FORM 1499
5 87

South Florida Water Management District

BEG. PERMIT NUMBER_____

Note: BLUE FOLDER MICRO-FILM DATE / /

AMENDED
STAFF REPORT
MODIFICATION/EXTENSION

Date: 03-APR-92

Name: HUBSCHMAN SAMUEL & CONNIE
Permit No.: 36-00315-W
Location: 20/47/26, LEE
Project: BONITA FARMS

BACKGROUND/PURPOSE OF MODIFICATION/EXTENSION

All existing agricultural permits issued by the District have an expiration date which is based on the location of the project according to water use basins. The District is presently developing long term water supply plans and criteria which will be used to reissue these permits. To allow the District time to prepare these plans and develop the necessary criteria to implement, it has become necessary to extend the duration of the existing permits in some of these water use basins. Therefore, in February, 1992, the Governing Board conceptually approved the extension of permit durations.

MODIFICATION/EXTENSION OF PERMIT DURATION

The purpose of this proposed modification is to extend the duration of this permit to March 15, 1994. No changes to the permit conditions, allocation or withdrawal facilities are being made at this time.

The limiting and special conditions to the existing permit will remain in effect. The Governing Board will consider issuance of the permit duration extension at the April 9, 1992 Governing Board Meeting.

Notification of the need for permit renewal will be sent to you approximately six months prior to the new expiration date of this permit. The revised allocation criteria resulting from the regional water supply plans will be used in the evaluation of your permit.

Wm. Scott Burns

Wm. Scott Burns, Director
Water Use Division
Regulation Department

CERTIFIED P#818 683 609
RETURN RECEIPT REQUESTED

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

March 20, 1992

36-00315-W
HUBSCHMAN, SAMUEL & CONNIE - T
3451 TAMIAMI TRAIL, EAST
NAPLES, FL 33962

Dear Sir or Madam:

Enclosed is a copy of this District's staff report covering the permit application referenced therein. It is requested that you read this staff report thoroughly and understand its contents. The recommendations as stated in the staff report will be presented to our Governing Board for consideration on April 9, 1992.

Should you wish ot object to the staff recommendation or file a petition, please provide written objections, petitions and/or waivers (refer to the attached "Notice of Rights") to:

Vern Kaiser, Deputy Clerk
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680

The "Notice of Rights" addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. You are advised, however, to be prepared to defend your position regarding the permit application when it is considered by the Governing Board for final agency action, even if you agree with the staff recommendation, as the Governing Board may take final agency action which differs materially from the proposed agency action.

Please contact the District if you have any questions concerning this matter. If we do not hear from you prior to the date on the "Notice of Rights", we will assume you concur with our recommendations.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the addresses and the persons listed in the attached distribution list no later than 5:00 p.m. this 20th day of March, 1992, in accordance with Section 120.60 (3), Florida Statues.

Sincerely,

Steve Lamb

Steve Lamb
Director
Regulation Department

Governing Board
Allan Milledge, Chairman · Miami
Valerie Boyd, Vice Chairman · Naples
Ken Adams · West Palm Beach
James E. Nall · Fort Lauderdale
Annie Betancourt · Miami
Franklin B. Mann · Fort Myers
Leah G. Schad · West Palm Beach
Frank Williamson, Jr. · Okeechobee
Eugene K. Pettis · Fort Lauderdale
Tilford C. Creel, Executive Director
Thomas K. MacVicar, Deputy Executive Director

STAFF REPORT
MODIFICATION/EXTENSION

Date: April 9, 1992

Name: HUBSCHMAN, SAMUEL & CONNIE - T
Permit No.: 36-00315-W
Location: 20/47/26, LEE
Project: BONITA FARMS

PURPOSE OF MODIFICATION/EXTENSION

All existing agricultural permits issued by the District have an expiration date which is based on the location of the project according to water use basins. The District is presently developing long term water supply plans and criteria which will be used to reissue these permits. To allow the District time to prepare these plans and develop the necessary criteria to implement, it has become necessary to extend the duration of the existing permits in some of these water use basins.

MODIFICATION/EXTENSION OF PERMIT DURATION

The purpose of this proposed modification is to extend the duration of this permit to March 15, 1994 and to change the basin designation to the Lower West Coast Basin. No changes to the permit conditions, allocation or withdrawal facilities are being made at this time.

The limiting and special conditions to the existing permit will remain in effect. The Governing Board will consider issuance of the permit duration extension at the April 9, 1992 Governing Board Meeting.

Notification of the need for permit renewal will be sent to you approximately six months prior to the new expiration date of this permit. The revised allocation criteria resulting from the regional water supply plans will be used in the evaluation of your permit.

Wm Scott Burns

Wm. Scott Burns, Director
Water Use Division
Regulation Department

Date: April 9, 1992

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 (407) 686-8800
Florida WATS Line 1-800-432-2045

IN REPLY REFER TO:

CERTIFIED MAIL 899 201 289

RESOURCE CONTROL DEPARTMENT

October 28, 1988

Teryl Beyrent
3451 Tamiami Trail
Naples, FL 33940

Dear Ms. Beyrent:

Subject: Reminder: Annual Dike Inspection Report,
Permit #36-00315-S, Bonita Farms,
Lee County, S17,20/T47S/R26E

As you discussed with staff in a telephone conversation of October 21, 1988, the inspection report for the above ground impoundment on the site, as required by Permit Special Condition, was due in March of 1988. We still have not received this report. As requested, you will find enclosed a copy of the reminder letter sent February 12, 1988, which outlines the requirements of the certification.

Please provide this certification as soon as possible as you are currently in violation of the Permit Special Conditions. Your cooperation will be appreciated. If you have any questions, please call Jeff Gronborg of this office.

Sincerely,

Alvin Castro

Alvin Castro, P.E.
Supervising Professional
Field Engineering Division

AC/jga

cc: Mr. Oscar Corbin
Lee County Engineer
bcc: J. Gronborg
M. Cruz
J. Urquhart
Permit File

APPLICATION/PERMIT FILE RECORD & ACTION SHEET

~~James + Connie Hubschman, Trustee~~
Bonita Farms

Name: ~~Samuel Hubschman (Bonita Farms)~~ Permit No. 36-00315 S/W

Application No. 11031H

This file contains:

✓ ORIGINAL APPLICATION ☑ PERMIT ☑ SPECIAL CONDITION SHEET(S)

+ ☑ STAFF CALCULATION SHEET(S) * ☑ DRAWING(S) ☑ STAFF REPORT

Chronological
Correspondence/Action Record

Date	Subject	By	Comments
*	Calculations		vault
*	Large Dwg		vault
3-5-82	Staff Report (W)	SH	
3-5-82	Staff Report (S)	BS	
4-15-82	(S-W) Permits Issued		S-1286 acres / W-537 acres / Exp 1-15-87
[illegible]	[illegible] Staff Report Completed	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]
			[illegible]
			[illegible]
			[illegible]
			[illegible]
			[illegible]
			[illegible]
			[illegible]
	[illegible]		Added to Library
7-30-87	(W) App # 08107-B to modify		
[illegible]	(W) Mod Staff Report Completed	MJ	
6-16-88	(W) Permit Re-Issued		720.1 acres / Exp 4-15-92 Note: App # 08107-B also used to mod. #36-00764-S 6-16-88
*	Set-up material		Added to Library
6/30/88	(W) Data Base Input (Crops)	BO	

FORM 0299
Rev 6/85

South Florida
Water Management District

WATER USE PERMIT NO. Re-Issue 36-00315-W

(NON-ASSIGNABLE)

DATE ISSUED: June 16, 1988 EXPIRATION DATE April 15, 1992

AUTHORIZING: THE CONTINUATION OF AN EXISTING USE OF GROUNDWATER AND SURFACE WATER FROM THE SURFICIAL AQUIFER AND AN ON-SITE IRRIGATION POND FOR AGRICULTURAL IRRIGATION SERVING 720.1 ACRES WITH AN ANNUAL ALLOCATION OF 887.03 MILLION GALLONS.

LOCATED IN: LEE COUNTY, SECTION 17,20 TWP. 47S RGE. 26E

ISSUED TO: Samuel & Connie Hubschman, Trustees
Bonita Farms
3451 Tamiami Trail, East
Naples, Florida 33962

This Permit is issued pursuant to Application for Permit No. 08107-B dated July 30, 19 87 for the Use of Water as specified above and subject to the Special Conditions set forth below. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

Upon written notice to the permitee, this permit may be temporarily modified, or restricted under a Declaration of Water Shortage or a Declaration of Emergency due to Water Shortage in accordance with provisions of Ch. 373, Fla. Statutes, and applicable rules and regulations of the South Florida Water Management District.

This Permit may be permanently or temporarily revoked, in whole or in part, for the violation of the conditions of the permit or for the violation of any provision of the Water Resources Act and regulations thereunder.

This Permit does not convey to permittee any property rights nor any privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation, or requirement affecting the rights of other bodies or agencies.

SPECIAL CONDITIONS ARE AS FOLLOWS:

SEE SHEETS 2, 3 AND 4 OF 4 - 19 GROUNDWATER AND SURFACE WATER SPECIAL CONDITIONS.

FILED WITH THE CLERK OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ON 6-20-88 Original signed by:
BY Vern Kaiser
DEPUTY CLERK

SOUTH FLORIDA WATER MANAGEMENT DISTRICT, BY ITS GOVERNING BOARD

By Original Signed by Thomas E. Huser
Assistant Secretary

SHEET 1 OF 4

RE-ISSUE
PERMIT NO. 36-00315-W
SHEET 2 OF 4

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. DURING A WATER SHORTAGE PUMPAGE REPORTS MAY BE NECESSARY ON A WEEKLY BASIS.

2. SOURCE CLASSIFICATION IS:

GROUNDWATER FROM THE SURFICIAL AQUIFER
SURFACE WATER FROM ONSITE IRRIGATION POND

3. 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.

4. 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 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.
D) DAMAGE TO HABITAT OF RARE, ENDANGERED OR THREATENED SPECIES.

5. 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.

RE-ISSUE
PERMIT NO. 36-00315-W
SHEET 3 OF 4

6. IF ANY CONDITIONS OF THE PERMIT ARE VIOLATED, THE PERMIT SHALL BE SUBJECT TO REVIEW AND POSSIBLE MODIFICATION, ENFORCEMENT ACTION, OR REVOCATION.

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

8. WITHDRAWAL FACILITIES ARE:

PROPOSED: 1 - 14" X 4000 GPM SURFACE WATER PUMP

EXISTING: 3 - 8" X 50' X 600 GPM WELLS CASED TO 40'

9. THIS PERMIT SHALL EXPIRE ON APRIL 15, 1992

10. MAXIMUM ANNUAL WITHDRAWAL SHALL NOT EXCEED 887.03 MG.

MAXIMUM ANNUAL WITHDRAWAL FROM THE SURFICIAL AQUIFER SHALL NOT EXCEED 27[illegible].75 MG.

MAXIMUM DAILY WITHDRAWAL SHALL NOT EXCEED 5.17 MG.

MAXIMUM DAILY WITHDRAWAL FROM THE WELLS SHALL NOT EXCEED [illegible]

11. USE CLASSIFICATION IS AGRICULTURAL.

12. THE PERMITTEE SHALL OBTAIN ALL NECESSARY FEDERAL, STATE, [illegible] DISTRICT AUTHORIZATIONS PRIOR TO THE USE OF WITHDRAWAL OF WATER.

13. THE PERMIT DOES NOT CONVEY ANY PROPERTY RIGHT TO THE PERMITTEE [illegible] RIGHTS AND PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT [illegible] 40E-2, F.A.C.

14. PUMPAGE DATA SHALL BE COLLECTED ON A DAILY BASIS [illegible] DISTRICT MONTHLY. DATA SUBMITTAL BEGINS EITHER IN THE MONTH FOLLOWING THE DATE OF PERMIT ISSUANCE, OR IN THE MONTH THAT WATER USE IS INITIATED.

15. WITHIN SIX MONTHS OF PERMIT ISSUANCE, PERMITTEE SHALL EQUIP ALL EXISTING WELLS WITH FLOW METERS OR CLOCKS WHICH TOTALIZE PUMP OPERATION TIME.

16. WITHIN SIX MONTHS OF PERMIT ISSUANCE, PERMITTEE SHALL EQUIP ALL PROPOSED SURFACE WATER PUMPS WITH FLOW METERS OR CLOCKS [illegible] TOTALIZE PUMPAGE PRIOR TO INITIATION OF WATER USE FROM THESE PUMPS

17. IF AT ANY TIME THERE IS AN INDICATION THAT THE WELL CASING, VALVES, OR CONTROLS LEAK OR HAVE BECOME INOPERATIVE, REPAIRS OR REPLACEMENT SHALL BE MADE TO RESTORE THE SYSTEM TO AN OPERATING CONDITION ACCEPTABLE TO THE DISTRICT. FAILURE TO MAKE SUCH REPAIRS SHALL BE CAUSE FOR FILLING AND ABANDONING THE WELL, IN ACCORDANCE WITH PROCEDURES OUTLINED IN CHAPTER 40E-3, F. A. C.

18. PERMITTEE SHALL SECURE A WELL CONSTRUCTION PERMIT PRIOR TO CONSTRUCTION, REPAIR, OR ABANDONMENT OF ALL WELLS, AS DESCRIBED IN CHAPTER 40E-3, F. A. C.

FORM 0499

South Florida Water Management District

BEG. PERMIT NUMBER 36-00315-S/W

RE-ISSUE
PERMIT NO. 36-00315-W
SHEET 4 OF 4

19. PERMITTEE SHALL ESTABLISH A WATER LEVEL MONITORING PROGRAM WITHIN SIX MONTHS OF PERMIT ISSUANCE. MONITORING SHALL CONSIST OF BOTH GROUNDWATER AND SURFACE WATER SITES, INCLUDING A STAFF GAUGE IN THE WETLAND AREAS AND WELLS. IN DEVELOPING THE PROGRAM, THE PERMITTEE SHALL CONSIDER STAFF GAUGE LOCATION, WELL LOCALITIES, DEPTH, METHOD OF WELL CONSTRUCTION, TYPES OF SCREEN, METHODS OF ANALYSIS, AND FREQUENCY OF DATA COLLECTION. THE FACILITIES SHALL BE CONSTRUCTED AT LOCATIONS ACCEPTABLE TO BOTH PERMITTEE AND DISTRICT STAFF. PRELIMINARY PROPOSAL SHALL BE SUBMITTED TO STAFF FOR APPROVAL WITHIN SIX MONTHS OF PERMIT ISSUANCE. WATER LEVEL DATA SHALL BE COLLECTED ON AT LEAST A MONTHLY BASIS, AND SUBMITTED TO THE DISTRICT ON AN ANNUAL BASIS.

South Florida
Water Management District

John R. Wodraska, Executive Director
[illegible] C. Creel, Deputy Executive Director

Post Office Box 24680 3301 Gun Club Road
West Palm Beach, Florida 33416-4680
Telephone (407) 686-8800
Florida WATS Line 1-800-432-2045

IN REPLY REFER TO: RESOURCE CONTROL DEPARTMENT
RETURN RECEIPT REQUESTED
CERTIFIED MAIL NO.P 796 951 928

June 1, 1988

Samuel & Connie Hubschman, Trustees
3451 Tamiami Trail, East
Naples, Florida 33962

Dear Sir & Madam:

Subject: PERMIT # 36-00315-W MOD., Bonita Farms, Lee County,
S 17 & 20, T 47S, R 26E.

Enclosed is a copy of this District's staff report covering the permit application referenced therein. It is requested that you read this staff report thoroughly and understand its contents. The recommendations as stated in the staff report will be presented to our Governing Board for consideration on June 16, 1988.

Should you object to the staff recommendation, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. You are advised, however, to be prepared to defend your position regarding the permit application when it is considered by the Governing Board for final agency action, even if you agree with the staff recommendations, as the Governing Board may take final agency action which differs materially from the proposed agency action. Should the Governing Board so act, you will be mailed a notice of final agency action and shall have the right to request an administrative hearing on the permit application if you have not previously requested a hearing on the proposed agency action.

Please contact this office if you have any questions concerning this matter. If we do not hear from you prior to the date on the "Notice of Rights, we will assume you concur with our recommendations.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the addressee and the persons listed in the attached distribution list not later than 5:00 p.m. this 1st day of June, 1988, in accordance with Section 120.60(3), Florida Statutes.

Sincerely,

Vern Kaiser
Administrative Supervisor

[illegible] Chairman [illegible] Vice Chairman - Palm City
Nathaniel P. Reed Hobe Sound; Oscar M. Corbin Jr. Ft. Myers; [illegible]

FORM 0300
Rev. 12/87

South Florida Water Management District
NOTICE OF RIGHTS

This Notice of Rights is intended to inform the recipient of the administrative and judicial review which may be available as mandated by section 120.60(3), Florida Statutes. Be advised that although this notice is intended to be comprehensive, the review procedures set forth herein have been the subject of judicial construction and interpretation which may affect the administrative or judicial review available. Recipients are therefore advised to become familiar with Chapters 120 and 373, Florida Statutes, and the judicial interpretation of the provisions of these chapters.

1. If a substantially affected person objects to the staff's recommendation, that person has the right to request an administrative hearing on the proposed agency action. The substantially affected person may request either a formal or an informal hearing, as set forth below. Failure to comply with the prescribed time periods shall constitute a waiver of the right to a hearing.

2. If the substantially affected person believes that a genuine issue of material fact is in dispute, that person may request a formal hearing pursuant to section 120.57(1), Florida Statutes, by filing a petition for hearing not later than June 15, 1988. The request for a 120.57(1) formal hearing must comply with the requirements of rule 40E-1.521 Florida Administrative Code, a copy of which is attached. Petitions are deemed filed upon receipt by the District. Failure to substantially comply with the provisions of rule 40E-1.521 Florida Administrative Code shall constitute a waiver of the right to a 120.57(1) hearing.

3. If a substantially affected person believes that no issues of material fact are in dispute, that person may request an informal hearing pursuant to section 120.57(2), Florida Statutes, by filing a petition for hearing not later than June 15, 1988. A request for informal hearing shall be considered as a waiver of the right to request a formal section 120.57(1) hearing. A request for a section 120.57(1) formal hearing not in substantial compliance with the provisions of rule 40E-1.521 Florida Administrative Code, may be considered by the District as a request for informal hearing.

4. Pursuant to section 373.114, Florida Statutes, a party to the proceeding below may seek review of a Final Order rendered on the permit application before the Land and Water Adjudicatory Commission, as provided therein. Review under this section is initiated by filing a request for review with the Land and Water Adjudicatory Commission and serving a copy on the Department of Environmental Regulation and any person named in the Order within 20 days after rendering of the District's Order. However, when the order to be reviewed has statewide or regional significance, as determined by the Land and Water Adjudicatory Commission within 60 days after receipt of a request for review, the commission may accept a request for review from any affected person within 30 days after the rendering of the order. Review under section 373.114, Florida Statutes, is limited solely to a determination of consistency with the provisions and purposes of Chapter 373, Florida Statutes. This review is appellate in nature and limited to the record below.

5. A party who is adversely affected by final agency action on the permit application is entitled to judicial review in the District Court of Appeal pursuant to section 120.68, Florida Statutes, as provided therein. Review under section 120.68, Florida Statutes in the District Court of Appeal is initiated by filing a petition in the appropriate District Court of Appeal in accordance with Florida rule of appellate Procedure 9.110. The Notice of Appeal must be filed within 30 days of the final agency action.

6. Section 373.617(2), Florida Statutes, provides:
Any person substantially affected by a final action of any agency with respect to a permit may seek review within 90 days of the rendering of such decision and request monetary damages and other relief in the circuit court in the judicial circuit in which the affected property is located; however, circuit court review shall be confined solely to determining whether final agency action is an unreasonable exercise of the state's police power constituting a taking without just compensation. Review of final agency action for the purpose of determining whether the action is in accordance with existing statutes or rules and based on component substantial evidence shall proceed in accordance with Chapter 120.

7. Please be advised that exhaustion of administrative remedies is generally a prerequisite to appeal to the District Court of Appeal or the seeking of Circuit Court review of final agency action by the District on the permit application. There are, however, exceptions to the exhaustion requirement. The applicant is advised to consult the case law as to the requirements of exhaustion exceptions.

40E-1.521 Initiation of Formal Proceedings.

(1) Initiation of formal proceedings shall be made by petition to the District. The term petition as used herein includes any application or other document which expresses a request for formal proceedings. Each petition should be printed, typewritten or otherwise duplicated in legible form on white paper or standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double-spaced and indented.

(2) All petitions filed under these rules shall contain:

(a) The name and address of the District and the District's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) An explanation of how each petitioner's substantial interests will be affected by the District's determination;

(d) A statement of when and how petitioner received notice of the District's decision or intent to render a decision;

(e) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(f) A concise statement of the ultimate facts which petitioner believes entitle petitioner to the relief sought as well as the rules and statutes which support petitioner's claim for relief;

(g) A demand for the relief to which the petitioner deems himself entitled; and

(h) Other information which the petitioner contends is material.

(3) Upon receipt of a petition for formal proceedings, the District shall review the petition for the degree of compliance with subsection (2) and shall accept those petitions in substantial compliance therewith which have been timely filed and which state a dispute which is within the jurisdiction of the District to resolve. If accepted, the District shall designate the presiding officer. The District shall promptly give written notice to all parties of the action taken on the petition, and shall state with particularity its reasons therefor.

(4) If the District designates a Hearing Officer assigned by the Division of Administrative Hearings as the presiding officer, the District Clerk shall forward the petition and all materials filed with the District to the Division of Administrative Hearings, and shall notify all parties of its action.

Specific Authority 373.044, 373.113 F.S.
Law Implemented 120.52(1), 120.57 F.S.
History — New 9-3-81.
Formerly 16K-1.09(1), 16K-1.112(1) through (3), 16K-1.12

DRAFT
Subject to Governing
Board Approval

APPLICATION NO.: 08107-B

PERMIT NO.: 36-00315-W

LAST DATE FOR BOARD ACTION:

JUNE 9, 1988

LEE COUNTY

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

STAFF REPORT

AGRICULTURAL WATER USE

INDEX

	PAGE
STAFF REPORT SUMMARY	2
RECOMMENDATIONS	3
WATER USE	
EVALUATION	4 - 5
LIMITING CONDITIONS	6 - 8

STAFF REPORT SUMMARY

NAME: SAMUEL AND CORNIE HUECKMAN, TRUSTEES
BONITA FARMS

APPLICATION NO. 08107-B

PERMIT NO. 36-00315-W MODIFICATION

ADDRESS: 3451 TAMIAMI TRAIL, EAST
NAPLES, FLORIDA 33962

LOCATION: LEE COUNTY

SECTIONS 17 & 20 TOWNSHIP 47S, RANGE 26E

LAND USE CLASSIFICATION: AGRICULTURAL

TOTAL CONTIGUOUS ACREAGE: 1279.1

TOTAL IRRIGATED ACREAGE: 720.1 (SMALL VEGETABLES)

PERMIT STATUS:

WATER USE: APPLICATION NO. 08107-B, MOD. PERMIT NO. 36-00315-W
SURFACE WATER MANAGEMENT: APPLICATION NO. 08107-B, MOD. PERMIT NO. 36-00315-S
RIGHT-OF-WAY OCCUPANCY: NOT APPLICABLE

PROJECT STATUS:

PROJECT	( )EXISTING	( )PROPOSED	(X)BOTH
WATER USE	( )EXISTING	( )PROPOSED	(X)BOTH
IRRIGATED AREA	( )EXISTING	( )PROPOSED	(X)BOTH
WITHDRAWAL FACILITIES	( )EXISTING	( )PROPOSED	(X)BOTH

WITHDRAWAL SOURCES:

GROUNDWATER FROM THE SURFICIAL AQUIFER
SURFACE WATER FROM ONSITE IRRIGATION POND

WITHDRAWAL FACILITIES:

PROPOSED: 1 - 14" X 4000 GPM SURFACE WATER PUMP

EXISTING: 3 - 8" X 50' X 600 GPM WELLS CASED TO 40'

MAJOR ISSUE: ENVIRONMENTAL IMPACTS; WETLAND DRAWDOWN IMPACTS

* * * RECOMMENDATIONS * * *

---- WATER USE ----

PERMITTED MAXIMUM ANNUAL ALLOCATION: 887.03 MG (22.67 IN/AC)

PERMITTED MAXIMUM DAILY ALLOCATION: 5.17 MG

SOURCE: GROUNDWATER FROM THE SURFICIAL AQUIFER
SURFACE WATER FROM ONSITE IRRIGATION POND

EXPIRATION DATE: APRIL 15, 1992

SUBJECT TO 19 LIMITING CONDITIONS (PAGES 6 - 8)

DRAFT
Subject to Governing
Board Approval

APPLICATION REVIEWER: Marie Long Zwicker

DIRECTOR, WATER USE DIVISION — DEPUTY DIRECTOR, RESOURCE CONTROL DEPT.

APPROVED: RICHARD A. POGERS, P.E., DIRECTOR, RESOURCE CONTROL DEPARTMENT — DATE

WATER USE EVALUATION

PURPOSE OF APPLICATION

THE PURPOSE OF THIS APPLICATION IS TO MODIFY AN EXISTING WATER USE PERMIT FOR THE IRRIGATION OF 720.7 ACRES OF SMALL VEGETABLES.

IMPACT ON EXISTING LEGAL USES

THE POTENTIAL FOR ADVERSE IMPACT ON EXISTING LEGAL USES AS A CONSEQUENCE OF THE WITHDRAWAL OF THE RECOMMENDED ALLOCATION IS MINIMAL.

ENVIRONMENTAL IMPACT

THE PRIMARY CONCERN IN THIS EVALUATION IS THE POTENTIAL FOR WETLAND IMPACTS DUE TO EXCESSIVE DRAWDOWN UNDERNEATH THE WETLAND AREAS. REPORTS HAVE INDICATED THAT UNPERMITTED DEWATERING ACTIVITY, RESULTING IN ADVERSE ENVIRONMENTAL CONSEQUENCES, HAS OCCURRED ON-SITE AS SHOWN IN EXHIBIT NO. 7. THE APPLICANT'S CONSULTANT INDICATES THAT ANY DEWATERING ACTIVITY HAS CEASED.

THE PROPOSED GROUNDWATER WITHDRAWAL HAS BEEN MODELED USING THE FOLLOWING AQUIFER PARAMETERS: TRANSMISSIVITY = 160,000 GPD/FT; STORAGE COEFFICIENT = 0.14; TIME = 30 DAYS OF PUMPING WITHOUT RECHARGE. VARIOUS PUMPING SCENARIOS WERE MODELED, IN ORDER TO DETERMINE THE POSITION OF THE 1.0' MAXIMUM ALLOWABLE DRAWDOWN DURING DRY SEASON UNDER THE WETLAND AREAS OF CONCERN. THE EVALUATION ASSUMES A "WORST CASE" SITUATION IN THAT ALL THE ABOVE SPECIFIED WITHDRAWALS WOULD COME FROM GROUNDWATER. IN ORDER TO REDUCE THE POTENTIAL FOR ADVERSE IMPACT ON THE WETLANDS DURING THE DRY SEASON, 250,000 GPD PER WELL, OR 750,000 GPD TOTAL WITHDRAWAL FROM GROUNDWATER WAS DETERMINED, AS SHOWN IN EXHIBITS NO. 8 AND 9. THE REMAINDER OF THE ALLOCATION, 4.42 MGD, MAY BE WITHDRAWN FROM THE IRRIGATION POND, THE EXTENT OF WHICH IS 146.8 ACRES, WITH A DEPTH OF 30 FEET. ON A VOLUMETRIC BASIS, THE DRAWDOWN PRODUCED BY THE WITHDRAWAL OF 4.42 MGD WOULD BE APPROXIMATELY 0.10 FOOT. THE CAPACITY OF THE SURFACE WATER PUMP IS SUFFICIENT TO PROVIDE FOR THIS AMOUNT OF WITHDRAWAL. BASED ON THIS EVALUATION, THE POTENTIAL FOR ADVERSE ENVIRONMENTAL IMPACT AS A RESULT OF THE WITHDRAWAL OF THE RECOMMENDED ALLOCATION IS CONSIDERED TO BE MINIMAL.

IMPACT ON OFF-SITE LAND USES

THE POTENTIAL FOR ADVERSE IMPACT ON EXISTING OFF-SITE LAND USES AS A RESULT OF THE WITHDRAWAL OF THE RECOMMENDED ALLOCATION IS CONSIDERED MINIMAL.

SALT-WATER INTRUSION

THE POTENTIAL FOR SALT-WATER INTRUSION AS A RESULT OF THE WITHDRAWAL OF THE RECOMMENDED ALLOCATION IS CONSIDERED MINIMAL.

ADDITIONAL DESCRIPTIVE INFORMATION

RECOMMENDED ALLOCATION

THIS PROJECT IS LOCATED WITHIN THE LEE COUNTY REDUCED THRESHOLD AREA. PROJECTS LOCATED WITHIN A REDUCED THRESHOLD AREA ARE GIVEN BOTH A MAXIMUM DAILY ALLOCATION AND A MAXIMUM ANNUAL ALLOCATION ACCORDING TO SECTION 3.2.2.4.4. OF THE BASIS OF REVIEW FOR WATER USE, PERMIT INFORMATION MANUAL, VOLUME III, JUNE, 1985. WITHDRAWALS WILL BE BASED ON MAXIMUM DAILY WITHDRAWALS, AND ANNUAL WITHDRAWALS FOR APPLICATIONS OF SPECIAL CONCERN".

SUPPLEMENTAL CROP REQUIREMENTS

THE MAXIMUM MONTHLY SUPPLEMENTAL CROP REQUIREMENT FOR IRRIGATION OF SMALL VEGETABLES IS 2.98 INCHES PER ACRE AS ILLUSTRATED IN EXHIBIT NO. 10. THE ANNUAL ALLOCATION IS BASED ON AN AVERAGE ANNUAL SUPPLEMENTAL CROP REQUIREMENT OF 22.67 INCHES PER ACRE. AN IRRIGATION SYSTEM EFFICIENCY OF 50% IS ALSO FACTORED INTO THE CALCULATION.

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. DURING A WATER SHORTAGE PUMPAGE REPORTS MAY BE NECESSARY ON A WEEKLY BASIS.

2. SOURCE CLASSIFICATION IS:

   GROUNDWATER FROM THE SURFICIAL AQUIFER
   SURFACE WATER FROM ONSITE IRRIGATION POND

3. 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 DEPLACEMENT OR LOSS OF USE OF A WELL OR WATER BODY.

4. 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 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,
   D) DAMAGE TO HABITAT OF RARE, ENDANGERED OR THREATENED SPECIES.

5. 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.

6. IF ANY CONDITIONS OF THE PERMIT ARE VIOLATED, THE PERMIT SHALL BE SUBJECT TO REVIEW AND POSSIBLE MODIFICATION, ENFORCEMENT ACTION, OR REVOCATION.

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

8. WITHDRAWAL FACILITIES ARE:

   PROPOSED: 1 - 14" X 4000 GPM SURFACE WATER PUMP

   EXISTING: 3 - 8" X 50' X 600 GPM WELLS CASED TO 40'

9. THIS PERMIT SHALL EXPIRE ON APRIL 15, 1992

10. MAXIMUM ANNUAL WITHDRAWAL SHALL NOT EXCEED 887.03 MG.

    MAXIMUM ANNUAL WITHDRAWAL FROM THE SURFICIAL AQUIFER SHALL NOT EXCEED 273.75 MG.

    MAXIMUM DAILY WITHDRAWAL SHALL NOT EXCEED 5.17 MG.

    MAXIMUM DAILY WITHDRAWAL FROM THE WELLS SHALL NOT EXCEED 750,000 GALLONS.

11. USE CLASSIFICATION IS AGRICULTURAL.

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. PUMPAGE DATA SHALL BE COLLECTED ON A DAILY BASIS AND SUBMITTED TO THE DISTRICT MONTHLY. DATA SUBMITTAL RESULTS EITHER IN THE MONTH FOLLOWING THE DATE OF PERMIT ISSUANCE, OR IN THE MONTH THAT WATER USE IS INITIATED.

15. WITHIN SIX MONTHS OF PERMIT ISSUANCE, PERMITTEE SHALL EQUIP ALL EXISTING WELLS WITH FLOW METERS OR CLOCKS WHICH TOTALIZE PUMP OPERATION TIME.

16. WITHIN SIX MONTHS OF PERMIT ISSUANCE, PERMITTEE SHALL EQUIP ALL PROPOSED SURFACE WATER PUMPS WITH FLOW METERS OR CLOCKS OR OTHER DEVICES WHICH TOTALIZE PUMPAGE PRIOR TO INITIATION OF WATER USE FROM THOSE PUMPS.

17. IF AT ANY TIME THERE IS AN INDICATION THAT THE WELL CASING, VALVES, OR CONTROLS LEAK OR HAVE BECOME INOPERATIVE, REPAIRS OR REPLACEMENT SHALL BE MADE TO RESTORE THE SYSTEM TO AN OPERATING CONDITION ACCEPTABLE TO THE DISTRICT. FAILURE TO MAKE SUCH REPAIRS SHALL BE CAUSE FOR FILLING AND ABANDONING THE WELL, IN ACCORDANCE WITH PROCEDURES OUTLINED IN CHAPTER 40E-3, F. A. C.

18. PERMITTEE SHALL SECURE A WELL CONSTRUCTION PERMIT PRIOR TO CONSTRUCTION, REPAIR, OR ABANDONMENT OF ALL WELLS, AS DESCRIBED IN CHAPTER 40E-3, F. A. C.

19. PERMITTEE SHALL ESTABLISH A WATER LEVEL MONITORING PROGRAM WITHIN SIX MONTHS OF PERMIT ISSUANCE. MONITORING SHALL CONSIST OF BOTH GROUNDWATER AND SURFACE WATER SITES, INCLUDING A STAFF GAUGE IN THE WETLAND AREAS AND WELLS. IN DEVELOPING THE PROGRAM, THE PERMITTEE SHALL CONSIDER STAFF GAUGE LOCATION, WELL LOCALITIES, DEPTH, METHOD OF WELL CONSTRUCTION, TYPES OF SCREEN, METHODS OF ANALYSIS, AND FREQUENCY OF DATA COLLECTION. THE FACILITIES SHALL BE CONSTRUCTED AT LOCATIONS ACCEPTABLE TO BOTH PERMITTEE AND DISTRICT STAFF. PRELIMINARY PROPOSAL SHALL BE SUBMITTED TO STAFF FOR APPROVAL WITHIN SIX MONTHS OF PERMIT ISSUANCE. WATER LEVEL DATA SHALL BE COLLECTED ON AT LEAST A MONTHLY BASIS, AND SUBMITTED TO THE DISTRICT ON AN ANNUAL BASIS.

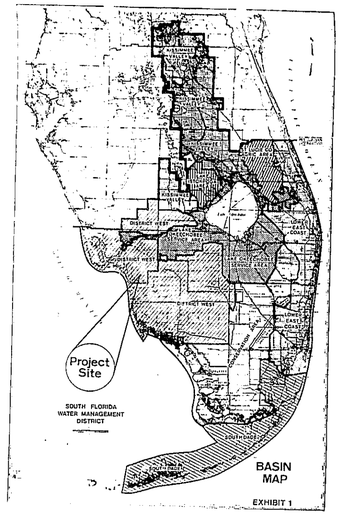


EXHIBIT 1

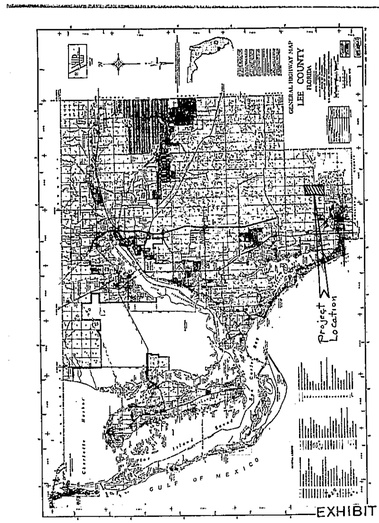


EXHIBIT 2

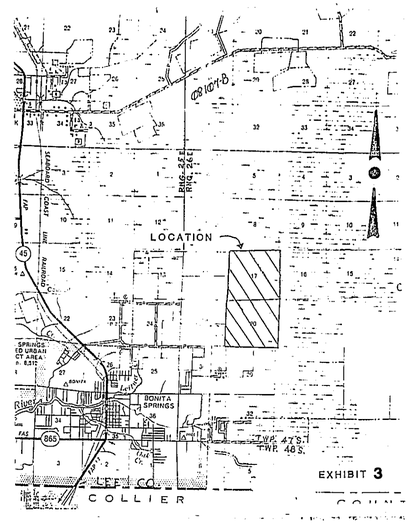


EXHIBIT 3

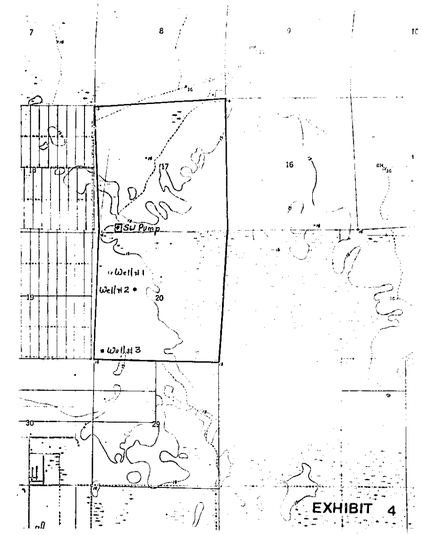


EXHIBIT 4

"Bonita Farms"
Application No. 08107-B
Modification of Permit No. 36-00315-W

TABLE A

DESCRIPTION OF WELLS

WELL NO.				
Map Designation	See March 1982 SFWMD Staff Report			
Existing/Proposed	E	E	E	
Diameter (Inches)	8"	8"	8"	
Total Depth	50'	50'	50'	
Cased Depth	40'	40'	40'	
Screened Interval	Not Screened			
Pumped or Flowing	Pumped			
Working Valve (if Artesian (Yes/No)	N/A			
Pump Manufacturer and Model No.	Gromanrump			
Pump (Centrifugal, Type Jet, Deep Jet, Turbine, etc.)	Centrifugal			
Intake Depth (NGVD)	Unknown (Pumped from well casing)			
Pump Capacity (GPM at __FT of head at __PSI)	600gpm			
Active (Yes/No)	Yes			
Year Drilled	Prior to 1979	Prior to 1979	Prior to 1982	
Type of Meter	N/A			
Planar Coordinates				

EXHIBIT 5

TABLE B

DESCRIPTION OF SURFACE WATER PUMPS

Drainage District:	N/A			
PUMP NO.	N/A			
Map Designation				
Surface Water Body	Irrig-ation Pond			
Existing or Proposed	Pro-posed			
Pump Manufacturer and Model Number	N/A			
Pump Type	Elect-ric			
Pump Capacity	4000 GPM			
Pump Horse Power	N/A			
Pump Diameter	14"			
Elevation Of Intake (NGVD)	4.5'			
Is pump a two way pump?	No			
Florida Plane Coordinates				

EXHIBIT 6

M E M O R A N D U M

TO: Ron Edenfield

FROM: Rae Ann Boylan RAB

DATE: March 21, 1988

SUBJECT: 36-00764-S, Bonita Farms
Lee County, S17,20/T47S/R26E
Inspection 3/14/88

The following is a summary of inspection findings at the site.

