x400 feet in the vicinity of the wellfield and maximum grid dimensions of 15000x15000 feet at the boundary of the model. Figures 1a and 1b show the entire model grid. MODFLOW input and output files are included as an attachment to this response.

The simulated drawdown resulting from the currently permitted maximum day withdrawal of 5.4 MGD using the present wellfield configuration (Case I) is shown in Figure 2. The drawdown from the proposed wellfield configuration,

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ADDL/REVISED SUBMITTAL
OCT 06 1994
FT. MYERS

APPLICATION NUMBER
931209-5
FT. MYERS SERVICE CENTER

including the 5 new Lower Hawthorn wells, simulating a total wellfield withdrawal of 7.46 MGD (Case II) is presented as Figure 3.

The difference in the drawdown between the two simulated cases is shown in Figure 4. An increased drawdown of up to 20 feet at the location of proposed wells # 12, 13, and 14 is indicated. A cross-section plot of drawdown along Section X-X' is shown in Figure 5. The cross-sectional plot shows that while increased drawdown occurs at the location of the new wells, the drawdown at these locations is considerably less than the maximum drawdown obtained in Case I (the present situation). The withdrawal scenario employed in Case II, involves a pumping rate of 437 GPM from the new wells and 300 GPM from existing wells. This scenario results in a maximum cumulative drawdown approximately equal to the maximum cumulative drawdown under the modeled existing wellfield configuration.

There is thus no change in the simulated maximum gradient between the Lower Hawthorn and the underlying, more saline aquifers in both cases. We anticipate no significant difference in the potential for upconing between the currently permitted and the proposed wellfield conditions, since the potential for upconing depends on the gradient between the subject aquifer and the underlying layers.

Chapter 17-520 FAC defines ground water classification, quality and uses, and the rule language specifically addresses criteria for installations discharging into the ground waters of the State. There is no specific language in 17-520 addressing standards for installations withdrawing groundwater. Donnie McClaugherty (FDEP, Bureau of Drinking Water & Groundwater Resources) has stated in recent conversations that at present, there is no legal opinion on the applicability of Ch. 17-520 to saline water intrusion/upconing caused by wellfield withdrawals. If the discharge criteria were applicable to withdrawals, it appears the Marco Island wellfield case would be consistent with all the requirements for granting exemptions stated in Ch. 17-520.500.

APPLICATION NUMBER
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OCT 0 6 1994
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C. The use is in the public interest. The Marco Island RO wellfield withdraws from the only suitable local source of groundwater in terms of water quality and quantity. The wellfield is the only withdrawal facility located on an island with a projected 1999 population estimated at 32,493. More than half of the Marco Island Utilities service area demand is currently supplied by off-island sources. Any interruption in conveyance of the off-island supplies, such as could happen during a major hurricane, would render the Marco RO wellfield the sole source for municipal water. It is clearly in the public interest to increase the capacity of the only PWS withdrawal facility located on the island that it serves.

Do not hesitate to call should you have any questions or comments regarding any aspect of these responses.

Sincerely,

Gordon P. Kennedy, P.G.
Project Hydrogeologist

7/1/94

Daniel J. Acquaviva, P.G.
Senior Hydrogeologist

DJA:jmr

pc: R. Terrero, SSU-Apopka
C. Walker, SSU-Apopka
D. Denny, SSU-Marco Island
S. Walker, Messer, Vickers

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OCT 06 1994

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APPLICATION NUMBER

931209-5

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TABLE 1

Finished Water TDS Concentrations:
Marco Island Utilities
R.O. Treatment Plan

Month	Maximum TDS (mg/l)	Average TDS (mg/l)
June 1993	342	-
July 1993	331	290
August 1993	371	328
September 1993	354	307
October 1993	335	290
November 1993	301	266
December 1993	351	310
January 1994	360	320
February 1994	359	337
March 1994	384	336
April 1994	357	322
May 1994	375	320

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APPLICATION NUMBER

931209-5

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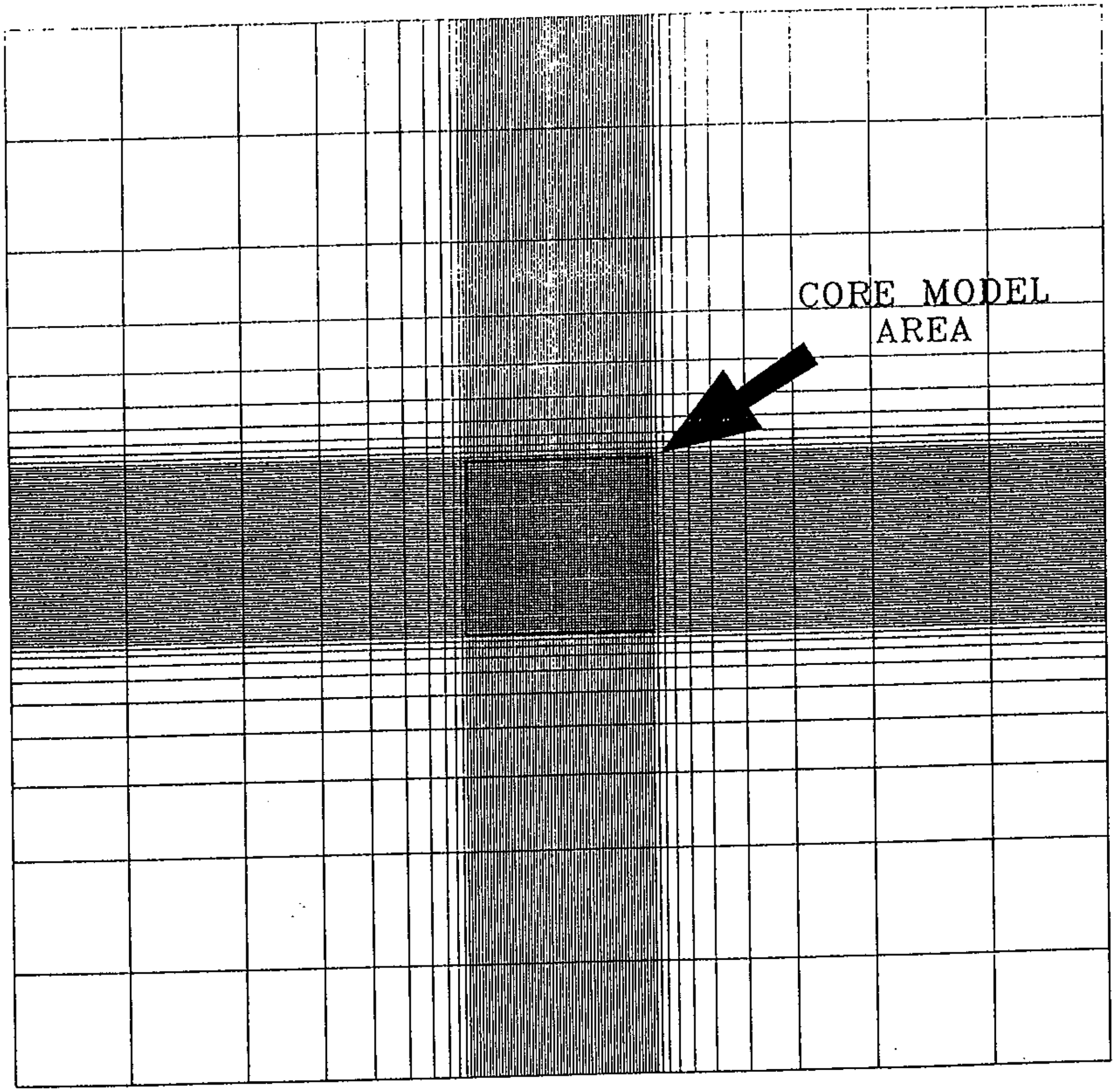

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APPLICATION NUMBER
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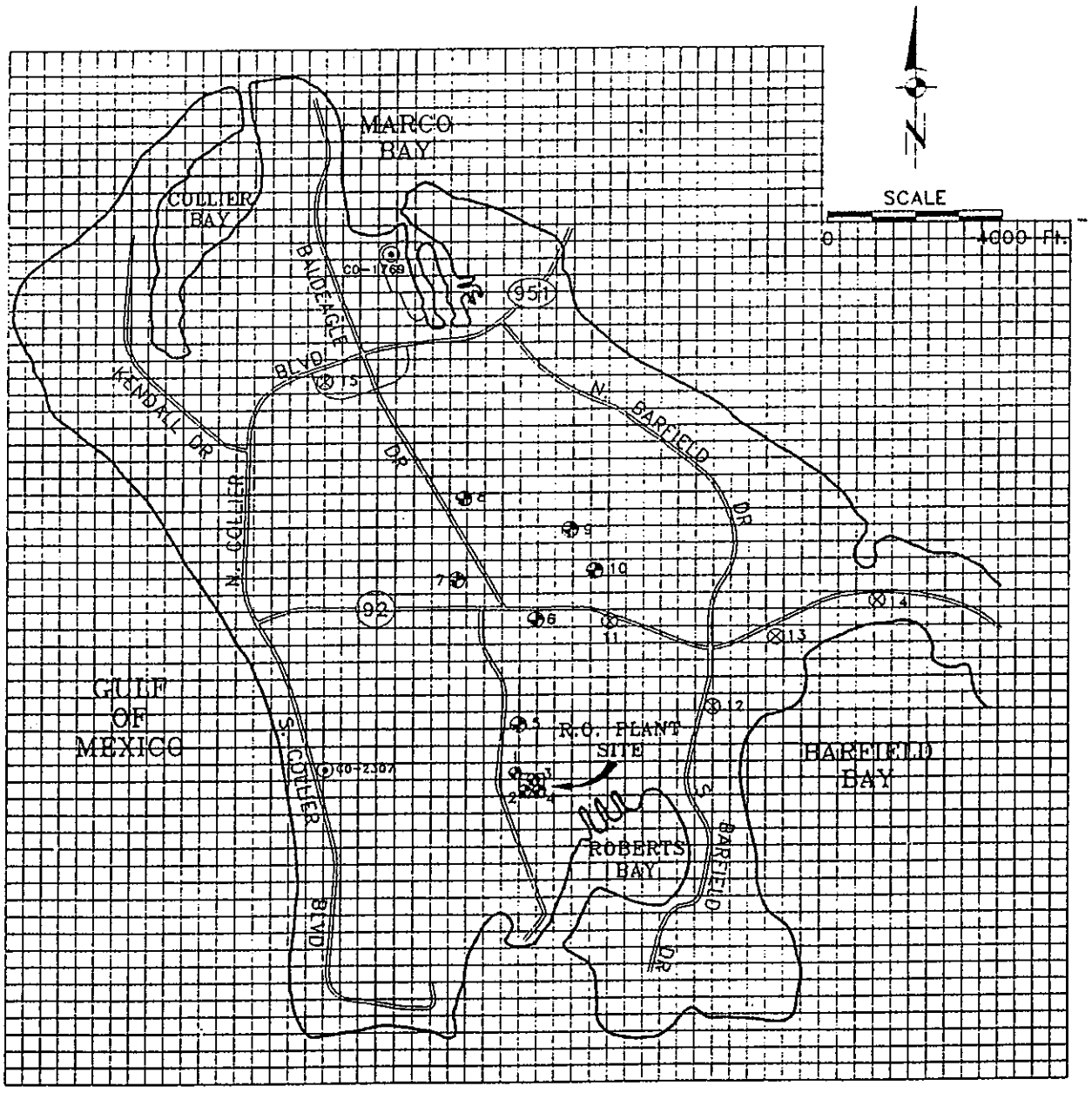
ViroGroup	AIR • WATER • SOIL TECHNOLOGY DRN. BY: JCS DWG NO. A-012886KA-1 DATE: 6/30/94 PROJECT NAME: MARCO PERMITTING SSU NUMBER: 01-02886.00	MISSIMER DIVISION

Figure 1a. Model grid showing core model area.



ViroGroup

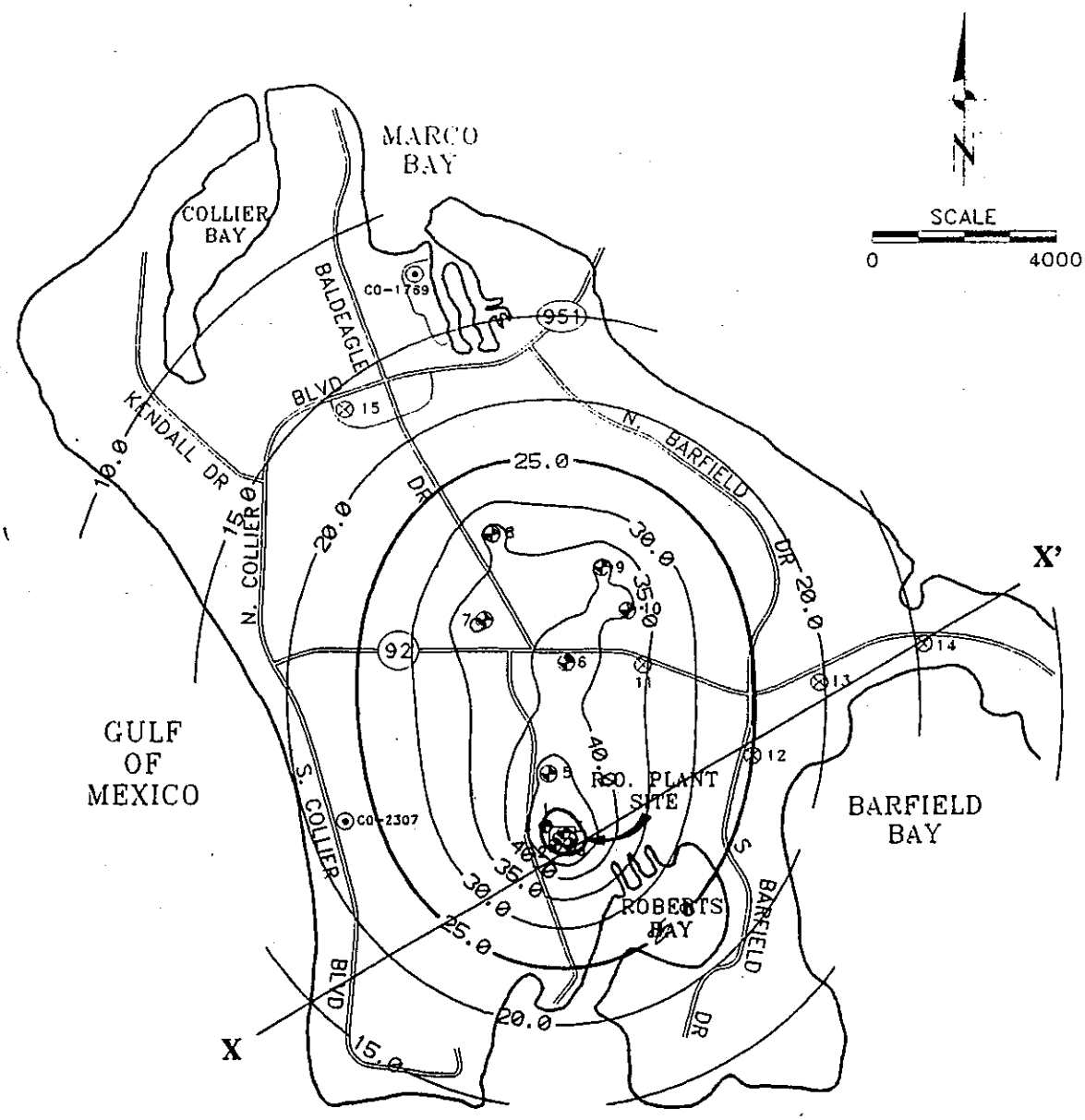
AIR • WATER • SOIL TECHNOLOGY

DRN. BY: JCS DWG NO. A-012886KA-1 DATE: 6/30/94

PROJECT NAME: MARCO PERMITTING SSU NUMBER: 01-02886.00

MISSIMER DIVISION

Figure 1b. Model core area showing locations of existing and proposed withdrawal sites.



Legend

- ⊙ MONITOR WELL
- ⊕ EXISTING PRODUCTION WELL
- ⊗ PROPOSED PRODUCTION WELL

APPLICATION NUMBER
931209-5

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OCT 06 1994
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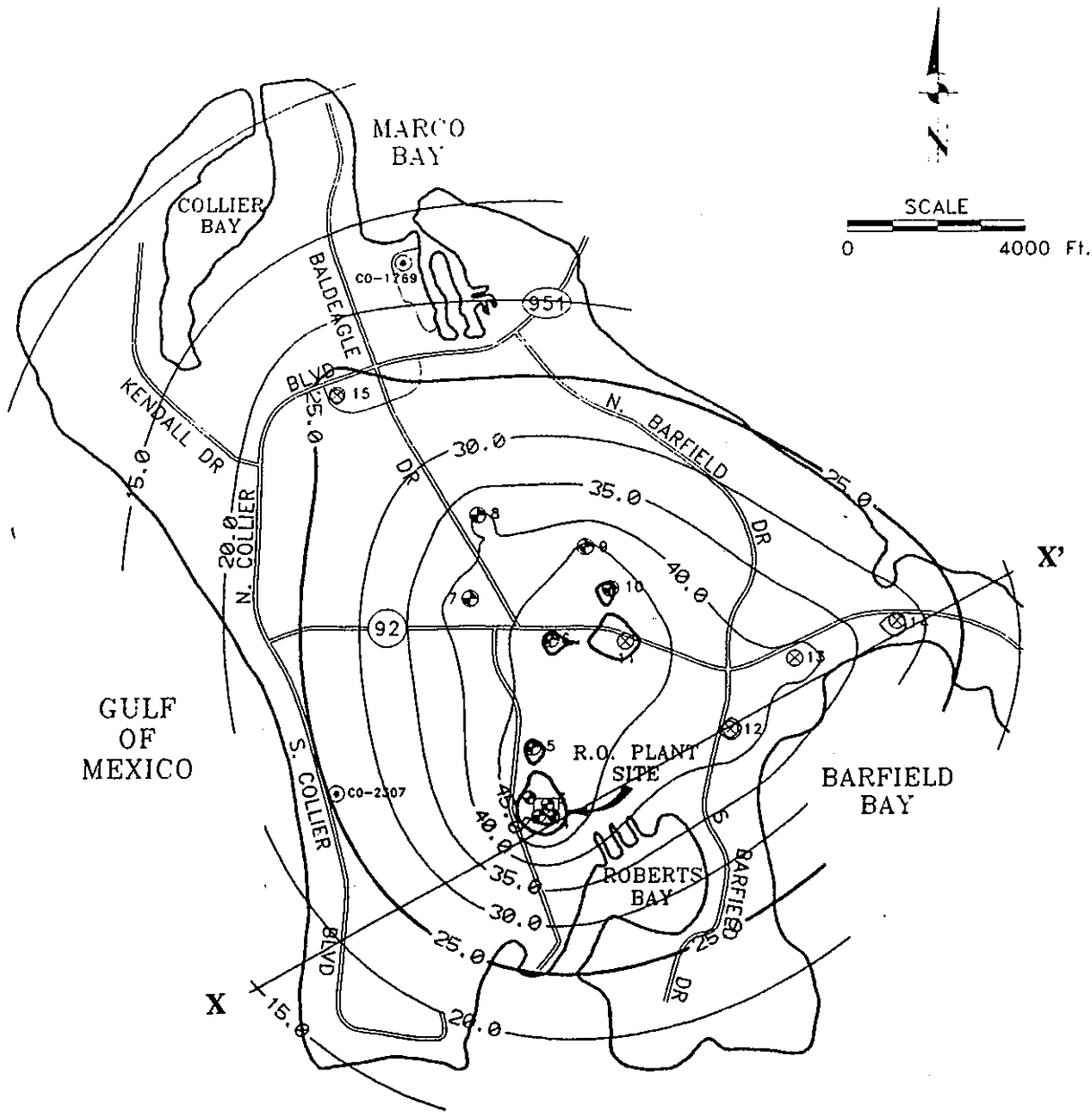
ViroGroup	AIR • WATER • SOIL TECHNOLOGY	MISSIMER DIVISION
	DRN. BY: JCS DWG NO. A-012886KA-1 DATE: 4/28/94	
	PROJECT NAME: MARCO PERMITTING SSU NUMBER: 01-02886.00	