Section 17

1. Fill material was being loaded into trucks and hauled from this site. This area was designated as improved pasture only in the permit. No excavation or earth moving was permitted in Section 17 other than the completed restoration work.

Section 20

1. Fill material and rock had been pushed into the perimeter of a majority of the cypress wetlands. This work created minor berms within and around the cypress.

2. Excavation is occurring in what is designated as a mitigation area. The depth of excavation is in excess of permitted depths.

3. Debris and trash had been pushed into a wetland restoration / mitigation area along the western project boundary

In general a review of site conditions indicated an extensive mining / dewatering operation rather than a predominant agricultural operation. During conversation with Bobby Cadenhead on site and on 3/15/88 it was indicated the fill in the wetlands was stock piled material for the mitigation areas and would be removed shortly. It was also indicated to staff no further removal of fill material would occur in Section 17 until all appropriate permits had been obtained.

RAB/jr

cc: . Padeita/B. Ross/R. Smith/Inspection

EXHIBIT 7

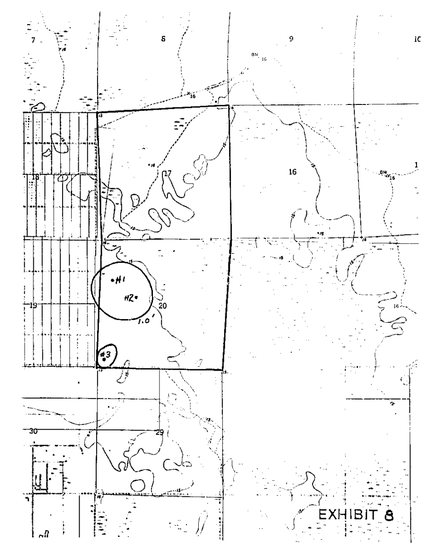


EXHIBIT 8

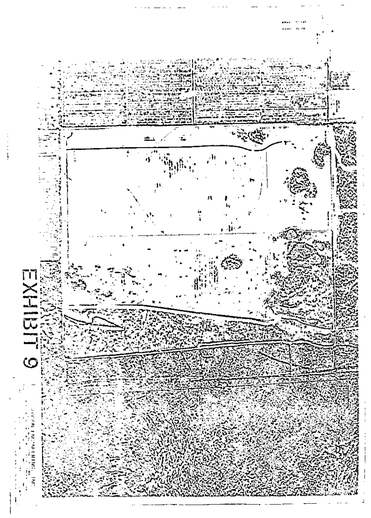


EXHIBIT 9

CALCULATION OF IRRIGATION REQUIREMENTS

THIS PROJECT IS LOCATED IN A REDUCED THRESHOLD AREA

STATION: NAPLES

CROP: SMALL VEG--- SYSTEM: furrow

ACREAGE: 720.70 (SOIL TYPE: .8) EFFICIENCY: 0.50

MAXIMUM MONTHLY SUPPLEMENTAL CROP REQUIREMENT: 3.96 INCHES

MAXIMUM DAILY SUPPLEMENTAL WATER USE:

3.96 IN/30 DAYS X 720.70 AC / 0.50 X .02715 MG/AC-IN = 5.17 MG

AVERAGE ANNUAL SUPPLEMENTAL REQUIREMENT: 22.67 INCHES

AVERAGE ANNUAL SUPPLEMENTAL WATER USE:

22.67 IN X 720.70 AC / 0.50 X .02715 MG/AC-IN = 887.03 MG

CALCULATED MAXIMUM DAILY ALLOCATION: 5.17 MG
(15.87 ACRE FEET)

CALCULATED MAXIMUM ANNUAL ALLOCATION: 887.03 MG
(2723.19 ACRE FEET)

EXHIBIT 10

* STAFF REPORT DISTRIBUTION LIST *

APPLICATION NUMBER: 08107-B
PERMIT NUMBER: 36-00316-M

APPLICANT: SAMUEL AND CONNIE HUBSCHMAN
PROJECT: BONITA FARMS

	EXTERNAL DISTRIBUTION		
X	Applicant's Consultant: Howard E. Searcy, P.E. Consulting Engineer, Inc.		Building and Zoning, Boca Raton
			Building and Zoning, Boynton
			Building and Zoning, Royal Palm
	Applicant's Agent		Building and Zoning, Tequesta
			Building and Zoning, W. P. B.
			Dir., Palm Beach County School Board Plant Planning
X	Engineer, County of LEE		Dir., Broward County Water Management Division
	Engineer, City of		Collier County Ag. Agent
	Local Drainage Districts		S. C. Basin Administrator
			Dade county DERM
	DEPARTMENT OF ENVIRONMENTAL REGULATION	X	Dir., Lee Co. Div. of E.P.S
		X	Dir., Lee Co. Dept. of Long Range Planning
X	Ft. Myers		
	Orlando	X	Dir., Lee Co. Mosquito Control
	Port St. Lucie		Dir., Martin Co. Planning and Zoning
	Tallahassee		
	West Palm Beach		Dir., Palm Beach Co. Building Department
	Other		Kissimmee River Coordination Council
	GOVERNING BOARD MEMBERS		Dir., Polk Co. Water Res. Dept.
X	Mr. Oscar Corbin	X	Building Dept.,County of
	Mr. James F. Garner		LEE
	Mr. Doren A. Jones		Building Dept. city of
	Mr. Arsenio Millan		
	Mr. Nathaniel Reed		Other:
	Ms. Nancy Soon	X	Bonita Springs
	Mr. Fritz Stein	X	Bonita Bay
	Mr. Mike Stout		
	Mr. J. D. York		
	INTERNAL DISTRIBUTION		
X	Reviewer: MARIE LORRI ZWICKER		Executive Director
			Director of Land Management
			Director of Resource Planning
X	Well Construction Permitting		
	Kissimmee Field Inspector	X	Legal
X	Fort Myers Field Inspector	X	Inspection
		X	Resource Assistance

EXHIBIT 11

R. Zwicker

MEMORANDUM

TO: Mark Daren

FROM: Rae Ann Boylan RAB

DATE: April 28, 1988

SUBJECT: 08107-B, Bonita Farms
Lee County, S17,20/T47SW/R26E
Environmental Comments

The application includes the installation of water management facilities to serve a vegetable farming operation in the northern half of the project site. This section of land contains pine and saw palmetto flatwoods, lower pine flatwoods with scattered cypress in the understory (37.85 acres), mixed cypress and pine forest (11.41 acres) wet prairies with a pine overstory (36.20 acres) and cypress forest (72.53 acres). The exotic melaleuca is present to varying degrees on site. The southern half of the project site contains improved agricultural lands, a 65.5 acre reservoir, 38.1 acres of scattered isolated cypress domes, and 93.3 acres of cypress slough. Under the permitted design an additional 57.9 acres of marsh and 19.3 acres of lake littoral zone are to be created to off-set impacts associated with excavation of the existing marsh within the reservoir. The project modification for the northern half of the site should not affect the permitted treatment of the wetlands within the southern half of the site.

The installation of water management facilities within the northern area of the site will impact 6.37 acres of cypress wetlands, 4.57 acres of mixed pine and cypress forest, 19.91 acres of lower pine flatwoods and 35.0 acres of the wet prairie. The remaining wetlands (92.14 acres) will either be incorporated into the reservoir system, interfaced with lake area or remain intact outside the limits of excavation. Mitigation for the proposed wetland impacts will be provided through the creation and revegetation of 44.77 acres of cypress wetlands. This figure provides for a 2:1 mitigation ratio for the cypress wetlands and a 0.5:1 ratio for the mixed forest and wet prairie with pine overstory areas. A wetland mitigation and monitoring program will be implemented on site.

Recommended Speacial Conditions:

1. A wetland mitigation program will be implemented in Section 17 in accordance with Exhibits __ and __. The permittee will create 44.77 acres of cypress forested wetlands. The mitigation areas will be mulched with

(08107-B, 36-00764-S, Bonita Farms)
April 28, 1988

wetland soils and revegetated with cypress trees planted on 25 foot centers, or at an equivalent density.

A wetland monitoring and maintenance program shall be implemented in Section 17. The program shall continue for a period of 5 years after construction and operation is complete including mitigation areas after planting or establishment of approved hydric cycles. Annual monitoring reports shall be submitted to District staff. These reports shall include information on water levels obtained from monitoring wells and staff gauges, the growth and survival rate of planted and mulched species, observations of wildlife utilization and an evaluation of the success of the mitigation effort. Maintenance shall include removal of exotic vegetation and a guaranteed survival rate of 80% of planted species and an 80% coverage of mulched areas with non-nuisance species.

The District reserves the right to require additional measures be taken by the permittee if wetland monitoring or other information demonstrates that adverse impacts to protected, conserved or incorporated wetlands have occurred due to project related activities.

cc: C. Padera
S. Bradow
E. Faun
M. Zwicker
R. Edenfield

South Florida Water Management District
John R. Wodraska, Executive Director
Talbot C. Ewell, 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:

April 1, 1988

Mr. Samuel & Connie Hubschman, Trustee
3451 Tamiami Trail
Naples, Fl 33940

Dear Mr. & Mrs. Hubschman:

Subject: Reminder: Annual Dike Inspection Report, Permit # 36-00315-S, Lee County, S17,20/T47S/R26E

We are advising you that you are in violation of your permit special conditions, Annual Dike Inspection Reports are to be submitted to the South Florida Water Management District in March of each year. Your report is over-due; as a result we request that you submit the required report by May 1, 1988. You are again reminded that this report needs to be prepared by a Florida Registered Engineer. Please refer to the reminded letter, addressed to you in February 12, 1988 for reports elements required attesting to the structural adequacy of the above ground impoundments (s).

Your cooperation in this matter is appreciated. Should you have any questions please contact me.

Sincerely,

Alvin Castro

Alvin Castro, P.E.
Supervising Professional
Field Engineering Division

AC:mc:

cc: Mr. Oscar Corbin
Lee County Engineer

South Florida Water Management District
John R. Wodraska, Executive Director
Talbot C. Ewell, 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:

February 12, 1988

Mr. Samuel & Connie Hubschman, Trustee
3451 Tamiami Trail
Naples, Fl 33940

Dear Mr. & Mrs. Hubschman:

Subject: Reminder: Annual Dike Inspection Report, Permit # 36-00315-S, Lee County, S17,20/T47S/R26E

We are reminding you that Special Conditions, stipulated in the referenced permit, require Annual Dike Inspection Reports be submitted to our District in March of each year. Your report is due no later than March 31, 1988. Please be aware that this report needs to be prepared by a Florida Registered Professional Engineer.

The report should contain, but not necessarily be limited to, the following elements attesting to the structural adequacy of above ground impoundments:

I. Dikes
   A. Vegetation Conditions.
   B. Typical cross-sectional characteristics existing.
   C. Slope Stability: evidence of erosion, settlement, cracking and short or long term repair and modification recommendations as needed.
   D. High and low water marks.

II. Structures and Pumps
   A. Structural conditions, evidence of settlement and erosion.
   B. Operational conditions.
   C. Incorporation of emergency outfall structures, type and outfall route.

We appreciate your cooperation in this matter. If you should have any questions please contact me.

Sincerely,

Alvin Castro

Alvin Castro, P.E.
Supervising Professional
Field Engineering Division

AC:bo

cc: Mr. Oscar Corbin
Lee County Engineer

Nancy H. Stone, Chairman - Palm Beach | J.D. York, Vice Chairman - Palm Beach

Nathaniel P. Reed, Hobe Sound | Joseph M. Cone, Ft. Myers | Anne Mitchell, Miami | Ann Shiver, Hobe Sound | James F. Garner, Ft. Myers | Mike Stout, Sanibel | Doren A. Jones, Key Biscayne

P 788 964 844
RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

Sent to	
Street and No.	
P.O., State and Z	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	APR 4 1988 POSTMASTER NAPLES FL 33940

PS Form 3800, June 1985

STAFF REPORT
MODIFICATION/EXTENSION

Date: January 7, 1988

Permit No.: 36-00315-W
Name: HUBSCHMAN, S - TRUSTEE
Location: Lee County

PURPOSE OF MODIFICATION

All existing agricultural permits issued by the District have an expiration date which is based on the location of the project according to water use basins. The District is presently modifying and reissuing these permits with present allocation criteria as they expire. To allow the District adequate time to process these renewal applications, it has become necessary [illegible] the duration of the existing permits in some of these water use [illegible]ns.

MODIFICATION/EXTENSION OF PERMIT DURATION

The purpose of this modification is to extend the duration of this permit for a period of nine months to October 15, 1989. No changes to the permit conditions, allocation or withdrawal facilities are being made at this time.

The limiting conditions to the existing permit rem in [illegible].

Notification for renewal will be sent prior to the [illegible]ation of this permit.

STAFF REVIEWER: Tom Roth

DIRECTOR, WATER USE DIVISION

DEPUTY DIRECTOR, RESOURCE CONTROL DEPT.

APPROVED: [signature] DATE: 12/21/87
RICHARD A. ROGERS, P.E.
DIRECTOR, RESOURCE CONTROL DEPARTMENT

South Florida Water Management District
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

PERMIT NO: 36-0031[illegible]-S

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

IN REPLY REFER TO:

November 20, 1987

Dear Sir:

Subject: Permit Modification 36-00315-S

At its November 12, 1987 meeting, the Governing Board of this District Modified the Special Conditions to your permit as follows:

UPON COMPLETION OF CONSTRUCTION, AND ON AN ANNUAL BASIS (IN MARCH OF EACH YEAR) THE PERMITTEE SHALL SUBMIT REPORTS TO THIS DISTRICT FOR STRUCTURAL ADEQUACY OF ALL ABOVE GROUND DIKES, LEVEES AND BERMS BEHIND WHICH WATER IS TO BE CONTAINED AND WHERE FAILURE COULD IMPACT OFF-SITE AREAS. SUCH REPORTS SHALL INCLUDE PROPOSAL OF TECHNIQUE AND SCHEDULE FOR REPAIR OF ANY DEFICIENCIES NOTED, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.

Please attached th's letter to your permit file as a permanent part of your records.

Sincerely,

Richard A. Rogers, P.E., Director
Resource Control Department

DR/vlk

FILED WITH THE CLERK OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ON 11-23-87
BY [signature]
DEPUTY CLERK

Nancy H. Roen Chairman - Plantation
J.D. York Vice Chairman - Palm City
Nathaniel P. Reed Hobe Sound
Oscar F. Corbin, Jr. Ft. Myers
Arsenio Milian Miami
Fritz Stein Belle Glade
James F. Garner Ft. Myers
Mike Stout Windermere
Doran A. Jason Key Biscayne

Howard L. Searcy, P.E.
CONSULTING ENGINEER, INC.
2000 Palm Beach Lakes Blvd. • Suite 702 • West Palm Beach, FL 33409 • 684-3375

September 16, 1987

Ms. Marie Long Zwicker
Water Use Division
Resource Control Department
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680

Re: "Bonita Farms"
Application No. 08107-B
Modification of Permit No. 36-00315-W

Dear Marie:

The following is in response to your August 26, 1987 letter:

1. The total farm field acreage is 720.7 acres of which 85% is in beds and 15% is in laterals and canals. Since a furrow irrigation system is used, the entire 720.7 acres are "irrigated".

2. See completed Table A (enclosed).

3. The location of the surface water irrigation pump is shown on the Master Plan which was submitted with the application.

4. The surface water irrigation pump horsepower is 15 HP.

5. It is our understanding that a recent ruling by the Florida Administrative Procedure Committee precludes the District from requiring the Applicant to document approval from other agencies. However, please find enclosed a copy of the letter from Lee County Division of Environmental Services stating "no objections" to this project.

6. The Specific Capacity and Time Drawdown Test was never performed on the "proposed" well which is now existing. Since the construction of the well in 1982, this well has only been used for a 30 day period in April of this year.

Since this well will only be used for supplemental water, please re-evaluate and determine if this test is necessary for this well. If so, please advise and explain why it is needed.

Ms. Marie Long Zwicker
South Florida Water Management District
September 16, 1987
Page Two

7. As stated in my letter dated March 9, 1987 to Mr. Jeff Giddings of your office, the wells were not pumped prior to January 1987. The following is the pumpage report for the period of January 1987 through August 1987:

MONTH	PUMPAGE
January	-0-
February	-0-
March	-0-
April	58,320,000 gallons *
May	-0-
June	-0-
July	-0-
August	-0-

* 3 wells pumped at 600 gpm/pump for 18 hours/day for 30 days = 58,320,000 gallons

8. The drill cuttings for the well constructed in 1982 are not available.

9. The Driller's Completion Report for the well constructed in 1982 is not available.

10. As stated in the Application Submittal (Irrigation Checklist Item A.4), the primary source of water for both Farms I and II will be the irrigation pond. The wells will only be used as a supplemental source of water if needed.

If you have any further questions regarding the above items, please contact this office.

Very truly yours,

Rebecca S. Serra, P. E.

enclosure

cc: Bob Cadenhead w/ enclosure
Ken Oertel w/ enclosure
Russell Schropp w/ enclosure
Rae Ann Boylan w/ enclosure

Lee COUNTY

P.O. BOX 398 FORT MYERS, FLORIDA 33902-0398 (813) 334-2166

L70910E

JAMES G. LaRUE
ACTING COUNTY ADMINISTRATOR

JAMES G. YAEGER
ATTORNEY

September 10, 1987

Writer's Direct Dial Number
813/335-2791

Mr. Howard L. Searcy, P.E.
Howard L. Searcy Consulting Engineers, Inc.
2000 Palm Beach Lakes Blvd., Suite 702
West Palm Beach, FL 33409

Re: Hubschman's Bonita Farm

Dear Mr. Searcy:

The Division of Environmental Services has no objection to the proposed Bonita Farm Section 17 project as depicted in your July 13, 1987 plans.

Sincerely,

DEPARTMENT OF COMMUNITY DEVELOPMENT

Roland Banks
Hydrogeologist
Division of Environmental Services

RSB/et

cc: Samuel & Connie Hubschman

BOARD OF COUNTY COMMISSIONERS
PORTER J. GOSS DISTRICT ONE
CHARLES L. BIGELOW, JR. DISTRICT TWO
MARY ANN WALLACE DISTRICT THREE
BILL FUSSELL DISTRICT FOUR
DONALD D. SLISHER DISTRICT FIVE

Ms. Darren - SWM reviewer

MEMORANDUM

TO: Files

FROM: Rae Ann Boylan RAB

DATE: September 4, 1987

SUBJECT: 08107-B (30-00764-S), Bonita Farms
Lee County, S 17, 20/ T47S/ R26E
Environmental Review (9/2/87)

Section 17 contains pine flatwoods with either saw palmetto or scattered cypress as the dominant understory component. The site also contains mixed pine and cypress transitional wetlands, wet praries, scattered isolated cypress domes and cypress slough. The exotic Melaleuca is present to varying degrees within the lower pine flatwood areas. Section 20 presently contains improved agricultural lands, 38.1 acres of scattered isolated cypress domes, a 65.5 acre reservoir / marsh / cypress system and 93.3 acres of cypress slough. Under the permitted design an additional 57.9 acres of marsh and 19.3 acres of lake littoral zone will be created to offset excavation of the existing marsh area.

The project modification includes the conversion of Section 17 into improved agricultural lands and lake area. Several modifications will be made to the water management facilities in Section 20 to accomodate this conversion.

Prior to completion of an environmental review the following information is requested:

1. Please provide a vegetation map which delineates all of the existing wetlands. This mapping should also include acreage figures for all of the delineated wetland areas.

2. The plans indicate wetlands will be impacted by the project. Please identify on the plans all locations and acreages of proposed wetland impacts. Applications which propose to impact wetlands should include the following:

   a. A description of the type and function of the isolated wetland being impacted, which includes area, vegetative community and hydrologic regime.

Files (Bonita Farms)
September 4, 1987
Page 2

   b. A list of all plant and animal species listed as endangered, threatened or of special concern which utilize the area, and an evaluation of the probable significance of the area to the listed species.

   c. A short statement of project design alternatives considered to reduce or eliminate impacts to isolated wetlands.

3. Please be advised that maintenance of / or mitigation for the loss of viable wetlands will be required. Applications which propose mitigation should include a description of the wetland habitat to be created, restored or enhanced and should specifically include descriptions of:

   a. area and location

   b. species to be planted

   c. plant density

   d. source of plants of mulch if not supplied by a commercial plant nursery

   e. hydrologic regime

   f. monitoring and maintenance plan

4. Please provide additional details of the subaqueous crossings, including a typical section of the proposed sump ditch.

5. Please delineate buffer zones adjacent to the wetlands which are not to be surrounded by lake areas.

6. The topographic information indicates the existing ground elevation whthin Section 20 ranges from 14.7' to 16.6' NGVD. Please document that the proposed control elevation of 14.5' and subsequent stages in the water storage areas will not adversly impact the existing wetlands.

7. Will any runoff be routed to the delineated irrigation pond and adjacent cypress wetlands? Please provide additional details of how adequate hydroperiods will be maintained in these systems.

Files (Bonita Farms)
September 4, 1987
Page 3

8. Please submit soil boring data for Section 20 which documents that the canal / lake excavation proposed within 200 feet of existing wetlands will not adversly affect the water table elevations in these systems.

9. The proposed lake to be used as the source of irrigation water will be located immediately adjacent to existing cypress wetland / marsh mitigation areas. Please document that the resultant drawdown in the water table elevations will not adversly impact the existing hydroperiods in these wetlands.

10. Will any withdrawals for irrigation be made from the lake prior to completion of all excavation within the designated 146.9 acre lake area?

RAB/jl

cc: C. Padera
H. Ross
M. Daron
M. Zwicker
H. Smith
R. Edenfield
Inspection

Sou'h Florida
Water Management District
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:

August 26, 1987

Mr. Howard L. Searcy, P.E.
Howard L. Searcy, Consulting Engineers, Inc.
2000 Palm Beach Lakes Blvd., Suite 702
West Palm Beach, Florida 33409

Subject: Water Use Application No. 08107-B, Modification of Permit No.36-00315W
Samuel and Connie Hubschman, Bonita Farms, Lee County

Dear Mr. Searcy:

A preliminary review of the above project indicates, pursuant to Rule 40E-2.101 Florida Administrative Code (FAC), that additional information will be required to complete our review:

1. Table G designates a total of 720.7 acres (358.5 existing, and 362.2 proposed) planted, but Surface Water Management Farm Field information for Bonita Farms I and II indicate only 85 % of 720.7 (612.6) acres to be in beds and 15% in canals. Please clarify the total number of acres irrigated.
2. Please complete Table A for the existing wells.
3. Please designate the location of the proposed surface water pump at the irrigation pond. to be used for dewatering
4. Please designate the pump horsepower.
5. Please submit a letter from the Lee County Division of Environmental Protection Services indicating that they have no objection to the proposed project.
6. As required by Limiting Condition No. 12 of the existing permit, please submit the data and results of the Specific Capacity and Time Drawdown Test
7. As required by Limiting Condition No. 13, please submit copies of the monthly pumpage reports.
8. As required by Limiting Condition No. 6, please provide drill cuttings, if available.
9. As required by Limiting Condition No. 4, please submit the Drillers' Completion Reports for the existing wells.
10. Please clarify whether the proposed surface water pond will also be the primary withdrawal source for Farm No. 1, with the wells only providing a backup supply, or whether the wells will continue to be the primary source for Farm No. 1.

Nancy H. Rios, Chairman-Plantation
J.D. York, Vice Chairman-Palm City
Nathaniel P. Reed, Hobe Sound
Oscar M. Corbin, Jr., Ft. Myers
Arsenio Mazan, Miami
Fritz Dixon, Boca Grande
James F. Garner, Ft. Myers
Mike Dowd, Wellington
Doris A. Jason, Key Biscayne

11. It appears from the aerial that there are substantial wetland areas within the proposed project boundary. With regard to the impacts on these areas, the environmental aspect of the review will be conducted within the Surface Water Management application review.
12. Please be advised that the Water Use evaluation will not be considered complete until the Surface Water Management evaluation is complete.

When the preceding information has been provided, we will continue the review of the application for modification of water use. In accordance with Rule 40E-1.603(5) F.A.C., if a response is not received within 90 days, this application may be processed for denial, if not withdrawn by the applicant.

Thank you for your continuing cooperation.

Sincerely,
Marie Long Zwicker
Marie Long Zwicker
Hydrogeologist
Water Use Division
Resource Control Department

Enclosure

cc: Oscar Corbin
James F. Garner
Roland Banks
bcc: Lamb/Horinkova
John Morgan
Carlos Derojas

Howard L. Searcy, P.E.
CONSULTING ENGINEER, INC.
2000 Palm Beach Lakes Blvd. • Suite 702 • West Palm Beach, FL 33409 • 684-3375

August 10, 1987

Mr. Richard Rogers, P. E., Director
Resource Control Department
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680

Re: Modification of Permits # 36-00315-W and 36-00764-S
"Bonita Farms"

Dear Mr. Rogers:

Please find enclosed the application and four (4) signed and sealed sets of the supporting information for modification of the above listed permits.

If you have any questions, please contact this office.

Very truly yours,

Rebecca S. Serra

Rebecca S. Serra, P. E.

enclosures

cc: Bob Cadenhead w/ enclosure
Ken Oertel w/ enclosure
Russell Schropp w/ enclosure
Dick Workman w/ enclosure
Rae Ann Boylan w/ enclosure

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

(FOR USE BY SFWMD PERSONNEL ONLY) DATE REC'D _____ APPL NO. 08107-B

APPLICATION TO SOUTH FLORIDA WATER MANAGEMENT DISTRICT FOR A PERMIT FOR:
( ) WATER USE
( ) SURFACE WATER MANAGEMENT (DRAINAGE) ( ) CONCEPTUAL APPROVAL)
( ) UTILIZATION OF DISTRICT WORKS
(X) MODIFICATION OF EXISTING PERMIT NUMBER 36-00764-S and 36-00315-W

OWNER'S NAME Samuel and Connie Hubschman, Trustee
ADDRESS 3451 Tamiami Trail, East
CITY: Naples STATE: Florida ZIP: 33962 PHONE: (813) 774-5457
DEVELOPER'S NAME Same as Above
ADDRESS
CITY: STATE: ZIP: PHONE:
PROJECT ENGINEER Howard L. Searcy, P. E. Consulting Engineer, Inc.
ADDRESS 2000 Palm Beach Lakes Boulevard, Suite 702
CITY: West Palm Beach STATE: Florida ZIP: 33409 PHONE: (305) 684-3375
PROJECT NAME: Bonita Farms
LOCATION: --- (CITY) Lee (COUNTY) 17, 20 (SECTION(S)) 47 S (TOWNSHIP) 26 E (RANGE)
PURPOSE (RESIDENTIAL, AGRICUL., PUB. WTR. SUPPLY, ETC.): Agricultural ZONING: Agricultural

RECEIVED
JUL 27 1987
RESOURCE CONTROL DEPARTMENT

PROJECT SIZE: 1,279.1 ACRES
PROJECT IS ( ) PROPOSED ( ) EXISTING (X) TO BE MODIFIED
IF THIS APPLICATION IS FOR WATER USE, WHAT IS THE SOURCE OF WATER? Surface and Shallow Aquifer
IF THIS APPLICATION IS FOR DRAINAGE, WHERE WILL THE WATER DISCHARGE? Kohl Canal via Natural Slough
IF THIS IS A REQUEST TO MODIFY AN EXISTING PERMIT, DESCRIBE THE REQUESTED CHANGES: Construction and Operation of Farm II and use of Surface Water for Irrigation
IF THIS APPLICATION INCLUDES USE OF DISTRICT WORKS DESCRIBE THE USE: N/A
(CULVERT, BOAT DOCK, FENCE, BEAUTIFICATION, ETC. NOTE: INCLUDE CANAL NAME)

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 7-30-87
OWNER'S SIGNATURE (IF NOT THE OWNER, CERTIFY BELOW)

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

TITLE:

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.

FORM -C-1 (-0800)
Rev. 2-86

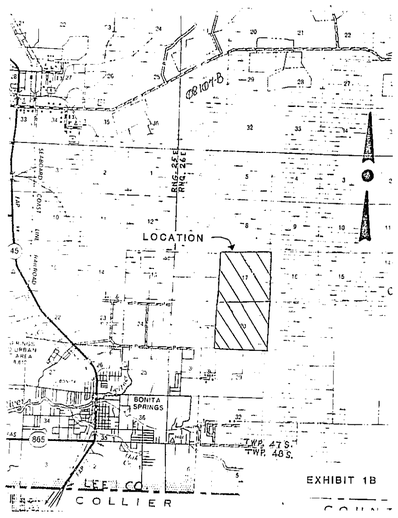


EXHIBIT 1B

Mark Darron - 00764-S/W
00315-S/W
hasn't looked at it yet (reviewing)
Al Cantro - are they dewatering? dewatering permit? Short term?
Ron Edmiston did Mark Darron give early word?
Why not shut down?
Well locations? (diff from permit)
813-332-0399
Might have been sent.

Allocation based on:
✓ ① gw restriction based on wetland impacts
- Rae Ann to check drawdown copies + make call
✓ ③ sw restriction based on cap of sw pumps (4000 gpm = 5.76 MGD)

Rae Ann
✓ ① Send copy of my comments for her decision as to area of impact
✓ ② What's going on out there? are they lowering water level. yes

Dave
Not policy to shut down if would cause economic harm.
Must have staff gauge in wetlands
Main intent is mining operation. Initially on SWM addressed mining. They said they weren't dewatering, but they are. Can we deny permit based on new information on dewatering which was not evident.

500,000 gpd

① Field inspection to make determination
② When the new response comes in we will contact Sandy w/ results of dewatering
③ based on wildlife impacts and water

537 acres region
Current Wpermit (7.8 MGD)
Mod 36-00315 S/W
720.7 acres =
22,167 "/acre/yr
May day: 5.17 MGD
Annual 3,241.887.03 MGY

Theis
T = 160,000 gpd/ft
S = 0.14
Q = 1.7 MGD/ea of 3 wells (Total)
r = 1000' (13,10); (14,15); (12.7, 12.5)
t = 90 days

Ray Ann Boylan 9/4/87
Problems w/ interpretation of mining area - They are mining out there!!!
to be mining in S½ of reservoir but not dewatering (?) (?)
Lakes 35 ft deep!!
Lots of enforcement actions previously.

Conduct WU impact review of impact on wetland area by withdrawals + drawdowns

WATER (R):

40E-2.101 Content of Application.

(1) Applications for permits required by this chapter shall be filed with the District. The application shall contain:

(a) Form ECI "Application to the South Florida Water Management District";

(b) The information required in subsection 373.229(1), Florida Statutes; and

(c) Information sufficient to show that the use meets the criteria and conditions established in rule 40E-2.301.

(2) In addition to the information specified in subsection (1), the application shall contain:

(a) for public water supply uses, the information required in Appendix 1 of the District's "Basis of Review for Public Water System Water Use Applications-August 1980";

(b) for industrial water uses, the information required in Appendix 1 of the District's "Basis of Review of Applications for Industrial Water Use within the South Florida Water Management District-October 1980";

(c) for mining water uses, the information required in Appendix 1 of the District's "Basis of Review of Applications for Mining Water Use (Dewatering) within the South Florida Water Management District-October 1980."

(3) The application must be signed by the user or his authorized agent.

Specific Authority 373.044, 373.113 F.S.
Law Implemented 373.101(1), 373.219, 373.223, 373.229 F.S.
History - New 9-3-81, 12-1-82.

SURFACE WATER MANAGEMENT (DRAINAGE)

40E-4.101 Content of Application.

(1) Applications for permits required by this chapter shall be filed with the District. The application shall contain:

(a) Form ECI "Application to the South Florida Water Management District"

(b) The information required in subsection 373.413(2) Fla Ann Statutes;

(c) Exact etc, calculations, and engineering details sufficient to define the nature, scope, intent and functioning of the work proposed; and

(d) The information required in Appendix 1 of the document described in paragraph 40E-2.091(1)(a).

(2) The application must be signed by the owner and his authorized agent, if applicable.

Specific Authority 373.044, 373.113 F.S.
Law Implemented 373.413, 373.416, 373.426 F.S.
History-New 9-3-81, Amended 1-31-82, 12-1-82.
Formerly 16C-4.0171, 16C-4.0172(1), 16C-4.0212(1)

UTILIZATION OF RESOURCES ON LANDS

40E-6.101 Content of Application.

(1) Applications for permits required by this chapter shall be filed with the District. The application shall contain the following information:

(a) Form ECI "Application to the South Florida Water Management District";

(b) The applicant's name and address including zip code;

(c) The owner's name and complete address if applicant or user is other than the owner;

(d) The project location relative to County, Section, Township and Range; Lot, Block and Subdivision; or a metes and bounds description;

(e) Whether the proposed use is a modification of an existing use, or is a new use;

(f) A description of the proposed use of or encroachment on works of the District;

(g) A description of the portion of the works of the District to be used;

(h) Three copies of a sealed or fully dimensioned 8½" x 14" drawing reflecting the proposed use in plan and elevation view and as related to the applicable work of the District tied to a known reference point in the immediate area of the proposed use;

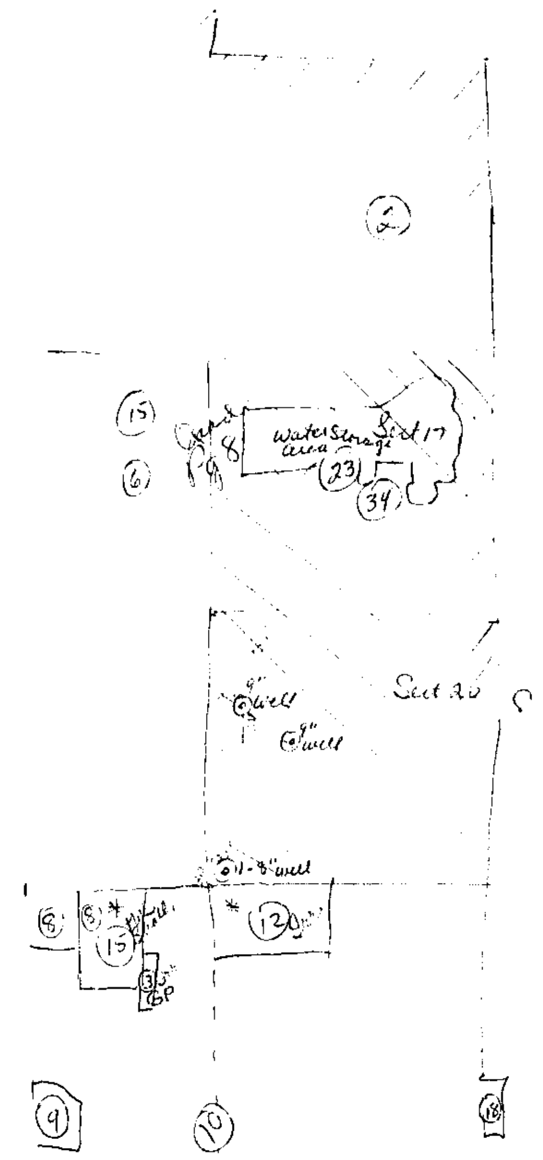
(i) Information sufficient to demonstrate that the proposed use meets the criteria established in the District's "Criteria Manual for Use of Works of the District-Jan 1981";

(j) Applications shall be signed by the applicant or his authorized agent.

Specific Authority 373.044, 373.113 F.S.
Law Implemented 373.085(1) F.S.
History-New 9-3-81, Amended 12-1-82.
Formerly 16C-5.041(1)

Adjacent Permits

	Type	Permittee	Project	Acres	Quality	Storm	Reg Below Source
[illegible]	Wtr Sup.	Bonita Sprs	Water Sup.		8	2	L.T.A.
[illegible]	Ag	Hubschman (~~Bonita Farms~~)	Bonita Farm	1280 537	8	(23)	Shall Aq. SWM aspect Cancelled/Expired
[illegible]		Hubschman	Bonita Farm	640 481.9	8	(34)	N/A
[illegible]		Trost Inc.	Trost Farm	1330	9	6	Surf. Riv. Shall Aq.
[illegible]			Water Sup.		8	15	Shall Aq.
[illegible]		[illegible] Oran			YP 8	3	
[illegible]		R. Bigham	Bigham Farm	75 75	9	12	Cypress Slough Shall. Aq.
[illegible]		[illegible]	Fruit Farm	80 52	9	8	Shall. Aq.
[illegible]		[illegible]	Excavation	60	9	15	on-site ret
[illegible]		[illegible] Gladden	[illegible] Farm	45 55	9	9	Surf. Riv. Shall Aq.
[illegible]		[illegible]	Bonita [illegible] (3rd)		9	10	N/P
[illegible]		[illegible]	Bonita Bay		9	18	WT + L.T.



Ke Cunn

LAW OFFICES
OERTEL & HOFFMAN
A PROFESSIONAL ASSOCIATION

36-00315

KENNETH G. OERTEL
KENNETH F. HOFFMAN
SEGUNDO J. FERNANDEZ
TERRY COLE
SYDNEY H. MCKENZIE, III
HAROLD F. X. PURNELL
M. CHRISTOPHER BRYANT
W. DAVID WATKINS
MARTHA J. EDENFIELD
ELEANOR A. JOSEPH
DOUGLAS R. MANSON

SUITE C
2700 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301
TELEPHONE (904) 877-0099

MAILING ADDRESS
POST OFFICE BOX 6507
TALLAHASSEE, FLORIDA 32314-6507

SEP 29 1986

September 24, 1986

Ms. Beth Ross
Assistant General Counsel
South Florida Water Management District
Post Office Box V
West Palm Beach, Florida 33402

Re: Hubschman Trust,
Bonita Farms Property

Dear Beth:

I wish to thank you and the staff of the Water Management District that met with myself, Mr. Hubschman and other individuals representing Bonita Farms at your office last Wednesday, September 17.

We covered a lot of ground at the meeting and although we left the meeting with some disagreements over the status of this matter before the Water Management District I must thank the staff for being candid and cooperative with us. Even though we believe the permit in question should not be considered to have expired, we will do our best to work with the Water Management District staff to see that all future work to be performed on site meets with your approval. We wish to thank you and the staff for informally consenting that work may continue to finish the dike around the retention pond, which has been almost completed.

Other staff comments as to their evaluation of the entire project gave us very useful insight into the areas of concern that presently exist.

After we left the meeting I discussed the question of the original permit and the modifications thereto that

Ms. Beth Ross
September 24, 1986
Page Two

were accomplished in 1982 and 1983 with Bob Cadenhead and Lloyd Horvath. After reviewing all the permitting that took place on this property, I believe it is safe to come to several conclusions as to the contemplation of the parties at the time the permits were submitted.