Figure 2. Simulated drawdown in the Hawthorn Zone II resulting from withdrawal of 5.40 MGD (for 90 days) from existing wells.



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APPLICATION NUMBER
931209-5
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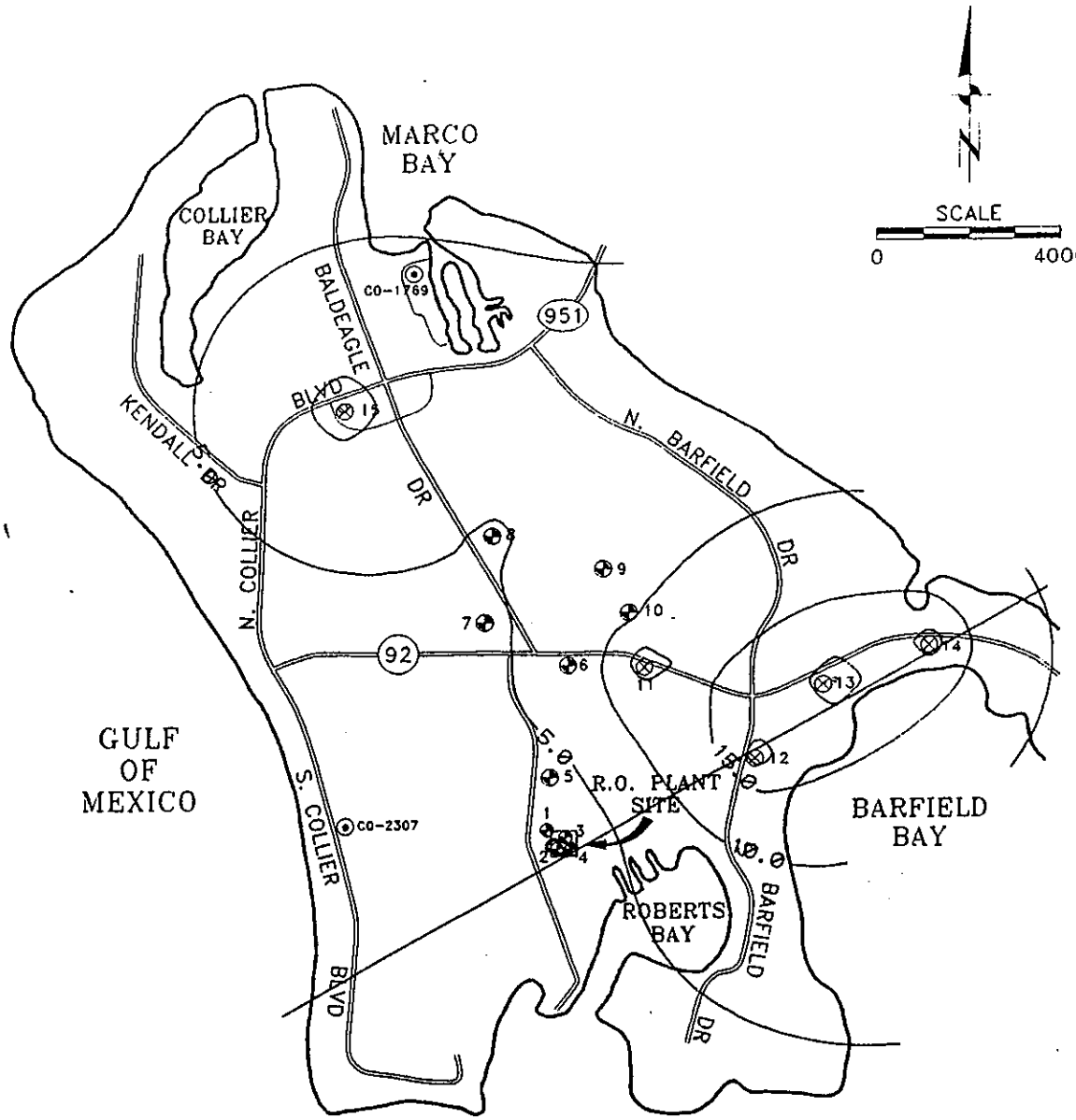
ViroGroup
AIR • WATER • SOIL TECHNOLOGY
DRN. BY: JCS DWG NO. A-012886KA-1 DATE: 4/28/94
PROJECT NAME: MARCO PERMITTING SSU NUMBER: 01-02886.00
MISSIMER DIVISION

Figure 3. Simulated drawdown in the Hawthorn Zone II resulting from withdrawal of 7.46 MGD (for 90 days) from existing and proposed wells.



Legend

- MONITOR WELL
- EXISTING PRODUCTION WELL
- PROPOSED PRODUCTION WELL

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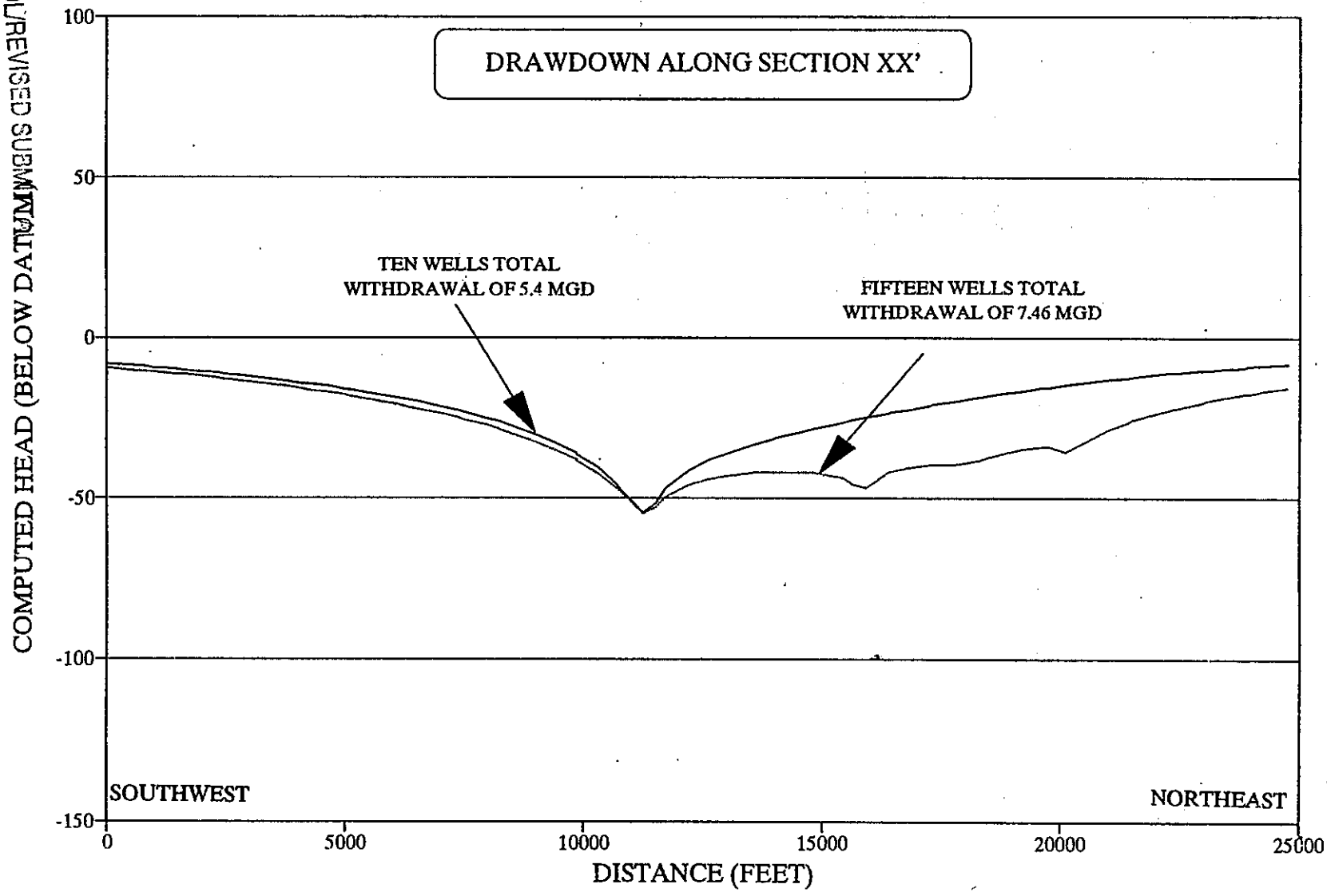
ViroGroup	AIR • WATER • SOIL TECHNOLOGY	MISSIMER DIVISION
	DRN. BY: JCS DWG NO. A-012886KA-1 DATE: 4/28/94	
	PROJECT NAME: MARCO PERMITTING SSU NUMBER: 01-02886.00	

Figure 4. Change in drawdown in the Hawthorn Zone II resulting from the addition of 5 wells and increased withdrawal rate.