It has always been Bonita Farms' belief that all agencies, including the Water Management District, were advised that the clear intention of Bonita Farms was to excavate the area within the retention pond to -10 feet below natural grade. Documents showing these changes were submitted to all agencies that reviewed this project including the U.S. Army Corps of Engineers, the Department of Environmental Regulation, Water Management District and the South Florida Regional Planning Council. We cannot explain why design drawings showing these revisions are not in your files, but both Lloyd Horvath and Bob Cadenhead recall that the Water Management District staff that reviewed these applications were aware of the plans to excavate in the retention pond area.

My conclusion, after going over all this, is that even though the Water Management District was aware of these plans, they were not concerned with that aspect of the project. As the retention proposed was in excess of that required from a management and storage point of view, it was clear that the proposed work would exceed the District's guidelines and rules concerning retention for surface water drainage projects.

The permit does not address the question of how much excavation was permitted in the retention area. I believe this is because it was not considered to be a significant aspect of the project. This is born out by the fact that the cross-sections of the proposed dikes were modified in 1983 from their original design to greatly expand their size and the volume of material to be so utilized for their construction.

Ms. Beth Ross
September 24, 1986
Page Three

It is my feeling that since the permit itself if silent on the subject of the amount of construction that would take place inside the revised retention area, the contemplation of the parties at the time the permit was issued would be a controlling consideration as to the intent of the Water Management District when they gave the permit and the understanding of Bonita Farms when the permit was received.

I will get further information from Lloyd Horvath and Bob Cadenhead on this subject and submit to you a further package which documents this question, particularly with regard to what can fairly be stated to have been contemplated when the permits were granted.

Yours truly,

Kenneth G. Oertel

KGO:nhg

cc: Mr. Harry Hubschman
Mr. Bob Cadenhead
Mr. Lloyd Horvath
Mr. Charles Pemble
Mr. Chuck Padera

South Florida
Water Management District

John R. Wodraska, Executive Director

Post Office Box V 3301 Gun Club Road
West Palm Beach, Florida 33402
Telephone (305) 686-8800
Florida WATS Line 1-800-432-2045

IN REPLY REFER TO:

August 1, 1984

S. Hubschman, Trustee
3451 Tamiami Trail
Naples, FL 33940

Re: Permit No. 36-00315-S, Bonita Farm, Lee County

Gentlemen:

Pursuant to the Special Conditions of the referenced permit, a semi-annual report certified by a Florida Registered Engineer, is to be submitted to the South Florida Water Management District.

This report is to indicate the condition of any above ground dike, levee or berm behind which water is contained. The report is to be received in May and December of each year as long as the permit is in force.

If conditions exist which require any repairs, the report shall include the scope and time for making the repairs.

You are directed to take the necessary action to insure these reports are received on time.

Very truly yours,

Michael Wetherington
Water Management Engineer
Field Engineering Division
Resource Control Department

MW/J
cc: Mr. Stanley Hole

Stanley W. Hole, Chairman - Naples
William E. Sadowski, Vice Chairman - Miami
J. Neil Gallagher, St. Cloud
Nathaniel P. Reed, Hobe Sound
Kathleen Shea Abrams, Miami Shores
John F. Flanigan, North Palm Beach
Timer E. Powers, Indiantown
Kent Price, Okeechobee

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

MODIFICATION OF SURFACE WATER MANAGEMENT PERMIT NO. 36-00315-S

DATE ISSUED: April 14, 1983

ISSUED TO: Samuel & Connie Hubschman, Trustee
Bonita Farm
3451 Tamiami Trail
Naples, Florida 33940

LOCATION: Lee COUNTY, SEC 17,20 TWP 47S RGE 26E

ORIGINAL PERMIT AUTHORIZATION: CONSTRUCTION AND OPERATION OF A WATER MANAGEMENT SYSTEM SERVING 1280 ACRES OF AGRICULTURAL LANDS BY DITCHES, DIKES, PUMPS, RETENTION AREA AND CONTROL STRUCTURES DISCHARGING INTO THE KEHL CANAL VIA A NATURAL SLOUGH.

APPROVED MODIFICATION: THE ENLARGEMENT OF THE RETENTION AREA (BY RELOCATING THE PERIMETER DIKE) TO 88 ACRES AND THE REVISION OF THE OUTFALL STRUCTURE BY DELETING 2-18,000 GPM PUMPS AND 1-34.3' WIDE WEIR TO BE REPLACED BY 3-18" CMP CULVERTS DISCHARGING VIA AN UNNAMED SLOUGH INTO KEHL CANAL.

THIS PERMIT MODIFICATION IS APPROVED PURSUANT TO A REQUEST DATED Dec. 13, 19 82. PERMITEE AGREES TO HOLD AND SAVE THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT AND ITS SUCCESSORS HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE, OR USE OF ANY WORK OR STRUCTURE INVOLVED IN THE PERMIT. THE ORIGINAL PERMIT, INCLUDING ALL PLANS AND SPECIFICATIONS ATTACHED THERETO, AS ADDRESSED BY THE STAFF REPORT AND THOSE ADDRESSED BY THE MODIFICATION STAFF REPORT, ARE BY REFERENCE MADE A PART HEREOF.

ALL SPECIFICATIONS, SPECIAL AND LIMITING CONDITIONS ATTENDANT TO THE ORIGINAL PERMIT, UNLESS SPECIFICALLY RECINDED BY THIS OR PREVIOUS MODIFICATIONS, REMAIN IN EFFECT.

SPECIAL CONDITIONS: THE DELETION OF ORIGINAL 15 PROJECT SPECIAL CONDITIONS AND 5 LIMITING CONDITIONS.
THE ADDITION OF 19 NEW PROJECT SPECIAL CONDITIONS (SEE PAGES 2 AND 3 ATTACHED).

ORIGINAL PERMIT ISSUED: April 15, 1982.

PERMIT MODIFICATION APPROVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT

FILED WITH THE CLERK OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ON 4/15/83 Original signed by:
BY Vern Kaiser
DEPUTY CLERK

Original signed by:
Charles A. Hall, P.E.
CHARLES A. HALL, P.E., DIRECTOR
SURFACE WATER MANAGEMENT DIVISION
RESOURCE CONTROL DEPARTMENT

FORM RC-33
9/82

SURFACE WATER MANAGEMENT SPECIAL CONDITIONS

1. DISCHARGE FACILITIES:

DESCRIPTION: 3-18" CMP CULVERTS (20 FEET LONG) AT INVERT ELEVATION 14.5' NGVD.

RECEIVING WATER: UNNAMED SLOUGH TO KEHL CANAL.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED INCLUDE TOTAL SUSPENDED SOLIDS, NITRATES AS N, NITRITES AS N, TOTAL KJELDAHL NITROGEN AS N, AMMONIA AS N, TOTAL PHOSPHORUS AS P, ORTHO-PHOSPHORUS AS P, 5 DAY 20°C BOD, TURBIDITY, SPECIFIC CONDUCTIVITY, DISSOLVED OXYGEN AND pH. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY. WATER QUALITY DATA IS NOT REQUIRED AT TIME OF PERMIT ISSUANCE.

3. SPECIAL CONDITIONS OF RULE 40E-4.381 (SURFACE WATER MANAGEMENT) ARE WAIVED UNLESS OTHERWISE PROVIDED HEREIN.

4. FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

5. LAND USE SERVED BY THE PERMITTED FACILITIES IS AGRICULTURAL. PROPOSED CONSTRUCTION OF RESIDENCES WILL REQUIRE MODIFICATION OF THIS PERMIT AND MUST BE REPORTED TO THE DISTRICT.

6. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

7. DISCHARGES OF PUMPED WATER OR RESERVOIR DISCHARGES OF WATER ONTO ADJACENT LANDS MAY BE CONTINUED TO THE EXTENT THAT PROBLEMS ARE NOT CAUSED BY SUCH DISCHARGES.

8. MEASURES SHALL BE TAKEN DURING CONSTRUCTION TO INSURE THAT SEDIMENTATION AND/OR TURBIDITY PROBLEMS ARE NOT CREATED IN THE RECEIVING WATER.

9. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

10. OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM WILL BE THE RESPONSIBILITY OF SAMUEL HUBSCHMAN.

11. WATER MANAGEMENT AND WATER USE ACTIVITIES INCIDENTAL TO DEVELOPMENT ADDRESSED HEREIN, SUCH AS CONSTRUCTION DEWATERING, MAY REQUIRE ADDITIONAL PERMITS FROM THE DISTRICT, WHICH MUST BE OBTAINED PRIOR TO COMMENCEMENT OF SUCH ACTIVITIES.

SPECIAL CONDITIONS CONT'D

12. UPON COMPLETION OF CONSTRUCTION, ALL ABOVE GROUND DIKES, LEVEES AND BERMS BEHIND WHICH WATER IS TO BE CONTAINED SHALL BE INSPECTED FOR STRUCTURAL ADEQUACY, WITH REPORTS SUBMITTED TO THE DISTRICT. SUCH REPORTS SHALL INCLUDE PROPOSAL OF TECHNIQUE AND SCHEDULE FOR REPAIR OF ANY DEFICIENCIES NOTED, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.

PERMITTEE SHALL SUBMIT SEMI-ANNUAL REPORTS TO THE DISTRICT, IN MAY AND DECEMBER OF EACH YEAR, OF APRIL AND NOVEMBER INSPECTIONS OF ALL ABOVE GROUND DIKES, LEVEES AND BERMS BEHIND WHICH WATER IS CONTAINED. SUCH REPORTS SHALL INCLUDE PROPOSAL OF TECHNIQUE AND SCHEDULE FOR REPAIR OF ANY DEFICIENCIES NOTED, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.

13. ALL DIKES/BERMS SHALL HAVE A MINIMUM TOP WIDTH OF 2.0 FEET.

14. A STAFF GAUGE SHALL BE PLACED WITHIN THE 88 ACRE RETENTION AREA NEXT TO THE PUMP. AT SUCH TIME AS THE STAGE WITHIN THE RETENTION AREA REACHES ELEVATION 17.0' NGVD (2.5 FEET OF STANDING WATER) THE PUMP SHALL CEASE OPERATING. AT NO TIME SHALL THE STAGE WITHIN THE 88 ACRE RETENTION AREA EXCEED ELEVATION 17.0' NGVD.

15. WITHIN 90 DAYS AFTER PERMIT MODIFICATION, PERMITTEE SHALL SUBMIT TO THIS DISTRICT A PROPOSED PLAN (WITH DESIGN DETAILS), TO BLOCK OFF THE CANALS BETWEEN SECTIONS 17 AND 20 BY MEANS OF PERMANENT STRUCTURES. THE PLANS MUST BE APPROVED BY DISTRICT STAFF PRIOR TO IMPLEMENTATION.

16. THE PERIMETER DIKE/BERM SHALL BE SET BACK A MINIMUM OF 25 FEET INSIDE PERMITTEE'S PROPERTY TO ALLOW FOR THE DIVERSION OF OFF-SITE FLOW AROUND THE PROPERTY.

17. OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT SHALL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT. WATER DISCHARGED FROM THE PROJECT SHALL BE THROUGH STRUCTURES HAVING A MECHANISM SUITABLE FOR REGULATING UPSTREAM WATER STAGES. STAGES MAY BE SUBJECT TO OPERATING SCHEDULES SATISFACTORY TO THE DISTRICT.

18. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

19. THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. IT IS ALSO THE RESPONSIBILITY OF THE PERMITTEE TO ENSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

South Florida
Water Management District
John R. Marks Executive Director
Post Office Box V 3301 Gun Club Road
West Palm Beach, Florida 33402
Telephone (305) 686-8800
Florida WATS Line 1-800-432-2045

IN REPLY REFER TO

CERTIFIED MAIL NO. P34 267655O
RETURN RECEIPT REQUESTED

March 24, 1983

Samuel & Connie Hubschman, Trustee
(Bonita Farm)
3451 Tamiami Trail
Naples, FL 33940

RE: Permit (Mod) No. 36-00315-S, Lee County, S17,20/T47S/R26E

Dear Mr. & Mrs. Hubschman:

Enclosed is a copy of this District's staff report covering your permit modification.

It is requested that you read this staff report thoroughly and understand its contents.

The recommendations as stated in the staff report will be presented to our Governing Board for consideration on 4/14/83.

If you object to the staff recommendations and desire a formal Public Hearing, you must file a written petition for a hearing with the District by no later than 4/7/83 . Petitions are deemed filed upon receipt by the District. The petition must comply with Rule 40E-1.521, Florida Administrative Code, a copy of which is attached for your convenience, in order to be considered by the District.

Please contact this office if you have any questions concerning this matter. If we do not hear from you prior to the above date, we will assume you concur with our recommendations.

Sincerely,

Vern Kaiser
Administrative Supervisor
Resource Control Department

VK/ cm
Enclosure: 1
cc: DER
Mr. Stanley W. Hole
Missimer & Assoc., Inc.
Lee County Engineer
Dir., Lee Co. Div. of E.P.S.
Dir., Lee Co. Mosquito Control
Dir., Lee Co. Dept. of Current Planning
Lee Co. Div. of Code Enforcement
Bonita Springs Water System
Ronald Bruns-Bruns & Bruns, Inc.
Charles Pamble, P.E.

Robert C. Cox, Jr. Chairman - Fort Lauderdale
Robert W. Padrick Vice Chairman - Fort Pierce
Stanley R. Rose Key West
J. Ian Gallagher Ft. Myers
Nathaniel P. Reed Hobe Sound
John L. Hartley Panama
Aubrey L. Dunham Okeechobee
Charles L. Crompton Miami Shores
Joanne Gelarny Coral Gables

South Florida
Water Management District
Post Office Box V 3301 Gun Club Road
West Palm Beach, Florida 33402
Telephone (305) 686-8800
Florida WATS Line 1-800-432-2045

IN REPLY REFER TO

March 24, 1983

Mr. Ben Pratt, Director of Transportation
Lee County
P.O. Box 398
Ft. Myers, Florida 33902

RE: Permit (Mod) No. 36-00315-S, Bonita Farm, Lee County, S17,20/T47,/R26E

Dear Mr. Pratt:

Enclosed is a copy of this District's staff report for the above referenced project. This report (which is for proposed urban or agricultural projects) will be part of those presented to the Governing Board at its 4/14/83 meeting for final permit approval. Staff reports for routine existing agricultural activities will not be furnished except on specific request.

If you have objections to the above referenced project and desire a Public Hearing, you must file a written petition for a hearing with the District by no later than 4/7/83. Petitions are deemed filed upon receipt by the District. The petition must comply with Rule 40E-1.521, Florida Administrative Code, a copy of which is attached for your convenience, in order to be considered by the District.

If you have any questions or comments, please feel free to contact this office. A copy of the permit will be forwarded after final approval.

Sincerely,

Vern Kaiser
Administrative Supervisor
Resource Control Department

VK/ cm
Enclosures: 1

cc: Director, Division of E.P.S.
Mr. Frederick B. Juchnecht
Mr. Mike Caroll

Robert C. Cox, Jr. Chairman - Fort Lauderdale
Robert W. Padrick Vice Chairman - Fort Pierce
Stanley R. Rose Key West
J. Ian Gallagher Ft. Myers
Nathaniel P. Reed Hobe Sound
John L. Hartley Panama
Aubrey L. Dunham Okeechobee
Charles L. Crompton Miami Shores
Joanne Gelarny Coral Gables

MEMORANDUM

March 22, 1983

TO: Files

FROM: Robert Goodrick

SUBJECT: Environmental Review of Projects

On March 18, 1983 a helicopter trip was flown for the purpose of determining environmental impacts of proposed projects. The following five projects present no apparent environmental problems:

Econolodge Motor Hotel	-	02183-A
Travelodge Motor Inn	-	02183-B
Shadow Bay Springs	-	MOD 48-00137-S
Greenwood Estates II	-	MOD 49-00134-S
Palm Aire at Palm Beach East		01243-B

The dikes and canal construction on the Bob Paul (MOD 26-00135-S) and Bonita Farm (MOD 36-00315-S) projects will be confined to the upland areas of the sites.

The Orlando Central Park (MOD 48-00055-S) site contains a large wetland area near the center of the property. Development plans indicate that this wetland area will remain intact.

Both the Canayen Cattle Company (01263-B) and Buck Daniels (01222-G) projects have on-site wetlands. Since these agricultural operations will require retention areas, the wetlands can be preserved and/or mitigated through the construction of the retention areas.

Island Pines Racquet Club (02233-A) and Estero Cove (02073-B) are adjacent projects in Lee County. Both sites are located on Estero Island and contain considerable amounts of mangrove habitat. The development plans indicate that all construction will occur upland of the mangroves.

In addition to the above mentioned projects, we also flew over the infamous Robert Arnold project in Okeechobee County. The drained wetland is still drained. The unplugged canal is still unplugged, and the riser boards are stacked atop the riser. Time marches on!

Robert L. Goodrick
Robert L. Goodrick, Environmentalist
Resource Control Department

RLG/j
cc: Mr. Richard Rogers

Samuel & Connie Hubschman, Trustee
(Bonita Farm)

Permit (MOD) No. 36-00315-S

DRAFT
Subject to Governing
Board Approval

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

STAFF REPORT

LAST DATE FOR BOARD ACTION: APRIL 14, 1983

Index	Page
Staff Report Summary	1
Surface Water Management (Drainage)	
Surface Water Management Evaluation	3
Surface Water Management Special Conditions	4

FINAL - adopted by Governing Board

3-31-83

STAFF REPORT SUMMARY

NAME: Samuel & Connie Hubschman, Trustee (Bonita Farms) PERMIT (MOD) NO. 36-00315-S

ADDRESS: 3451 Tamiami Trail, Naples, Florida 33940

LOCATION: Lee County, SECTION(S)17, 20 , TOWNSHIP 47 S, RANGE 26 E

BASIN: Imperial River

TOTAL CONTIGUOUS ACREAGE: 1280 IRRIGATED ACREAGE: N/A

DRAINED ACREAGE: 1280

TYPE: Surface Water Management

USE CLASSIFICATION:

[X] Existing (Permit No. 36-00315-S) [ ] Unpermitted

[ ] Proposed [X] Proposed Modification

FACILITIES: Modification is for the enlargement of the retention area (move perimeter dike) and a redesign of the outfall structure.

(See Exhibit(s) 1 for location)

* * * RECOMMENDATIONS * * *

(Circled numbers identify worksheet and explanation locations)

WATER USE: Covered by Permit No. 36-00315-W

(A-1) Permitted Monthly Withdrawal: Million Gallons

Source(s):

Source(s) Classification:

Expiration Date:

NOTE: Special Conditions (Page(s)

Prepared: Date:

Checked: Date:

STAFF REPORT SUMMARY (CONT'D)

DRAFT
Subject to Governing
Board Approval

SURFACE WATER MANAGEMENT:

(B-1) Permitted Allowable Discharge: 40 cfs

Receiving Water: Unnamed Slough to Kohl Canal.

NOTE: 19 Special Conditions (Page(s) 4 and 5)

Prepared: RSS/tls Date: 3/18/83

Checked: Date:

RIGHT-OF-WAY OCCUPANCY:

(C-1) Permitted Authorization:

NOT APPLICABLE

NOTE: Special Conditions (Page(s)

Prepared: Date:

Checked: Date:

Approved: Richard A. Rogers, Director
Resource Control Department

Date: 3/21/83

SURFACE WATER MANAGEMENT EVALUATION

APPLICANT'S LAND AREA: 1280 ACRES DRAINED ACREAGE: 1280

FACILITIES:

1. PREVIOUSLY PERMITTED (SEE EXHIBIT NO. 4) :

   1-18,000 GPM pump which pumps into Section 17 and 1-18,000 GPM pump which pumps into a 62 acre retention area. Discharge out of the retention area is via a 34.3' wide weir at crest elevation 16.25' NGVD. All drainage stored in Section 17, will be routed through the retention area prior to discharge off-site.

2. PROPOSED MODIFICATION: (SEE EXHIBIT NOS. 2 AND 3) :

   Modification is for increasing the retention area to 88 acres (moved perimeter dike) and modify the outfall structure to 3-18" CMP culverts at invert elevation 14.5' NGVD.

PREVIOUSLY PERMITTED DISCHARGE CAPACITY: 40 cfs

DRAINAGE BASIN: Imperial River

RECEIVING WATER: Unnamed Slough to Kohl Canal

RUNOFF FORMULA: Pre. vs. Post

(B-1) PERMITTED ALLOWABLE DISCHARGE 40 cfs

PROPOSED DISCHARGE CAPACITY 32 cfs

DETENTION METHOD 88 acre retention area
DETENTION PROVIDED 107 ACRE-FEET

ADDITIONAL COMMENTS: Adverse impacts to the environment are not expected as a result of moving the perimeter dike. Modification to change perimeter dike location is necessary to meet the Department of Environmental Regulation and Corps of Engineers requirements.

SURFACE WATER MANAGEMENT SPECIAL CONDITIONS

[illegible] CONDITIONS:

[illegible] DIMENSIONS: 3-18" CMP CULVERTS (20 FEET LONG) AT INVERT ELEVATION

14.5' NGVD.

[illegible] RECEIVING WATER: UNNAMED SLOUGH TO KEHL CANAL

[illegible] QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY [illegible] SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED [illegible] TOTAL SUSPENDED SOLIDS, NITRATES AS N, TOTAL KJELDAHL NITROGEN AS N, AMMONIA AS N, TOTAL PHOSPHORUS AS P, ORTHO-PHOSPHORUS AS P, [illegible] TURBIDITY, SPECIFIC CONDUCTIVITY, DISSOLVED OXYGEN AND pH. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON [illegible] WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE [illegible] PUMPING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY. WATER [illegible] DATA IS NOT REQUIRED AT TIME OF PERMIT ISSUANCE.

[illegible] CONDITIONS OF RULE 40E-4.381 (SURFACE WATER MANAGEMENT) ARE WAIVED UNLESS OTHERWISE PROVIDED HEREIN.

[illegible] OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT [illegible] MODIFICATION OF THIS PERMIT.

[illegible] SERVED BY THE PERMITTED FACILITIES IS AGRICULTURAL. [illegible] CONSTRUCTION OF RESIDENCES WILL REQUIRE MODIFICATION OF THIS PERMIT [illegible] REPORTED TO THE DISTRICT.

[illegible] PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, [illegible] OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR [illegible] OF THE SURFACE WATER MANAGEMENT SYSTEM.

[illegible] OF PUMPED WATER OR RESERVOIR DISCHARGES OF WATER ONTO ADJACENT [illegible] MAY BE CONTINUED TO THE EXTENT THAT PROBLEMS ARE NOT CAUSED BY [illegible] DISCHARGES.

[illegible] SHALL BE TAKEN DURING CONSTRUCTION TO INSURE THAT SEDIMENTATION [illegible] TURBIDITY PROBLEMS ARE NOT CREATED IN THE RECEIVING WATER.

[illegible] PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

[illegible] OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM WILL BE THE RESPONSIBILITY OF SAMUEL HUBSCHMAN.

[illegible] WATER MANAGEMENT AND WATER USE ACTIVITIES INCIDENTAL TO DEVELOPMENT ADDRESSED HEREIN, SUCH AS CONSTRUCTION DEWATERING, MAY REQUIRE ADDITIONAL PERMITS FROM THE DISTRICT, WHICH MUST BE OBTAINED PRIOR TO COMMENCEMENT OF SUCH ACTIVITIES.

SPECIAL CONDITIONS CONT'D

12. UPON COMPLETION OF CONSTRUCTION, ALL ABOVE GROUND DIKES, LEVEES AND BERMS BEHIND WHICH WATER IS TO BE CONTAINED SHALL BE INSPECTED FOR STRUCTURAL ADEQUACY, WITH REPORTS SUBMITTED TO THE DISTRICT. SUCH REPORTS SHALL INCLUDE PROPOSAL OF TECHNIQUE AND SCHEDULE FOR REPAIR OF ANY DEFICIENCIES NOTED, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.

    PERMITTEE SHALL SUBMIT SEMI-ANNUAL REPORTS TO THE DISTRICT, IN MAY AND DECEMBER OF EACH YEAR, OF APRIL AND NOVEMBER INSPECTIONS OF ALL ABOVE GROUND DIKES, LEVEES AND BERMS BEHIND WHICH WATER IS CONTAINED. SUCH REPORTS SHALL INCLUDE PROPOSAL OF TECHNIQUE AND SCHEDULE FOR REPAIR OF ANY DEFICIENCIES NOTED, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.

13. ALL DIKES/BERMS SHALL HAVE A MINIMUM TOP WIDTH OF 2.0 FEET.

14. A STAFF GAUGE SHALL BE PLACED WITHIN THE 88 ACRE RETENTION AREA NEXT TO THE PUMP. AT SUCH TIME AS THE STAGE WITHIN THE RETENTION AREA REACHES ELEVATION 17.0' NGVD (2.5 FEET OF STANDING WATER) THE PUMP SHALL CEASE OPERATING. AT NO TIME SHALL THE STAGE WITHIN THE 88 ACRE RETENTION AREA EXCEED ELEVATION 17.0' NGVD.

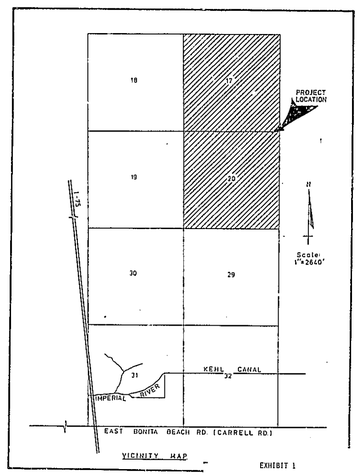
15. WITHIN 90 DAYS AFTER PERMIT MODIFICATION, PERMITTEE SHALL SUBMIT TO THIS DISTRICT A PROPOSED PLAN (WITH DESIGN DETAILS), TO BLOCK OFF THE CANALS BETWEEN SECTIONS 17 AND 20 BY MEANS OF PERMANENT STRUCTURES. THE PLANS MUST BE APPROVED BY DISTRICT STAFF PRIOR TO IMPLEMENTATION.

16. THE PERIMETER DIKE/BERM SHALL BE SET BACK A MINIMUM OF 25 FEET INSIDE PERMITTEE'S PROPERTY TO ALLOW FOR THE DIVERSION OF OFF-SITE FLOW AROUND THE PROPERTY.

17. OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT SHALL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT. WATER DISCHARGED FROM THE PROJECT SHALL BE THROUGH STRUCTURES HAVING A MECHANISM SUITABLE FOR REGULATING UPSTREAM WATER STAGES. STAGES MAY BE SUBJECT TO OPERATING SCHEDULES SATISFACTORY TO THE DISTRICT.

18. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

19. THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. IT IS ALSO THE RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.



VICINITY MAP

EXHIBIT 1

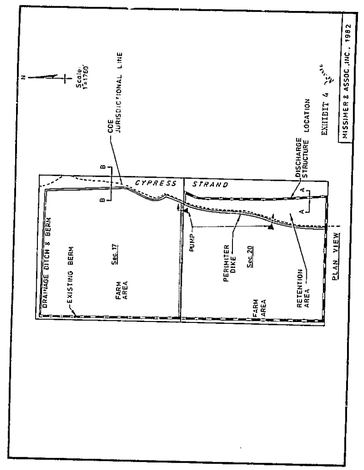


EXHIBIT 2

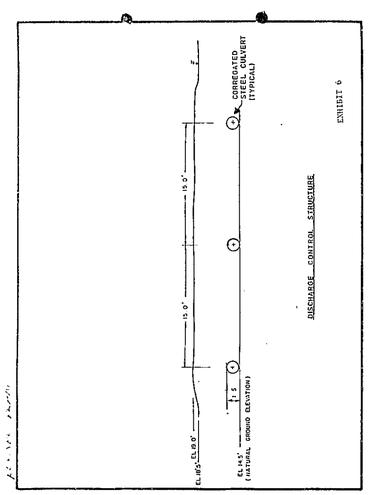


EXHIBIT 3

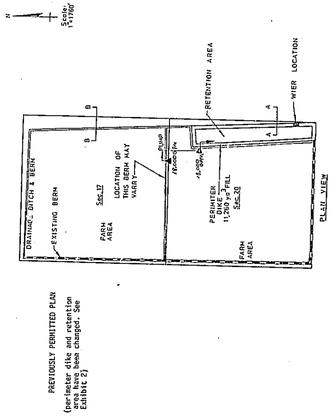


EXHIBIT 4

"AFF REPORT DISTRIBUTION LIST

PROJECT Bonita Farm PERMIT (MOD) No. 36-00315-S

	INTERNAL DISTRIBUTION
x	Pete Rhoads
x	Legal
x	Inspection
x	Reviewer Becky Serra
	R. Fanson
x	C. Hall
x	P. Gleason
	R. Goodrick
	W. Brannen
	J. Jackson
	J. Wodraska
x	R. Brockway

	EXTERNAL DISTRIBUTION
	DEPARTMENT OF ENVIRONMENTAL REGULATION
	W. P. B. Other
x	Ft. Myers
	Orlando
	Tallahassee
	Port St. Lucie
	GOVERNING BOARD MEMBERS
	Mr. Robert L. Clark, Jr.
	Mr. J. Neil Gallagher
	Mr. Charles L. Crumpton
	Mr. John L. Hundley
	Mr. Nathaniel P. Reed
	Mr. Robert Padrick
	Ms. Jeanne Bellamy
x	Mr. Stanley W. Hole
	Mr. Aubrey Burnham

	EXTERNAL DISTRIBUTION CONTINUED
x	Applicant Samuel & Connie Hubschman
x	Applicant's Consultant Hissimer & Assoc., Inc.
	Applicant's Agent
x	Engineer, County Of Lee County
	Engineer, City Of
	Local Drainage Districts
	Director, Martin Co. Planning & Zoning
x	Director, Lee County Div. of E. P. S.
	Collier County Ag. Agent
	Fred Vidzes, B. C. Basin
	Palm Beach County Area Planning Board
	Kissimmee River Coordinating Council
	Dade County DERM
x	Director, Lee County Mosquito Control
	Director, P.B. County Bldg. Dept.
x	Dir., Lee County Dept. of Current Planning
	Dir., Broward Co. Water Management Division
x	Other: Lee County Division of Code Enforcement
x	Bonita Springs Water System
x	Ronald Bruns - Bruns & Bruns, Inc.
x	Charlie Pemble, P. E.

EXHIBIT 5

FORM BC-32
6-82

TELEPHONE CALL REPORT

DATE 8/7/83 TIME 2:45 P.M.
APPLICATION NO. or PROJECT 36-00315-S, Bonita Farms, Lee Co.
CALL FROM or TO Lloyd Norvath
ITEMS DISCUSSED: (813) 574-1919

1. Called Lloyd to see if there would be any problem in revising the
2. outfall structure to 3-18" CMP culverts
at elevation 14.5' in place of
the submitted design.
3.

CONCLUSIONS REACHED OR ITEMS AGREED TO:
1. Mr. Norvath advised that they had no problem with this change. I advised that I would review his drawing.
2.
3.

Rebecca L. Serra
SIGNATURE

COPIES TO:

MISSIMER AND ASSOCIATES, INC.
Consulting Hydrologists · Geologists · Environmental Scientists
ROUTE 8 BOX 624 D
428 PINE ISLAND ROAD
CAPE CORAL, FLORIDA 33909
PHONE (813) 574 1919

January 12, 1983

RECEIVED
JAN 13 1983
RESOURCE CONTROL DEPARTMENT

Ms. Rebecca Serra
Water Management Engineer
South Florida Water Management District
P. O. Box V
3301 Gun Club Road
West Palm Beach, Florida 33402

Re: Permit Modification No. 36-00315-S
Bonita Farms

Dear Becky:

Per your request, enclosed is a revised Exhibit 4, which shows the position of the proposed berms and pumps. One 18,000 gpm pump discharges onto Section 20, while the other pump discharges into the proposed retention basin. Also enclosed are two recent aerial photographs showing the locations of the perimeter dikes and the COE wetland jurisdictional area.

If you need any additional explanation, please call.

Very truly yours,

MISSIMER AND ASSOCIATES, INC.

Lloyd E. Horvath, P.E.
Senior Hydrologist

LEH:sm

Enclosures

cc: Mr. Sam Hubschman

South Florida
Water Management District
Post Office Box V · 3301 Gun Club Road
West Palm Beach, Florida 33402
Telephone (305) 686-8800
Florida WATS Line 1-800-432-2045

IN REPLY REFER TO

January 5, 1983

Mr. Lloyd Horvath
Missimer and Associates, Inc.
Route 8, Box 624-D
428 Pine Island Road
Cape Coral, Florida 33909

RE: Permit (MOD) No. 36-00315-S, Bonita Farms, Lee County, Sections 17, 20, Township 47 South, Range 26 East

Dear Mr. Horvath:

A preliminary review of the above referenced project indicates that some additional information, pursuant to Rule 40E-1.603, Florida Administrative Code, will be required to complete our review.

1. The submitted revised plan (Exhibit No. 4) shows the direction of both pumps to be pumping into the 88 acre retention area. The permitted plan had 1-18,000 GPM pump pumping into the retention area and 1-18,000 GPM pump pumping over a berm and discharging into Section 17 (Section 17 to be used as a retention area). If the drainage system has been revised, flood routing calculations for the 25 year - 3 day design storm will be required. In addition, address what occurs within the 1192 acre fenced area (water stages, etc.) during the design storm when the retention area reaches a maximum stage (with adequate freeboard) and the pumps must cease pumping. If the drainage system is not being changed, revise Exhibit No. 4 to show the berm between Sections 17 and 20 and pump direction into Section 17.

2. Submit a recent aerial photograph with the location of the perimeter dike relocation marked.

Review of the application will continue upon receipt of the above requested information. 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,

Rebecca S. Serra
Water Management Engineer
Field Engineering Division
Resource Control Department

RSS/tls
cc: Mr. Stanley W. Hole
bcc: Inspection
Mr. Charles Pemble, P. E.
Mr. Bob Brockway, P. E. - P.L.S.

Brunz & Brunz, Inc.
Kaiser
DEC 24 1982
330 S. Third Street South
Naples, Florida 33940
(813) 262-2063

December 28, 1982

Governing Board of the South Florida Water Management District
P. O. Box "V",
West Palm Beach, Florida 33402

Re: Applicants: Samuel Hubschman & Connie (Trustee) (Bonita Farm)

We are interested in a copy of the staff report containing proposed agency action regarding the app ication for a Modification of Permit No. 36-00315-S to move the retention basins, etc.

Your attention to this request will be greatly appreciated.

C. P. Ehret for R. C. Bruns, P.E.

MISSIMER AND ASSOCIATES, INC.
Consulting Hydrologists · Geologists · Environmental Scientists
ROUTE 8 BOX 624 D
428 PINE ISLAND ROAD
CAPE CORAL, FLORIDA 33909
PHONE (813) 574 1919
THOMAS W. MISSIMER P.G.
RICHARD L. HOLZENDER
LARRY A. HELLAND
LLOYD E. HORVATH P.E.
THOMAS H. O'DONNELL

December 13, 1982

RECEIVED
DEC 16 1982
RESOURCE CONTROL DEPARTMENT

Ms. Rebecca S. Serra
Resource Control Department
South Florida Water Management District
P. O. Box V
West Palm Beach, Florida 33402

Re: Permit No. 36-00315-S, Samuel and Connie Hubschman

Dear Becky:

Enclosed are requested modifications to the above referenced permit. Those modifications were made necessary by the DER and COE, as we were unable to obtain a COE permit for the filling of the wetlands required for construction of the berms in the original application.

The modifications now call for moving the retention basin toward the west, and constructing the new berms in upland areas away from the cypress strand. The proposed retention basin is now larger (88 acres vs. 62 acres).

The ditch design for Section 17 is basically the same except that it avoids any work in the wetland area. Other than these modifications, all operations of the system will be the same.

The proposed discharge control structure has been changed. This structure is less expensive and will retain water for a longer period of time. The calculations and figures describing the proposed changes are enclosed. Also enclosed are copies of the previously approved designs and calculations.

If you need any other information, please call me.

Very truly yours,

MISSIMER AND ASSOCIATES, INC.

Lloyd E. Horvath, P.E.
Senior Hydrologist

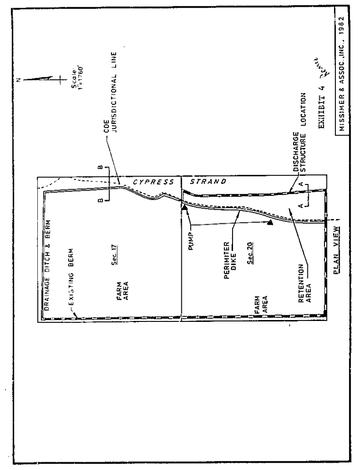
LEH:sm

Enclosure

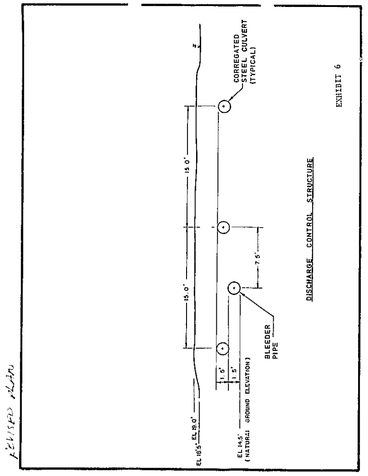
cc: Mr. Sam Hubschman

LETTER REQUEST TO MODIFY

MOD P036-00315-S
Samuel & Connie Hubschman,Trustee
(Bonita Farm)
3451 Tamiami Trail
Naples, FL 33940
S17,20/T47S/R26E, Lee County



REVISED PLAN



REVISED

Retention Area Calculation

Total Area = 2 sections = 1,280 acres

Allowable Discharge (per SFWMD correspondence 9-17-82) = 3/4 inch per day = 40.33 cfs

Retain first inch of runoff

Volume of retention required:

$\frac{1 \text{ inch}}{12 \text{ inch per foot}} \times 1280 \text{ acres} = 107 \text{ acre ft.}$

Assume depth = 2 ft. (includes 0.5 ft. above base of 3 main discharge culverts)

Area required = 107 a. $ft/2$ = 53.5 acres

Actual area of retention basin is 88 acres providing more than the required amount of storage, at a discharge rate less than the maximum allowable.

Revised

Design of Discharge System

Discharge to be thru 18-inch diameter culvert pipes located along berm with a bleeder pipe.

Determination of Required Number of Culvert Pipes:

Maximum discharge = 40.33 cfs flowing full at water level of .25 feet above top of pipes.

From Hazen Williams: $\frac{\Delta h}{L} = \frac{1 \text{ ft (above centerline)}}{20 \text{ ft. (length of pipe)}}$

D = 18 inches

C = 54 corregated pipe

Q per pipe = 13.3 cfs each

Number of culvert pipes needed = 3

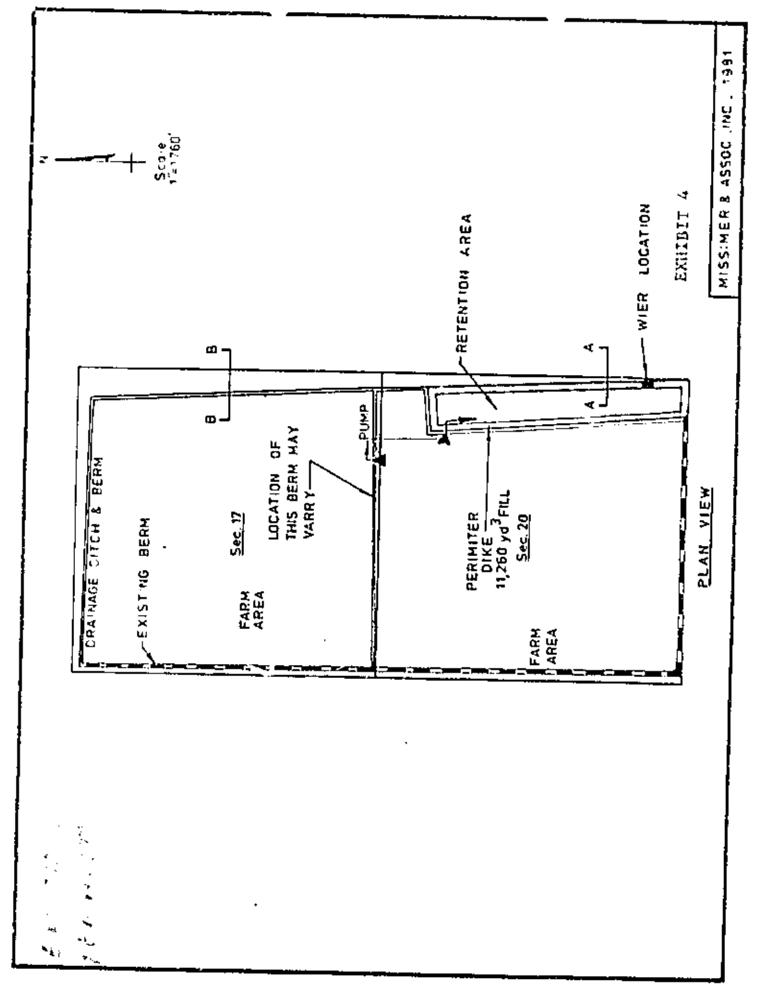
Use 3, 18-inch diameter culvert pipes

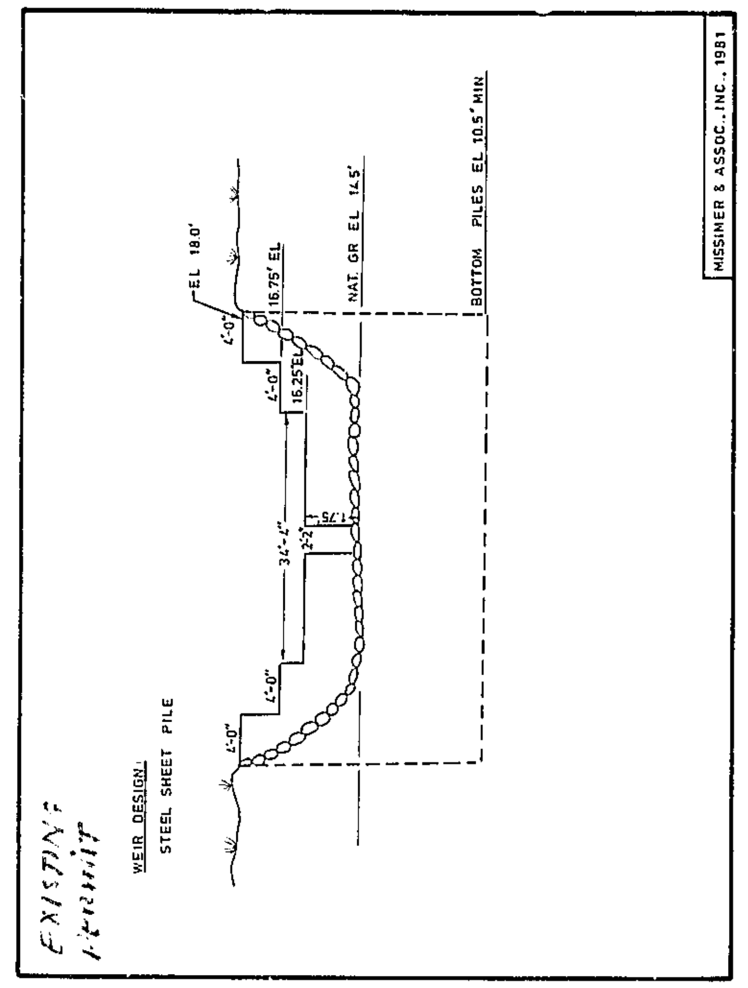
For bleeder use 1, 18-inch diameter pipe installed at base of dike.

Head for design water level is 2.5 feet (above C.L.)

Length = 30 feet

Q = 18 cfs at design water level





EXISTING PERMIT

RETENTION AREA CALCULATIONS

Total Area = 2 sections - 1,280 acres

Allowable discharge (per SFWMD correspondence 9-17-81) = 3/4 inch/day = 40.33 cfs

Retain first inch of runoff

$$\text{Volume} = \frac{1\ \text{inch}}{12\ \text{in/ft}} \times 1{,}280\ \text{acres} = 107\ \text{acre feet}$$

Retention Area = 62 acres

Depth required = $\frac{107}{62}$ = 1.75 ft.

Assume wier discharges with 0.5 ft. head

Assume 1 foot freeboard

Height of dike = 1.75 + .5 + 1.0 = 3.25 call 3.5 ft.

Total storage with 0.5 foot head = 2.25 x 62 acres = 139 a. feet

See attached wier design calculations

EXISTING PERMIT

BRUNS & BRUNS, . C.
531 A Third St. So.
NAPLES, FLORIDA 3 940
(813) 261-5965

RETENTION AREA

Design Weir:

H = 0.5' Q = 40.33 c.f.s. n = end contractions = 2

$$L = \frac{Q + 3.33(0.1)nH^{2.5}}{3.33\,H^{1.5}} = \frac{40.33 + (3.33 \times 0.2 \times 0.5^{2.5})}{3.33 \times 0.5^{1.5}}$$

$$= \frac{40.45}{1.18}$$

L = 34.36 Ft.

Design Bleeder Slot:

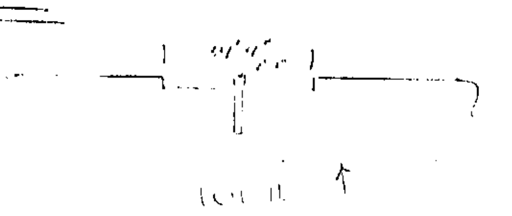
Q = 107/2 in 24 hrs

$$= \frac{53.5\ \text{AF} \times 43{,}560\ \text{ft}^2/\text{Ac}}{24 \times 60 \times 60} = 26.97\ \text{c.f.s.}$$

Q = 26.97 c.f.s. H = 1.75' g = 32.2 ft/s²

$$L = \frac{1.5\,Q}{\sqrt{2g}\,H^{1.5}} = \frac{1.5 \times 26.97}{\sqrt{64.4} \times 1.75^{1.5}}$$

L = 2.11'



South Florida
Water Management District

SURFACE WATER MANAGEMENT PERMIT NO. 36-00315-S

(NON-ASSIGNABLE)

DATE ISSUED: April 15, 1982

AUTHORIZING: CONSTRUCTION AND OPERATION OF A WATER MANAGEMENT SYSTEM SERVING 1280 ACRES OF AGRICULTURAL LANDS BY DITCHES, DIKES, PUMPS, RETENTION AREA AND CONTROL STRUCTURES DISCHARGING INTO THE KEHL CANAL VIA NATURAL SLOUGH.

LOCATED IN: LEE COUNTY, SECTION 17,20 TWP. 47S RGE. 26E

ISSUED TO: Samuel & Connie Hubschman, Trustee
(Bonita Farm)
3451 Tamiami Trail
Naples, Florida 33940

This Permit is issued pursuant to Application for Permit No. 11031-H dated October 28, 1981. Permittee agrees to hold and save the South Florida Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, operation, maintenance, or use of any work or structure involved in the Permit. Said application, including all plans and specifications attached thereto, as addressed by the staff report, is by reference made a part hereof.

This Permit may be revoked or modified at anytime pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

This Permit does not convey to Permittee any property rights or privileges other than those specified herein, nor relieve the Permittee from complying with any law, regulation, or requirement affecting the rights of other bodies or agencies. All structures and works installed by Permittee hereunder shall remain the property of the Permittee.

Within thirty (30) days after the completion of the construction of any work or structure relative to this permit, the Permittee shall file with the District a written statement of completion on the appropriate form provided by the Board.

SPECIAL CONDITIONS ARE AS FOLLOWS:
SEE SHEETS 2 AND 3 OF 4 - 15 PROJECT SPECIAL CONDITIONS.
SEE SHEET 4 OF 4 - 5 LIMITING CONDITIONS.

FILED WITH THE CLERK OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ON 4-19-82
BY [signature]
DEPUTY CLERK

ISSUANCE RECOMMENDED:
Chief of Permits
By: ____________
Director, Regulation Division:
By: ____________

SOUTH FLORIDA WATER MANAGEMENT DISTRICT, BY ITS GOVERNING BOARD
Original Signed
By JOHN WODRASKA
By Assistant Secretary
Secretary

SHEET 1 OF 4

FORM PA-28
Rev. 7.79

LIMITING CONDITIONS

1. THE PERMITTEE SHALL PROSECUTE THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACE AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATERS.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED INCLUDE: TOTAL SUSPENDED SOLIDS, NITRATES AS N, NITRITES AS N, TOTAL KJELDAHL NITROGEN AS N, AMMONIA AS N, TOTAL PHOSPHORUS AS P, ORTHO-PHOSPHORUS AS P, 5 DAY 20°C BOD, TURBIDITY, SPECIFIC CONDUCTIVITY, DISSOVLED OXYGEN AND pH. IF WATER QUALITY DATA ARE REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY.

3. THE PERMITTEE SHALL COMPLY WITH ALL APPLICABLE LOCAL SUBDIVISION REGULATIONS AND OTHER LOCAL REQUIREMENTS. IN ADDITION THE PERMITTEE SHALL OBTAIN ALL NECESSARY FEDERAL, STATE, LOCAL AND SPECIAL DISTRICT AUTHORIZATIONS PRIOR TO THE START OF ANY CONSTRUCTION OR ALTERATION OF WORKS AUTHORIZED BY THIS PERMIT.

4. THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY RIGHTS OR PRIVILIEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-4.

5. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

11. UPON COMPLETION OF CONSTRUCTION, ALL ABOVE GROUND DIKES, LEVEES AND BERMS BEHIND WHICH WATER IS TO BE CONTAINED SHALL BE INSPECTED FOR STRUCTURAL ADEQUACY, WITH REPORTS SUBMITTED TO THE DISTRICT. SUCH REPORTS SHALL INCLUDE PROPOSAL OF TECHNIQUE AND SCHEDULE FOR REPAIR OF ANY DEFICIENCIES NOTES, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.

PERMITTEE SHALL SUBMIT SEMI-ANNUAL REPORTS TO THE DISTRICT, IN MAY AND DECEMBER OF EACH YEAR, OF APRIL AND NOVEMBER INSPECTIONS OF ALL ABOVE GROUND DIKES, LEVEES AND BERMS BEHIND WHICH WATER IS CONTAINED. SUCH REPORTS SHALL INCLUDE PROPOSAL OF TECHNIQUE AND SCHEDULE FOR REPAIR OF ANY DEFICIENCIES NOTED, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.

12. ALL DIKES/BERMS SHALL HAVE A MINIMUM TOP WIDTH OF 2.0 FEET.

13. A STAFF GAUGE SHALL BE PLACED WITHIN THE 62 ACRE RETENTION AREA NEXT TO THE PUMP. AT SUCH TIME AS THE STAGE WITHIN THE RETENTION AREA REACHES ELEVATION 16.6' NGVD (2.1 FEET OF STANDING WATER) THE PUMP SHALL CEASE OPERATING. AT NO TIME SHALL THE STAGE WITHIN THE 62 ACRE RETENTION AREA EXCEED ELEVATION 16.6' NGVD.

14. WITHIN 90 DAYS AFTER PERMIT ISSUANCE, PERMITTEE SHALL SUBMIT TO THIS DISTRICT A PROPOSED PLAN (WITH DESIGN DETAILS), TO BLOCK OFF THE CANALS BETWEEN SECTIONS 17 AND 20 BY MEANS OF PERMANENT STRUCTURES. THE PLANS MUST BE APPROVED BY DISTRICT STAFF PRIOR TO IMPLEMENTATION.

15. THE PERIMETER DIKE/BERM SHALL BE SET BACK A MINIMUM OF 25 FEET INSIDE PERMITTEE'S PROPERTY TO ALLOW FOR THE DIVERSION OF OFF-SITE FLOW AROUND THE PROPERTY.

SPECIAL CONDITIONS

1. DISCHARGE FACILITIES:

DESCRIPTION: 2-18,000 GPM INTERNAL DISCHARGE PUMPS AND 1-34.3' WIDE WEIR AT CREST ELEVATION 16.25' NGVD.

CONTROL ELEVATION: 14.5' NGVD BY MEANS OF 1-2.2' WIDE BLEEDER NOTCH.

RECEIVING WATER: NATURAL SLOUGH TO THE KEHL CANAL.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED INCLUDE TOTAL SUSPENDED SOLIDS, NITRATES AS N, NITRITES AS N, TOTAL KJELDAHL NITROGEN AS N, AMMONIA AS N, TOTAL PHOSPHORUS AS P, ORTHO-PHOSPHORUS AS P, 5 DAY 20°C BOD, TURBIDITY, SPECIFIC CONDUCTIVITY, DISSOLVED OXYGEN AND pH. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY. WATER QUALITY DATA IS NOT REQUIRED AT TIME OF PERMIT ISSUANCE.

3. FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

4. LAND USE SERVED BY THE PERMITTED FACILITIES IS AGRICULTURAL. PROPOSED CONSTRUCTION OF RESIDENCES MAY REQUIRE MODIFICATION OF THIS PERMIT AND MUST BE REPORTED TO THE DISTRICT.

5. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

6. DISCHARGES OF PUMPED WATER OR RESERVOIR DISCHARGES OF WATER ONTO ADJACENT LANDS MAY BE CONTINUED TO THE EXTENT THAT PROBLEMS ARE NOT CAUSED BY SUCH DISCHARGES.

7. MEASURES SHALL BE TAKEN DURING CONSTRUCTION TO INSURE THAT SEDIMENTATION AND/OR TURBIDITY PROBLEMS ARE NOT CREATED IN THE RECEIVING WATER.

8. THE PERMITTEE SHALL BE RESPONSIBILE FOR THE CORRECTION OF ANY WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

9. OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM WILL BE THE RESPONSIBILITY OF SAMUEL HUBSCHMAN.

10. WATER MANAGEMENT AND WATER USE ACTIVITIES INCIDENTAL TO DEVELOPMENT ADDRESSED HEREIN, SUCH AS CONSTRUCTION DEWATERING, MAY REQUIRE ADDITIONAL PERMITS FROM THE DISTRICT, WHICH MUST BE OBTAINED PRIOR TO COMMENCEMENT OF SUCH ACTIVITIES.

South Florida
Water Management District

WATER USE PERMIT NO. 36-00315-W

(NON-ASSIGNABLE)

[illegible] EXPIRATION DATE January 15, 1989

[illegible] GROUNDWATER FROM THE SHALLOW AQUIFER FOR [illegible] IRRIGATION SERVING 537 ACRES WITH A [illegible] WITHDRAWAL OF 77.6 MILLION GALLONS.

[illegible] LEE COUNTY, SECTION 17,20 TWP. 47S RGE. 26E

[illegible] Samuel & Connie Hubschman, Trustee
(Bonita Farms)
3451 Tamiami Trail
Naples, Florida 33940

This Permit is issued pursuant to Application for Permit No. 11031-H dated October 28, 19 81 for the Use of Water as specified above and subject to the Special Conditions set forth below. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

Upon written notice to the permittee, this permit may be temporarily modified, or restricted under a Declaration of Water Shortage or a Declaration of Emergency due to Water Shortage in accordance with provisions of Ch. 373, Fla. Statutes, 1973 and applicable rules and regulations of the South Florida Water Management District.

This Permit may be permanently or temporarily revoked, in whole or in part, for the violation of the conditions of the permit or for the violation of any provision of the Water Resources Act and regulations thereunder.

This Permit does not convey to permittee any property rights nor any privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation, or requirement affecting the rights of other bodies or agencies.

SPECIAL CONDITIONS ARE AS FOLLOWS:
SEE SHEET 2 OF 2 - 12 GROUNDWATER SPECIAL CONDITIONS.

FILED WITH THE CLERK OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ON 4-19-82
BY [signature]
DEPUTY CLERK

ISSUANCE RECOMMENDED:
Chief of Permits
By [illegible]
Director, Regulation Division
By

SOUTH FLORIDA WATER MANAGEMENT DISTRICT, BY ITS GOVERNING BOARD
Original Signed
By JOHN WODRASKA
Assistant Secretary
By
Secretary

SHEET 1 OF 2

PERMIT NO. 36-00315-W
SHEET 2 OF 2

[illegible]

1. [illegible]
2. [illegible]
3. [illegible] WITHDRAWALS SHALL BE REPORTED TO THE DISTRICT IN MAY AND NOVEMBER [illegible]
4. [illegible] COMPLETION REPORTS AVAILABLE [illegible] DISTRICT SHALL BE SUBMITTED [illegible] NEW WELLS UPON COMPLETION OF CONSTRUCTION.
5. [illegible] DISTRICT SHALL BE NOTIFIED BY LETTER AT LEAST 14 DAYS PRIOR TO THE INSTALLATION OF NEW WELLS.
6. PERMITTEE SHALL SUPPLY THE DISTRICT AND THE FLORIDA BUREAU OF GEOLOGY WITH DRILL CUTTINGS FROM ANY NEW WELLS. THE CUTTINGS SHALL BE COLLECTED EVERY FIVE FEET OR EVERY FORMATION CHANGE, WHICHEVER COMES FIRST. WELL LOGS AND LOCATION MAPS OF THE WELL SHOWING DISTRICT PERMIT NUMBER SHALL BE SENT TO BOTH THE DISTRICT AND THE BUREAU OF GEOLOGY WITHIN SIX MONTHS OF THE DATE OF CONSTRUCTION. THE ADDRESS OF THE FLORIDA BUREAU OF GEOLOGY IS AS FOLLOWS: FLORIDA BUREAU OF GEOLOGY, 903 WEST TENNESSEE STREET, TALLAHASSEE, FLORIDA 32304. THE ADDRESS OF THE DISTRICT IS: SUPERVISOR, WATER USE SECTION, SOUTH FLORIDA WATER MANAGEMENT DISTRICT, POST OFFICE BOX "V", WEST PALM BEACH, FLORIDA 33402.
7. SOURCE CLASSIFICATION FOR WITHDRAWAL IS GROUNDWATER.
8. USE CLASSIFICATION IS AGRICULTURAL.
9. THIS PERMIT WILL EXPIRE ON JANUARY 15, 1989.
10. IF AT ANY TIME THERE IS AN INDICATION THAT THE WELL CASING, VALVES OR CONTROLS LEAK OR HAVE BECOME INOPERATIVE, REPAIRS OR REPLACEMENT SHALL BE MADE TO PUT THE SYSTEM BACK IN OPERATING CONDITION ACCEPTABLE TO THE DISTRICT. FAILURE TO MAKE SUCH REPAIRS SHALL BE CAUSE FOR FILLING AND ABANDONING THE WELL IN ACCORDANCE WITH PROCEDURES OUTLINED BY THE DEPARTMENT OF ENVIRONMENTAL REGULATION AND WITH THE CONCURRENCE OF THE DISTRICT.
11. WITHDRAWAL FACILITIES ARE 1-8" X 40' WELL PUMPED AT 600 GPM AND 1-9" X 55' WELL PUMPED AT 600 GPM, THESE ARE EXISTING. PROPOSED IS 1-9" X 55' WELL PUMPED AT 600 GPM.
12. THE PERMITTEE SHALL PERFORM A SPECIFIC CAPACITY AND TIME DRAWDOWN TEST ON THE PROPOSED WELL, AFTER COMPLETION. DATA SHALL BE SUBMITTED TO THE DISTRICT WITHIN ONE MONTH OF DATA COLLECTION.

South Florida
Water Management District

IN REPLY REFER TO

NOTICE OF PROPOSED AGENCY ACTION

CERTIFIED MAIL NO. P 254 605 488
RETURN RECEIPT REQUESTED

March 12, 1982

Samuel & Connie Hubschman, Trustee
(Bonita Farms)
3451 Tamiami Trail
Naples, Florida 33940

Re: Application No. 11031-H, Lee County, S17,20/T47S/R26E

Dear Mr. & Mrs. Hubschman:

Enclosed is a copy of this District's staff report covering the permit application referenced therein.

It is requested that you read this staff report thoroughly and understand its contents. Your attention is directed to the special conditions listed on page(s) 5, 6 and 7 Surface Water Management and 8 Water Use Staff Reports. The recommendations as stated in the staff report will be presented to our Governing Board for consideration on 4/15/82.

If you object to the staff recommendations and desire a formal Public Hearing, you must file a written petition for a hearing with the District by no later than 3/26/82. Petitions are deemed filed upon receipt by the District. The petition must comply with Rule 40E-1.521, Florida Administrative Code, a copy of which is attached for your convenience, in order to be considered by the District.

Please contact this office if you have any questions concerning this matter. If we do not hear from you prior to the above date, we will assume you concur with our recommendations.

Sincerely,

Vern Kaiser, Supervisor
Permit Administration Division
Resource Control Department

VK/jb
Attachment
Enclosure: 1
cc: Mr. Stanley W. Hole, Missimer & Assoc.
Dir., Lee Co. Div. of E.P.S.
Dir., Lee Co. Mosquito Control
Dir., Lee Co. Dept. of Current Planning
Lee Co. Div. of Code Enforcement
Mr. Mike Caroll, Lee Co.
Bonita Springs Water System

40E-1.521 Initiation of Formal Proceedings.

(1) Initiation of formal proceedings shall be made by petition to the District. The term petition as used herein includes any application or other document which expresses a request for formal proceedings. Each petition should be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double-spaced and indented.

(2) All petitions filed under these rules shall contain:

(a) The name and address of the District and the District's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) An explanation of how each petitioner's substantial interests will be affected by the District's determination;

(d) A statement of when and how petitioner received notice of the District's decision or intent to render a decision;

(e) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(f) A concise statement of the ultimate facts which petitioner believes entitle petitioner to the relief sought as well as the rules and statutes which support petitioner's claim for relief;

(g) A demand for the relief to which the petitioner deems himself entitled; and

(h) Other information which the petitioner contends is material.

(3) Upon receipt of a petition for formal proceedings, the District shall review the petition for the degree of compliance with subsection (2) and shall accept those petitions in substantial compliance therewith which have been timely filed and which state a dispute which is within the jurisdiction of the District to resolve. If accepted, the District shall designate the presiding officer. The District shall promptly give written notice to all parties of the action taken on the petition, and shall state with particularity its reasons therefor.

(4) If the District designates a Hearing Officer assigned by the Division of Administrative Hearings as the presiding officer, the District Clerk shall forward the petition and all materials filed with the District to the Division of Administrative Hearings, and shall notify all parties of its action.

Specific Authority 373.044, 373.113 F.S.
Law Implemented 120.53(1), 120.57 F.S.
History—New.
Formerly 16K-1.09(1), 16K-1.112(1) through (3), 16K-1.12

South Florida
Water Management District

March 12, 1982

Mr. Ben Pratt, Director of Transportation
Lee County
P.O. Box 398
Ft. Myers, Florida 33902

RE: Application No. 11031-H, Lee County, Samuel & Connie Hubschman, Trustee (Bonita Farms), S17,20/T47S/R26E

Dear Mr. Pratt:

Enclosed is a copy of this District's staff report for the above referenced project. This report (which is for proposed urban or agricultural projects) will be part of those presented to the Governing Board at its 4/15/82 meeting for final permit approval. Staff reports for routine existing agricultural activities will not be furnished except on specific request.

If you have objections to the above referenced project and desire a Public Hearing, you must file a written petition for a hearing with the District by no later than 3/26/82. Petitions are deemed filed upon receipt by the District. The petition must comply with Rule 40E-1.521, Florida Administrative Code, a copy of which is attached for your convenience, in order to be considered by the District.

If you have any questions or comments, please feel free to contact this office. A copy of the permit will be forwarded after final approval.

Sincerely,

Vern Kaiser, Supervisor
Permit Administration Division
Resource Control Department

VK/jb
Enclosures: 1

cc: Mr. Norman H. Thompson, Jr.
Director, Division of E. P. S.
Mr. Richard McDole
Lee County Engineer
Mr. Stanley W. Hole

LAST DATE FOR BOARD ACTION:
April 15, 1982

DRAFT Subject to Governing Board Approval

SURFACE WATER MANAGEMENT STAFF REVIEW SUMMARY

APPLICATION NO: 11031-H
PROJECT NAME: Bonita Farms
LOCATION: Lee County, S17, 20/T47S/R26S
DEVELOPER: Samuel Hubschman
ENGINEER: Missimer & Associates

1.	Suitability of land for proposed use	GOOD	(FAIR)	POOR	NOT APPLICABLE
2.	Water quantity impacts	GOOD	(FAIR)	POOR	NOT APPLICABLE
3.	Water quality impacts	GOOD	(FAIR)	POOR	NOT APPLICABLE
4.	Environmental impacts	GOOD	(FAIR)	POOR	NOT SIGNIFICANT
5.	Water conservation	GOOD	(FAIR)	POOR	NOT APPLICABLE
6.	Flood protection	GOOD	(FAIR)	POOR	NOT APPLICABLE
7.	Relief from rainstorm inconvenience	GOOD	(FAIR)	POOR	NOT APPLICABLE
8.	System maintainability	GOOD	(FAIR)	POOR	NOT APPLICABLE
9.	Overall use of land with respect to water resource	GOOD	(FAIR)	POOR	NOT APPLICABLE
10.	Water management system with respect to feasible alternatives	GOOD	(FAIR)	POOR	NOT APPLICABLE

FINAL - adopted by Governing Board

3-5-82

Application No. 11031-H
for
Surface Water Management Permit
Bonita Farms
Lee County

STAFF REPORT

ABSTRACT

The application is for a construction and operation permit covering 1280 acres of land to be developed for small vegetables and pasture. Discharge off the farm is into a natural slough system which drains into the Kehl Canal. Staff's recommendation is for the issuance of the permit with conditions.

THE APPLICATION

A. Purpose (See Exhibits 1 and 2)

The application is for the construction and operation for 1280 acres of small vegetables and pasture land. The Surface Water Management System consists of internal ditches, dikes, pumps, 62 acre retention area and a weir structure. The project is located in Lee County, Sections 17 and 20, Township 47 south, Range 26 East.

B. Existing Facilities (See Exhibit 6)

The existing drainage facilities are the natural slough system and the Kehl Canal.

C. Proposed Facilities (See Exhibits 2-6)

The proposed Surface Water Management System serves ± 537 acres of small vegetables, ± 611 acres of pasture and includes a 62 acre permanent retention area. The 611 acres of pasture (Section 17, Township 47 South, Range 26 East) will not be used during the wet season and therefore will be utilized as an additional retention area when needed. During the design storm, drainage from the ± 537 acres of small vegetables would be pumped into the 62 acre retention area via 1-18,000 GPM pump. When the 62 acre retention area reaches a stage of 16.6' NGVD (2.1 feet of standing water), this pump would be cut off and an additional 18,000 GPM (one-way) discharge pump would begin pumping the drainage from the small vegetables into Section 17. The drainage canals from Section 17 to Section 20 would be blocked off prior to any discharge into Section 17. Discharge from the retention area to the natural slough will be via the weir structure shown in exhibit 4. When the stage in the 62 acre retention area drops below 16.6' NGVD, drainage stored in Section 17 could be released and pumped into the 62 acre retention area. All drainage off the 1280 acre project must discharge through the 62 acre retention area.

FINAL - adopted by Governing Board

BACKGROUND

On or about May 28, 1981, 180 acres of cypress was cleared (Section 20, Township 47 South, Range 26 East) with dike and ditch construction occurring, resulting in District enforcement action. As a result, the applicant ceased all construction work and submitted an application for a 640 acre farm (App. No. 03111-C). Upon working with the applicant's engineer, a more detailed application was submitted (Application No. 11031-H) for a total of 1280 acres.

[illegible]

[illegible] Drainage

[illegible]. Allowable Discharge

For unregulated water courses (such as the natural slough system), the peak discharge after development can not exceed the peak discharge before development. This requirement must be met for the 25 year - 3 day storm event since the project is greater than 640 acres. The pre-development peak discharge rate is estimated by District Staff to be 40 cfs for the 1280 acre project.

[illegible]. Applicant's Discharge Capacity

In accordance with the pumping schedule set up in Special Condition No. 13, the applicant's discharge capacity will be 40 cfs which is equal to the allowable discharge rate.

[illegible]. Water Quality Considerations

Adverse impacts to the water quality are not expected as a result of this project because all drainage is routed through the retention area prior to being discharged off-site.

[illegible]. Environmental Considerations

Adverse impacts to the environment are not expected as a result of this project. There is a band of cypress along the east property line of Section 20, Township 47 South, Range 26 East. This area is proposed for the 62 acre retention area. The applicant also proposes to leave [illegible] 4.4 acres of cypress domes within the project area.

D. System Operation

The responsible entity for the operation and maintenance of the Surface Water Management System will be Samuel Hubschman as owner.

CONCLUSIONS

A. If the applicant operates in accordance with Special Condition No. 13, the allowable discharge rate will not be exceeded.

B. Adverse impacts to the water quality are not expected as a result of this project.

C. Adverse impacts to the environment are not expected as a result of the construction and operation of this project.

RECOMMENDATIONS

Staff's recommendation is for the issuance of the construction and operation permit for the 1280 acre project. Staff also recommends that some type of structure (i.e. culverts with risers, etc.) be used to block off the canals between Sections 17 and 20. Staff feels that the structures would be more effective, easier to control and maintain than the earth plugs proposed. Staff also feels that the structures would help to maintain the integrity of the total drainage system.

Staff's recommendation is subject to the following 5 Standard Limiting Conditions and 14 Special Conditions:

LIMITING CONDITIONS

1. THE PERMITTEE SHALL PROSECUTE THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACE AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATERS.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED INCLUDE: TOTAL SUSPENDED SOLIDS, NITRATES AS N, NITRITES AS N, TOTAL KJELDAHL NITROGEN AS N, AMMONIA AS N, TOTAL PHOSPHORUS AS P, ORTHO-PHOSPHORUS AS P, 5 DAY 20°C BOD, TURBIDITY, SPECIFIC CONDUCTIVITY, DISSOLVED OXYGEN AND pH. IF WATER QUALITY DATA ARE REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY.

3. THE PERMITTEE SHALL COMPLY WITH ALL APPLICABLE LOCAL SUBDIVISION REGULATIONS AND OTHER LOCAL REQUIREMENTS. IN ADDITION THE PERMITTEE SHALL OBTAIN ALL NECESSARY FEDERAL, STATE, LOCAL AND SPECIAL DISTRICT AUTHORIZATIONS PRIOR TO THE START OF ANY CONSTRUCTION OR ALTERATION OF WORKS AUTHORIZED BY THIS PERMIT.

4. THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-4.

5. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

SPECIAL CONDITIONS

1. DISCHARGE FACILITIES:

   DESCRIPTION: 2-10,000 GPM INTERNAL DISCHARGE PUMPS AND 1-34.3' WIDE WEIR AT CREST ELEVATION 16.25' NGVD.

   CONTROL ELEVATION: 14.5' NGVD BY MEANS OF 1-2.2' WIDE BLEEDER NOTCH.

   RECEIVING WATER: NATURAL SLOUGH TO THE KEHL CANAL.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED INCLUDE TOTAL SUSPENDED SOLIDS, NITRATES AS N, NITRITES AS N, TOTAL KJELDAHL NITROGEN AS N, AMMONIA AS N, TOTAL PHOSPHORUS AS P, ORTHO-PHOSPHORUS AS P, 5 DAY 20°C BOD, TURBIDITY, SPECIFIC CONDUCTIVITY, DISSOLVED OXYGEN AND pH. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY. WATER QUALITY DATA IS NOT REQUIRED AT TIME OF PERMIT ISSUANCE.

3. FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

4. LAND USE SERVED BY THE PERMITTED FACILITIES IS AGRICULTURAL. PROPOSED CONSTRUCTION OF RESIDENCES MAY REQUIRE MODIFICATION OF THIS PERMIT AND MUST BE REPORTED TO THE DISTRICT.

5. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

6. DISCHARGES OF PUMPED WATER OR RESERVOIR DISCHARGES OF WATER ONTO ADJACENT LANDS MAY BE CONTINUED TO THE EXTENT THAT PROBLEMS ARE NOT CAUSED BY SUCH DISCHARGES.

7. MEASURES SHALL BE TAKEN DURING CONSTRUCTION TO INSURE THAT SEDIMENTATION AND/OR TURBIDITY PROBLEMS ARE NOT CREATED IN THE RECEIVING WATER.

8. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

9. OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM WILL BE THE RESPONSIBILITY OF SAMUEL HUBSCHMAN.

10. WATER MANAGEMENT AND WATER USE ACTIVITIES INCIDENTAL TO DEVELOPMENT ADDRESSED HEREIN, SUCH AS CONSTRUCTION DEWATERING, MAY REQUIRE ADDITIONAL PERMITS FROM THE DISTRICT, WHICH MUST BE OBTAINED PRIOR TO COMMENCEMENT OF SUCH ACTIVITIES.

11. UPON COMPLETION OF CONSTRUCTION, ALL ABOVE GROUND DIKES, LEVEES AND BERMS BEHIND WHICH WATER IS TO BE CONTAINED SHALL BE INSPECTED FOR STRUCTURAL ADEQUACY, WITH REPORTS SUBMITTED TO THE DISTRICT. SUCH REPORTS SHALL INCLUDE PROPOSAL OF TECHNIQUE AND SCHEDULE FOR REPAIR OF ANY DEFICIENCIES NOTES, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.

    PERMITTEE SHALL SUBMIT SEMI-ANNUAL REPORTS TO THE DISTRICT, IN MAY AND DECEMBER OF EACH YEAR, OF APRIL AND NOVEMBER INSPECTIONS OF ALL ABOVE GROUND DIKES, LEVEES AND BERMS BEHIND WHICH WATER IS CONTAINED. SUCH REPORTS SHALL INCLUDE PROPOSAL OF TECHNIQUE AND SCHEDULE FOR REPAIR OF ANY DEFICIENCIES NOTED, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.

12. ALL DIKES/BERMS SHALL HAVE A MINIMUM TOP WIDTH OF 2.0 FEET.

13. A STAFF GAUGE SHALL BE PLACED WITHIN THE 62 ACRE RETENTION AREA NEXT TO THE PUMP. AT SUCH TIME AS THE STAGE WITHIN THE RETENTION AREA REACHES ELEVATION 16.6' NGVD (2.1 FEET OF STANDING WATER) THE PUMP SHALL CEASE OPERATING. AT NO TIME SHALL THE STAGE WITHIN THE 62 ACRE RETENTION AREA EXCEED ELEVATION 16.6' NGVD.

14. WITHIN 90 DAYS AFTER PERMIT ISSUANCE, PERMITTEE SHALL SUBMIT TO THIS DISTRICT A PROPOSED PLAN (WITH DESIGN DETAILS), TO BLOCK OFF THE CANALS BETWEEN SECTIONS 17 AND 20 BY MEANS OF PERMANENT STRUCTURES. THE PLANS MUST BE APPROVED BY DISTRICT STAFF PRIOR TO IMPLEMENTATION.

15. THE PERIMETER DIKE/BERM SHALL BE SET BACK A MINIMUM OF 25 FEET INSIDE PERMITTEE'S PROPERTY TO ALLOW FOR THE DIVERSION OF OFF-SITE FLOW AROUND THE PROPERTY.

RSS/tls

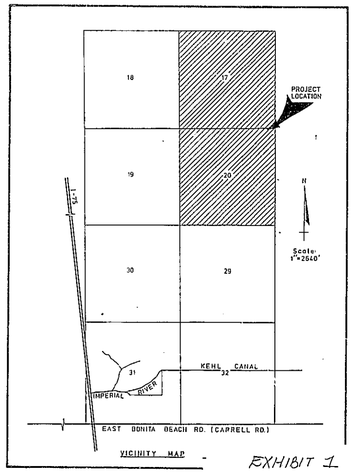
DRAFT
Subject to Governing Board Approval

Prepared: Rebecca S. Serra

Checked: [illegible]

Approved: Richard A. Rogers
Richard A. Rogers, P.E., Director
Resource Control Department

Date: 3/5/82



VICINITY MAP

EXHIBIT 1

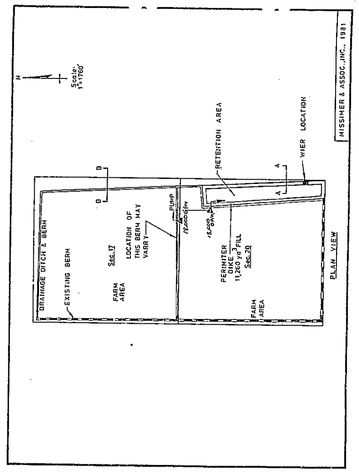


EXHIBIT 2.

EXHIBIT 3.

EXHIBIT 4.

EXHIBIT 5

EXHIBIT 6.