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DRN. BY: DWG NO. DATE:

PROJECT NAME: PROJECT NUMBER:

MISSIMER DIVISION

Figure 5. Cross-section along line X - X' showing simulated drawdown under existing and proposed

NORTH NAPLES UTILITIES, INC.
WATER AND SEWER SERVICES

September 11, 1992

Ms. Ann-marie Cruickshank
South Florida Water Management District
Water Use Division
3301 Gunn Club Road
West Palm Beach, Florida 33406

Dear Ms. Cruickshank:

We have entered into an agreement with Collier County to sell the water and sewer plants. The water plant turnover is currently in transition. The sewer plant has been turned over.

Please consider this formal notification and advise if there is any other information required. Thank you for your assistance in this matter.

Sincerely,

Shannon Howell
Vice President

/bw

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SEP 21 1992
WATER USE DIVISION

4500 EXECUTIVE DRIVE NAPLES, FLORIDA 33999 OFFICE: 597-0064 FAX: 597-5167 AFTER HOURS: 597-1057

Linda Cammack
Lee West

South Florida Water Management District

3301 Gun Club Road • P.O. Box 24680 • West Palm Beach, FL 33416-4680 • (407) 686-8800 • FL WATS 1-800-432-2045

CON 24-06

District Application 940314-66

36-00080-W

April 21, 1994

Robert R. Conway, Facilities Manager
Lee County Port Authority
16000 Chamberlin Parkway
Fort Myers, Florida 33913

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MAY 2 1994

Dear Mr. Conway:

Subject: Confirmation of Application Withdrawal
Southwest Florida International Airport, Lee County
Sections --, Township 45 South, Ranges 25, 26 East

This is to confirm that the above referenced application has been withdrawn and the file closed pursuant to your written request of March 29, 1994. A refund to Lee County Port Authority will be issued under separate cover.

If you have any further questions in the matter, please contact this office.

Sincerely,

Anne Roth

Anne Roth
Director, Regulatory Administration Division
Regulation Department

AR:tc

c: DEP
Lee County Engineer

bc: Office of Counsel
Area Engineer
Field Representative
Enforcement
Permit File/Pat Bomgardner
Day Copy
Karen Wallace
John Krupilis
Beth Colavecchio
Sandra Imran

Governing Board:
Valerie Boyd, Chairman
Frank Williamson, Jr., Vice Chairman
Annie Betancourt
William Hammond
Betsy Krant
Allan Milledge
Eugene K. Pettis
Nathaniel P. Reed
Leah G. Schad
Tilford C. Creel, Executive Director
Thomas K. MacVicar, Deputy Executive Director

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

EMERGENCY AUTHORIZATION NO. 1988-10

(NON-ASSIGNABLE)

DATE ISSUED August 3, 1988

AUTHORIZING: USE OF SURFACE WATER FROM HENDERSON CREEK FOR PUBLIC WATER SUPPLY WITH A MAXIMUM DAILY ALLOCATION OF 5.76 MILLION GALLONS.

LOCATED IN: COLLIER COUNTY, SECTION 34 TWP. 50S RGE. 26E

ISSUED TO: Deltona Utilities
3250 S.W. Third Avenue
Miami, Florida 33129

This emergency authorization is issued pursuant to Application for Permit No. 02097-K, dated Feb. 9, 87 Applicant agrees to hold and save the Water Management District and its successors harmless from any and all damage, claims, or liabilities which may arise by reason of the construction, operation, maintenance, or use of any work or structure involved in this authorization. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This authorization will remain in effect until the Governing Board has acted on the application or until cancelled by the Executive Director.

SPECIAL CONDITIONS ARE AS FOLLOWS:

SEE SHEETS 2 AND 3 OF 3 - 15 SURFACE WATER SPECIAL CONDITIONS.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ISSUANCE RECOMMENDED:

BY _____
Executive Director

FORM 39
Rev. 6/77

LIMITING CONDITIONS

1. IN THE EVENT OF A DECLARED WATER SHORTAGE, WATER WITHDRAWAL REDUCTIONS WILL BE ORDERED BY THE DISTRICT IN ACCORDANCE WITH THE WATER SHORTAGE PLAN, CHAPTER 40E-21, FLORIDA ADMINISTRATIVE CODE.

2. MAXIMUM DAILY WITHDRAWAL SHALL NOT EXCEED 5.76 MG.

3. SOURCE CLASSIFICATION IS:

   SURFACE WATER FROM HENDERSON CREEK

4. PERMITTEE SHALL MITIGATE TO THE SATISFACTION OF THE DISTRICT ANY ADVERSE IMPACT ON EXISTING LEGAL USES CAUSED BY WITHDRAWALS. WHEN ADVERSE IMPACTS OCCUR, OR ARE IMMINENT, DISTRICT RESERVES THE RIGHT TO CURTAIL WITHDRAWAL RATES. ADVERSE IMPACTS ARE:

   A) REDUCTION IN WELL WATER LEVELS THAT IMPAIRS THE ABILITY OF AN ADJACENT WELL TO PRODUCE WATER (AN ADJACENT WELL MAY BE DOMESTIC WELL, LAWN IRRIGATION WELL, PUBLIC WATER SUPPLY WELL, ETC.),

   B) SIGNIFICANT REDUCTION IN LEVELS IN AN ADJACENT WATER BODY SUCH AS A LAKE, POND, WETLAND OR A CANAL SYSTEM,

   C) SALINE WATER INTRUSION OR INDUCTION OF POLLUTANTS INTO THE WATER SUPPLY OF AN ADJACENT WATER USE, RESULTING IN A SIGNIFICANT REDUCTION IN WATER QUALITY, AND

   D) CHANGE IN WATER QUALITY THAT CAUSES IMPAIRMENT OR LOSS OF USE OF A WELL OR WATER BODY.

5. PERMITTEE SHALL MITIGATE TO THE SATISFACTION OF THE DISTRICT ANY ADVERSE IMPACT ON EXISTING OFF-SITE LAND USE AS A CONSEQUENCE OF WITHDRAWALS PERMITTED HEREIN. IF INCREASED WITHDRAWALS CAUSE AN ADVERSE IMPACT ON EXISTING LAND USE THE DISTRICT RESERVES THE RIGHT TO CURTAIL FUTURE WITHDRAWAL RATES. ADVERSE IMPACTS ARE:

   A) SIGNIFICANT REDUCTION IN WATER LEVELS IN AN ADJACENT WATER BODY (SUCH AS A LAKE, POND, WETLAND OR A CANAL SYSTEM),

   B) LAND COLLAPSE OR SUBSIDENCE CAUSED BY REDUCTION IN WATER LEVELS,

   C) DAMAGE TO CROPS AND OTHER VEGETATION, CAUSING FINANCIAL HARM TO THE LANDOWNER, AND

   D) DAMAGE TO HABITAT OF RARE, ENDANGERED OR THREATENED SPECIES.

6. PERMITTEE SHALL NOT REFUSE IMMEDIATE ENTRY OR ACCESS TO ANY AUTHORIZED REPRESENTATIVE OF THE DISTRICT WHO REQUESTS ENTRY FOR PURPOSES OF INSPECTION AND PRESENTS APPROPRIATE CREDENTIALS.

7. IF ANY CONDITION OF THE PERMIT IS VIOLATED, THE PERMIT SHALL BE SUBJECT TO REVIEW AND POSSIBLE MODIFICATION, ENFORCEMENT ACTION, OR REVOCATION.

8. APPLICATION FOR A PERMIT MODIFICATION MAY BE MADE AT ANY TIME.

9. WITHDRAWAL FACILITIES ARE:

   PROPOSED: HENDERSON CREEK

   1 - 4,000 GPM HYDRAULIC SURFACE WATER PUMP

10. THIS PERMIT SHALL EXPIRE SEPTEMBER 8, 1988.

11. USE CLASSIFICATION IS PUBLIC WATER SUPPLY.

12. THE PERMITTEE SHALL OBTAIN ALL NECESSARY FEDERAL, STATE, LOCAL AND SPECIAL DISTRICT AUTHORIZATIONS PRIOR TO THE USE OR WITHDRAWAL OF WATER.