REPORT DISTRIBUTION LIST

PROJECT Bonita Farms APPLICATION NUMBER 11031-H

	INTERNAL DISTRIBUTION		EXTERNAL DISTRIBUTION CONTINUED
x	Pete Rhodes	x	Applicant Samuel Hubschman
x	Legal	x	Applicant's Consultant Hussmer & Assoc.
x	Inspection		Applicant's Agent
x	Reviewer Rebecca Serra	x	Engineer, County Of Lee
			Engineer, City Of
	R. Fanson		Local Drainage Districts
	C. Hall		
x	F. Gleason		Director, Martin Co. Planning & Zoning
	R. Goodrick	x	Director, Lee County Div. of E. P. S.
	W. Brannen		Collier County Ag. Agent
	J. Jackson		Fred Vidzes, B. C. Basin
	J. Wodraska		Palm Beach County Area Planning Board
	R. Brockway		Kissimmee River Coordinating Council
	EXTERNAL DISTRIBUTION		Dade County DERM
	DEPARTMENT OF ENVIRONMENTAL REGULATION	x	Director, Lee County Mosquito Control
	W. P. B. Other		Director, P.B. County Bldg. Dept.
x	Ft. Myers	x	Dir., Lee County Dept. of Current Planning
	Orlando		Dir., Broward Co. Water Management Division
	Tallahassee		Others:
	Port St. Lucie	x	Mr. Richard Gregg
	GOVERNING BOARD MEMBERS	x	Martin Gauthier
	Mr. Robert L. Clark, Jr.	x	Lee County Division of Code Enforcement
	Mr. J. Neil Gallagher / Mr. Robert Padrick	v	Bonita Springs Water System
	Mr. Charles L. Crumpton / Ms. Jeanne Bellamy		
	Mr. John L. Hundley / x Mr. Stanley W. Hole		
	Mr. Nathaniel P. Reed / Mr. Aubrey Burnham		

EXHIBIT 7

DRAFT
Subject to Governing Board Approval

Samuel and Connie Hubschman, Trustee
(Bonita Farms)

Application No. 11031-H

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

STAFF REPORT
LAST DATE FOR BOARD ACTION: April 15, 1982

Agricultural Water Use
Agricultural Surface Water Management
Right-of-Way Occupancy of District Works

Index	Page
Introduction to Staff Report	1
Staff Report Summary	2
Water Use Evaluation	
Explanation of Permitted Monthly Withdrawal	4
Derivation of Monthly Withdrawal	4
Derivation of Calculated Monthly Withdrawal	6
Water Use Example Calculations	7
Water Use Special Conditions	
Groundwater	8
Surface Water	9
Reporting Monthly Pumpage to the District	
Situation 1 - Hours of Operation Known	10
Situation 2 - Hours of Operation Determined from Electric Bill	11
Surface Water Management (Drainage)	
Surface Water Management Evaluation	13
Surface Water Management Special Conditions	14
Right-of-Way Occupancy	
Right-of-Way Occupancy Evaluation	15
Right-of-Way Occupancy Special Conditions	15

FINAL - adopted by Governing Board

3/5/82

Introduction to Staff Report

The following is a report which has been compiled by the District's staff based on the information submitted in your application. Enclosed you will find explanations of permitted values for such items as monthly withdrawal for water use, allowable discharge for surface water management and authorization for right-of-way occupancy. Particular attention should be paid to the "Special Conditions" because they may require action by the applicant after the permit has been issued.

As an aid to the applicant, an "example calculation" section has been included in order to better explain how the District staff calculates monthly withdrawal and how to compute monthly pumpage. After reviewing the staff report the applicant may wish to review the example calculations. This may help clarify questions which the applicant may have.

If the applicant has any questions about the permitted monthly withdrawal, permitted allowable discharge, irrigation efficiencies, method of calculation or any other items concerning his allocation he should contact the Supervisor of Water Use, South Florida Water Management District, Post Office Box "V", West Palm Beach, Florida 33402 (305/686-8800).

DRAFT
Subject to Governing Board Approval

STAFF REPORT SUMMARY

NAME: Samuel & Connie Hubschman, Trustee (Bonita Farms) APPLICATION NO.: 11031-H
ADDRESS: 3451 Tamiami Trail, Naples, Florida 33940
LOCATION: Lee County, SECTION(S) 17,20 TOWNSHIP 47 S, RANGE 26 E
BASIN: District West
TOTAL CONTIGUOUS ACREAGE: 1280 IRRIGATED ACREAGE: 537 (small vegetables)
DRAINED ACREAGE:
TYPE: Water Use
USE CLASSIFICATION: Agricultural
☐ Existing (Permit No.) ☒ Unpermitted
☒ Proposed ☐ Proposed Modification
FACILITIES: Existing: 1-9" well pumped at 600 GPM and 1-8" well pumped at 600 GPM. Proposed: 1-9" well to be pumped at 600 GPM.

(see Exhibit(s) 2, 3 for location)

* * * RECOMMENDATIONS * * *

(circled numbers identify worksheet and explanation locations)

WATER USE:

(A-1) Permitted Monthly Withdrawal: 77.8 Million Gallons
Source(s): Shallow Aquifer
Source(s) Classification: Groundwater
Expiration Date: January 15, 1989.
NOTE: 12 Special Conditions (Page(s) 8.

Prepared: [illegible] Date: MAR. 2, 1982
JH/tls
Checked: [illegible] Date: Mar 3, 1982

DRAFT
Subject to Governing Board Approval

STAFF REPORT SUMMARY (CONT'D)

SURFACE WATER MANAGEMENT: See separate Staff Report

(A-1) Permitted Allowable Discharge: cfs

Receiving water:

NOTE: Special Conditions (Page(s)

Prepared: Date:

Checked: Date:

RIGHT-OF-WAY OCCUPANCY:

(A-1) Permitted Authorization:

NOT-APPLICABLE

NOTE: Special Conditions (Page(s)

Prepared: Date:

Checked: Date:

Approved: Richard A. Rogers, Director
Resource Control Department

Date: 3/5/82

WATER USE EVALUATION

(A-1) Explanation of Permitted Monthly Withdrawal

Two basic numbers are relevant to the permit. The first is the installed capacity and the second is the calculated monthly withdrawal. Florida Law offers protection to existing legal uses. Where such protection is obtained by the securing of a permit, Hypothetically, the amount of water constituting a legal use could be equal to installed capacity if all permittees withdrew water for 24 hours a day under exactly the same conditions. Because this is not the case, the District has computed a withdrawal amount which equates amount of withdrawal to crop type grown over a specific area in a geographic location characterized by specific climate and soil characteristics in order to establish a common basis of allocation. The withdrawal amount may vary from one situation to another depending on the irrigation method. This withdrawal quantity represents the quantity of water required for optimum crop development at a specific location and, as such, is an excellent basis for determining the entitlement of a user to water. This calculated number therefore becomes his existing legal use amount unless his installed facilities are not capable of withdrawing that amount, in which case his existing legal use would equal the installed capacity. The lesser of the two numbers (either the calculated monthly withdrawal or installed capacity) is therefore the permitted monthly withdrawal number. Both numbers are listed above the permitted monthly withdrawal on Page 6 for comparison.

When the system is not under stress, either long term or short term, there is no reason to prevent a permittee from using more than the permitted monthly withdrawal amount and reporting this quantity as long as the withdrawal is a reasonable-beneficial use and not harmful to the water resources of the area. If the system should come under short term stress, the District Board may declare a water shortage, at which time all existing legal users might be cut back by a percentage of the calculated monthly withdrawal amount. This would be done through the public hearing process and allow adequate input by all parties. Users with installed capacity less than the calculated monthly withdrawal number will not be cut back, or not cut back as much as users with installed capacities larger than the permitted monthly withdrawal.

If repeated shortages occur and long term stress is suspected, basin rules may be required. These may be structured along lines which consider the permitted monthly withdrawal amount as the legal use amount. Again, such action would be through the public hearing process allowing public input.

Derivation of Calculated Monthly Withdrawal

Calculated monthly withdrawal is the amount of water computed by the District staff as necessary to supplement rainfall for optimum

crop growth during the driest month of a drought having a statistical probability of occurring once in every five years.

The calculated monthly withdrawal is computed utilizing a modified Blaney-Criddle method. The Blaney-Criddle method estimates the amount of water required by certain crop(s) based on humidity conditions, hours of sunlight, type of crop and mean monthly temperatures at a particular location. The District has also included correction factors for one in five year drought rainfall and soil type(s) in the calculations to increase the applicability of the method to the applicant's area.

The calculated monthly withdrawal is twice the Blaney-Criddle amount. Doubling of the Blaney-Criddle amount allows for irrigation inefficiencies. The applicant may receive an even higher allocation if flood irrigation is used, since flood irrigation allows rapid return of water to the system. For flood irrigation systems, the applicant is given 14 inches/acre/month "quick return" credit for citrus and 20 inches/acre/month for vegetables. These values are derived from the storage capacity of an average size furrow and assuming an average number of irrigations per month.

In summary, the applicant's calculated monthly withdrawal is computed by multiplying the crop requirement obtained from the modified Blaney-Criddle method by 2 and then if applicable, adding the water allocated for the "quick return" from flood irrigation.

It should be noted that the calculated monthly withdrawal is applicable only during a declared water shortage and at all other times the permittee may withdraw in excess of this amount using the facilities described in this permit without penalty or as long as the withdrawal is a reasonable-beneficial use and not harmful to the water resources of the area unless indicated otherwise by the Special Conditions to the Permit.

Calculation of Monthly Withdrawal

Small vegetables
Crop requirement 1 4.26 in/mo x 537 acreage of crop x 2 (SWF Irrigation efficiency) = 4575 acre-inches/mo.
Crop requirement 2 ____ in/mo x ____ acreage of crop x 2 (SWF Irrigation efficiency) = ____ acre-inches/mo.
Crop requirement 3 ____ in/mo x ____ acreage of crop x 2 (SWF Irrigation efficiency) = ____ acre-inches/mo.

Sub-total: 4575 acre-inches/mo.

NOTE: Credit for flood irrigation should be applicable. 20 inches/crop x ____ in. x 532 acreage of crop = 10640 acre-inches/mo.

Total 15,215 acre-inches/mo. x .02715 = 416 MG/mo.

Calculated Monthly Withdrawal 416 MG

1800 GPM
Monthly Withdrawal Capacity of Installed Facilities 77.8 MG

(A-1) Permitted Monthly Withdrawal 77.8 MG
(Also equal to 2886 acre-inches)

WATER USE EXAMPLE CALCULATIONS

In order to aid the permittee in his understanding of the District's method of water allocation, example problems addressing monthly withdrawal and reporting of monthly pumpages are presented in the following pages. (The permittee should be aware that these are generalized examples and, as such, the numbers specified in the examples will not usually relate to his particular situation).

Calculated Monthly Withdrawal

Example: A grove owner operates 500 acres of citrus in the Jupiter area. 250 acres of the grove are irrigated by drip and overhead sprinklers, and 250 acres by flood. What would be the owner's calculated monthly withdrawal for the worst drought in a five year period?

Employing the Blaney-Criddle equation and considering the soil types and rainfall in the Jupiter area, a value of 3.4 inches/month for the irrigation requirement has been derived. Therefore, 3.4 inches/month x 500 acres = 1700 acre-inches/month. Since the irrigation system is operating at 50 efficient the quantity of water must be doubled: 1700 acre-inches/month x 2 (efficiency) = 3400 acre-inches/month. However, since 250 acres are flood irrigated an additional 14 acre-inches/month must be allowed (flood credit): therefore, 250 acres x 14 acre-inches/month = 3500 acre-inches/month. The total acre-inches of water may now be calculated: 3400 acre-inches from the Blaney-Criddle method (irrigation efficiency) + 3500 acre-inches from flood irrigation credit gives a total of 6900 acre-inches per month. 6900 acre-inches or = 187 million gallons per month is the total calculated monthly withdrawal for 500 acres of citrus during a one in five year drought period.

WATER USE SPECIAL CONDITIONS

GROUNDWATER

1. DURING PERIODS IN WHICH THERE IS NO DECLARED WATER SHORTAGE, WITHDRAWALS GREATER THAN THOSE ESTIMATED BY THE DISTRICT MAY BE MADE UTILIZING THE FACILITIES DESCRIBED HEREIN WITHOUT VIOLATION OF THE CONDITIONS OF THE PERMIT AS LONG AS THE WITHDRAWAL IS A REASONABLE-BENEFICIAL USE AND NOT HARMFUL TO THE WATER RESOURCES OF THE AREA.

2. IN THE EVENT OF A DECLARED WATER SHORTAGE, WATER WITHDRAWAL REDUCTIONS MAY BE ORDERED BY THE DISTRICT IN PROPORTION TO THE CALCULATED MONTHLY WITHDRAWAL.

3. MONTHLY WITHDRAWALS SHALL BE REPORTED TO THE DISTRICT IN MAY AND NOVEMBER ON FORMS PROVIDED BY THE DISTRICT.

4. DRILLER'S COMPLETION REPORTS AVAILABLE FROM THE DISTRICT SHALL BE SUBMITTED FOR NEW WELLS UPON COMPLETION OF CONSTRUCTION.

5. THE DISTRICT SHALL BE NOTIFIED BY LETTER AT LEAST 14 DAYS PRIOR TO THE INSTALLATION OF NEW WELLS.

6. PERMITTEE SHALL SUPPLY THE DISTRICT AND THE FLORIDA BUREAU OF GEOLOGY WITH DRILL CUTTINGS FROM ANY NEW WELLS. THE CUTTINGS SHALL BE COLLECTED EVERY FIVE FEET OR EVERY FORMATION CHANGE, WHICHEVER COMES FIRST. WELL LOGS AND LOCATION MAPS OF THE WELL SHOWING DISTRICT PERMIT NUMBER SHALL BE SENT TO BOTH THE DISTRICT AND THE BUREAU OF GEOLOGY WITHIN SIX MONTHS OF THE DATE OF CONSTRUCTION. THE ADDRESS OF THE FLORIDA BUREAU OF GEOLOGY IS AS FOLLOWS: FLORIDA BUREAU OF GEOLOGY, 903 WEST TENNESSEE STREET, TALLAHASSEE, FLORIDA 32304. THE ADDRESS OF THE DISTRICT IS: SUPERVISOR, WATER USE SECTION, SOUTH FLORIDA WATER MANAGEMENT DISTRICT, POST OFFICE BOX "A", WEST PALM BEACH, FLORIDA 33402.

7. SOURCE CLASSIFICATION FOR WITHDRAWAL IS GROUNDWATER.

8. USE CLASSIFICATION IS AGRICULTURAL.

9. THIS PERMIT WILL EXPIRE ON JANUARY 15, 1989.

10. IF AT ANY TIME THERE IS AN INDICATION THAT THE WELL CASING, VALVES OR CONTROLS LEAK OR HAVE BECOME INOPERATIVE, REPAIRS OR REPLACEMENT SHALL BE MADE TO PUT THE SYSTEM BACK IN OPERATING CONDITION ACCEPTABLE TO THE DISTRICT. FAILURE TO MAKE SUCH REPAIRS SHALL BE CAUSE FOR FILLING AND ABANDONING THE WELL IN ACCORDANCE WITH PROCEDURES OUTLINED BY THE DEPARTMENT OF ENVIRONMENTAL REGULATION AND WITH THE CONCURRENCE OF THE DISTRICT.

11. WITHDRAWAL FACILITIES ARE 1-8" X 40' WELL PUMPED AT 600 GPM AND 1-9" X 55' WELL PUMPED AT 600 GPM. THESE ARE EXISTING. PROPOSED IS 1-9" X 55' WELL PUMPED AT 600 GPM.

12. THE PERMITTEE SHALL PERFORM A SPECIFIC CAPACITY AND TIME DRAWDOWN TEST ON THE PROPOSED WELL, AFTER COMPLETION. DATA SHALL BE SUBMITTED TO THE DISTRICT WITHIN ONE MONTH OF DATA COLLECTION.

WATER USE SPECIAL CONDITIONS

SURFACE WATER

1. DURING PERIODS IN WHICH THERE IS NO DECLARED WATER SHORTAGE, WITHDRAWALS GREATER THAN THOSE ESTIMATED BY THE DISTRICT MAY BE MADE USING THE FACILITIES DESCRIBED HEREIN WITHOUT VIOLATION OF THE CONDITIONS OF THE PERMIT AS LONG AS THE WITHDRAWAL IS A REASONABLE-BENEFICIAL USE AND NOT HARMFUL TO THE WATER RESOURCES OF THE AREA.

2. IN THE EVENT OF A DECLARED WATER SHORTAGE, WATER WITHDRAWAL REDUCTIONS MAY BE ORDERED BY THE DISTRICT IN PROPORTION TO THE CALCULATED MONTHLY WITHDRAWAL.

3. MONTHLY WITHDRAWALS SHALL BE REPORTED TO THE DISTRICT IN MAY AND NOVEMBER ON FORMS PROVIDED BY THE DISTRICT.

4. SOURCE CLASSIFICATION FOR WITHDRAWAL IS

5. USE CLASSIFICATION IS

6. THIS PERMIT SHALL EXPIRE ON

7. WITHDRAWAL FACILITIES ARE

NOT-APPLICABLE

REPORTING MONTHLY PUMPAGE TO THE DISTRICT

Situation 1: Hours of Operation Known:

The permittee knows the rate* of his pump(s) and the number of hours which the pump(s) was operated. The monthly pumpage may be calculated as follows:

Hours of operation x total pump rate (in gallons per minute) x 60 = number of gallons pumped during the month.

Example: A grove owner has three (3) pumps which he utilizes to pump irrigation water to his grove. The driller who installed one of the pumps has told the owner that this pump will deliver 500 GPM. The owner determines the capacities of his other pumps from the pump plates and obtains values of 400 GPM and 400 GPM. During the month of June the pumps were operated a total of 600 hours (200 hours apiece). What would be the grove owner's pumpage for the month of June?

Solution: 200 hours x (500 + 400 + 400) x 60 =
15,600,000 gallons.
(hours of operation) x (total pumping rate in gallons/minutes) x (minutes/hour) = (gallons/month).

*If permittee does not know the pump rate, this rate can normally be read from a plate attached to the pump. The rate will be under the heading "Pump Capacity". This value is usually in gallons per minute (GPM), but the permittee should check the units.

Situation 1: Hours of Operation Determined From Electric Bill

The permittee knows the pump capacity (either from the installer or the pump plate), but has not kept track of the number of hours of operation. If the permittee has electric bills for the pumps the monthly pumpage may be calculated in the following manner:

Take the total number of kilowatt hours from the electric bill and multiply by 1.341. Divide this value by the total horsepower (listed on motor plate) of all the metered power motors, and multiply the results by 0.8**. This yields the total time that the pumps were operated in hours. This value multiplied by the flow rate of the pump(s) (in GPM) x 60 yields the number of gallons pumped during the month. In equation form:

$$\frac{\text{Kilowatt hrs/month} \times 1.341\ \text{hp/kw}}{\text{Total HP of Pumps}} \times 0.8 \times 60 \times \text{pumping rate in GPM} = \underline{\text{Gallons/Month}}$$

Example: A tomato producer utilizes 4 electric turbine pumps to supply irrigation water to his crops. His total number of kilowatt hours on all pumps during May was 5000. The pump motors are 5 horsepower each and have a pumpage rate of approximately 500 gallons per minute each.

**Assumes 80% efficiency

Approximately how many gallons did the grower pump during the month of May?

5000 Kilowatt hrs x 1.341 = 6705 (horsepower hrs)

6705 ÷ 20 (total motor horsepower is equal to 5 HP x 4 pumps) x.8 = 268

268 hrs x 2000 (total GPM of pumps) x 60 (minutes per hour) = 32,184,000 gallons during May.

Another common method of water transport is by the use of diesel or gasoline powered pumps. The District has not performed example calculations concerning these types of systems due to the great variability in which the pumps are operated. However, the producer should be able to estimate his fuel consumption to water pumped ratio and utilize this figure to obtain the quantity of water pumped.

As a last resort, the applicant may estimate the number of hours which the pump operated and calculate according to Situation 1, or supply the District with the amount of land irrigated and the time during which the irrigation process takes place. Should the applicant have a complex system, or should other special circumstances present a problem in the reporting of the pumpages he should contact the District.

SURFACE WATER MANAGEMENT EVALUATION

APPLICANT'S LAND AREA: _____ ACRES DRAINED ACREAGE: _____

FACILITIES:

1. EXISTING: See separate Staff Report

2. PROPOSED:

EXISTING DISCHARGE CAPACITY: _____

DRAINAGE BASIN: _____

RECEIVING WATER: _____

RUNOFF FORMULA: (B-1) PERMITTED ALLOWABLE DISCHARGE _____ cfs

INSTALLED DISCHARGE CAPACITY _____ cfs

RETENTION METHOD _____

RETENTION PROVIDED _____ ACRE-FEET

ADDITIONAL COMMENTS: _____

SURFACE WATER MANAGEMENT SPECIAL CONDITIONS

NOT-APPLICABLE

1. DISCHARGE FACILITIES:

   DESCRIPTION: _____

   RECEIVING WATER: _____

2. WATER QUALITY DATA ON THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED INCLUDE TOTAL SUSPENDED SOLIDS, NITRATES AS N, NITRITES AS N, TOTAL KJELDAHL NITROGEN AS N, AMMONIA AS N, TOTAL PHOSPHORUS AS P, ORTHO-PHOSPHORUS AS P, 5 DAY 20°C BOD, TURBIDITY, SPECIFIC CONDUCTIVITY, DISSOLVED OXYGEN AND pH. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY. WATER QUALITY DATA IS/IS NOT REQUIRED AT TIME OF PERMIT ISSUANCE.

3. SPECIAL CONDITIONS OF RULE 40E-4.301(SURFACE WATER MANAGEMENT) ARE WAIVED UNLESS OTHERWISE PROVIDED HEREIN.

4. THE PERMITTEE'S ALLOWABLE DISCHARGE IS _____ CFS. WITHIN 120 DAYS AFTER WRITTEN NOTIFICATION BY THIS DISTRICT THE PERMITTEE SHALL REDUCE HIS MAXIMUM CAPACITY WITHIN THE LIMITATIONS CITED HEREIN.

5. FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

6. LAND USE SERVED BY THE PERMITTED FACILITIES IS _____ PROPOSED CONSTRUCTION OF RESIDUCES MAY REQUIRE MODIFICATION OF THIS PERMIT AND MUST BE REPORTED TO THE DISTRICT.

7. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

8. DISCHARGES OF PUMPED WATER OR RESERVOIR DISCHARGES OF WATER ONTO ADJACENT LANDS MAY BE CONTINUED TO THE EXTENT THAT PROBLEMS ARE NOT CAUSED BY SUCH DISCHARGES.

RIGHT-OF-WAY OCCUPANCY EVALUATION

(B-1) Permitted Authorization:

NOT-APPLICABLE

Performance Bond: ☐ Required ☐ Not Required

Insurance: ☐ Required ☐ Not Required

SPECIAL CONDITIONS:

1. THIS PERMIT REPRESENTS APPROVAL OF THE PROJECT ONLY TO THE EXTENT OF THE DISTRICT'S INTEREST IN THE PROJECT WORKS RIGHT-OF-WAY. ANY ADDITIONAL APPROVAL OR PERMITS WHICH MAY BE REQUIRED ARE THE SOLE RESPONSIBILITY OF THE PERMITTEE AND MUST BE OBTAINED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

2. PERMITTEE AGREES TO HOLD AND SAVE THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT AND ITS SUCCESSORS HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF THE WORK OR STRUCTURE INVOLVED IN THE PERMIT.

3. THE APPLICATION, INCLUDING ALL PLANS AND SPECIFICATIONS ATTACHED HERETO, IS BY REFERENCE MADE A PART OF THIS PERMIT.

4. THIS PERMIT MAY BE CANCELLED UPON THIRTY (30) DAYS WRITTEN NOTICE TO THE PERMITTEE OR UNDER ANY EMERGENCY CIRCUMSTANCES AS SET FORTH IN THE DISTRICT'S RULES WITH WHICH PERMITTEE IS PUT ON NOTICE.

5. THIS PERMIT, IF ISSUED, DOES NOT CONVEY TO PERMITTEE ANY PROPERTY RIGHTS NOR ANY RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED HEREIN, NOR RELIEVE THE PERMITTEE FROM COMPLYING WITH ANY LAW, REGULATION OR REQUIREMENT AFFECTING THE RIGHTS OF OTHER BODIES OR AGENCIES.

6. ALL STRUCTURES AND WORKS INSTALLED BY PERMITTEE SHALL REMAIN THE PROPERTY OF THE PERMITTEE.

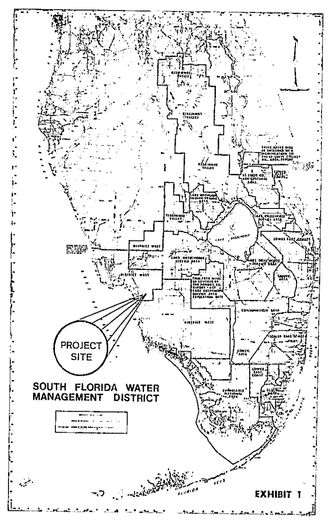


EXHIBIT 1

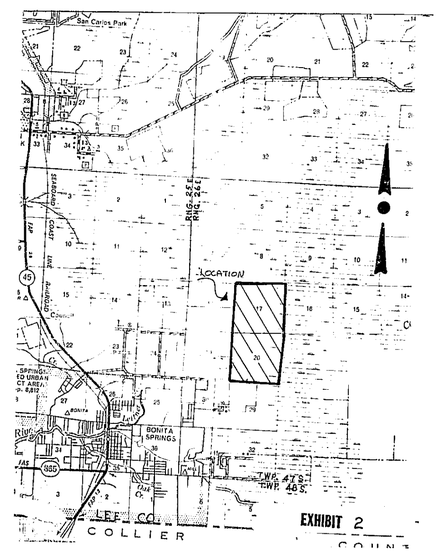


EXHIBIT 2

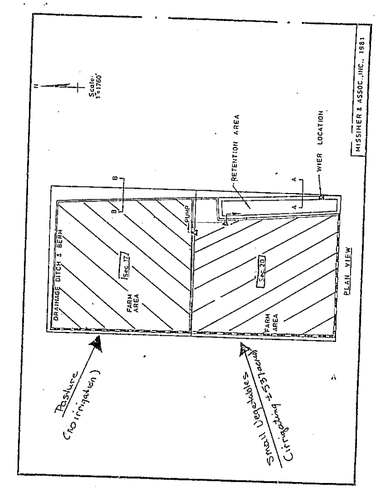


EXHIBIT 3.

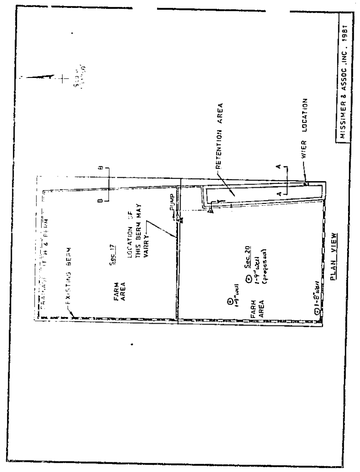


EXHIBIT 4.

Assessment of Impact of Withdrawal on Existing Uses

The nearest existing legal use of shallow groundwater is the Bonita Springs Water System wellfield. BSWS is currently being evaluated for an increase in annual allocation to 1.131 BGY (3.1 MGD). A digital computer model was run to assess the combined effects of a 3.1 MGD withdrawal at the BSWS wellfield and a maximum month withdrawal of 2.6 MGD (77.8 MGM) from the project site.

It is noted that only minimal overlap of the cones of depression from the two wellfields occur. Staff has concluded that the recommended allocation by BSWS will not adversely impact existing uses; the additional withdrawal at the project site does not change this conclusion.

EXHIBIT 5A

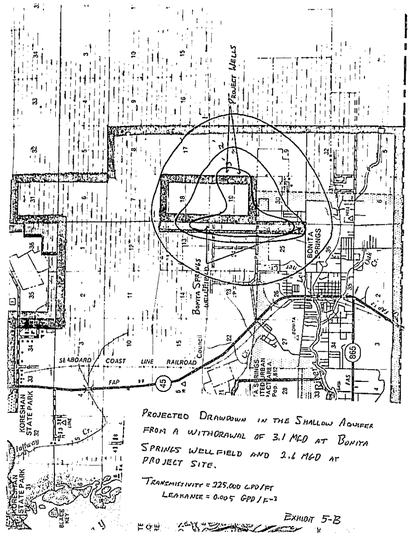


EXHIBIT 5-B

" REPORT DISTRIBUTION LIST

PROJECT Samuel and Connie Hubschman, Trustee (Bonita Farms) APPLICATION NUMBER 11031-H

	INTERNAL DISTRIBUTION
x	Pete Rhoads
x	Legal
x	Inspection
x	Reviewer Joe Hudak
x	Rebecca Serra
	R. Fanson
x	C. Hall
x	P. Gleason
	R. Goodrick
	W. Brannen
	J. Jackson
	J. Wodraska
x	R. Brockway

	EXTERNAL DISTRIBUTION
	DEPARTMENT OF ENVIRONMENTAL REGULATION
	W. P. B. Other
x	Ft. Myers
	Orlando
	Tallahassee
	Port St. Lucie
	GOVERNING BOARD MEMBERS
	Mr. Robert L. Clark, Jr.
	Mr. J. Hall Gallagher
	Mr. Charles L. Crumpton
	Mr. John L. Hundley
	Mr. Nathaniel P. Reed
	Mr. Robert Padrick
	Ms. Jeanne Bellamy
x	Mr. Stanley W. Hole
	Mr. Aubrey Burnham

	EXTERNAL DISTRIBUTION CONTINUED
x	Applicant Samuel Hubschman
x	Applicant's Consultant Missimer & Assoc.
	Applicant's Agent
x	Engineer, County Of Lee
	Engineer, City Of
	Local Drainage Districts
	Director, Martin Co. Planning & Zoning
x	Director, Lee County Div. of E. P. S.
	Collier County Ag. Agent
	Fred Vidzes, S. C. Basin
	Palm Beach County Area Planning Board
	Kissimmee River Coordinating Council
	Dade County DERM
x	Director, Lee County Mosquito Control
	Director, P.B. County Bldg. Dept.
x	Dir., Lee County Dept. of Current Planning
	Dir., Broward Co. Water Management Division
	Other:
x	Lee County Division of Code Enforcement
x	Bonita Springs Water System

EXHIBIT 6

STAFF REPORT WORKSHEET

Appl.# 11031-H Name SAMUEL & CONNIE HUBSCHMAN, TRUSTEE

Location: Sec(s) 17,20 Twp. 47 S Rge. 26 E County LEE

Soil Category

Irrigation Rate GPMx60x hrs/mo= gal/mo. (A-8)

Gal/mo. x mos. = gal/yr. (A-9)

(gal/mo ÷ 325850 = AF/mo; gal/yr ÷ 325850 = AF/yr)

Total Contiguous Acres, Irrigated Acres by Crop 1 , AC; 2 , AC; 3 , AC

ANNUAL ALLOCATION

Amount Available (A-5)

Beneficial Use

Annual Supplemental Irrigation Requirement:
- Crop 1 15.26 in/Ann ÷ 12 x 537 crop Ac = 683 AF
- Crop 2 in/Ann ÷ 12 x crop Ac = AF
- Crop 3 in/Ann ÷ 12 x Crop Ac = AF

Total 683 AF x .32585= 223 MG (A-6)

ESTIMATED MAXIMUM ANNUAL WITHDRAWAL

Note: Add credit for flood irrigation when applicable

Annual Allocation AF ÷ 0.5= 1366 AF

50 in. ÷ 12 x 537 crop Ac = 2238 AF (credit)

Total 3604 AF x .32585 = 1174 MG (A-7)

MAXIMUM MONTHLY WITHDRAWAL

Max. monthly irrigation 2-in-10 yr. drought:
- Crop 1 4.26 in/mo ÷ 12 x 537 crop Ac ÷ 0.5 = 381 AF
- Crop 2 in/mo ÷ 12 x crop Ac ÷ 0.5= AF
- Crop 3 in/mo ÷ 12 x crop Ac ÷ 0.5 = AF

Sub-total 381 AF

Note: Add credit for flood irrigation when applicable

20 in. ÷ 12 x 537 crop Ac = 895 AF (credit)

Total 1276 AF x .32585 = 416 MG (A-7)

1800GPM 77.8 MG.

MISSIMER AND ASSOCIATES, INC.
Consulting Hydrologists • Geologists • Environmental Scientists
1031 CAPE CORAL PARKWAY
CAPE CORAL, FLORIDA 33904
PHONE (813) 542-6106
THOMAS W. MISSIMER
RICHARD L. HOLZMER
LARRY K. HOLLAND
LLOYD E. HORVATH
THOMAS H. O'DONNELL

January 15, 1982

RECEIVED
JAN 18 1982
RESOURCE CONTROL DEPARTMENT

Ms. Rebecca S. Serra
Resource Control Department
South Florida Water Management District
P. O. Box V
West Palm Beach, Florida 33402

RECEIVED
JAN 18 1982
RESOURCE CONTROL DEPARTMENT

Re: Letter of January 12, 1982
Application #11031-H

Dear Ms. Serra:

Please find enclosed a map which shows cypress areas which will not be cleared. The areas indicated in yellow are cypress domes. Those areas indicated in red are cypress strands. There is presently a dispute concerning the eastern property boundary and section line. Old surveys which resulted in section lines as indicated on U.S.G.S. maps are believed to be in error. The eastern property boundary and section line is now claimed to be the line shown in green on the air photos.

Regarding Question #2, all of the area in Section 17 which is not shaded will eventually be farmed. It will mostly be pasture area. This area is approximately 611 acres.

Very truly yours,

MISSIMER AND ASSOCIATES, INC.

Lloyd E. Horvath, P.E.
Senior Hydrologist

LEH:sm

Enclosure

cc: Mr. Sam Hubschman

MISSIMER AND ASSOCIATES, INC.
Consulting Hydrologists • Geologists • Environmental Scientists
1031 CAPE CORAL PARKWAY
CAPE CORAL, FLORIDA 33904
PHONE (813) 542-6106
THOMAS W. MISSIMER
RICHARD L. HOLZMER
LARRY K. HOLLAND
LLOYD E. HORVATH
THOMAS H. O'DONNELL

December 8, 1981

RECEIVED
DEC 09 1981
RESOURCE CONTROL DEPARTMENT

Ms. Rebecca Serra
Water Management Division
South Florida Water Management District
P. O. Box V
West Palm Beach, Florida 33402

Dear Ms. Serra:

I am responding to your letter of December 3, 1981, as soon as possible in order to obtain the water use permit for farming Section 20. We are presently negotiating with the DER and COE regarding certain wetland filling, and therefore, the answer to question #1 is not presently known. We may need to make certain arrangements for preserving the cypress domes, however, at present plans call for retaining the domes without constructing berms around them or interconnecting them in any way. The answers to the remaining questions are as follows:

#2 Eventually all of Section 17 will be pasture or farm land except for the wetland areas which may be required to be preserved.

#3 The ditch along the east side of Section 17 will be closed by filling with earth prior to that section becoming a retention area. It will probably not be necessary to close the western ditch which is in a high area during this time, but if necessary, it will be closed in a similar manner.

#4 The pump is intended to be a one way pump from Section 20 to Section 17.

#5 During the 25-year design storm, it would only be possible to adequately drain one section of land because it would not be possible to remove water from the entire property fast enough to save a crop. To remove 11 inches of water from one section at a rate of 80 cfs (40 cfs to retention basin and 40 cfs to the adjacent section) would require 3.7 days. Pumping into the retention basin (at 40 cfs) would likely continue several days after that time in order to further drain the root zone and to control seepage from the surrounding property. I estimate the pumping

Ms. Rebecca Serra
Water Management Division
December 8, 1981
Page 2

time as approximately 7 days for the retention pond pump, and 4 days for the pump to the adjacent section. Intermittent pumping will be required afterward.

#6 Presently no irrigation is proposed for Section 17. This piece of property may be used for pasture at a later date. If water is needed, the permit will be modified.

#7 Growing season for Section 20 will begin in January. It is expected that some parts of the property will be planted year round. Initially, 240 acres will be planted with cucumbers and melons.

The farmer who leases the property is presently preparing the ground for his crop. He expects to have a water demand in four to six weeks.

If any additional information is needed regarding the water use permit, please call me.

Very truly yours,

MISSIMER AND ASSOCIATES, INC.

Lloyd E. Horvath, P.E.
Senior Hydrologist

LEH:sm

cc: Mr. Sam Hubschman

Sou . Florida
Water Management District

December 3, 1981

Mr. Lloyd Horvath, P. E.
Missimer & Associates, Inc.
1031 Cape Coral Parkway
Cape Coral, Florida 33904

Re: Application No. 810311-C, Bonita Farms, Lee County, Sections 17 and 20, Township 47 South, Range 26 East

Dear Mr. Horvath:

A preliminary review of the above referenced project indicates that the additional information will be required to complete our review.

1. On the submitted aerial photograph, several cypress domes are identified within the project boundary. Will these areas be drained or preserved. If they are to be preserved, indicate how.

2. Will all of Section 17 be farm or only the high areas. If only the high areas, estimate the acreage to be farmed and show the location.

3. In the submitted information, it is stated that the ditch which runs along the east side of Section 17 will be closed when Section 17 is being used as a retention area. Indicate how the ditch is to be closed off. Also, will the ditch along the west side of Section 17 be closed off (if so, how?).

4. Is the pump between Sections 17 and 20 a two-way pump? If so, what would the pump be pumping from Section 17 to Section 20?

5. What is the estimated length of time that the pump and/or pumps would be pumping during the design storm (25 year-3 day)?

6. Is there any proposed water use (irrigation) for Section 17? If so, indicate the irrigation method and the facilities. For well facilities, submit the well diameter, depth, casing depth, and indicate if the wells are proposed or existing. For pumps,

Mr. Lloyd Horvath, P. E.
December 3, 1981
Page 2

submit the size or the capacity. Also, show the location of all irrigation facilities.

7. What type of crops are proposed for Section 17? What is the proposed growing season? Also, will the growing season stated for Section 20 (September through January) remain the same? If not, please submit a revised growing season period for this section.

Review of the application will continue upon receipt of the above requested information. In accordance with 40E-1.603(5) F.A.C, if a response is not received within 90 days this application may be processed for denial, if not withdrawn by the Applicant.

Sincerely,

Rebecca S. Serra
Water Management Engineer
Field Engineering Division
Resource Control Dept.

RSS/sls
cc: Mr. Stanley Hole
Mr. Richard A. Rogers
Mr. Bob Broceway
Dr. Patrick J. Gleason
Mr. Joe Hudak
Inspection
Mr. Ralph Fanson

MISSIMER AND ASSOCIATES, INC.
Consulting Hydrologists - Geologists - Environmental Scientists
1031 CAPE CORAL PARKWAY
CAPE CORAL, FLORIDA 33904
PHONE (813) 542-6106

THOMAS M. MISSIMER
RICHARD L. HOLZNER
LARRY E. HOLLAND
LLOYD E. HORVATH
THOMAS P. O'DONNELL

November 2, 1981

RECEIVED
NOV 3 1981
RESOURCE CONTROL DEPARTMENT

Ms. Becky Serra
South Florida Water Management District
P. O. Box "M"
West Palm Beach, FL 33402

Dear Ms. Serra:

Enclosed is the application and supporting material for a surface water management permit for Sam and Connie Hubschman, Trustee. Please call me if you have any questions.

Very truly yours,

MISSIMER AND ASSOCIATES, INC.

Lloyd E. Horvath, P.E.
Senior Hydrologist

LEH:sm

Enclosures

BECKY,

PRELIMINARY INDICATIONS ARE THAT PEAK RUNOFF RATES FOR THE IMPERIAL RIVER BASIN ARE ON THE ORDER OF 2900 CFS/150 MI SQ. = 19.3 CFS/MI SQ. I DON'T SUPPOSE THAT WILL MAKE HORVATH ANY HAPPIER BUT AT LEAST YOU'LL KNOW WHERE IT CAME FROM. THE DIFFERENCE IN RETENTION AREA SIZING BETWEEN 3/4" / DAY AND THIS VALUE OF 77 CFS - 2.9"/DAY WOULD BE FAIRLY SMALL HOWEVER DUE TO THE DISTRIBUTION WE USE.

MARTY

MISSIMER AND ASSOCIATES, INC.
Consulting Hydrologists - Geologists - Environmental Scientists
1031 CAPE CORAL PARKWAY
CAPE CORAL, FLORIDA 33904
PHONE (813) 542-6106

THOMAS M. MISSIMER
RICHARD L. HOLZNER
LARRY E. HOLLAND
LLOYD E. HORVATH
THOMAS P. O'DONNELL

RECEIVED
SEP 04 1981
RESOURCE CONTROL DEPARTMENT

September 2, 1981

Ms Becky Serra
South Florida Water Management District
P. O. Box 1671
West Palm Beach, Florida 33402

Re: Application #0311-C

Dear Ms. Serra

Regarding the Hubshman agricultural operation, I am presently working to determine the required sizes of retention area and the allowable discharges from the two sections of land which are planned for a farming operation (Section 17 and 20, Twp 47S, Range 26E).

Recently, someone from the District mentioned that I should size the retention basin to retain a 25 year 3 day storm (approximately 11 inches) with discharge of no more than 3/4 inch per day. By this criteria I would have to design a bermed retention area of approximately 150 acres (4 foot depth) for each section, and discharge would be limited to 20 cfs for each section.

I have recently spoken to some engineers who have been using different criteria for their developments in the same area. Specifically, they are designing for allowable runoff amounts which equal predeveloped conditions. For the conditions on the Hubshman property (slope 1.5 ft/mile; water table at nearly land surface, runoff length 1 mile) the natural sheetflow from an 11 inch storm would average 77 cfs over a three day period according to SPHDO charts. There is also differences regarding the amounts of retention required, and the design storm.

Page (2)
Letter: Ms Becky Serra

I would appreciate it if you would send me some verification of what I am to use as my design criteria. This will help me to explain my final design to our client.

Very truly yours,

MISSIMER AND ASSOCIATES, INC.

Lloyd E. Horvath P.E.
Senior Hydrologist

LEH:crg

MISSIMER AND ASSOCIATES, INC.
Consulting Hydrologists - Geologists - Environmental Scientists
1031 CAPE CORAL PARKWAY
CAPE CORAL, FLORIDA 33904
PHONE (813) 542-6106

THOMAS M. MISSIMER
RICHARD L. HOLZNER
LARRY E. HOLLAND
LLOYD E. HORVATH
THOMAS P. O'DONNELL

July 20, 1981

RECEIVED
JUL 21 1981
RESOURCE CONTROL DEPARTMENT

Mr. George R. Brockway, P.E., P.L.S.
Water Management Division, Resources Control Department
South Florida Water Management District
P. O. Box V
West Palm Beach, FL 33402

Re: Hubschman Property, Application No. 0311-C
Lee County

Dear Mr. Brockway:

Subsequent to our meeting regarding the agricultural operations in Sections 17 and 20, we began work on the required surface water management permit. At present we are still working on developing the plan. Also, we are coordinating with the DER and COE for required permits. This letter is intended to serve as notice that we are proceeding toward obtaining the required permits. I expect to have a plan to present to your agency within approximately one month.

Very truly yours,

MISSIMER AND ASSOCIATES, INC.

Lloyd E. Horvath, P.E.
Senior Hydrologist

LEH:sm

cc: Mr. Sam Hubschman

RECEIVED
JUL 21 1981
RESOURCE CONTROL DEPARTMENT

VIOLATION REPORT

Check appropriate box(es): ☒ Sec. 373.413, F.S. ☒ Rule 16K-4.03, FAC ☐ Other (specify) ☐ Sec. 373.416 F.S. ☐ Rule 16K-4.07, FAC ☐ Sec. 373.423 F.S. ☐ Rule 16K-4.38 FAC

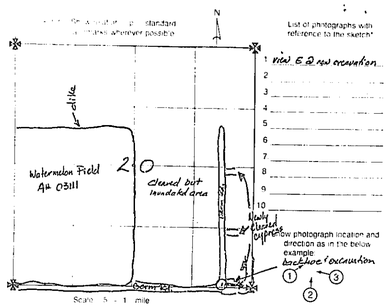
To File MAG 6/5/81

Date: 5/29/81 Time: 10:30 AM
Location: S 20 T 47 R 26 County: Lee
Project Name: Four Seasons Farm
Project Owner: Samuel Hubschman Developer: same as owner
Jupi Tamiami Trail
Naples, FL 33964 775-3857
(name, address & phone)
Engineer: none known (name, address & phone)
Contractor: Cadenhead & Son Construction Co., Inc.
3991 Serpentile Ave.
Naples, FL 33963 774-3855
(name, address & phone)
Application/Permit No. (if applicable) AP 03111-C
Description of Violation: (include sketch on reverse side) digging canal and clearing of cypress area. Establishing dike w/ fill from canal spoil. Work done without benefit of permit. Two dozers were clearing cypress strand while a backhoe was digging a canal. Contractor was asked to stop work, which was complied with, even after arrival of M.S. Cadenhead, president of the firm. He was given our toll free number and Bob Brockway to call. The work party left the site at approx. 12:10 PM.

S. Florida Water Management District
Post Office Box 7100
Fort Myers, Florida 33901

Field Representative Signature: Date: 5/29/81
Person Contacted & Advised of Violation (print): Vince Antilla, Bob Brockway-Resource Control
Signature of Person Contacted: Date:
Comments:

FORM PA-37
Rev 11/80



Scale: 1" = 1 mile

List of photographs with reference to the sketch:

1 view E @ new excavation
2
3
4
5
6
7
8
9
10

Below photograph location and direction as in the below example:

This space for use by Permit Admin. Div.

Control No. _____

Status

Owner _____ Date _____

Agent _____

Developer _____ Date _____

Agent _____

Engineer _____ Date _____

Agent _____

Contractor _____ Date _____

Agent _____

Signature _____

Results

Date App. & Instr. Sent _____

Date Stop Work Sent _____

Date Follow-up Sent _____

Date Admin. Order Requested _____

Date Admin. Order Filed _____

Date Lawsuit Requested _____

Date Lawsuit Filed _____

Other agencies notified: ☐ DER Date _____

☐ City Date _____ ☐ County Date _____

☐ Other _____ Date _____

(specify) _____ Date _____

_____ Date _____

This space for use by Tech. Div.

Requested Action: _____

Technical Reason: _____

Engineer Assigned for Testimony: _____

Signature: _____

Date: _____

MEMORANDUM

January 30, 1981

TO: Files

FROM: William Helfferich, Environmental Engineer

SUBJECT: Aerial Inspections

On January 29, 1981 aerial inspections were conducted on the following projects:

1. Florida Arrowhead; Application No. 01131-A; Palm Beach County - Vegetation is all Brazilian pepper - no environmental concerns.

2. Barfield Farms; Application No. 12190-B; Hendry County - Canal along northern property line is complete. Canal extends part way along western property line. Draglines are now working. Standing water over most of the site.

3. Shamrock Country Club; Application 12290-C; Collier County - Mostly pine; some cypress in southern portion. Badly drained by canal on western property line. The cypress is not invaded by exotics. Additional water would be beneficial.

4. Hubschman Property; S5/T47S/R26E; Lee County - Site is almost totally cleared. Some pine trees left. Southeastern portion was all cypress - now totally cleared. Canal and dike around perimeter. Well and pump in place near northwestern property corner. Water being pumped into perimeter canal. PHOTOS TAKEN

5. Safari Campground; Application No. 12290-C; Lee County - Pine flatwoods; one small wet area which lies adjacent to U.S. 41. Badly impacted by drainage; not worth saving.

6. Crawford; S2,3,10,11/T47S/R25E; Lee County - Area being cleared. Machinery working. Cypress areas being worked around. Canal system is complete around perimeter. Western canal at north end has 2-48"-60" flashboard risers in place. Appears to be approximately 12" of freeboard on boards. PHOTOS TAKEN

7. Wildcat Farms; S1-3,10-15/T46S/R27E; Lee County - House under construction along southern boundary. Bulldozer and road grader working in cypress head just south of orange grove along eastern property line. All roads are cleared and graded. Most of cypress areas now dry due to season and drainage. Water levels in wet prairies along western property line are receding. No discharge from culverts along southern property line due to lowered water levels. PHOTOS TAKEN

8. Marina Town Village; Application No. 01191-A; Lee County - Good mangrove and leather fern area in northwest corner. This area should be worked around. PHOTOS TAKEN

9. Windward Way Condominium; Application No. 12170-C; Lee County - Clearing taking place. Melaleuca and pine - no cypress.

10. Bob Paul; Application No. 01161-A; Hendry County - Area being cleared. Some nice cypress, maples and oaks. No cypress, maples or oaks being cleared yet.

11. Lake Butler Estates; Application No. 12310-A; Orange County - Orange grove; no wetlands.

12. Windermere; Application No. 12290-B, Orange County - Development already finished. No wetlands; all sand pine.

13. Woodlands of Windermere, Unit 4; Application No. 12080-D, Orange County - No wetlands.

14. Westwind; Application No. 12180-A; Orange County - Next to Seaworld; no cypress; all pines.

15. Peppermill; Application No. 12240-C; Orange County - Cypress in the middle of pastureland. Badly drained; needs additional water.

16. Old Trail - Rezoning; S23,24/T40S/R41E; Martin County - Some very good wet prairie areas. Cypress to be saved. Wet prairies adjacent to northern and eastern canals are impacted by drainage and will deteriorate rapidly. These areas are not worth preserving.

William H. Helfferich
Environmental Engineer
Resource Control Department

WHH/dr

cc: Mr. Alan Hall
Mr. Frank Calusa
Mr. Robert Brockway
Mr. Robert Goodrick
Mr. Vince Kattilus
Mr. Stanley Hole
Mr. John Hundley
Mr. Robert Padrick

MEMORANDUM

January 26, 1981

TO: Files

FROM: Martin Gauthier, Water Resource Engineer

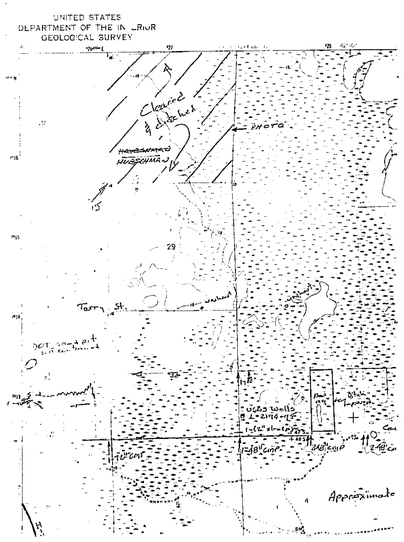
SUBJECT: Aerial Inspection - Hubschman Tract - Section 20, Township 47 South, Range 26 East, Lee County

Clearing, grading, and drainage work has been done and is continuing in Section 20, Township 47 South, Range 26 East. Photo attached was taken looking west over section on January 23, 1981.

Martin Gauthier
Water Resource Engineer
Water Management Division
Resource Control Department

MG/dr

cc: Mr. Richard Rogers
Mr. Bob Brockway - w/original photo
Mr. Stan Niego
Mr. Stanley Hole



Bob,

According to the tax rolls the owners of S 17/20 T47 R26 are:

Bonnie & Samuel Hubschman
3451 Tamimi Trail E.
Naples, Fla.
33940

1/22/80
Vince

COPY SENT TO STAN NIEGO 1-26-81 (JK)

Bob,

I have added additional special condition (#15).

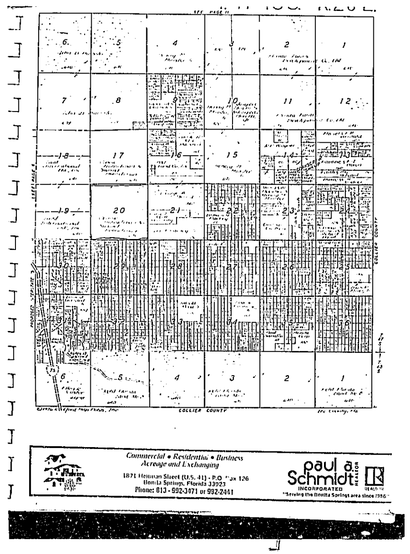
As per Goodrich - based on the staff assessment it - it wouldn't be worth fighting for.

In looking through the enforcement file on this project - it appears that no other agencies were involved.

Perimeter berm should be set back inside this property at least 25' to allow dimension of wildlife flow around property.

How good were the areas before it was cleared? Is permitment warranted? Any other agencies who make enforcement?

RAR



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

INSPECTED 3-6-81

COUNTY: LEE SEC. 20 , TWP 47 S, RGE 26 E

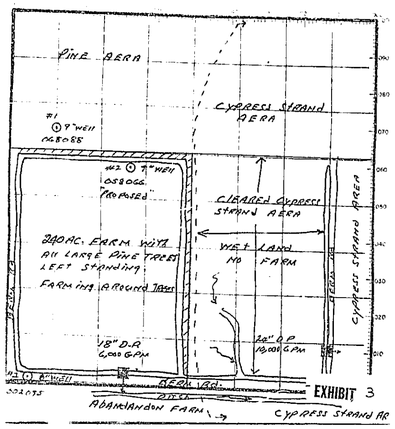


EXHIBIT 3

Route

RESOURCE CONTROL DEPARTMENT

FORM RC3 Rev. 1978

APPLICATION ROUTING SHEET

NUMBER: *11031-D PROJECT: Samuel & Connie Hubschman (Bonita Farms)

RESPONSE REQ'D. BY: GOODRICK 11/13/81 Verbal RINEHARDT FIELD SERVICES 11/13/81

30 DAY AI DEADLINE: 12/7/81

SPECIFIC BOARD DEADLINES: NLT _____ for _____ Board

NLT 11/10/81 for 12/10/81 Board

*NLT 12/8/81 for 1/7/82 Board

*This is the absolute statutory deadline.

ROUTE TO:	DATE REC'D.	DATE OUT
1. Brockway		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

cc. Hole

* Resubmission of 03111-C

COMMENTS

ENVIRONMENTAL IMPACT ASSESSMENT

INSIGNIFICANT

SIGNIFICANT

NEGOTIABLE

NON-NEGOTIABLE

R Goodrick

STAFF ENVIRONMENTALIST

SECTION D (UTILIZATION OF WORKS AND LANDS OF THE DISTRICT)

1. District Work or Land: _____ (C-15, L-8, Miami Canal, etc.)

2. Subdivision: _____ _____

Lot: _____ Block: _____

3. Type of Proposed Project:

- ☐ DRAINAGE CONNECTION
- ☐ BULKHEAD/SEAWALL
- ☐ BOAT DOCK
- ☐ FENCE
- ☐ BRIDGE
- ☐ UTILITY CROSSING
- ☐ BEAUTIFICATION; SPECIFY: _____ (grass only, grass w/shrubs, etc.)
- ☐ OTHER, SPECIFY: _____

4. In all cases, three copies of a sketch showing location, District work or land and proposed project must be included (see sample drawing)

SECTION E (OTHER)

If the parts of this application do not fully describe your proposed project or if your request is for a project other than standard, describe the proposal below. (NOTE! Include drawings and location)

FORM RC-1 REV 4-78

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P. O. BOX "V"
WEST PALM BEACH, FLORIDA 33402
TELEPHONE: (305) 686-8800

(DO NOT WRITE IN THIS BLOCK)

APPLICATION NO. 11031-D

APPLICATION TO THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT FOR: Resubmission of 03111-C
(check appropriate box(s))

- ☐ WATER USE (see Section B)
- ☒ SURFACE WATER MANAGEMENT (drainage) (see Section C)
- ☐ UTILIZATION OF WORKS AND LANDS OF THE DISTRICT (see Section D)
- ☐ OTHER, SPECIFY _____ (see Section E)

INSTRUCTIONS

1. Complete Section A, below. Answer all questions.
2. Determine the appropriate section covering your request and answer all questions. If a question does not apply to your operation, mark the blank "n/a". DO NOT LEAVE ANY QUESTIONS BLANK. If the questions asked do not fully explain your operation, submit additional backup data.
3. SIGN AND DATE THE APPLICATION and forward it with the appropriate application fee to the above address.

SECTION A

Samuel & Connie Hubschman, Trustee 3451 Tamiami Trail
(NAME OF APPLICANT OR USER) (P. O. BOX OR STREET ADDRESS)

Naples (CITY) Collier (COUNTY) FL (STATE) 33940 (ZIP CODE) 774-5457 (PHONE)

NOTE! IF THE OWNER IS OTHER THAN THE APPLICANT, THE NAME, ADDRESS AND PHONE NUMBER OF THE OWNER MUST BE SUBMITTED ALONG WITH A COPY OF THE LEASE OR AGREEMENT BETWEEN THE OWNER AND THE APPLICANT

PROJECT LOCATION AND PROJECT NAME Bonita Farms

County Lee Section 17 and 20 Township 47S Range 26E

Land Use: Agricultural (AGRICULTURAL, RESIDENTIAL, INDUSTRIAL, ETC)

Zoning: Agricultural

Facilities Are: X Existing, X Proposed, ____ To Be Modified

RECEIVED NOV 3 1981 RESOURCE CONTROL DEPARTMENT

In compliance with provisions of Ch. 373, Florida Statutes, and applicable rules of the South Florida 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 hereof. I hereby certify that all information contained herein or made a part hereof is true and correct to the best of my knowledge.

NOTE: Many projects will also require approvals from Federal and State regulatory agencies; e.g. The Florida Department of Environmental Regulation (DER). The SFWMD informs agencies, as applicable, of your project but the responsibility for making application for their approval rests with the applicant. The DER and the Corps of Engineers have a joint application procedure that can be initiated through DER offices.

Samuel Hubschman
Applicant's Name (type or print)

X [signature] 10/30/81
Applicant's Signature / Date

OTHER THAN APPLICANT OR OWNER: I hereby certify that I am an authorized agent of the applicant or owner.

[signature] 10/30/81
Signature Date

FORM RC-1 REV. 4-78

FORM NO 1
REV 4 70

SECTION B (WATER USE)

1. TYPE OF USE:

   ☐ PUBLIC WATER SUPPLY*
   ☐ AGRICULTURAL IRRIGATION+
   ☐ RECREATIONAL IRRIGATION+(golf course, park, etc.)
   ☐ INDUSTRIAL WATER SUPPLY*
   ☐ OTHER: SPECIFY _____

   Complete Questions 2-12, Below for Irrigation

2. Total Acres Owned: _____
3. Total Acres Irrigated: _____
4. Crop(s): _____ Acres _____
   _____ Acres _____
   _____ Acres _____
5. Irrigation Method: _____
   (sprinkler, drip, flood, etc.)
6. Total Operating Capacity of Withdrawal Facility(s): _____ GPM
7. Hours Irrigated During Driest Month of Last 5 Years: _____
8. Circle The Months You Irrigate In An Average Year And Estimate the Number of Hours Per Month:

   JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

   _____ Hours

9. If Seasonal Crops Are Grown, In What Month(s) Are They Planted?

   Crop(s): _____ Month _____
   _____ Month _____
   _____ Month _____

10. Source(s) of Water: Specify _____
11. Facilities: _____

WELL DATA (ADD ADDITIONAL SHEET, IF NECESSARY)

WELL NO.	DIAMETER (INCHES)	TOTAL DEPTH	CASED DEPTH	VALVE YES/NO	ACTIVE YES/NO	YEAR DRILLED	PUMPED OR FLOWING	CAPACITY

Please furnish any additional available data such as pump tests, drilling logs, etc.

12. Include three copies of a drawing showing the boundaries, facility locations, distance to known landmarks, lengths and sizes of all culverts, etc., and with all wells numbered to correspond to Question 11. (see sample drawing)

*A Comprehensive Engineering Report must be submitted for public water supply or industrial water supply. The applicant or consultant should contact the Technical Review Division of this District for additional information prior to submission of the Application.

+Additional information may be required for proposed irrigation projects.

FORM NO 1
REV 4 70

SECTION C (SURFACE WATER MANAGEMENT)

1. TYPE:

   ☒ AGRICULTURAL
   ☐ RECREATIONAL *
   ☐ RESIDENTIAL *
   ☐ INDUSTRIAL *
   ☐ OTHER, SPECIFY _____

   Complete Questions 2 - 9, Below For Agricultural Or Recreational Drainage Systems

2. Total Acres Served: 1280 acres
3. Facilities: 2, 90 hp pumps, retention pond, weir and ditches and berms as indicated in supplementary information.
4. Receiving Body: Adjoining cypress strand
   (Where does the water drain?)
5. Type of Operation: Melon farming
   (citrus grove, pasture, golf course, etc.)
6. Is The Operation Located in an Existing Drainage District?

   ☒ NO
   ☐ YES; SPECIFY _____

7. Practices Proposed to Reduce Pollutant Loadings? _____
8. Do Any Other Areas Drain Through This Operation?

   ☒ NO
   ☐ YES; SPECIFY _____

9. Include three copies of a drawing showing the boundaries, facility locations, distance to known landmarks, length and size of all culverts, pumps, etc. (see sample drawing)

* *A Comprehensive Engineering Report must be submitted for residential or industrial water management systems. The applicant or consultant should contact the Technical Review Division of this District for additional information prior to submission of the Application. Such a report may also be required for recreational uses which are or could be part of a more complex urban development.*

South Florida
Water Management District

F.L. 36-003/5-S

[illegible]

October 20, 1987

[illegible]

[illegible]

Permit Modification Regarding Dike Inspections.

[illegible] a copy of this District's staff report covering the permit [illegible] regarding dike inspections referenced therein. It is requested [illegible] read this staff report thoroughly and understand its contents. The [illegible] as stated in the staff report will be presented to our Governing [illegible] consideration on November 12, 1987.

[illegible] subject to the staff recommendation, please refer to the attached [illegible] rights" which addresses the procedures to be followed if you desire a [illegible] hearing or other review of the proposed agency action. You are advised, however, to be prepared to defend your position regarding the permit modification [illegible] considered by the Governing Board for final agency action, even if you [illegible] with the staff recommendation, as the Governing Board may take final agency action which differs materially from the proposed agency action.

[illegible] contact this office if you have any questions concerning this matter. If we do not hear from you prior to the date on the "Notice of Rights", we will assume you concur with our recommendations.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the addressee and the persons listed in the attached distribution list not later than 5:00 p.m. on a 20th day of October 1987, in accordance with Section 120.60(3), Florida Statutes.

Sincerely,

Kenn Kahler
Administrative Supervisor

[illegible]

PERMIT NO: 36-003/5-S

SCHEDULED FOR GOVERNING BOARD ACTION:
November 12, 1987

SURFACE WATER MANAGEMENT

PERMIT MODIFICATION

PERMIT NO'S: SEE EXHIBIT 1

ABSTRACT: Staff recommends that Special Conditions regarding dike inspections of the permitted projects listed in EXHIBIT 1, be revised to change the requirement for semi-annual inspections and reports, to Annual inspections and Reports.

DISCUSSION: Based on staff experience, the requirement for semi-annual inspections and reports can be revised to annual inspections with reasonable assurances that annual inspections will suffice in determining dike integrity of permitted projects. Dike inspections and reports to the District will be required in March of each year prior to the start of the "wet season".

MODIFICATION: Dike inspection and reports Special Condition for the projects listed in Exhibit 1 should be revised as follows:

UPON COMPLETION OF CONSTRUCTION, AND ON AN ANNUAL BASIS (IN MARCH OF EACH YEAR) THE PERMITTEE SHALL SUBMIT REPORTS TO THIS DISTRICT FOR STRUCTURAL ADEQUACY OF ALL ABOVE GROUND DIKES, LEVEES AND BERMS BEHIND WHICH WATER IS TO BE CONTAINED AND WHERE FAILURE COULD IMPACT OFF-SITE AREAS. SUCH REPORTS SHALL INCLUDE PROPOSAL OF TECHNIQUE AND SCHEDULE FOR REPAIR OF ANY DEFICIENCIES NOTED, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.

APPROVED:

Assistant Division Director: [signature]

Department Director: [signature] Date: 10/8/87
Richard A. Rogers, P.E.
Resource Control Department

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
11-00223-S	SILVER STRAND V BARRON COLLIER CO./SILVER STRAND DIV. P O DRAWER K IMMOKALEE, FL 33934	SAME
11-00233-S	SILVER STRAND GROVE PHASE III BARRON COLLIER CO./SILVER STRAND DIV. P O DRAWER K IMMOKALEE, FL 33934	SAME
11-00257-S	PELICAN NURSERY DOROTHY M. MCCOUVILLE TREE PLATEAU CO.C/O PRANZO 250 PARK AVE. NEW YORK, NY 10177	SAME
11-00261-S	SILVER STRAND IV BARRON COLLIER CO./SILVER STRAND DIV. P O DRAWER K IMMOKALEE, FL 33934	SAME
11-00262-S	GATOR SLOUGH CITRUS DEVELOPMENT TURNER CORP. RT 1, BOX 6-B IMMOKALEE, FL 33934	GATOR SLOUGH WATER MGMT RT 1, BOX 6-B IMMOKALEE, FL 33934
11-00269-S	LIBBY'S FRESH FOOD SECTION 26 LIBBY'S FRESH FOOD,INC. & BARRON COLLIER P O BOX 2503 BONITA SPRINGS, FL 33923	SAME
11-00301-S	DAVIS U PICK MR. ROYCE O. STALLINGS NAPLES, FL 33941	SAME
11-00311-S	WILLOW RUN EXCAVATION PIT HIGHWAY PAVERS, INC. P O BOX 8809 NAPLES, FL 33941	SAME
11-00318-S	BUCK ISLAND RANCH THOMAS R. AND RHONDA K. BAKER BUCK ISLAND RANCH P O BOX 1812 FT. MYERS, FL 33902	SAME

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
22-00079-S	GERALD W. MURRY GERALD W. MURRY P O BOX 703 LABELLE, FL 33935	SAME
22-00101-S	WALTER FERGUSON GROVES WALTER FERGUSON 244 SW 6 ST. MIAMI, FL 33130	SAME
22-00117-S	4-D SECTION 6 CITRUS DEVELOPMENT 4-D A GENERAL PARTNERSHIP P O BOX 488 LAKE PLACID, FL 33852	SAME
22-00118-S	S BAR W RANCH FRANK C. SHAFER STAR RT 1, BOX 1769 LABELLE, FL 33935	SAME
26-00003-S	HILLIARD GROVES HILLIARD BROTHERS OF FLORIDA, INC. RT 2, BOX 175 CLEWISTON, FL 33440	SAME
26-00026-S	R-BAR STOKES-HANCOCK GROVES, LTD. RT 2, BOX 1210 CLEWISTON, FL 33440	SAME
26-00041-S	SOUTHERN DIVISION RANCH, UNIT II UNITED STATES SUGAR CORP. P O DRAWER 1207 CLEWISTON, FL 33440	SAME
26-00059-S	CARROLL E. JONES CITRUS GROVE CARROLL E. JONES AND SHERON L. JONES P O BOX 384 LABELLE, FL 33935	SAME
26-00094-S	SOUTHERN DIVISION RANCH, UNIT I UNITED STATES SUGAR CORP. P O DRAWER 1207 CLEWISTON, FL 33440	SAME

South Florida Water Management District

BEG. PERMIT NUMBER 36-00315-S/W

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
26-00219-S	JULIAN HOWARD CITRUS GROVE JULIAN W. AND VICTORIA HOWARD GEN. DEV. EAST ROAD LABELLE, FL 33934	SAME
26-00221-S	FELDA GROVE BOB PAUL, INC. AND IRVING WHEELER P O BOX 845 LABELLE, FL 33935	SAME
26-00224-S	TURNER/JOLLY GROVES JFC PROP.,PARTNERSHIP/J.C. TURNER LUMBER CO. RT 1, BOX 6-B IMMOKALEE, FL 33934	SAME
26-00227-S	JO MAR EL CITRUS DEV. JO MAR EL, GEN. PARTNERSHIP P O BOX 5007 IMMOKALEE, FL 33934	SAME
26-00229-S	GALLAGHER GROVES CITRUS DEV. JESSE J. GALLAGHER, JR. RT 3, BOX 960 FT. MCCOY, FL 32637	SAME
26-00230-S	GALLAGHER GROVES CITRUS DEV. GALLAGHER GROVES PARTNERSHIP P O BOX 997 IMMOKALEE, FL 33934	SAME
26-00234-S	DEMETER GROVES, INC. DEMETER GROVES, INC. C/O SEASCY, #702 2000 PLM BCH LKS BLVD W. PALM BCH, FL 33409	SAME
26-00235-S	WITT GROVE WITT GROVE LIMITED PARTNERSHIP RT 2, BOX 1210 CLEWISTON, FL 33440	SAME
26-00239-S	BOBBY MCDANIEL CITRUS GROVE J.W. MCDANIEL, SR., INC. STAR RT, BOX 60 CLEWISTON, FL 33440	SAME

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
36-00167-S	WILDCAT FARMS WILDCAT FARMS, LTD. P O BOX 247 NAPLES, FL 33939	SAME
36-00228-S	INDIAN CREEK ASPEN-INDIAN CREEK, LTD. PARTNERSHIP C/O JOHN FOGLER 2757 - 44TH SW, #306 GRAND RAPIDS, MI 49509	SAME
36-00260-S	GREEN MEADOW MINE HARPER BROS. 5351 SIX MILE CYPRESS PRKWY FT. MYERS, FL 33912	SAME
36-00288-S	SWEETWATER RANCH E J MCARDLE P O BOX 64 ST. CHARLES, IL 60174	SAME
36-00315-S	BONITA FARMS SAMUEL HUBSCHMAN 3451 TAMIAMI TRL NAPLES, FL 33940	SAME
36-00576-S	SECTION 26 CITRUS ROBERT E. INGE, TRUSTEE 5351 SIX MILE CYPRESS PRKWY FT. MYERS, FL 33912	SAME
36-00593-S	CRISAFULLI EXCAVATION A.S. CRISAFULLI 11217 DEAN ST. BONITA SPRINGS, FL 33923	SAME
36-00612-S	SECTION 1 FARM HARPER BROS. 5351 SIX MILE CYPRESS PRKWY FT. MYERS, FL 33912	SAME
36-00641-S	ALVA FARM YODER BROS. P O BOX 68 ALVA, FL 33920	SAME

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
43-00347-S	INDIAN SUN GROVES METROPOLITAN LIFE INSURANCE CO. P O BOX 336 INDIANTOWN, FL 33456	SAME
47-00068-S	WILLIAMSON CATTLE COMPANY WILLIAMSON CATTLE COMPANY P O BOX 248 OKEECHOBEE, FL 33472	SAME
47-00081-S	PURSLEY TURF FARM #7 PURSLEY, INC. RT 1, BOX 402X PAHEMETTO, FL 33561	SAME
47-00085-S	CITY OF OKEECHOBEE'S WASTEWATER TREAT. PLANT CITY OF OKEECHOBEE 55 SE 3 AVE. OKEE., FL 33472	SAME
47-00140-S	B AND E RANCH AND GROVE EDDIE AND BETTY WILLIAMS 2150 SW 28 AVE. OKEE., FL 33474	SAME
47-00145-S	OKEECHOBEE SOD OKEECHOBEE SOD, INC., C/O LAKE OIL CO. 1205 PARROTT AVE. OKEE., FL 33474	SAME
48-00063-S	GREATER ORLANDO AVIATION AUTHORITY GREATER ORLANDO AVIATION AUTHORITY P O BOX 19127 ORLANDO, FL 32814	SAME
48-00338-S	HIDDEN SPRINGS, UNIT 6 JULIAN CONSOLIDATED, INC. 7491 CONROY WINDERMERE RD ORLANDO, FL 32811	SAME
49-00229-S	LONESOME PINES MOBILE HOME PARK GREAT OAKS, INC. P O BOX 2266 KISSIMMEE, FL 32742	SAME

EXHIBIT 1

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
08-00001-S	HATTON DESOTO FARMS HATTON DESOTO FARMS, LTD. 25450 AIRPORT RD PUNTA GORDA, FL 33950	SAME
08-00024-S	TELEGRAPH CREEK WATER MANAGEMENT DISTRICT TELEGRAPH CREEK WATER MGMT DIST. P O BOX 1595 PUNTA GORDA, FL 33950	SAME
08-00031-S	CORAL ROCK MR. JIM GREEN, PRES. STAR RT A, BOX 80 L PUNTA GORDA, FL 33950	DONALD R. JUSTICE P O BOX 1428 CAPE CORAL, FL 33910
11-00077-S	FOUR SEASONS FARM DOUGLAS AND MERCY BATHY 4000 GORDON DR. NAPLES, FL 33940	SAME
11-00079-S	WEST FLORIDA AGRO, LIMITED SIX L'S FARM (AS LESSEE) NO. 21 NAPLES, FL 33940	SAME
11-00084-S	TURNER RANCH 1 CITRUS DEV. MR. W. W. SHERROD PACIFIC LAND CO. RT 2, BOX 421 IMMOKALEE, FL 33934	HARVEY HELLER P O BOX 249 WINTER GARDEN, FL 32787
11-00195-S	CRYSTAL LAKE TRUST CRYSTAL LAKE TRUST P O BOX 8809 NAPLES, FL 33941	SAME
11-00207-S	J AND N FARMS J AND N FARMS 9905 CLINT MOORE RD. BOCA RATON, FL 33434	SAME
11-00216-S	SILVER STRAND GROVES BARRON COLLIER CO./SILVER STRAND DIV. P O DRAWER K IMMOKALEE, FL 33934	SAME

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
11-00320-S	COLLIER NURSERY DEVELOPMENT COLLIER ENTERPRISES 3003 TAMIAMI TRAIL NORTH NAPLES, FL. 33940	SAME
11-00323-S	EAGLE ISLAND GROVE CITRUS PARTNERS, LTD. 4824 SOUTH FLORIDA AVE. LAKELAND, FL 33803	SAME
11-00324-S	TROYER GROVES TROYER BROS., INC. P O BOX 599 IMMOKALEE, FL 33934	SAME
11-00327-W	WILLOW RUN TRUST WILLOW RUN TRUST P O BOX 8809 NAPLES, FL 33941	SAME
11-00331-S	WILLOW RUN EXCAVATION PIT HIGHWAY PAVERS P O BOX 8809 NAPLES, FL 33941	SAME
11-00365-S	SOUTH RANCH PACIFIC LAND CO. RT 2, BOX 421 IMMOKALEE, FL 33924	SAME
22-00010-S	LYKES BROTHERS BRIGHTON #8 RESERVOIR LYKES CITRUS MGMT DIV. 7 LYKES RD LAKE PLACID, FL 33852	SAME
22-00070-S	SIX L'S FARM #1 SIX L'S FARM #1 P O BOX 963 IMMOKALEE, FL 33934	SAME
22-00076-S	ORTONA SAND MINE E.R. JUNNA INDUSTRIES P O BOX 786 LABELLE, FL 33934	SAME

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
26-00118-S	MACKEY GROVE ROBERT G. AND PATRICIA B. MACKEY P O BOX 868 IMMOKALEE, FL 33934	SAME
26-00121-S	TURNER CORP., CITRUS GROVES TURNER CORP. RT 1, BOX 6-B IMMOKALEE, FL 33934	SAME
26-00135-S	KINSER GROVE/BOB PAUL CITRUS BOB PAUL, INC. P O BOX 845 LABELLE, FL 33935	SAME
26-00156-S	CENTRAL COUNTY WATER CONTROL DISTRICT CENTRAL COUNTY WATER CONTROL DISTRICT P O BOX 728 CLEWISTON, FL 33440	SAME
26-00158-S	L. J. NOBLES GROVE L. J. NOBLES, JR. P O BOX 805 LABELLE, FL 33935	SAME
26-00159-S	COOPERATIVE PRODUCERS, INC. COOPERATIVE PRODUCERS, INC. P O BOX 247 FELDA, FL 33930	SAME
26-00175-S	HILLIARD BROTHERS FARM 1 HILLIARD BROTHERS RT 2, BOX 175 CLEWISTON, FL 33440	HILLIARD BROS., C/O B.S.E. 325 FIFTH AVE. #206 INDIALANTIC, FL 32903
26-00177-S	BABCOCK CITRUS GROVES W. S. BABCOCK CORP. P O BOX 1028 CLEWISTON, FL 33440	SAME
26-00215-S	RIVER ROAD GROVES BERNARD RASMUSSEN, AGENT P O BOX 6728 LABELLE, FL 33935	SAME

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
26-00243-S	KEENE CITRUS CHARLES F. KEENE C/O JOHNSON-PREWITT P O BOX 1028 CLEWISTON, FL 33440	SAME
26-00259-S	VALDEZ HOLDING COMPANY VALDEZ HOLDING COMPANY, INC. P O BOX 208 CLEWISTON, FL 33440	SAME
28-00025-S	B AND D GROVES B AND D PARTNERSHIP AS TENANTS IN COMMON 2236 CRUMP RD WINTER HAVEN, FL 33881	SAME
28-00146-S	LYKES BROS., B.SINGER TRACT LYKES BROS. P O BOX 403 WINTER GARDEN, FL 32787	SAME
28-00149-S	ARBUCKLE MARSH UNITED STATES AIR FORCE 56 CSS/DEH AVON PARK AIR FORCE RANGE AVON PARK, FL 33825	SAME
28-00211-S	SMOAK GROVE EDWARD SMOAK 1025 SR-17 NORTH LAKE PLACID, FL 33852	SAME
28-00214-S	CYPRESS POND RANCH CYPRESS POND RANCH, INC. P O BOX 327 LORIDA, FL 33857	SAME
28-00219-S	CARL M. WILBURN CITRUS CARL M. WILBURN RT 1, BOX 301 VAUGHN RD SEBRING, FL 33870	SAME
28-00226-S	GRIGSBY BROTHERS FARM R.R.GRIGSBY JR.,SAM & WM GRIGSBY RT 3, BOX 702 LAKE PLACID, FL 33852	SAME

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
36-00642-S	GAZIANO MINING OPERATION ALFONSO GAZIANO, TRUSTEE 5223 POCATELLO CT CAPE CORAL, FL 33904	SAME
36-00672-S	MURRAH CITRUS DEVELOPMENT HOLAN MURRAH P O BOX 167 CAPTIVA, FL 33924	SAME
36-00699-S	PINE ISLAND GROVE BOWEN BROTHERS, INC. P O BOX 1609 WINTER HAVEN, FL 33945	SAME
36-00700-S	ED DEAN GROVES EDWARD DEAN, JR. C/O AG MGMT SVCS 25450 AIRPORT RD PUNTA GORDA, FL 33950	SAME
43-00039-S	NEW HOPE SUGAR-TUCKER RANCH JOHN G. TUCKER, PRES. G. H. TUCKER, INC. P O BOX 613 F1 JUPITER, FL 33468	SAME
43-00217-S	CAULKINS WASTE WATER IRRIGATION GROVE CAULKINS INDIANTOWN CITRUS CO. P O BOX 458 INDIANTOWN, FL 33456	SAME
43-00252-S	CAMAYEN CATTLE COMPANY CAYAMEN CATTLE COMPANY P O BOX 6216 W. PALM BCH, FL 33405	SAME
43-00330-S	TARNEEL FARMS WILLIAM R. TAYLOR, C/O STUART CUT FLOWERS P O BOX 928 STUART,FL 33495	SAME
43-00337-S	WALTER J. HATCHER CITRUS GROVE WALTER J. HATCHER 9434 INDIANTOWN RD JUPITER, FL 33458	SAME

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
50-00545-S	BOCA CHASE M. MILLER & SONS OF FLA. 700 NW 107 AVE. MIAMI, FL 33172	SAME
50-00689-S	MECCA FARMS MECCA FARMS, INC. P O BOX 3815 LANTANA, FL 33462	SAME
50-00761-S	INDIAN TRAILS WATER CONTROL DISTRICT (M-1) INDIAN TRAILS WATER CONTROL DISTRICT 1030 ROYAL PALM BCH BLVD ROYAL PALM BCH, FL 33411	SAME
50-01111-S	STONEWAL GOLF AND COUNTRY CLUB DOUGLAS G. HOWALL, TRUSTEE 1920 PALM BCH LKS BLVD W. PALM BCH, FL 33409	SAME
50-01161-S	PALM BEACH PARK OF COMMERCE CALAFFEE INV. LTD., C/O SEARCY 2000 PALM BCH LKS BLVD #702 WEST PALM BEACH, FL 33409	SAME
50-01234-S	STAR RANCH STAR RANCH ENTERPRISES P O BOX 2001 HOLLYWOOD, FL 33022D	SAME
50-01388-S	PARCEL 4-25-1 BORROW PIT BANKERS LAND CO. 4176 BURNS RD PALM BCH GDNS, FL 33410	SAME
50-01456-S	KNOLLBROOKE HARDRIVES OF DELRAY, INC. 2101 SO. CONGRESS DELRAY BCH, FL 33445	SAME
56-00027-S	ADAMS RANCH SECTION 19 ADAMS RANCH INC. P O BOX 1030 FT. PIERCE, FL 33450	SAME

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
56-00035-S	GREENE WATER MANAGEMENT GREENE WATER MANAGEMENT, INC. 4855 - 16TH ST. VERO BEACH, FL 32960	SAME
56-00038-S	EAST PORT ST. LUCIE CITY OF PORT ST. LUCIE CITY HALL PLAZA PORT ST. LUCIE, FL 33452	SAME
56-00083-S	B. E. ALDERMAN RANCH, INC. B. E. ALDERMAN RANCH, INC. 3058 CARLOW CIRCLE TALLAHASSEE, FL 32308	SAME
56-00095-S	ORANGE AVENUE CITRUS GROWFRS ORANGE AVE CITRUS P O BOX 100 VERO BEACH, FL 32960	SAME
56-00303-S	MCDONALD GROVES MARSHALL MCDONALD 310 EDEN ROAD PALM BEACH, FL 33480	SAME
56-00334-S	INDIAN RIVER FOODS INDIAN RIVER FOODS, INC. P O BOX 1749 FT. PIERCE, FL 33450	SAME
56-00428-S	PEACOCK RANCH METROPOLITAN LIFE INS. CO. C/O ROBERT FRESENBORG P O BOX 7127 OVERLAND PARK, KS 66207	SAME
56-00469-S	GOUDA GROVES GOUDA GROVES 575 LAKE DR. GROSS POINT SHORES,MI 38236	SAME
56-00554-S	INGLEHART RANCH WEST GROVE PHILIP INGLEHART AND WADE BYRD, TRUSTEES P O BOX 229 PALM BEACH, FL 33480	SAME

EXHIBIT 2

MEMORANDUM

TO: Carlos de Rojas, Assistant Director, Surface Water Management

FROM: David Unsell, Director, Field Engineering

DATE: October 5, 1987

SUBJECT: Compliance History of Dike Inspections

A comprehensive dike inspection certification report tracking program began during March, 1986. This program was developed using the semi-annual dike inspection and certification required through permit special condition. Currently the program is oriented as follows:

1) Reminder letter is sent 45 days prior to the report due date.