13. THE PERMIT DOES NOT CONVEY ANY PROPERTY RIGHT TO THE PERMITTEE, NOR ANY RIGHTS AND PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-2, F.A.C.

14. WITHDRAWALS SHALL TERMINATE WHEN THE STAGE LEVEL IN HENDERSON CREEK IS LOWER THAN + 3.41 FEET NGVD ON THE UPSTREAM SIDE (HEADWATER) OF THE SALINITY CONTROL WEIR AT HIGHWAY 41. DAILY STAGE READINGS AT THE UPSTREAM SIDE OF THE SALINITY STRUCTURE SHALL BE SUBMITTED TO THE DISTRICT ON A WEEKLY BASIS.

15. THE PERMITTEE SHALL SUBMIT DAILY CHLORIDE CONCENTRATION LEVELS AT THE POINT OF INTAKE FROM HENDERSON CREEK ON A WEEKLY BASIS.

BIG CYPRESS BASIN
SO. FLA. WATER MANAGEMENT DISTRICT
P. O. BOX 8325
NAPLES, FL 33941

MEMORANDUM

RECEIVED MAR 3 1 1987

TO: Permit File No. 11-00080-W

FROM: W.P. Ward
Regulatory Professional
Water Use Division
Resource Control Department

DATE: March 25, 1987

SUBJECT: Permit Number 11-00080-W
Marco Island Utility

A meeting was held at District Headquarters on March 20, 1987 with District staff and the consultant (Lloyd Horvath of Missimer and Associates) representing Deltona Utilities, operators of the public water supply system for Marco Island. The purpose of the meeting was to allow the consultant an open forum in which to discuss preliminary answers to questions asked in the 30 day letter mailed March 10, 1987 and to provide additional discussion and commentary regarding probable long-term resource management/development schemes for this area.

The number scheme used in the following responses correlate to the original questions asked in the 30 day letter.

(1). 1 - 10 drought conditions represented by 5, 2 - 10 low flow months on Henderson Creek in a row. Statistically could be questioned. Possible for at least 2 zero flow months to occur consecutively according to data record for Henderson Creek (1974 occurrence). The consultant agreed to model the worst case conditions as represented by the 1974 flow data. Consultant will provide raw flow data showing ranking of average monthly flow data and calculation of their frequency of occurrence. Also will provide calculation for 1 - 10 and 2 - 10 flow conditions.

(2). Recharge along the reach of Henderson Creek parallel to the infiltration gallery was confined to the northern end of the canal due to the probable damming of water during low flow periods behind a +2.6 NGVD topographic high spot in the bottom surface of the canal. Historical flowrates measured downstream at Highway 41 may not be representative of hydrologic conditions that exist further upstream in the basin.

(3). The consultant used a model with a different grid spacing for the calibration runs in order to adequately simulate fluxes that occurred near the trench and lake system during the trench "pump test". The observed drawdowns were matched to within a few hundredths of a foot in

both the Water Table aquifer (well No. 1370) and the deeper Zone (well No. 1371) by the numerical model during the early time and late time periods of pumping. Not as good a match occurred during the intermediate time periods during which rainfall occurred. The consultant will provide the raw data from the pump test and will provide a written explanation of the calibration technique and results.

(4). The consultant agreed to expand the existing water quality monitoring program in order to further investigate the potential for salt water intrusion and/or upconing of saline water from deeper zones. Four additional deep, screened wells will be installed at the following locations:

a. near north end of existing trench
b. near south end of existing trench
c. northeast corner of section 26 where trench is proposed to be extended
d. central-east border of section 26 where trench is proposed to be extended

Geophysical logs will be used to help define the saltwater interface. Vertical salinity profiles will be run on the wells to determine at what depth and to what degree water quality deteriorates. Point or depth sampling is proposed to be conducted thereafter at a sampling frequency not yet decided. Sampling and preservation techniques need to be evaluated and adhered to in order to maintain consistency in reporting and to maintain integrity of sample.

5. District will recommend a number of readily available solute transport with which the consultant can simulate effects of trench of lake level lowering and potential for upconing of saline water or lateral intrusion of saline water.

cc: Tilford Creel
Richard Rogers
Fred Vidzes.
Steve Lamb
Susan Coughanour
Scott Burns
Lloyd Horvath, Missimer and Associates
Ralph Terrero, Deltona Utilities

South Florida
Water Management District

John R. Wodraska, Executive Director
Tilford C. Creel, Deputy Executive Director

Post Office Box 24680 3301 Gun Club Road
West Palm Beach, Florida 33416-4680
Telephone (305) 686-8800
Florida WATS Line 1-800-432-2045

IN REPLY REFER TO:

March 10, 1987

Mr. Rafael A. Terrero
Deltona Utilities, Inc.
3250 S.W. Third Avenue
Miami, FL. 33129

Dear Mr. Rafael,

Subject: Application No. 12097-K,
Marco Island Utilities Water Supply
Collier County

Pursuant to Rule 40E-2.101, Florida Administrative Code (FAC), a preliminary review of the above referenced application indicates that additional information will be required in order to complete the evaluation, as follows.

The increase in chloride concentrations in the infiltration trench, after being used during January and early February as a supplemental source of water, raise serious doubts as to its ability to serve as a long term potable water supply. After reviewing the model data sets in the consultant's report regarding the safe yield of the Marco Island infiltration trench, District staff is in general agreement with the model setup and execution. Staff is also in agreement with the simulation of boundary conditions and recharge fluxes. However, there are several aspects of the study which need further clarification prior to staff's consideration of the application. Please provide responses for the following questions.

1. Table 3 indicates that the 2-in-10 year low flows for the months of January through March average approximately 2.5 MGD and low flows for the months of April and May average 1.5 MGD. Throughout the remainder of the report both of these flows are referenced as representing 1-in-10 year drought conditions. Please explain this discrepancy.

BIG CYPRESS BASIN
SO. FLA. WATER MANAGEMENT DISTRICT
P. O. BOX 8325
NAPLES, FL 33941

RECEIVED MAR 1 3 1987

William E. Sadowski, Chairman - Miami
John F. Flanigan, Vice Chairman - North Palm Beach
Stanley W. Hole, Naples
J. Neil Gallagher, St. Cloud
Nathaniel P. Reed, Hobe Sound
Kathleen Shea Abrams, Miami Shores
Timer E. Powers, Indiantown
Nancy H. Roen, Plantation
Oscar M. Corbin, Jr., Ft. Myers

2. The model input data sets indicate that inflow from the Henderson Creek Canal is concentrated in three nodes adjacent to the northern extent of the infiltration trench. Simulation of this flux orientation without pumpage would produce a circular ground water mound in the vicinity of the three recharge nodes which does not best represent natural flow conditions. The source of the flows to Henderson Creek during drought are most likely groundwater outflows further upstream. A more realistic simulation of the canal recharge flux would be to distribute the flow evenly for all canal nodes in the model. Simulation of these conditions without pumping will produce a linear ground water mound along the canal which is more realistic. Please provide information regarding the resulting drawdowns for the transient simulation based on a linearly distributed recharge flux.

3. Figures B-3 through B-5 appear to present measured water levels and stage data collected during the pump test. Please provide the contemporaneously calculated levels produced by the model for these stations.

4. Water quality data presented in the report indicates that fresh water (less than 100 mg/l chloride concentration) occurs at depths up to 20 feet below land surface. Data collected several years ago from three deep wells indicate chloride concentration increases with depths below 20 feet. Surface resistivity data collected in the area in 1981 (SFWMD Technical Publication 82-6) suggest the depth to the 250 mg/l isochlor may be less than 20 feet in portions of the study area. Because upconing of water "is the concern which the safe yield evaluation must address" (page 10 of consultant's report), a more extensive and detailed understanding of vertical salinity occurrence and the lateral extent of any existing shallow high chloride water must be developed throughout the zone of influence of the infiltration trench and as much of the adjacent property as possible. Additional pairs of deep and shallow monitor wells should be constructed as well as vertical specific conductance profiles run on the deeper wells. The proposed monitoring program should be submitted to the District for review prior to implementation.

5. The criteria which allows for the -1.5 foot drawdown during a 1-in-10 year drought appears to be based on a mass balance approach and an assumed depth to the saltwater interface (verbal conversation between W.S. Burns and L. Horvath, 03/05/87). In light of the observed chloride increases during recent pumpage from the infiltration gallery, the proposed criteria for safe yield should be re-evaluated using data derived from vertical salinity profiles and a calibrated solute transport model.

6. The water use projections are based on a simple average of the past ten years' data on a per capita annual use. This methodology is not in accord with Section 3.2.1.3 of the Water Use Basis of Review. The 0.066 million gallons per capita per year is equivalent to approximately 180 gallons per capita/day. Section 3.2.1.3 of the Basis provides two designated methods for calculating per capita daily water use:

a. Average day water withdrawals for the current period divided by permanent resident population. This is equivalent to a value of 4,420,000 gallons/28,073 people or approximately 157 gallons per capita/day for the Marco Island service area.

b. The highest of the most recent five years of per capita daily water use. The most recent five years of data are presented below.