2) If deadline is missed an overdue inspection letter is sent requesting compliance within 30 days.

3) Should this deadline be missed the permittee is called.

Results from the April, 1986 mailing for may reports yielded compliance of 85% and required 4 months of effort.

Results from the October, 1986 mailing for November reports yielded compliance of 75% and required nearly the identical effort.

Delay in receiving dike inspection reports from the November, 1986 inspection period limited the number of reminder letters sent during April, 1987. Compliance during this period was 90%. However, the last dike inspection certification was received during August of 1987. Very few permittee's comply with inspections with out a prompting from the District. Administration problems arise with the late reports and in most cases requires the permittee to reinspect the dike within one to two months of the last inspection.

Direct field inspection by this District along with submitted technical data from the certifying engineers reveal that no dike failures occurred causing off-site impacts due to neglect or structural deficiencies. This good record assists in supporting the effort to reduce dike inspection frequency from semi-annual to annual. This change should assist in eliminating closely spaced, and therefore redundant inspections and improve compliance with the dike inspection requirements.

DRU:eb

cc: Rogers/Hall/Davis
A. Castro
E. Botka
J. Urquhart

SUPPLEMENTAL INFORMATION FOR SURFACE WATER MANAGEMENT PERMIT

I. Site Information

A) Location sketch - see Exhibit 1.

B,C,) E,F) See Exhibits 2 and 3 which are air photos with 1-foot contours, and vegetation delineations.

D) Water levels in upland areas (west) vary from 5 feet below land surface in dry season to approximately land surface in wet season after heavy rainfall. Low land areas (east) have water table depths varying from 3 feet below land surface in dry season to 0.5 feet above land surface in wet season.

II. Drainage and Retention Plan

Exhibits 2, 3 and 4 show locations of major drainage ditches and the proposed retention area. Water will be directed to the main drainage ditch by means of small feeder ditches, located as needed for various areas being farmed. Exhibit 5 shows details of the retention lake berm and the main conveyance ditches.

Two 90 hp lift pumps will be located as shown in Exhibit 4. These pumps are sized for a capacity of 40 cfs. One pump will discharge into the retention basin. The other pump will discharge over the berm between Section 17 and 20 if necessary. It is not expected that the upper farm will be used during the wet season times and, therefore, the entire upper section will act as a retention basin. At such times the ditch which runs along the east side of Section 17 will be closed at its lower end which will prohibit drainage.

Water will discharge off-site only through the retention basin. It will discharge thru the wier structure shown on Exhibit 6.

RETENTION AREA CALCULATIONS

Total Area = 2 sections - 1,280 acres

Allowable discharge (per SFWMD correspondence 9-17-81) = 3/4 inch/day = 40.33 cfs

Retain first inch of runoff

$$\text{Volume} = \frac{1\ \text{inch}}{12\ \text{in/ft}} \times 1{,}280\ \text{acres} = 107\ \text{acre feet}$$

Retention Area = 62 acres

Depth required = $\frac{107}{62}$ = 1.75 ft.

Assume wier discharges with 0.5 ft. head

Assume 1 foot freeboard

Height of dike = 1.75 + .5 + 1.0 = 3.25 call 3.5 ft.

Total storage with 0.5 foot head = 2.25 x 62 acres = 139 a. feet

See attached wier design calculations

BRUNS & BRUNS, INC.
531 A Third St. So.
NAPLES, FLORIDA 33940
(813) 261-5965

JOB Bonita Farms
SHEET NO. 3
CALCULATED BY Bill E[illegible] DATE 9/24/81
CHECKED BY
SCALE Retention Area

Design Weir:

H = 0.5' Q = 40.33 c.f.s. n = end contract. = 2

$$L = \frac{Q + 3.33(0.1)nH^{2.5}}{3.33 H^{1.5}} = \frac{40.33 + (3.33 \times 0.2 \times 0.5^{2.5})}{3.33 \times 0.5^{1.5}}$$

$$= \frac{40.45}{1.18}$$

L = 34.36 Ft.

Design Bleeder Slot:

$Q = \frac{107}{2}$ in 24 hrs

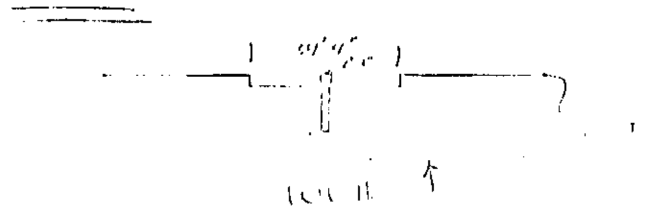
$$= \frac{53.5\ AF \times 43{,}560\ ft^2/AC}{24 \times 60 \times 60} = 26.97\ c.f.s.$$

Q = 26.97 c.f.s. H = 1.75' g = 32.2 ft/s²

$$L = \frac{1.5\ Q}{\sqrt{2g}\ H^{1.5}} = \frac{1.5 \times 26.97}{\sqrt{64.4} \times 1.75^{1.5}}$$

$= \frac{40.46}{[illegible]}$

L = 2.11'



VEGETATION REPORT

The property studied, Sections 17 and 20 of Township 47S, Range 26E, is essentially a pine flatwood with a considerable mixture of cypress. A few cypress domes occur on the property and a strand of cypress runs along the east edge of both sections.

Most of Section 20 has been altered for agricultural use. The western portion had a watermelon crop in the field at the time of inspection and the eastern portion had recently been cleared of major plant communities.

The eastern edge of both sections include part of a strand of cypress that function as part of a larger area cypress system.

The property is sparsely invaded with melaleuca throughout. The most developed melaleuca invasion appears at the north edge of Section 17.

Part of Section 17 had burned recently, reducing the amount of woody shrub cover. The few cypress domes on the property were extremely dry with no surface water to be seen.

An effort was made to locate any endangered species on the property but none were seen. The cypress domes and strand were examined for epiphytic orchids but only a few butterfly orchids were seen in the strand site. Remnants of butterfly orchids were seen in one cypress dome but no live specimens were seen. They had evidently succumbed to the January freezes and drought that followed.

The following 6 site descriptions indicate the general floral composition of the representative communities. Though sites 5 and 6 exhibited some disturbance, the locations were generally in a natural condition.

Site Description

Site 1 is representative of pine/cypress areas of the property with a mixture of about 40% pine, 60% cypress. Wax myrtle and inkberry comprise the predominant shrub component of the site with some saltbush. The pineland shrub, rosemary, occurs in quantity at this site and throughout the pine flatwoods and pine/cypress on the property.

Site 1 - List of Plants - Pine/Cypress

Pinus elliottii	- slash pine
Taxodium distichum	- cypress
Myrica cerifera	- wax myrtle
Ilex glabra	- inkberry
Baccharis sp.	- saltbush
Ceratiola ericoides	- rosemary
Blechnum serrulatum	- swamp fern
Pluchea rosea	- marsh fleabane
Xyris sp.	- yellow eyed grass
Coreopsis leavenworthii	- tickseed
Tillandsia spp.	- bromeliads

Site 2 is a small cypress dome located at a pine flatwood - pine/cypress ecotone. On the day visited, June 11, 1981, the small pond area in the center of the dome was completely dry.

Site 2 - List of Plants - Small Cypress Dome

Taxodium distichum	- cypress
Myrica cerifera	- wax myrtle

Site 4 is dominated with slash pines of about 50' tall and scattered small saw palmetto with larger palmetto in clusters. Rusty lyonia and fetterbush are common shrubs and a few singular melaleuca trees to about 25' have invaded the site.

Site 4 - Plant List - Pine Flatwood

Pinus elliottii	- slash pine
Melaleuca quinquinenia	- punk tree
Bumelia celastrina	- buckthorn
Myrica cerifera	- wax myrtle
Ilex glabra	- inkberry
Lyonia lucida	- fetterbush
Lyonia ferruginea	- rusty lyonia
Serenoa repens	- saw palmetto
Ceratiola ericoides	- rosemary
Coreopsis leavenworthii	- tickseed
Pluchea rosea	- marsh fleabane

Site 5 near a cypress dome in Section 20 exhibits a variety of vegetation not seen in association elsewhere on the property. Most of the trees, other than pine and cypress, are of less than 30' in height.

Site 5 - Plant List - Pine/Cypress/Bay

Pinus elliottii	- slash pine
Quercus lavrifolia	- laurel oak
Quercus virginiana	- live oak
Taxodium distichum	- cypress
Ilex cassine	- dahoon holly
Persea bourbonia	- red bay
Myrica cerifera	- wax myrtle
Baccharis halmifolio	- saltbush
Lyonia lucida	- fetterbush

PERMIT NUMBER	PROJECT NAME/PERMITTEE	RESPONSIBLE ENTITY
56-00563-5	ALLAPATTAH FLATS QUARRY SOUTHERN FRUIT DISTRIBUTORS, INC. P O BOX 8367 ORLANDO, FL 32806	SAME

STAFF REPORT DISTRIBUTION LIST

PROJECT: SEE EXHIBIT 1

PERMIT NUMBER: SEE EXHIBIT 1

INTERNAL DISTRIBUTION
X Reviewer: M. Johnson

X E. Sotka
X C. de Rojas
X K. Dickson
X C. Drew
X S. Lamb
X J. Mang
X C. McCray
X P. Millar
X J. Morgan
X T. Waterhouse
X C. Padera
X P. Rhoads
X B. Calavecchio
X D. Slyfield
X M. Slayton
X W. Stimmel
X D. Unsell
X P. Walker
X J. Wodraska
X E. Yaun
X File
X Ft. Myers
X Inspection
X Kissimmee
X Legal

EXTERNAL DISTRIBUTION
DEPT. OF ENVIRONMENTAL REGULATION:
Ft. Myers
Orlando
Port St. Lucie
X Tallahassee
West Palm Beach

GOVERNING BOARD MEMBERS

X Mr. Oscar M. Corbin
X Mr. James F. Garner
X Mr. Doran A. Jason
X Mr. Arsenio Millan
X Mr. Nathaniel P. Reed
X Ms. Nancy H. Roen
X Mr. Fritz Stein
X Mr. Mike Stout
X Mr. J.D. York

OTHER

X PERMITTEE'S - EXHIBIT 1

ENGINEER, COUNTY OF:

X Broward
X Charlotte
X Collier
X Dade
X Glades
X Hendry
X Highlands
X Lee
X Martin
X Monroe
X Okeechobee
X Orange
X Osceola
X Palm Beach
X Polk
X St. Lucie

EXHIBIT 3

Ilex cassine	- dahoon holly
Myrsine guianensis	- rapanea
Sabal palmetto	- cabbage palm
Blechnum serrulatum	- swamp fern
Thelypteris sp.	- fern
Tillandsia spp.	- bromeliads

The extreme eastern edge of Section 17 includes part of a strand of cypress and is considerably wetter than areas not connected to this strand.

Site 3 is pond apple/cypress pond in the northeast corner of the section. A small, apparently artificial pond in the cypress was covered with lemna and hosted at least one alligator sighted. The pond apples are all less than 3 meters tall, apparently from damage during the January freezes.

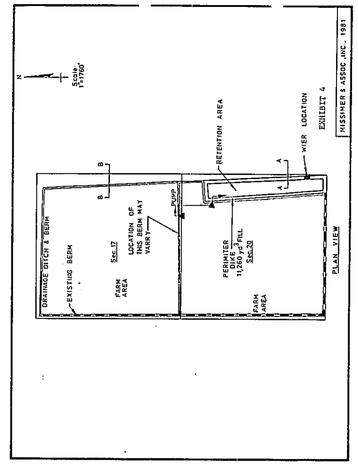
Site 3 - List of Plants - Pond Apple/Cypress

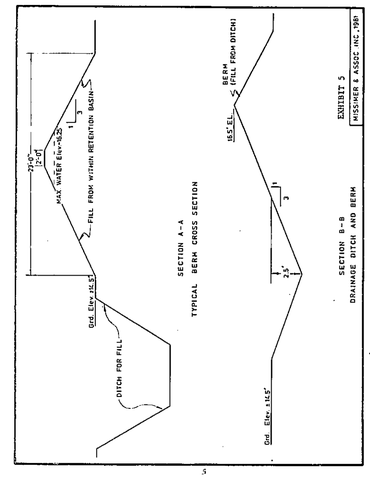
Taxodium distichum	- cypress
Annona glabra	- pond apple
Fraxinus caroliniana	- pop ash
Acer rubrum	- red maple
Ilex cassine	- dahoon holly
Myrica cerifera	- wax myrtle
Myrsine guianensis	- rapanea
Psychotria undata	- wild coffee
Thalia geniculata	- flag
Iris sp.	- flag
Canna flaccida	- golden canna
Pteridium aquilinum	- bracken fern
Thelypteris sp.	- fern
Blechnum serrulatum	- swamp fern
Smilax sp.	- greenbrier
Tillandsia usneoides	- wild pineapple
T. balbisiana	- reflexed wild pine
T. fasciculata	- stiff leaved wild pine
T. usneoides	- spanish moss
T. recurvata	- ball moss
T. circinata	- air plant

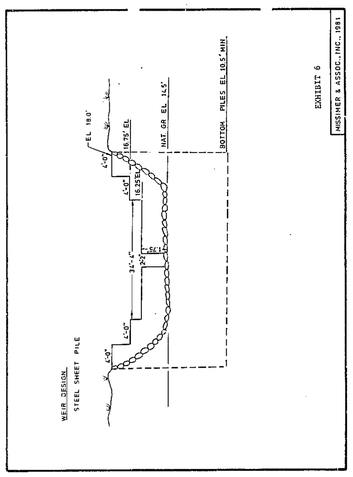
Site 6 in the strand of cypress on the day visited was considerably wetter than cypress dome site 2 and others observed. Cypress trees dominate with a variety of wetland and wet prairie herbs. The cocoplum shrubs, though frost pruned, were sprouting back from the base.

Site 6 - Plant List - Cypress Strand

Taxodium distichum	- cypress
Myrica cerifera	- wax myrtle
Ilex glabra	- inkberry
Ilex cassine	- dahoon holly
Chrysobalanus icaco	- cocoplum
Myrsine guianensis	- rapanea
Ceratiola ericoides	- rosemary
Tillandsia spp.	- air plants
Encyclia tampensis	- butterfly orchid
Blechnum serrulatum	- swamp fern
Pteridium aquilinum	- bracken fern
Sabatia spp.	- marsh pink
Coreopsis leavenworthii	- tickseed
Pluchea rosea	- marsh fleabane







SUPPLEMENTAL INFORMATION FOR SURFACE WATER MANAGEMENT PERMIT

I. Site Information

A) Location sketch - see Exhibit 1.

B,C,E,F) See Exhibits 2 and 3 which are air photos with 1-foot concours, and vegetation delinuations.

D) Water levels in upland areas (west) vary from 5 feet below land surface in dry season to approximately land surface in wet season after heavy rainfall. Low land areas (east) have water table depths varying from 3 feet below land surface in dry season to 0.5 feet above land surface in wet season.

II. Drainage and Retention Plan

Exhibits 2, 3 and 4 show locations of major drainage ditches and the proposed retention area. Water will be directed to the main drainage ditch by means of small feeder ditches, located as needed for various areas being formed. Exhibit 5 shows details of the retention lake berm and the main conveyance ditches.

Two 90 hp lift pumps will be located as shown in Exhibit 4. These pumps are sized for a capacity of 40 cfs. One pump will discharge into the retention basin. The other pump will discharge over the berm between Section 17 and 20 if necessary. It is not expected that the upper farm will be used during the wet season times and, therefore, the entire upper section will act as a retention basin. At such times the ditch which runs along the east side of Section 17 will be closed at its lower end which will prohibit drainage.

Water will discharge off-site only through the retention basin. It will discharge thru the wier structure shown on Exhibit 6.

RETENTION AREA CALCULATIONS

Total Area = 2 sections - 1,280 acres

Allowable discharge (per SFWMD correspondence 9-17-81) = 3/4 inch/day = 40.33 cfs

Retain first inch of runoff

$$\text{Volume} = \frac{1 \text{ inch}}{12 \text{ in/ft}} \times 1{,}280 \text{ acres} = 107 \text{ acre feet}$$

Retention Area = 62 acres

$$\text{Depth required} = \frac{107}{62} = 1.75 \text{ ft.}$$

Assume wier discharges with 0.5 ft. head

Assume 1 foot freeboard

Height of dike = 1.75 + .5 + 1.0 = 3.25 call 3.5 ft.

Total storage with 0.5 foot head = 2.25 x 62 acres = 139 a. feet

See attached wier design calculations

BRUNS & BRUNS, INC.
521 A Third St. So
NAPLES, FLORIDA 33940
(813) 261-5565

Kanna Farms
Lile Estates
Retention Area

Design Weir:

$H = 0.5'$ $Q = 40.33$ c.f.s. $n = 2$ end contracts. $= 2$

$$L = \frac{Q + 3.33(0.1)nH^{2.5}}{3.33\,H^{1.5}} = \frac{40.33 + (3.33 \times 0.2 \times 0.5^{2.5})}{3.33 \times 0.5^{1.5}}$$

$$= \frac{46.45}{1.18}$$

$L = 34.36$ ft.

Design Filter Sect:

$$Q = \frac{107}{2} \text{ in } 24 \text{ hrs}$$

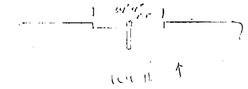
$$= \frac{53.5 \text{ AF} \times 43{,}560 \text{ ft}^3/\text{AC}}{24 \times 60 \times 60} = 26.97 \text{ c.f.s.}$$

$Q = 26.97$ c.f.s. $H = 1.75'$ $g = 32.2$ ft/s²

$$L = \frac{1.5\,Q}{\sqrt{g}\,H^{1.5}} = \frac{1.5 \times 26.97}{(8.01) \times 1.75^{1.5}}$$

$$= \frac{40.46}{18.8}$$

$L = 2.14'$



VEGETATION REPORT

The property studied, Sections 17 and 20 of Township [illegible], Range 26E, is essentially a pine flatwood with a considerable mixture of cypress. A few cypress domes occur on the property and a strand of cypress runs along the east edge of both sections.

Most of Section 20 has been altered for agricultural use. The western portion had a watermelon crop in the field at the time of inspection and the eastern portion had recently been cleared of major plant communities.

The eastern edge of both sections include part of a strand of cypress that function as part of a larger area cypress system.

The property is sparsely invaded with melaleuca throughout. The most developed melaleuca invasion appears at the north edge of Section 17.

Part of Section 17 had burned recently, reducing the amount of woody shrub cover. The few cypress domes on the property were extremely dry with no surface water to be seen.

An effort was made to locate any endangered species on the property but none were seen. The cypress domes and strand were examined for epiphytic orchids but only a few butterfly orchids were seen in the strand site. Remnants of butterfly orchids were seen in one cypress dome but no live specimens were seen. They had evidently succumbed to the January freezes and drought that followed.

The following 6 site descriptions indicate the general floral composition of the representative communities. Though sites 5 and 6 exhibited some disturbance, the locations were generally in a natural condition.

Site Description

Site 1 is representative of pine/cypress areas of the property with a mixture of about 40% pine, 60% cypress. Wax myrtle and inkberry comprise the predominant shrub component of the site with some saltbush. The pineland shrub, rosemary, occurs in quantity at this site and throughout the pine flatwoods and pine/cypress on the property.

Site 1 - List of Plants - Pine/Cypress

Pinus elliottii	- slash pine
Taxodium distichum	- cypress
Myrica cerifera	- wax myrtle
Ilex glabra	- inkberry
Baccharis sp.	- saltbush
Ceratiola ericoides	- rosemary
Blechnum serrulatum	- swamp fern
Pluchea rosea	- marsh fleabane
Xyris sp.	- yellow eyed grass
Coreopsis leavenworthii	- tickseed
Tillandsia spp.	- bromelinds

Site 2 is a small cypress dome located at a pine flatwood - pine/cypress ecotone. On the day visited, June 11, 1981, the small pond area in the center of the dome was completely dry.

Site 2 - List of Plants - Small Cypress Dome

Taxodium distichum	- cypress
Myrica cerifera	- wax myrtle

Site 4 is dominated with slash pines of about 50' tall and scattered small saw palmetto with larger palmetto in clusters. Rusty lyonia and ferrerbush are common shrubs and a few singular melaleuca trees to about 25' have invaded the site.

Site 4 - Plant List - Pine Flatwood

Pinus elliottii	- slash pine
Melaleuca quinquinervia	- punk tree
Sumelia celastrina	- buckthorn
Myrica cerifera	- wax myrtle
Ilex glabra	- inkberry
Lyonia lucida	- fetterbush
Lyonia ferruginea	- rusty lyonia
Serenoa repens	- saw palmetto
Ceratiola ericoides	- rosemary
Coreopsis leavenworthii	- tickseed
Pluchea rosea	- marsh fleabane

Site 5 near a cypress dome in Section 20 exhibits a variety of vegetation not seen in association elsewhere on the property. Most of the trees, other than pine and cypress, are of less than 30' in height.

Site 5 - Plant List - Pine/Cypress/Bay

Pinus elliottii	- slash pine
Quercus laurifolia	- laurel oak
Quercus virginiana	- live oak
Taxodium distichum	- cypress
Ilex cassine	- dahoon holly
Persea bourbonia	- red bay
Myrica cerifera	- wax myrtle
Baccharis halimifolia	- saltbush
Lyonia lucida	- fetterbush
Ilex cassine	- dahoon holly
Myrsine guianensis	- rapanea
Sabal palmetto	- cabbage palm
Blechnum serrulatum	- swamp fern
Thelypteris sp.	- fern
Tillandsia spp.	- bromelinds

The extreme eastern edge of Section 17 includes part of a strand of cypress and is considerably wetter than areas not connected to this strand.

Site 3 is pond apple/cypress pond in the northeast corner of the section. A small, apparently artificial pond in the cypress was covered with lemna and hosted at least one alligator sighted. The pond apples are all less than 3 meters tall, apparently from damage during the January freezes.

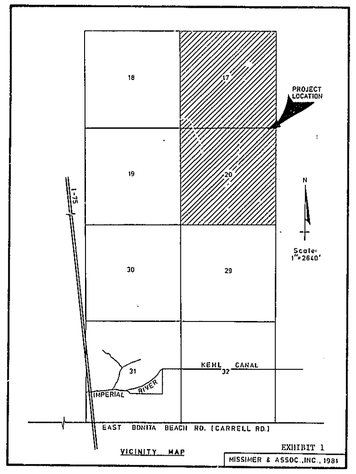
Site 3 - List of Plants - Pond Apple/Cypress

Taxodium distichum	- cypress
Annona glabra	- pond apple
Fraxinus caroliniana	- pop ash
Acer rubrum	- red maple
Ilex cassine	- dahoon holly
Myrica cerifera	- wax myrtle
Myrsine guianensis	- rapanea
Psychotria undata	- wild coffee
Thalia geniculata	- flag
Iris sp.	- flag
Canna flaccida	- golden canna
Pteridium aquilinum	- bracken fern
Thelypteris sp.	- fern
Blechnum serrulatum	- swamp fern
Smilax sp.	- greenbrier
Tillandsia utriculata	- wild pineapple
T. balbisiana	- reflexed wild pine
T. fasciculata	- stiff leaved wild pine
T. usneoides	- spanish moss
T. recurvata	- ball moss
T. circinata	- air plant

Site 6 in the strand of cypress on the day visited was considerably wetter than cypress dome site 2 and others observed. Cypress trees dominate with a variety of wetland and wet prairie herbs. The cocoplum shrubs, though frost pruned, were sprouting back from the base.

Site 6 - Plant List - Cypress Strand

Taxodium distichum	- cypress
Myrica cerifera	- wax myrtle
Ilex glabra	- inkberry
Ilex cassine	- dahoon holly
Chrysobalanus icaco	- cocoplum
Myrsine guianensis	- rapanea
Ceratiola ericoides	- rosemary
Tillandsia spp.	- air plants
Encyclia tampensis	- butterfly orchid
Blechnum serrulatum	- swamp fern
Pteridium aquilinum	- bracken fern
Sabatia spp.	- marsh pink
Coreopsis leavenworthii	- tickseed
Pluchea rosea	- marsh fleabane



VICINITY MAP

EXHIBIT 1

MISSIMER & ASSOC., INC., 1981

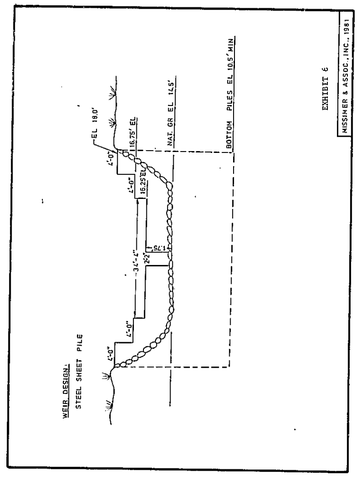


EXHIBIT 6

MISSIMER & ASSOC., INC., 1981

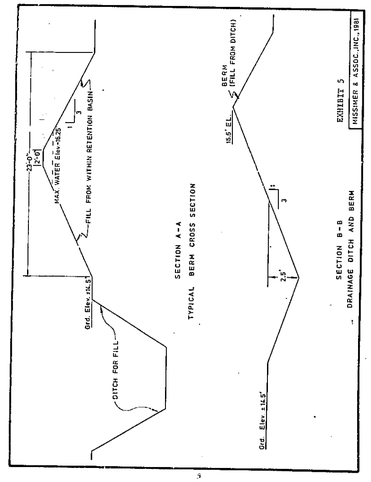


EXHIBIT 5

MISSIMER & ASSOC., INC., 1981

SUMMARY OF INPUT DATA
NON-EQUILIBRIUM (THEIS) MODEL

TRANSMISSIVITY =	160000.
STORAGE COEFFICIENT =	.14000000
TIME (DAYS) =	90.0000
NODE SPACING =	150.00

WELL DESCRIPTIONS

X-LOCATION	Y-LOCATION	Q(GPD)
2.00	5.00	250000.00
7.00	17.00	250000.00
23.00	4.00	250000.00

--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ROUNDED UP ON 5 AND DOWN ON 4--

T (D) = 90 d
S = 0.14
Q = 250,000 gpd
r = 150 ft
t = 90 day

Fig 9

50	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	
49	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	
48	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	
47	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	
46	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	
45	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	
44	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	
43	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	
42	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	
41	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	
40	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	
39	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	
38	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	
37	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	
36	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	
35	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	
34	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	
33	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	
32	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	

31	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	
30	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4		.4	.4	.4	.4	.4	.4	.3	.3	
29	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	
28	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	
27	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	
26	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	
25	.5	.5	.5	.5	.5	.5	.6	.6	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	
24	.5	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5	.5	
23	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	.5	.5	
22	.6	.6	.6	.6	.7	.7	.7	.7	.7	.7	.7	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	
21	.6	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.6	.6	.6	.6	.6	.6	.5	.5	.5	
20	.7	.7	.7	.7	.7	.8	.8	.8	.8	.7	.7	.7	.7	.7	.7	.6	.6	.6	.6	.6	.6	.6	.5	
19	.7	.7	.8	.8	.8	.8	.9	.9	.9	.1	.8	.8	.7	.7	.7	.7	.7	.7	.6	.6	.6	.6	.6	
18	.8	.8	.8	.8	.9	.9	.9	.9	.9	.1	.9	.8	.8	.8	.7	.7	.7	.7	.7	.6	.6	.6	.6	
17	.8	.8	.9	.9	.9	.9	.9	.9	.9	.1	.9	.8	.8	.8	.8	.8	.7	.7	.7	.7	.7	.6	.6	
16	.8	.9	.9	1.0	1.0	1.0	1.0	1.0	1.0	1.1	.9	.9	.9	.8	.8	.8	.8	.7	.7	.7	.7	.7	.6	
15	.9	.9	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.0	.9	.9	.9	.8	.8	.8	.8	.7	.7	.7	.7	.7	
14	.9	1.0	1.0	1.1	1.2	1.2	1.2	1.2	1.1	1.1	1.0	1.0	.9	.9	.9	.8	.8	.8	.8	.8	.7	.7	.7	
13	.9	1.0	1.1	1.2	1.2	1.4	1.4	1.3	1.2	1.1	1.1	1.0	1.0	.9	.9	.9	.8	.8	.8	.8	.8	.7	.7	
12	1.0	1.1	1.1	1.2	1.3	1.5	[illegible]	1.5	1.3	1.2	1.1	1.0	1.0	.9	.9	.9	.9	.8	.8	.8	.8	.8		
11	1.0	1.1	1.2	1.2	1.3	1.4	1.5	1.4	1.3	1.2	1.1	1.1	1.0	1.0	.9	.9	.9	.9	.9	.8	.8	.8	.8	
10	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	.9	.9	.9	.9	.9	.9	.9	.8		
9	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.0	1.0	1.0	.9	.9	.9	.9	.9	.9			
8	1.2	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	.9	.9	1.0	1.0	.9	.9	
7	1.2	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
6	1.3	1.5	1.4	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1	
5	1.4	[illegible]	1.5	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.2	1.3	1	
4	1.3	1.4	1.3	1.3	1.2	1.1	1.1	1.1	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.3	[illegible]	1	
3	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.1	1.0	1.0	.9	.9	.9	.9	1.0	1.0	1.0	1.1	1.2	1.3	1	
2	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.1	.9	.9	.9	.9	.9	.9	.9	1.0	1.0	1.0	1.1	1.1	1	
1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	.9	.1	.9	.9	.9	.9	.9	.9	.9	.9	.9	1.0	1.0	1.0		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	2

X AXIS

--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ROUNDED UP ON 5 AND DOWN ON 4--

SUMMARY OF INPUT DATA
NON-EQUILIBRIUM (THEIS) MODEL

TRANSMISSIVITY =	160000.
STORAGE COEFFICIENT =	.16000000
TIME (DAYS) =	90.0000
NODE SPACING =	150.00

WELL DESCRIPTIONS

X-LOCATION	Y-LOCATION	Q(GPD)
2.00	5.00	600000.00
7.00	12.00	600000.00
23.00	4.00	600000.00

--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ROUNDED UP ON 5 AND DOWN ON 4--

T = 160,000 gpd
S = .16
Q = 600,000 gpd/well
r = 150'
t = 90 days
Lim Cert Recursion
(W.U.) u/d = 0.0 BLIND

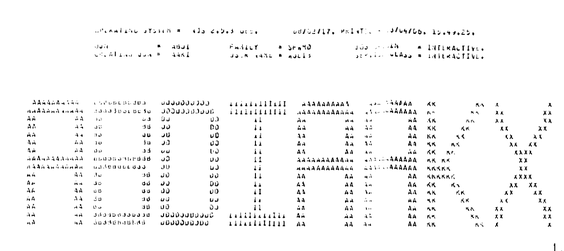
50	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
49	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
48	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
47	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
46	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3
45	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3
44	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
43	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
42	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4
41	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4
40	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4
39	.5	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5
38	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	.5
37	.6	.6	.6	.6	.6	.6	.7	.7	.7	.7	.7	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5
36	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.6	.6	.6	.6	.6	.6	.6	.6
35	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.6	.6	.6	.6	.6
34	.7	.7	.6	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.7	.7	.7	.7	.7	.7	.7	.7	.6	.6
33	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.7	.7	.7	.7	.7	.7	.7
32	.8	.8	.8	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.8	.8	.8	.8	.8	.8	.8	.7	.7	.7	.7

31	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.8	.8	.8	.8	.8	.7	.7
30	.9	.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	.9	.9	.9	.9	.9	.8	.8	.8	.8	.8
29	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	.9	.9	.9	.9	.8	.8	.8
28	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	.9	.9	.9	.9	.9
27	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	.9	.9	.9
26	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	.9
25	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0
24	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0
23	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
22	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1
21	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.2	1.2	1.2
20	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.2	
19	1.7	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.3	1.3
18	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4
17	1.9	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4
16	2.0	2.1	2.2	2.3	2.4	2.4	2.4	2.4	2.3	2.2	2.1	2.1	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.4
15	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.6	2.5	2.4	2.3	2.3	2.2	2.1	2.0	2.0	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.5
14	2.2	2.3	2.5	2.6	2.8	2.9	3.0	2.9	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.6
13	2.3	2.5	2.6	2.8	3.0	3.2	3.4	3.2	2.9	2.7	2.6	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.7	1.6
12	2.4	2.6	2.7	2.9	3.1	3.5	3.7	3.5	3.1	2.8	2.6	2.5	2.4	2.3	2.2	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.8	1.7
11	2.5	2.6	2.8	2.9	3.1	3.4	3.6	3.4	3.1	2.8	2.7	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.8
10	2.6	2.7	2.8	3.0	3.1	3.2	3.2	3.1	3.0	2.8	2.7	2.6	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.0	2.0	1.9
9	2.7	2.8	2.9	3.0	3.0	3.1	3.1	3.0	2.9	2.8	2.6	2.5	2.5	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.0	2.0
8	2.8	2.9	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.1
7	3.0	3.1	3.1	3.1	3.0	2.9	2.9	2.8	2.7	2.6	2.6	2.5	2.4	2.4	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.3	2.2
6	3.2	3.5	3.3	3.1	3.0	2.9	2.8	2.7	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.5
5	3.4	4.0	3.5	3.1	2.9	2.8	2.7	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.7	2.9	3.0	2.8
4	3.1	3.4	3.2	3.0	2.8	2.7	2.6	2.6	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.7	3.1	4.0	3.0
3	2.8	2.9	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.4	2.5	2.6	2.8	3.0	2.7	2.4
2	2.5	2.6	2.6	2.6	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.5	2.6	2.6	2.5	2.3
1	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.1
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

X AXIS

--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ROUNDED UP ON 5 AND DOWN ON 4--



T = 160,000 gpd/ft
S = 0.14
Q = 750,000 gpd/well
n = 150'
t = 90 days

SUMMARY OF INPUT DATA
NON-EQUILIBRIUM (THEIS) MODEL

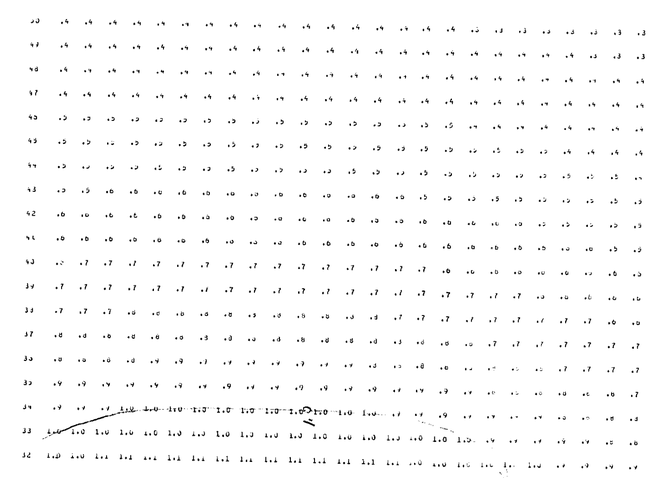
TRANSMISSIVITY =	160000.
STORAGE COEFFICIENT =	.14000000
TIME (DAYS) =	90.0000
NODE SPACING =	150.00

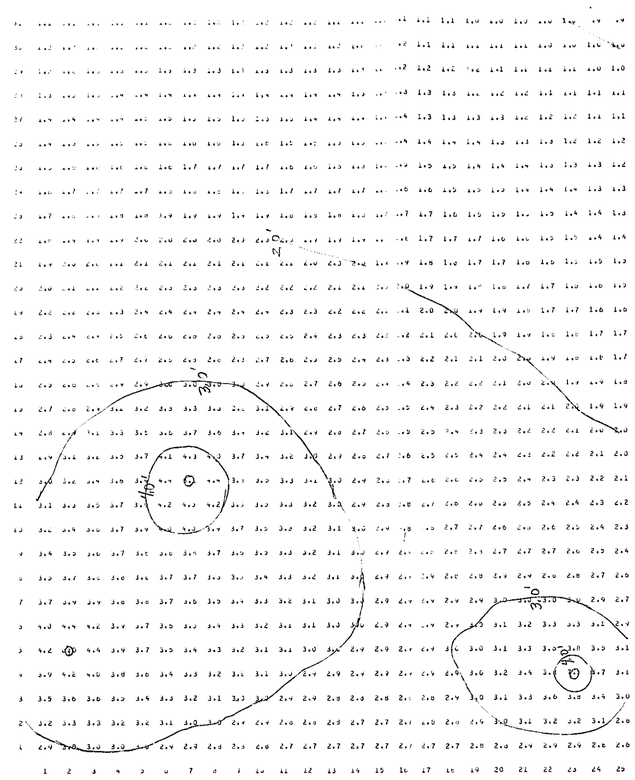
WELL DESCRIPTIONS

X-LOCATION	Y-LOCATION	Q(GPD)
2.00	5.00	750000.00
7.00	12.00	750000.00
23.00	4.00	750000.00

--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ROUNDED UP IN 5 AND DOWN IN 4--





--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ROUNDED UP ON 5 AND DOWN ON 4--

15.49.38.JCLP, AA, 013, 0.320KLNS.