Year	Gallons per capita day
1982	148
1983	129
1984	153
1985	156
1986	157

The per capita daily water use using this criterion would also be 157 gallons. Although the Basis allows alternative methods to be utilized, no justification is offered for the method used. An analysis of the relationship between average per capita annual water use and time showed a significant negative correlation ($r = -0.749$, $b = -.0037$), indicating a downward trend in per capita water use over time. This makes the use of ten year period of record even more inappropriate for projection purposes. It is recommended that all water use projections be re-calculated utilizing a per capita consumption rate of 157 gallons per day. It is necessary to provide estimates only through 1992 as the permit will be issued for a maximum five year duration.

7. Please provide the source of the population estimates in Tables F-1 and F-2. Also, what is the basis for the figure of 0.048 MG per capita year (131 gpcd) used to project water use in Marco Shores (Table F-2)?

8. It is indicated in the application that the Public Service Commission is the regulating agency for private utilities in Collier County. Evidence of Public Service Commission action should be provided which authorizes the expansion of the utilities' service area to include that portion of Marco Shores included in this application.

9. Please provide a letter from the County which confirms that the proposed land uses for both Marco Island and Marco Shores on which the water demand projections for this application are based are compatible with the County's adopted land use plan and prior zoning approvals granted by the County for both areas.

10. Please discuss the long-term lease arrangement for the property on which the raw water supply lakes and infiltration trench are situated. Because the lease currently is scheduled to expire in 1994, what long-term plans does the utility have to ensure a continued supply source?

11. Has the master water plan developed for Collier County been adopted by the County? Have the recommendations of the report been incorporated into the long-term plans for Marco Island Utility?

12. Please provide a detailed economic analysis of various alternative water supply sources such as Reverse Osmosis (R.O.) or alternate wellfield development versus expansion of the infiltration gallery. It was recommended in the consultant's report that a supplemental wellfield be developed when pumpages reach 10 mgd and that the infiltration trench be expanded when withdrawals reach 7 mgd. Please supply an detailed explanation as to why the wellfield will not be brought on line before prior to reaching that withdrawal rate.

13. Please discuss the technical feasibility of using R.O. as a long term supply source.

14. How will new DER regulations regarding water quality parameters for treated water affect the utility's operations?

15. What is the explanation for the deterioration of the historical inverse relationship between water level and chloride concentration in the water supply lakes. It appears that the relationship changed significantly in the latter part of 1986.

16. Please discuss the feasibility of purchasing either treated or untreated water directly from Collier County Utilities.

17. Is there an application in-house with DER for the expansion of the treatment plant?

18. It appears there are wetland systems located within and immediately adjacent to the proposed cone of depression resulting from the modified infiltration trench. Please document that the increased withdrawals will not adversely impact the continued viability of these wetland systems.

In accordance with 40E-1.603(5) FAC, if a response is not received within 90 days this application may be processed for denial, if not withdrawn by the applicant.

Sincerely,

Walter P. Ward
Regulatory Professional
Water Use Division
Resource Control Department

/wpw

cc: Mr. Tilford Creel
Mr. Stanley Hole
Mr. Lloyd Horvath, Missimer and Associates

bcc: Davis/Lamb/Horinkova
Fred Vidzes
Rae Ann Boylan

MEMORANDUM

BIG CYPRESS BASIN
SO. FLA. WATER MANAGEMENT DISTRICT
P. O. BOX 8325
NAPLES, FL 33941

RECEIVED MAR 18 1987

TO: Permit File No. 11-00080-W

FROM: W.P. Ward
Regulatory Professional
Water Use Division
Resource Control Department

DATE: March 9, 1987

SUBJECT: Permit Number 11-00080-W
Marco Island Utility

A meeting was held at District Headquarters on March 5, 1987 with District staff and representatives of Deltona Utilities, operators of the public water supply system for Marco Island. The purpose of the meeting was to discuss with the applicant and their consultant what concerns District staff have regarding renewal and modification of the permit due to expire on March 13, 1987. The District has serious concerns regarding use of the infiltration trench as a source for long-term water supply, especially in light of the fact that chloride concentrations in the trench, after being used during January and early February as a supplemental supply source to the main lakes, increased to levels beyond the permitted 180 mg/l cutoff level and, for a short period of time, exceeded 190 mg/l. The limit for potable water as defined by the DER and included in the State Drinking Water Standards is 250 mg/l. The recent chloride concentrations in the trench indicate that the safety factor for providing potable water during an extended drought is marginal. It was indicated to the applicant that these concerns would be expressed in a forthcoming 30-day letter.

The following topics and ideas were discussed in the meeting:

Deltona will revise the water use projection figures to take into account smaller, more recent (and representative) per capita consumption rates. The applicant used 181 gpcd in the application submittal. These values will be revised to reflect a more accurate value of 157 gpcd.

Marco Island Utilities remains to get Public Service Commission (PSC) determination of their service area. They have made application and are waiting for a response or official determination. Marco Island Utilities currently serves approximately 250 units in the Marco Shores area. They have applied to ultimately serve 400 more units in unit 30 (total about 615 units of the 1900 units proposed for the development). The PSC will determine this area as well. Collier County Utilities has also applied to serve this area - potential conflict in service area needs to be resolved.

A monitoring program in the vicinity of the raw water supply lakes and infiltration gallery will be expanded in order to examine and document water quality aspects of the area, specifically chloride concentration. Applicant will propose revised monitoring program to include other monitoring sites and sampling frequencies.

Marco Island Golf Course is no longer receiving treated effluent from Marco Island Utility for spray irrigation. Golf Course is under different ownership and does not wish to receive effluent in quantities historically provided to them. They want to lower lake levels of their surface water management system and in order to do that are withdrawing water from their lakes for irrigation purposes. This constitutes an unpermitted water use. Field Engineering Division (Jay Samples) has been notified of this situation. If utility can not reach agreement with golf course to receive effluent in near future, effluent will be disposed of in percolation/evaporation ponds located on the mainland in unit 30.

The applicant noted that chloride concentrations measured at the north end of the infiltration gallery are about 30 mg/l lower than values measured at the intake structure located 4000 feet to the south. Deltona will supply the District with this data as measurement at the two different sites is standard sampling now.

More extensive monitoring is needed in order to document that infiltration gallery withdrawals represent a viable back up supply for main lake when lake chloride concentration levels reach 180 mg/l. Recent chloride values in the infiltration gallery have exceeded this value and does not represent a feasible back up supply with that water quality. The District agreed to obtain as much data as available regarding water quality in and around the Henderson Creek area in the area of influence of the gallery and supply lakes.

The applicant was asked to investigate the economics of expanding the existing trench system versus development of a alternative wellfield to the east. The applicant said that they had looked at this but not in any great detail. Land ownership and future land use status in area of alternative wellfield is in question due to reclamation program proposed for the Golden Gate Estates.

Various ideas were discussed regarding the development and calibration of the three-dimensional ground water flow model used to simulate the withdrawal from the infiltration trench - primarily which drought conditions were simulated and the contribution of recharge from Henderson Creek to the local flow regime. The consultant for the applicant indicated that five, 2-in-10 year months in a row was simulated. How recharge from Henderson Creek was simulated under time-dependent conditions was discussed. The consultant will provide the District with printouts detailing the complete input/output data. The feasibility of utilizing R.O. was briefly discussed. The problem of brine disposal (R.O. reject water) appears to be a major obstacle. Possible changes in DER regulations regarding treated water quality standards and how it may affect operation of the Marco Utility was briefly discussed.

The applicant indicated that some of the problem with the reported high chlorides was more a function of a problem with field operations at the pumping station than with the resource. This was not pursued as a topic of conversation. The applicant further indicated a two year frequency of high chloride concentration

in the north supply lake. The relationship between water level and chloride concentration was briefly discussed. Historically, high water levels were represented by low chloride concentrations and increasing chloride concentration was associated with falling water levels. This relationship appears to be no longer entirely valid.

The lease for the property from which Marco Island Utilities leases the land is due to expire in 1994. Implications of this, and possibilities of non-renewal of the lease were briefly discussed. It was indicated that Deltona has initiated discussions with Collier County Utilities regarding purchasing raw water from them.

cc: Tilford Creel
Richard Rogers
Fred Vidzes
Steve Lamb
Susan Coughanour
Scott Burns
Lloyd Horvath, Missimer and Associates
Ralph Terrero, Deltona Utilities

JOHN L JURITZEN, PRES. OF G.C. MARCO

FORM #0145
Rev. 12/85

FIELD INSPECTION REPORT

Permit/Appl. # SPECIAL INVESTIGATION Date 3-18-87

Project Name MARCO ISLAND GOLF & COUNTRY CLUB Time A.M.

Inspector JAY SAMPLES Location S9 T52 R26

Type of Work or Construction

DAVID MOOTE, PROPERTY MGR. 813-642-5558

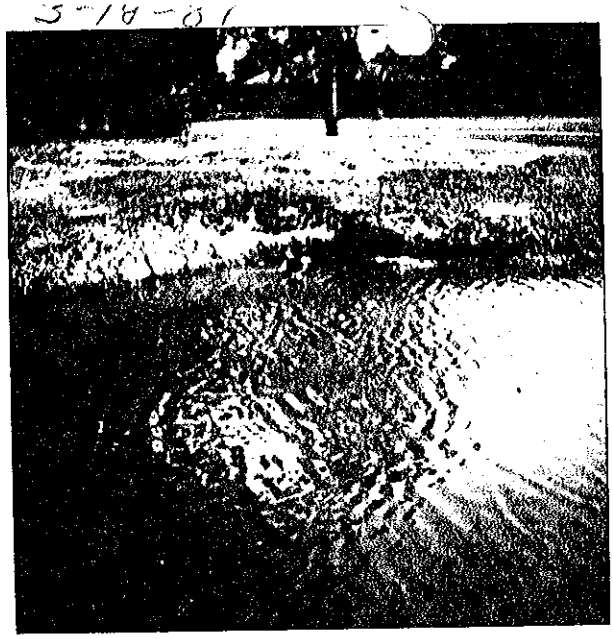
Contractor or Owner MARCO ISLAND GOLF & COUNTRY CLUB
500 NASSAU BLVD., MARCO ISLAND, FL.

Remarks 3-18-87 RON EDENFIELD CALLED AND REQUEST THAT I INVESTIGATE THE TYPE OF WATER BEING USED ON THE MARCO ISLAND AND MARCO SHORES GOLF COURSES, EFFLUENT OR RAW WATER.

I TALKED TO MIKE QUIGLEY, WORKER FOR MARCO ISLAND UTILITIES. HE SAID BOTH GOLF COURSES WERE USING EFFLUENT ON A REGULAR BASIS. CLIFF HATFIELD IS IN CHARGE OF THE EFFLUENT PLANT. 813-394-3800.

I TALKED TO DAVID MOOTE, PROPERTY MGR. FOR M.I. G.&C. CLUB. HE SHOWED ME THE EFFLUENT IRRIGATION SYSTEM. (REFER TO PHOTOS) NO RAW WATER WAS BEING USED. MR. MOOTE STATED THAT THE EFFLUENT PIPE LINE HAD BROKE JUST INSIDE THE GOLF COURSE TWO DAYS BEFORE 3-16-87 AND THAT SOMEONE COMPLAINED I INSPECTED THE SITE. THE PIPE WAS REPAIRED 3-17-87. EFFLUENT HAD PONDED IN THE GENERAL AREA BEFORE IT WAS SHUT OFF AT THE PLANT. MOST LIKELY THE RESIDENTS did COMPLAIN. THE SYSTEM WAS OPERATING WITHOUT INCIDENT AND APPEARED TO BE NORMAL. THERE WERE NO PROBLEMS ON MARCO SHORES GOLF COURSE. JOHN DENTON, SUPT. 813-394-7125.

3-18-87

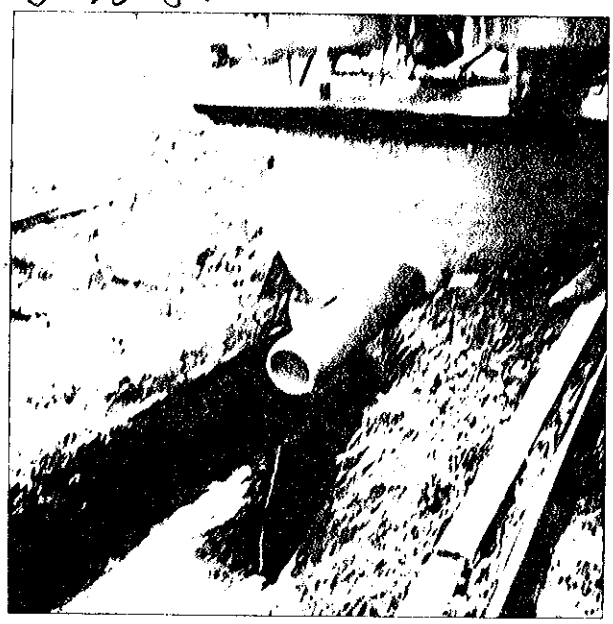


10" OR 12" EFFLUENT PIPE DISCHARGING NEAR IRRIGATION PUMP STATION.

MARCO GOLF COURSE EFFLUE HOLDING LAKE.

EFFLUENT LINE SHUT OFF VALVE NEAR PUMP STA.

3-18-87



INTAKE AT PUMP STA.

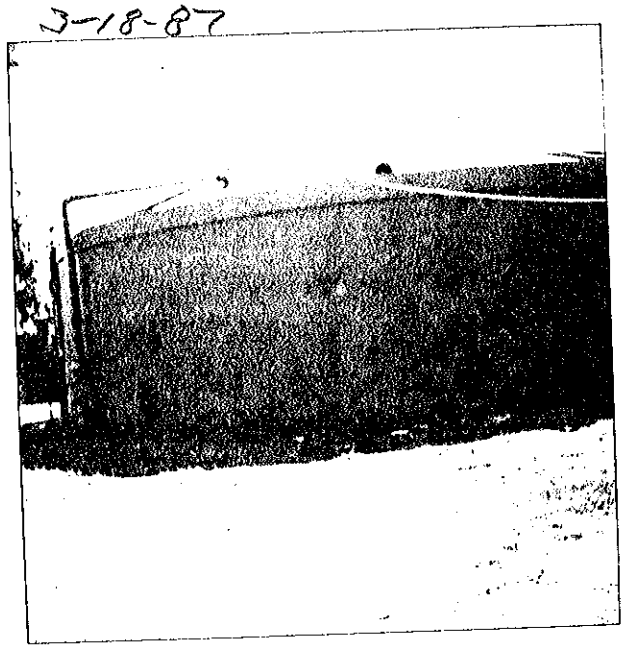
RESIDENTIAL AREA NEAR RUPTURED PIPE 3-18-87

AREA WHERE PIPE BROKE REPAIRS MADE 3-17-87

3-18-87

MARCO SHORES GOLF COURSE EFFLUENT TANK WITH RAW WATER LEFT + EFFLUENT WATER LINE RIGHT.

3-18-87



MARCO SHORES EFFLUENT— RAW WATER HOLDING TANK FOR GOLF COURSE IRRIGATION.

Jay Samples

REQUEST FOR FIELD INSPECTION

FIELD ENGINEERING DIVISION

DATE 03/10/87

SPECIAL INSPECTION X REGULAR FIELD INSP. ____ FINAL INSPECTION ____

REQUESTED BY: STEVE LAMB

PROPERTY INVOLVED: X COUNTY COLLIER SEC -- TWP 52S RGE 26E

PERMIT NO.: UNPERMITTED

PROJECT NAME: MARCO ISLAND GOLF COURSE

REASON FOR INSPECTION: GOLF COURSE NO LONGER USING WASTE WATER, NEED TO KNOW PRESENT SOURCE OF IRRIGATION

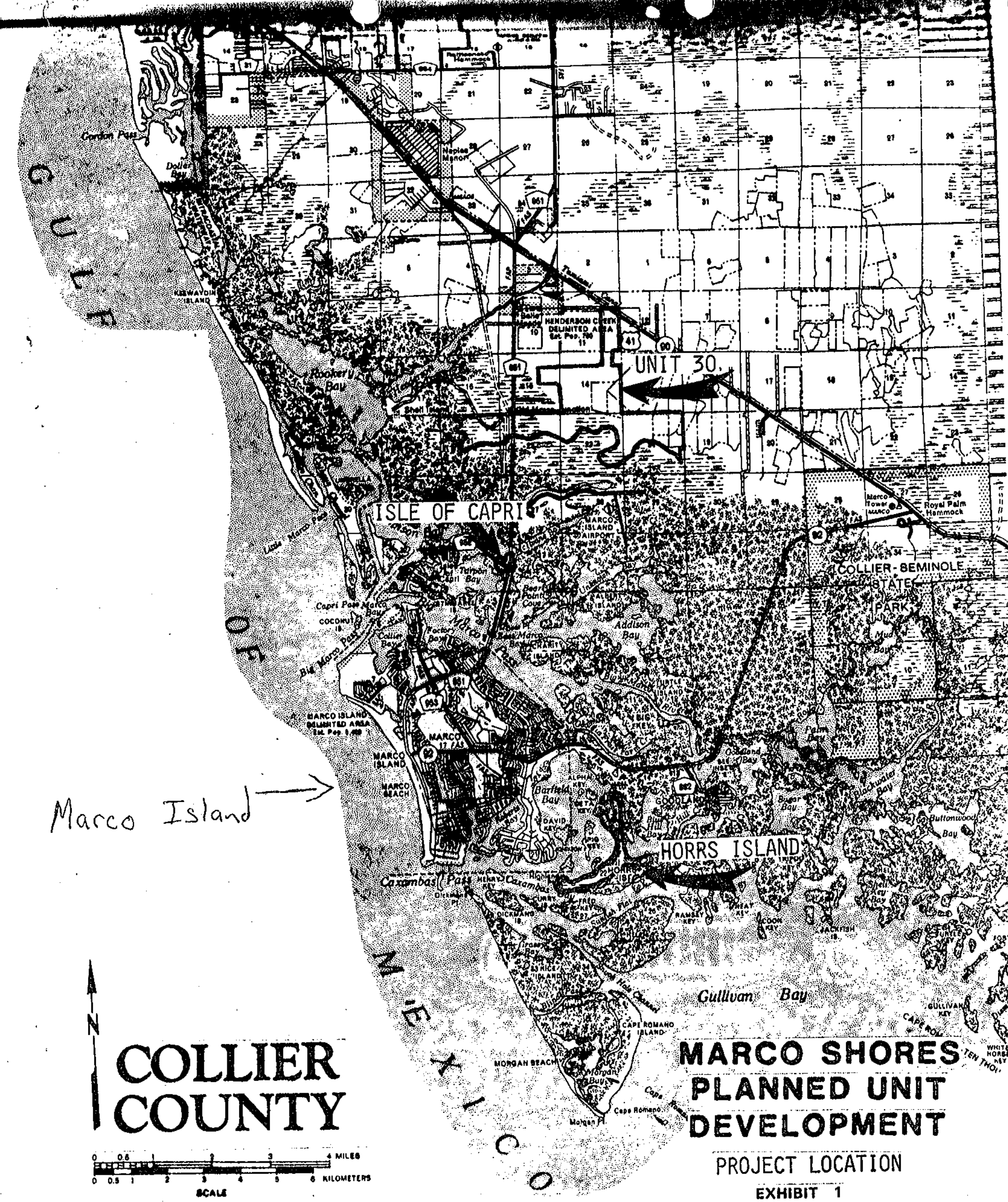
AREA ENGINEER ASSIGNED: Ron Edenfield

FIELD REPRESENTATIVE ASSIGNED: Jay Samples

DATE INSPECTED: _____

INSPECTION REPORT: _____

cc: David Unsell



MARCO SHORES PLANNED UNIT DEVELOPMENT

PROJECT LOCATION

EXHIBIT 1

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
WEST PALM BEACH, FL. 33416-4680
TELEPHONE:(305) 686-8800 TOLL FREE: 1-800-432-2045

Inspection
RECEIVED FEB 2 3 1987

(FOR USE BY SFWMD PERSONNEL ONLY) DATE REC'D:

11-00080-W
APPL. NO.: 02097-K

APPLICATION TO SOUTH FLORIDA WATER MANAGEMENT DISTRICT FOR A PERMIT FOR:
(XX) WATER USE Renewal of Permit No. 11-00080-W
( ) SURFACE WATER MANAGEMENT (DRAINAGE) ([ ] CONCEPTUAL APPROVAL)
( ) UTILIZATION OF DISTRICT WORKS
( ) MODIFICATION OF EXISTING PERMIT NUMBER:

OWNER'S NAME: Marco Island Utilities, a Division of Deltona Utilities, Inc.
ADDRESS: 3250 S.W. Third Avenue
CITY: Miami STATE: Florida ZIP: 33129 PHONE: (305)854-1111,Ext.22
DEVELOPER'S NAME: The Deltona Corporation
ADDRESS: 3250 S.W. Third Avenue
CITY: Miami STATE: Florida ZIP: 33129 PHONE: (305) 854-1111

RECEIVED
FEB 09 1987
RESOURCE CONTROL DEPARTMENT

PROJECT ENGINEER: Rafael A. Terrero
ADDRESS: 3250 S.W. Third Avenue
CITY: Miami STATE: Florida ZIP: 33129 PHONE: (305)854-1111,Ex.22

PROJECT NAME: Marco Island Utilities Water Supply
LOCATION: Marco Island (CITY) Collier (COUNTY) 34 (SECTION(S)) 50 (TOWNSHIP(S)) S 26 (RANGE(S)) E

PURPOSE: Public Water Supply ZONING:
(RESIDENTIAL, AGRICUL., PUB. WTR. SUPPLY, ETC.)

PROJECT SIZE: 10,206.45 ACRES
PROJECT IS: ( ) PROPOSED (X) EXISTING ( ) TO BE MODIFIED
IF THIS APPLICATION IS FOR WATER USE, WHAT IS THE SOURCE OF WATER? Manmade lake and infiltration gallery

IF THIS APPLICATION IS FOR DRAINAGE, WHERE WILL THE WATER DISCHARGE? N/A

IF THIS IS A REQUEST TO MODIFY AN EXISTING PERMIT, DESCRIBE THE REQUESTED CHANGES:

IF THIS APPLICATION INCLUDES USE OF DISTRICT WORKS, DESCRIBE THE USE: N/A

(CULVERT, BOAT DOCK, FENCE, BEAUTIFICATION, ETC. NOTE! INCLUDE CANAL NAME) N/A

NOTE! IN ALL CASES AN ACCURATE LOCATION MAP WITH THE PROJECT BOUNDARIES CLEARLY SHOWN MUST BE SUBMITTED. ALSO, IF THIS IS A PROPOSED OR EXPANDED PROJECT SUBMIT A CURRENT AERIAL PHOTOGRAPH SHOWING THE PROJECT BOUNDARIES.

RULES 40E-2.101, 40E-4.101, and 40E-6.101 F.A.C. SPECIFY DATA REQUIREMENTS TO CONSTITUTE A COMPLETE PERMIT APPLICATION. A LIST OF THE REFERENCED RULES IS PROVIDED ON THE BACK OF THIS FORM. ANY NECESSARY CHECKLIST MAY BE OBTAINED FROM THE DISTRICT AT THE ABOVE ADDRESS.

DATE: February 6, 1987
OWNER'S SIGNATURE (IF NOT THE OWNER, CERTIFY BELOW)

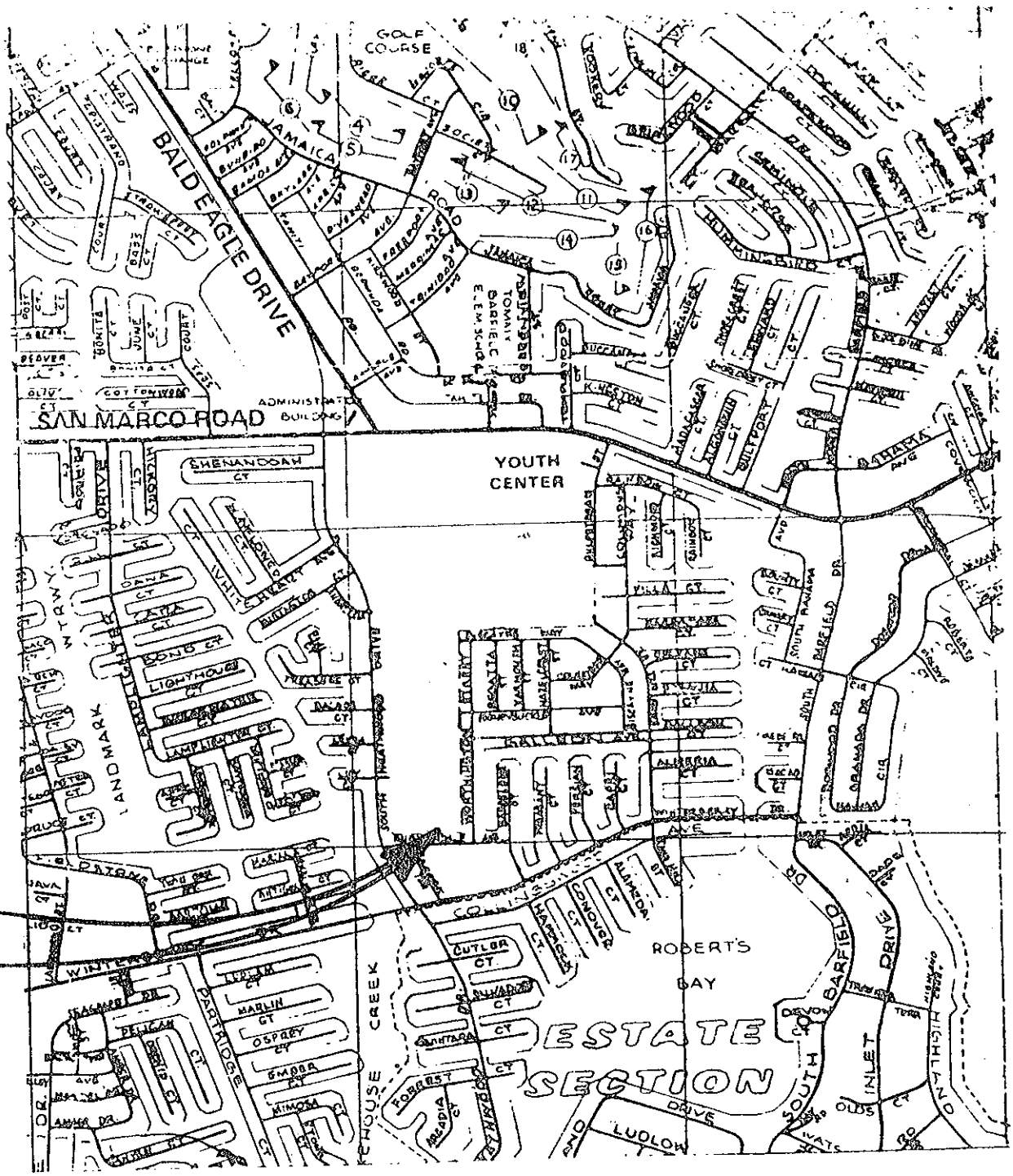
I HEREBY CERTIFY THAT I AM AN AUTHORIZED AGENT OF THE OWNER:

Arsenio Milian
TITLE: President
Arsenio Milian, P.E.

NOTE! MANY PROJECTS ALSO REQUIRE APPROVAL BY OTHER STATE AND FEDERAL AGENCIES. SFWMD INFORMS SOME AGENCIES OF PERMIT APPLICATIONS RECEIVED BUT THE RESPONSIBILITY FOR REQUESTING APPROVALS RESTS WITH THE OWNER.

ORM RC-1 (0050)
Rev. 12/86

02094-K (11-00080-W)



KEY MAP

N.T.S.