B. Serra Bonita Farms 2/17/83 1of 10
P# 36-00315-S

Retention area has been increased and outfall structure changed.

— to analyze the modification ⇒ look at two different methods during design storm:

method 1) assume only 1-18,000 gpm pump will drain the farm into the retention area

method 2) assume two 18,000 gpm pumps will drain the farm. Mass route the pumpage from 1-18,000 gpm through retention area (pumping times will be different between method "1 & 2).

B. Serra Bonita Farms 2/17/83 2of 10

Farm

Farm area = 640 - 88 = 552 acres

1) ground elev run from 14.5 - 15

2) assume water table will be controlled 18" below ground surface

3) Ground storage for 1.5' of storage ⇒ 1.5"

Storage

assume 10 acres in canals and 542 acres of farm

canals

13.5, 13.25, 13; 2, 1; 10

$V_1 = .25/.5(10) \cdot .25/2 = .63$
$V_2 = .5/.5(10) \cdot .5/2 = 2.5$

use vertical storage above 13.5'

land

15, 14.75, 14.5; 2, 1; 542

$V_1 = .25/.5(542) \cdot .25/2 = 34$
$V_2 = .5/.5(542) \cdot .5/2 = 136$

use vertical storage above 15.0'

B. Serra Bonita Farms 2/17/83 3of 10

Farm

Stage - Storage

Stage	canal	land	total
13	0	0	0
13.5	2.5	0	3
14	7.5	0	8
14.5	12.5	0	13
15	17.5	136	154
15.5	22.5	407	430

Pumps

2 - 18,000 GPM pumps
assume on @ 13.5'
off @ 13.0'

if analyze w/ 1 pump
⇒ need 4 ac-ft of storage @ 13.5'

if analyze w/ 2 pumps
⇒ need 7 ac-ft of storage @ 13.5'

1-18,000 gpm ⇒ 3.3 ac-ft
2-18,000 gpm ⇒ 6.6 ac-ft.

run program "alan" for both methods.

4of 10

SANTA BARBARA PROGRAM

1 pump onto retention area only (1 pump pumping the farm)

PROJECT NAME . . . . . : BONITA FARM
REVIEWER . . . . : FARM
PROJECT AREA . . . . . : 552.00 ACRES
GROUND STORAGE . . . . : 1.50 INCHES
TERMINATION DISCHARGE : 39.00 CFS
TIME OF CONCENTRATION : 2.00 HOURS
TIME STEP . . . . . . : 1.00 HOURS
DISTRIBUTION TYPE . . . : SFWMD
RETURN FREQUENCY . . . : 25.00 YEARS
RAINFALL DURATION . . : 3-DAY
24-HOUR RAINFALL . . . : 8.00 INCHES
DISCHARGE HYDROGRAPH : UPFARM
REPORTING SEQUENCE . : INCREMENTAL

STAGE (FT)	STORAGE (AF)
13.00	0.00
13.50	4.00
14.00	8.00
14.50	13.00
15.00	154.00
15.50	430.00

PUMP NO.	PUMP ON ELEVATION (FEET)	PUMP OFF ELEVATION (FEET)	PUMP DISCHARGE (GPM)	PUMP DESCRIPTION
1	13.50	13.00	18000.00	1-18,000 GPM PUMP INTO RETENT

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
1.00	.05	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
2.00	.10	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
3.00	.15	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
4.00	.19	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
5.00	.24	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
6.00	.29	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
7.00	.34	.00	.1	0.0	0.0	0.0	0.0	0.0	13.00
8.00	.39	.01	.6	0.0	0.0	0.0	0.0	0.0	13.00
9.00	.44	.01	1.6	.1	.1	0.0	0.0	0.0	13.00
10.00	.49	.02	2.7	.3	.3	0.0	0.0	0.0	13.01
11.00	.54	.03	3.9	.6	.6	0.0	0.0	0.0	13.03
12.00	.58	.05	5.1	.9	.9	0.0	0.0	0.0	13.05
13.00	.63	.06	6.2	1.4	1.4	0.0	0.0	0.0	13.09
14.00	.68	.08	7.3	2.0	2.0	0.0	0.0	0.0	13.15

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
15.00	.73	.10	8.3	2.6	2.6	0.0	0.0	0.0	13.29
16.00	.78	.12	9.3	3.3	3.3	0.0	0.0	0.0	13.37
17.00	.83	.14	10.2	4.1	4.1	0.0	0.0	0.0	13.47
18.00	.88	.16	11.0	5.0	5.0	0.0	40.1	20.1	13.57
19.00	.92	.18	11.8	6.0	2.6	3.4	40.1	40.1	13.27
20.00	.97	.21	12.5	7.0	.3	6.7	0.0	20.1	12.98
21.00	1.02	.23	13.2	8.0	1.4	6.6	0.0	0.0	13.11
22.00	1.07	.26	13.8	9.1	2.5	6.6	0.0	0.0	13.24
23.00	1.12	.29	14.4	10.3	3.7	6.6	0.0	0.0	13.39
24.00	1.17	.32	14.9	11.5	4.9	6.6	40.1	20.1	13.53
25.00	1.24	.36	17.0	12.8	2.9	9.9	40.1	40.1	13.28
26.00	1.31	.41	20.0	14.4	1.1	13.3	40.1	40.1	13.04
27.00	1.38	.45	22.2	16.1	.1	16.0	0.0	20.1	12.90
28.00	1.45	.50	23.8	18.0	2.0	16.0	0.0	0.0	13.13
29.00	1.52	.55	25.0	20.0	4.0	16.0	0.0	0.0	13.37
30.00	1.59	.60	26.0	22.1	6.1	16.0	40.1	20.1	13.63
31.00	1.67	.65	26.9	24.3	5.0	19.3	40.1	40.1	13.49
32.00	1.74	.70	27.6	26.6	3.9	22.7	40.1	40.1	13.35
33.00	1.81	.76	28.2	28.9	2.9	26.0	40.1	40.1	13.22
34.00	1.88	.81	28.8	31.2	1.9	29.3	40.1	40.1	13.10
35.00	1.95	.86	29.3	33.6	1.0	32.6	0.0	20.1	12.98
36.00	2.02	.92	29.8	36.1	3.5	32.6	0.0	0.0	13.28
37.00	2.09	.97	30.3	38.5	6.0	32.5	40.1	20.1	13.59
38.00	2.16	1.03	30.7	41.1	5.2	35.9	40.1	40.1	13.49
39.00	2.23	1.09	31.1	43.6	4.4	39.2	40.1	40.1	13.39
40.00	2.30	1.15	31.4	46.2	3.7	42.5	40.1	40.1	13.30
41.00	2.38	1.20	31.6	48.8	3.0	45.8	40.1	40.1	13.21
42.00	2.45	1.26	32.1	51.4	2.3	49.1	40.1	40.1	13.12
43.00	2.52	1.32	32.4	54.1	1.6	52.5	40.1	40.1	13.04
44.00	2.59	1.38	32.7	56.8	1.0	55.8	0.0	20.1	12.96
45.00	2.66	1.44	32.9	59.5	3.7	55.8	0.0	0.0	13.30
46.00	2.73	1.50	33.2	62.2	6.5	55.7	40.1	20.1	13.64
47.00	2.80	1.56	33.4	65.0	5.9	59.1	40.1	40.1	13.57
48.00	2.87	1.62	33.6	67.8	5.4	62.4	40.1	40.1	13.50
49.00	2.95	1.69	34.7	70.6	4.9	65.7	40.1	40.1	13.43
50.00	3.03	1.76	36.3	73.5	4.5	69.0	40.1	40.1	13.38
51.00	3.13	1.85	38.9	76.6	4.3	72.3	40.1	40.1	13.34
52.00	3.23	1.94	42.9	80.0	4.4	75.6	40.1	40.1	13.33
53.00	3.37	2.06	49.4	83.8	4.9	78.9	40.1	40.1	13.37
54.00	3.54	2.21	59.9	88.4	6.1	82.3	40.1	40.1	13.48
55.00	3.74	2.39	72.6	93.8	8.2	85.6	40.1	40.1	13.69
56.00	3.97	2.60	87.4	100.5	11.5	89.0	40.1	40.1	14.02
57.00	4.24	2.85	103.8	108.4	16.1	92.3	40.1	40.1	14.50
58.00	4.58	3.17	124.9	117.8	22.3	95.5	40.1	40.1	14.52

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
59.00	5.02	3.59	156.4	129.4	30.6	98.8	40.1	40.1	14.54
60.00	8.12	6.56	471.9	155.4	53.2	102.2	40.1	40.1	14.60
61.00	9.01	7.43	710.9	204.3	98.8	105.5	40.1	40.1	14.72
62.00	9.42	7.83	567.5	257.1	148.3	108.8	40.1	40.1	14.89
63.00	9.67	8.08	412.9	297.6	185.5	112.1	40.1	40.1	15.02
64.00	9.91	8.31	301.9	327.1	211.7	115.4	40.1	40.1	15.08
65.00	10.06	8.46	223.1	348.8	230.1	118.7	40.1	40.1	15.12
66.00	10.20	8.60	165.4	364.9	242.8	122.1	40.1	40.1	15.15
67.00	10.34	8.74	130.7	377.1	251.8	125.3	40.1	40.1	15.17
68.00	10.49	8.88	110.0	387.1	258.4	128.7	40.1	40.1	15.18
69.00	10.58	8.97	92.2	395.4	263.4	132.0	40.1	40.1	15.19
70.00	10.68	9.07	76.4	402.4	267.1	135.3	40.1	40.1	15.20
71.00	10.78	9.16	66.9	408.3	269.7	138.6	40.1	40.1	15.20
72.00	10.87	9.26	61.2	413.6	271.7	141.9	40.1	40.1	15.21
73.00	10.87	9.26	47.2	418.1	272.8	145.3	40.1	40.1	15.21
74.00	10.87	9.26	28.3	421.2	272.6	148.6	40.1	40.1	15.21
75.00	10.87	9.26	17.0	423.1	271.2	151.9	40.1	40.1	15.21
76.00	10.87	9.26	10.2	424.2	269.0	155.2	40.1	40.1	15.21
77.00	10.87	9.26	6.1	424.9	266.4	158.5	40.1	40.1	15.20
78.00	10.87	9.26	3.7	425.3	263.4	161.9	40.1	40.1	15.20
79.00	10.87	9.26	2.2	425.5	260.4	165.1	40.1	40.1	15.19
80.00	10.87	9.26	1.3	425.7	257.2	168.5	40.1	40.1	15.19
81.00	10.87	9.26	.8	425.8	254.0	171.8	40.1	40.1	15.18
82.00	10.87	9.26	.5	425.8	250.7	175.1	40.1	40.1	15.18
83.00	10.87	9.26	.3	425.8	247.4	178.4	40.1	40.1	15.17
84.00	10.87	9.26	.2	425.9	244.1	181.8	40.1	40.1	15.16
85.00	10.87	9.26	.1	425.9	240.8	185.1	40.1	40.1	15.16
86.00	10.87	9.26	.1	425.9	237.5	188.4	40.1	40.1	15.15
87.00	10.87	9.26	.0	425.9	234.2	191.7	40.1	40.1	15.15
88.00	10.87	9.26	.0	425.9	230.9	195.0	40.1	40.1	15.14
89.00	10.87	9.26	.0	425.9	227.6	198.3	40.1	40.1	15.13
90.00	10.87	9.26	.0	425.9	224.3	201.6	40.1	40.1	15.13
91.00	10.87	9.26	.0	425.9	221.0	204.9	40.1	40.1	15.12
92.00	10.87	9.26	.0	425.9	217.6	208.3	40.1	40.1	15.12
93.00	10.87	9.26	.0	425.9	214.3	211.6	40.1	40.1	15.11
94.00	10.87	9.26	.0	425.9	211.0	214.9	40.1	40.1	15.10
95.00	10.87	9.26	.0	425.9	207.7	218.2	40.1	40.1	15.10
96.00	10.87	9.26	.0	425.9	204.4	221.5	40.1	40.1	15.09
97.00	10.87	9.26	.0	425.9	201.1	224.8	40.1	40.1	15.09
98.00	10.87	9.26	.0	425.9	197.8	228.1	40.1	40.1	15.08
99.00	10.87	9.26	.0	425.9	194.4	231.5	40.1	40.1	15.07
100.00	10.87	9.26	.0	425.9	191.1	234.8	40.1	40.1	15.07
101.00	10.87	9.26	.0	425.9	187.8	238.1	40.1	40.1	15.06
102.00	10.87	9.26	.0	425.9	184.5	241.4	40.1	40.1	15.06

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
103.00	10.87	9.26	.0	425.9	181.2	244.7	40.1	40.1	15.05
104.00	10.87	9.26	.0	425.9	177.9	248.0	40.1	40.1	15.04
105.00	10.87	9.26	.0	425.9	174.6	251.3	40.1	40.1	15.04
106.00	10.87	9.26	.0	425.9	171.2	254.7	40.1	40.1	15.03
107.00	10.87	9.26	.0	425.9	167.9	258.0	40.1	40.1	15.03
108.00	10.87	9.26	.0	425.9	164.6	261.3	40.1	40.1	15.02
109.00	10.87	9.26	.0	425.9	161.3	264.6	40.1	40.1	15.01
110.00	10.87	9.26	.0	425.9	158.0	267.9	40.1	40.1	15.01
111.00	10.87	9.26	.0	425.9	154.7	271.2	40.1	40.1	15.00
112.00	10.87	9.26	.0	425.9	151.4	274.5	40.1	40.1	14.99
113.00	10.87	9.26	.0	425.9	148.0	277.9	40.1	40.1	14.98
114.00	10.87	9.26	.0	425.9	144.7	281.2	40.1	40.1	14.97
115.00	10.87	9.26	.0	425.9	141.4	284.5	40.1	40.1	14.96
116.00	10.87	9.26	.0	425.9	138.1	287.8	40.1	40.1	14.94
117.00	10.87	9.26	.0	425.9	134.8	291.1	40.1	40.1	14.93
118.00	10.87	9.26	.0	425.9	131.5	294.4	40.1	40.1	14.92
119.00	10.87	9.26	.0	425.9	128.1	297.8	40.1	40.1	14.91
120.00	10.87	9.26	.0	425.9	124.8	301.1	40.1	40.1	14.90
121.00	10.87	9.26	.0	425.9	121.5	304.4	40.1	40.1	14.88
122.00	10.87	9.26	.0	425.9	118.2	307.7	40.1	40.1	14.87
123.00	10.87	9.26	.0	425.9	114.9	311.0	40.1	40.1	14.86
124.00	10.87	9.26	.0	425.9	111.6	314.3	40.1	40.1	14.85
125.00	10.87	9.26	.0	425.9	108.3	317.6	40.1	40.1	14.84
126.00	10.87	9.26	.0	425.9	104.9	321.0	40.1	40.1	14.83
127.00	10.87	9.26	.0	425.9	101.6	324.3	40.1	40.1	14.81
128.00	10.87	9.26	.0	425.9	98.3	327.6	40.1	40.1	14.80
129.00	10.87	9.26	.0	425.9	95.0	330.9	40.1	40.1	14.79
130.00	10.87	9.26	.0	425.9	91.7	334.2	40.1	40.1	14.78
131.00	10.87	9.26	.0	425.9	88.4	337.5	40.1	40.1	14.77
132.00	10.87	9.26	.0	425.9	85.1	340.8	40.1	40.1	14.76
133.00	10.87	9.26	.0	425.9	81.7	344.2	40.1	40.1	14.74
134.00	10.87	9.26	.0	425.9	78.4	347.5	40.1	40.1	14.73
135.00	10.87	9.26	.0	425.9	75.1	350.8	40.1	40.1	14.72
136.00	10.87	9.26	.0	425.9	71.8	354.1	40.1	40.1	14.71
137.00	10.87	9.26	.0	425.9	68.5	357.4	40.1	40.1	14.70
138.00	10.87	9.26	.0	425.9	65.2	360.7	40.1	40.1	14.68
139.00	10.87	9.26	.0	425.9	61.9	364.0	40.1	40.1	14.67
140.00	10.87	9.26	.0	425.9	58.5	367.4	40.1	40.1	14.66
141.00	10.87	9.26	.0	425.9	55.2	370.7	40.1	40.1	14.65
142.00	10.87	9.26	.0	425.9	51.9	374.0	40.1	40.1	14.64
143.00	10.87	9.26	.0	425.9	48.6	377.3	40.1	40.1	14.63
[illegible]	10.87	9.26	.0	425.9	45.3	380.6	40.1	40.1	14.61
[illegible]	10.87	9.26	.0	425.9	42.0	383.9	40.1	40.1	14.60
146.00	10.87	9.26	.0	425.9	38.7	387.2	40.1	40.1	14.59

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
147.00	10.87	9.26	.0	425.9	35.3	390.6	40.1	40.1	14.58
148.00	10.87	9.26	.0	425.9	32.0	393.9	40.1	40.1	14.57
149.00	10.87	9.26	.0	425.9	28.7	397.2	40.1	40.1	14.56
150.00	10.87	9.26	.0	425.9	25.4	400.5	40.1	40.1	14.54
151.00	10.87	9.26	.0	425.9	22.1	403.8	40.1	40.1	14.53
152.00	10.87	9.26	.0	425.9	18.8	407.1	40.1	40.1	14.52
153.00	10.87	9.26	.0	425.9	15.5	410.4	40.1	40.1	14.51
154.00	10.87	9.26	.0	425.9	12.1	413.8	40.1	40.1	14.50
155.00	10.87	9.26	.0	425.9	8.8	417.1	40.1	40.1	14.08
156.00	10.87	9.26	.0	425.9	5.5	420.4	40.1	40.1	13.69
157.00	10.87	9.26	.0	425.9	2.2	423.7	40.1	40.1	13.27
158.00	10.87	9.26	.0	425.9	-1.0	426.9	0.0	20.1	12.86

SUMMARY INFORMATION

MAXIMUM STAGE WAS 15.21 FEET AT 74.00 HOURS
MAXIMUM DISCHARGE WAS 40.1 CFS AT 18.00 HOURS

PUMPING HISTORY

PUMP 1 "ON " AT 18.00 HOURS
PUMP 1 "OFF" AT 20.00 HOURS
PUMP 1 "ON " AT 24.00 HOURS
PUMP 1 "OFF" AT 27.00 HOURS
PUMP 1 "ON " AT 30.00 HOURS

PUMP 1 "OFF" AT 35.00 HOURS
PUMP 1 "ON " AT 37.00 HOURS
PUMP 1 "OFF" AT 44.00 HOURS
PUMP 1 "ON " AT 46.00 HOURS
PUMP 1 "OFF" AT 158.00 HOURS

S A N T A   B A R B A R A   P R O G R A M

PROJECT NAME . . . . . : BONITA FARM
REVIEWER . . . . : FARM
PROJECT AREA . . . . . : 552.00 ACRES
GROUND STORAGE . . . . : 1.50 INCHES
TERMINATION DISCHARGE : 74.00 CFS
TIME OF CONCENTRATION : 2.00 HOURS
TIME STEP . . . . . . : 1.00 HOURS
DISTRIBUTION TYPE . . : SFWMD
RETURN FREQUENCY . . : 25.00 YEARS
RAINFALL DURATION . . : 3-DAY
24-HOUR RAINFALL . . : 8.00 INCHES
REPORTING SEQUENCE . . : INCREMENTAL

2 pumps pumping from the farm

STAGE (FT)	STORAGE (AF)
[illegible]	0.00
[illegible]	4.00
[illegible]	8.00
[illegible]	13.00
[illegible]	154.00
[illegible]	430.00

PUMP NO.	PUMP ON ELEVATION (FEET)	PUMP OFF ELEVATION (FEET)	PUMP DISCHARGE (GPM)	PUMP DESCRIPTION
1	[illegible]	13.00	36000.00	2-18,000 GPM PUMP INTO RETENT

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
1.00	.05	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
2.00	.10	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
3.00	.15	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
4.00	.19	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
5.00	.24	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
6.00	.29	0.00	0.0	0.0	0.0	0.0	0.0	0.0	13.00
7.00	.34	.00	.1	0.0	0.0	0.0	0.0	0.0	13.00
8.00	.39	.01	.6	0.0	0.0	0.0	0.0	0.0	13.00
9.00	.44	.01	1.6	.1	.1	0.0	0.0	0.0	13.01
10.00	.49	.02	2.7	.3	.3	0.0	0.0	0.0	13.03
11.00	.54	.03	3.9	.6	.6	0.0	0.0	0.0	13.05
12.00	.58	.03	5.1	.9	.9	0.0	0.0	0.0	13.09
13.00	.63	.05	6.2	1.4	1.4	0.0	0.0	0.0	13.15
14.00	.68	.06	7.3	2.0	2.0	0.0	0.0	0.0	13.21

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
15.00	.73	.10	8.3	2.6	2.6	0.0	0.0	0.0	13.29
16.00	.78	.12	9.3	3.3	3.3	0.0	0.0	0.0	13.37
17.00	.83	.14	10.2	4.1	4.1	0.0	0.0	0.0	13.47
18.00	.88	.16	11.0	5.0	5.0	0.0	80.2	40.1	13.57
19.00	.92	.16	11.8	6.0	-.6	6.6	0.0	40.1	12.86
20.00	.97	.21	12.5	7.0	1.0	6.0	0.0	0.0	13.06
21.00	1.02	.23	13.2	8.0	2.1	5.9	0.0	0.0	13.19
22.00	1.07	.26	13.8	9.1	3.2	5.9	0.0	0.0	13.33
23.00	1.12	.29	14.4	10.3	4.3	6.0	0.0	0.0	13.47
24.00	1.17	.32	14.9	11.5	5.6	5.9	80.2	40.1	13.62
25.00	1.24	.36	17.6	12.8	.2	12.6	0.0	40.1	12.95
26.00	1.31	.41	20.0	14.4	1.8	12.6	0.0	0.0	13.13
27.00	1.38	.45	22.2	16.1	3.5	12.6	0.0	0.0	13.33
28.00	1.45	.50	23.8	18.0	5.4	12.6	80.2	40.1	13.56
29.00	1.52	.55	25.0	20.0	.8	19.2	0.0	40.1	12.97
30.00	1.59	.60	26.0	22.1	2.9	19.2	0.0	0.0	13.23
31.00	1.67	.65	26.9	24.3	5.1	19.2	0.0	0.0	13.50
32.00	1.74	.70	27.6	26.6	7.3	19.3	80.2	40.1	13.78
33.00	1.81	.76	28.2	28.9	3.0	25.9	80.2	80.2	13.23
34.00	1.88	.81	28.8	31.2	-.9	32.1	0.0	40.1	12.73
35.00	1.95	.86	29.3	33.6	2.4	31.2	0.0	0.0	13.15
36.00	2.02	.92	29.8	36.1	4.8	31.3	0.0	0.0	13.45
37.00	2.09	.97	30.3	38.5	7.3	31.2	80.2	40.1	13.76
38.00	2.16	1.03	30.7	41.1	3.2	37.9	80.2	80.2	13.25
39.00	2.23	1.09	31.1	43.6	-.7	44.3	0.0	40.1	12.75
40.00	2.30	1.15	31.4	46.2	2.6	43.6	0.0	0.0	13.16
41.00	2.38	1.20	31.8	48.8	5.2	43.6	0.0	0.0	13.49
42.00	2.45	1.26	32.1	51.4	7.8	43.6	80.2	40.1	13.81
43.00	2.52	1.32	32.4	54.1	3.9	50.2	80.2	80.2	13.32
44.00	2.59	1.38	32.7	56.8	0.0	56.8	0.0	40.1	12.82
45.00	2.66	1.44	32.9	59.5	2.7	56.8	0.0	0.0	13.17
46.00	2.73	1.50	33.2	62.2	5.4	56.8	80.2	40.1	13.51
47.00	2.80	1.56	33.4	65.0	1.6	63.4	80.2	80.2	13.02
48.00	2.87	1.62	33.6	67.8	-.4	68.2	0.0	40.1	12.76
49.00	2.95	1.69	34.7	70.6	2.8	67.8	0.0	0.0	13.18
50.00	3.03	1.76	36.3	73.5	5.8	67.7	80.2	40.1	13.54
51.00	3.13	1.85	38.9	76.6	2.2	74.4	80.2	80.2	13.09
52.00	3.23	1.94	42.9	80.0	.1	79.9	0.0	40.1	12.80
53.00	3.37	2.06	49.4	83.8	3.9	79.9	0.0	0.0	13.25
54.00	3.54	2.21	59.9	88.4	8.4	80.0	80.2	40.1	13.77
55.00	3.74	2.39	72.8	93.8	7.3	86.5	80.2	80.2	13.56
56.00	3.97	2.60	87.4	100.5	7.2	93.3	80.2	80.2	13.49
57.00	4.24	2.85	103.6	108.4	8.5	99.9	80.2	80.2	13.57
58.00	4.58	3.17	124.9	117.8	11.3	106.5	80.2	80.2	13.86

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
59.00	5.02	3.59	156.4	129.4	16.3	113.1	80.2	80.2	14.49
60.00	8.12	6.56	471.9	155.4	35.7	119.7	80.2	80.2	14.53
61.00	9.01	7.43	710.9	204.3	77.9	126.4	80.2	80.2	14.64
62.00	9.42	7.83	567.5	257.1	124.1	133.0	80.2	80.2	14.80
63.00	9.67	8.08	412.9	297.6	158.0	139.6	80.2	80.2	14.94
64.00	9.91	8.31	301.9	327.1	180.9	146.2	80.2	80.2	15.02
65.00	10.06	8.46	223.1	346.8	196.0	152.8	80.2	80.2	15.06
66.00	10.20	8.60	165.4	364.9	205.4	159.5	80.2	80.2	15.08
67.00	10.34	8.74	130.7	377.1	211.0	166.1	80.2	80.2	15.09
68.00	10.49	8.88	110.0	387.1	214.3	172.8	80.2	80.2	15.10
69.00	10.58	8.97	92.2	395.4	216.0	179.4	80.2	80.2	15.10
70.00	10.68	9.07	76.9	402.4	216.4	186.0	80.2	80.2	15.11
71.00	10.78	9.16	66.9	408.3	215.7	192.6	80.2	80.2	15.11
72.00	10.87	9.25	61.2	413.6	214.3	199.3	80.2	80.2	15.10
73.00	10.87	9.26	47.2	418.1	212.2	205.9	80.2	80.2	15.10
74.00	10.87	9.26	28.3	421.2	208.7	212.5	80.2	80.2	15.10
75.00	10.87	9.26	17.0	423.1	203.9	219.2	80.2	80.2	15.09
76.00	10.87	9.26	10.2	424.2	198.4	225.8	80.2	80.2	15.08
77.00	10.87	9.26	6.1	424.9	192.5	232.4	80.2	80.2	15.07
78.00	10.87	9.26	3.7	425.3	186.2	239.1	80.2	80.2	15.06
79.00	10.87	9.26	2.2	425.5	179.8	245.7	80.2	80.2	15.05
80.00	10.87	9.26	1.3	425.7	173.4	252.3	80.2	80.2	15.03
81.00	10.87	9.26	.8	425.8	166.8	259.0	80.2	80.2	15.02
82.00	10.87	9.26	.5	425.8	160.2	265.6	80.2	80.2	15.01
83.00	10.87	9.26	.3	425.8	153.6	272.2	80.2	80.2	15.00
84.00	10.87	9.26	.2	425.9	147.0	278.9	80.2	80.2	14.98
85.00	10.87	9.26	.1	425.9	140.4	285.5	80.2	80.2	14.95
86.00	10.87	9.26	.1	425.9	133.8	292.1	80.2	80.2	14.93
87.00	10.87	9.26	.0	425.9	127.2	298.7	80.2	80.2	14.90
88.00	10.87	9.26	.0	425.9	120.5	305.4	80.2	80.2	14.88
89.00	10.87	9.26	.0	425.9	113.9	312.0	80.2	80.2	14.86
90.00	10.87	9.26	.0	425.9	107.3	318.6	80.2	80.2	14.83
91.00	10.87	9.26	.0	425.9	100.7	325.2	80.2	80.2	14.81
92.00	10.87	9.26	.0	425.9	94.0	331.9	80.2	80.2	14.79
93.00	10.87	9.26	.0	425.9	87.4	338.5	80.2	80.2	14.76
94.00	10.87	9.26	.0	425.9	80.8	345.1	80.2	80.2	14.74
95.00	10.87	9.26	.0	425.9	74.1	351.8	80.2	80.2	14.72
96.00	10.87	9.26	.0	425.9	67.5	358.4	80.2	80.2	14.69
97.00	10.87	9.26	.0	425.9	60.9	365.0	80.2	80.2	14.67
98.00	10.87	9.26	.0	425.9	54.3	371.6	80.2	80.2	14.65
99.00	10.87	9.26	.0	425.9	47.6	378.3	80.2	80.2	14.62
100.00	10.87	9.26	.0	425.9	41.0	384.9	80.2	80.2	14.60
101.00	10.87	9.26	.0	425.9	34.4	391.5	80.2	80.2	14.58
102.00	10.87	9.26	.0	425.9	27.7	398.2	80.2	80.2	14.55

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
103.00	10.87	9.26	.0	425.9	21.1	404.8	80.2	80.2	14.53
104.00	10.87	9.26	.0	425.9	14.5	411.4	80.2	80.2	14.51
105.00	10.87	9.26	.0	425.9	7.8	418.1	80.2	80.2	13.98
106.00	10.87	9.26	.0	425.9	1.2	424.7	80.2	80.2	13.15
107.00	10.87	9.26	.0	425.9	-3.2	429.1	0.0	40.1	12.59

SUMMARY INFORMATION

MAXIMUM STAGE WAS 15.11 FEET AT 70.00 HOURS
MAXIMUM DISCHARGE WAS 80.2 CFS AT 18.00 HOURS

PUMPING HISTORY

PUMP 1 "ON " AT 18.00 HOURS
PUMP 1 "OFF" AT 19.00 HOURS
PUMP 1 "ON " AT 24.00 HOURS
PUMP 1 "OFF" AT 25.00 HOURS
PUMP 1 "ON " AT 28.00 HOURS
PUMP 1 "OFF" AT 29.00 HOURS
PUMP 1 "ON " AT 32.00 HOURS
PUMP 1 "OFF" AT 34.00 HOURS
PUMP 1 "ON " AT 37.00 HOURS
PUMP 1 "OFF" AT 39.00 HOURS
PUMP 1 "ON " AT 42.00 HOURS
PUMP 1 "OFF" AT 44.00 HOURS
PUMP 1 "ON " AT 46.00 HOURS
PUMP 1 "OFF" AT 48.00 HOURS
PUMP 1 "ON " AT 50.00 HOURS
PUMP 1 "OFF" AT 52.00 HOURS
PUMP 1 "ON " AT 54.00 HOURS
PUMP 1 "OFF" AT 107.00 HOURS

B. Serra   Bonita Farms   2/17/83   6 of 10

Retention Area

Area = 88 acres
S = 0

Use vertical storage from elevation 14.5'

Stage	Storage
14.5	0
15	44
15.5	88
16	132
16.5	176
17	220
17.5	264
18	308

Discharge is via 3-18" CMP culverts at elevation 14.5' (invert), L=20'

Stage	H	Qp	× 3
16	0	0	0
16.5	.5	6	18
17	1	9	27
18	2	12	36

method 1)
Run program Alan and route 1 pump from farm through retention area (page 4)

S A N T A   B A R B A R A   P R O G R A M

PROJECT NAME . . . . . : BONITA FARM
REVIEWER . . . . : RETENTION AREA
PROJECT AREA . . . . . : 88.00 ACRES
GROUND STORAGE . . . . : 0.00 INCHES
TERMINATION DISCHARGE : 10.00 CFS
TIME OF CONCENTRATION : 1.00 HOURS
TIME STEP . . . . . . : 1.00 HOURS
DISTRIBUTION TYPE . . : SFWMD
RETURN FREQUENCY . . : 25.00 YEARS
RAINFALL DURATION . . : 3-DAY
24-HOUR RAINFALL . . : 8.00 INCHES
INFLOW HYDROGRAPH . . : UPFARM LAGGED BY 0.00 HOURS
REPORTING SEQUENCE . . : INCREMENTAL

STAGE (FT)	STORAGE (AF)	DISCHARGE (CFS)
14.50	0.00	0.00
16.50	176.00	18.00
17.00	220.00	27.00
18.00	308.00	36.00

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	14.50
1.00	.05	.05	1.4	.1	.1	0.0	.0	.0	14.50
2.00	.10	.10	3.4	.3	.3	0.0	.0	.0	14.50
3.00	.15	.15	4.0	.6	.6	0.0	.0	.0	14.50
4.00	.19	.19	4.2	.9	.9	0.0	.1	.1	14.51
5.00	.24	.24	4.3	1.3	1.2	.1	.1	.1	14.51
6.00	.29	.29	4.3	1.6	1.6	0.0	.1	.1	14.52
7.00	.34	.34	4.3	2.0	1.9	.1	.2	.2	14.52
8.00	.39	.39	4.3	2.3	2.3	0.0	.2	.2	14.52
9.00	.44	.44	4.3	2.7	2.6	.1	.2	.2	14.53
10.00	.49	.49	4.3	3.0	2.9	.1	.3	.3	14.53
11.00	.54	.54	4.3	3.4	3.3	.1	.3	.3	14.54
12.00	.58	.58	4.3	3.7	3.6	.1	.3	.3	14.54
13.00	.63	.63	4.3	4.1	3.9	.2	.4	.4	14.54
14.00	.68	.68	4.3	4.5	4.2	.3	.4	.4	14.55
15.00	.73	.73	4.2	4.8	4.6	.2	.4	.4	14.55
16.00	.78	.78	4.3	5.2	4.9	.3	.5	.5	14.55
17.00	.83	.83	4.3	5.5	5.2	.3	.5	.5	14.56
18.00	.88	.88	4.3	7.5	7.2	.3	.6	.6	14.57
19.00	.92	.92	4.3	11.2	10.8	.4	.9	.8	14.60
20.00	.97	.97	4.3	13.2	12.7	.5	1.2	1.1	14.63
21.00	1.02	1.02	4.3	13.6	13.0	.6	1.3	1.3	14.65

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
22.00	1.07	1.07	4.3	13.9	13.2	.7	1.3	1.3	14.65
23.00	1.12	1.12	4.3	14.3	13.5	.8	1.4	1.3	14.65
24.00	1.17	1.17	4.3	16.3	15.4	.9	1.5	1.4	14.66
25.00	1.24	1.24	5.0	20.0	18.9	1.1	1.7	1.6	14.69
26.00	1.31	1.31	5.9	23.8	22.5	1.3	2.1	1.9	14.73
27.00	1.38	1.38	6.2	25.9	24.5	1.4	2.4	2.3	14.77
28.00	1.45	1.45	6.3	26.4	24.8	1.6	2.5	2.5	14.78
29.00	1.52	1.52	6.3	27.0	25.1	1.9	2.5	2.5	14.78
30.00	1.59	1.59	6.3	29.1	27.1	2.0	2.7	2.6	14.80
31.00	1.67	1.67	6.3	33.0	30.7	2.3	2.9	2.8	14.83
32.00	1.74	1.74	6.3	36.8	34.2	2.6	3.3	3.1	14.87
33.00	1.81	1.81	6.3	40.6	37.8	2.8	3.7	3.5	14.91
34.00	1.88	1.88	6.3	44.5	41.3	3.2	4.0	3.8	14.95
35.00	1.95	1.95	6.3	46.7	43.1	3.6	4.3	4.2	14.98
36.00	2.02	2.02	6.3	47.2	43.3	3.9	4.4	4.4	14.99
37.00	2.09	2.09	6.3	49.4	45.1	4.3	4.5	4.5	15.00
38.00	2.16	2.16	6.3	53.2	48.6	4.6	4.8	4.6	15.03
39.00	2.23	2.23	6.3	57.0	52.0	5.0	5.1	4.9	15.07
40.00	2.30	2.30	6.3	60.9	55.4	5.5	5.5	5.3	15.11
41.00	2.38	2.38	6.3	64.7	58.8	5.9	5.8	5.6	15.15
42.00	2.45	2.45	6.3	68.5	62.1	6.4	6.2	6.0	15.18
43.00	2.52	2.52	6.3	72.4	65.4	7.0	6.5	6.3	15.22
44.00	2.59	2.59	6.3	74.5	67.0	7.5	6.7	6.6	15.25
45.00	2.66	2.66	6.3	75.1	67.0	8.1	6.8	6.8	15.26
46.00	2.73	2.73	6.3	77.2	68.6	8.6	6.9	6.9	15.27
47.00	2.80	2.80	6.3	81.1	71.9	9.2	7.2	7.0	15.29
48.00	2.87	2.87	6.3	84.9	75.1	9.8	7.5	7.3	15.33
49.00	2.95	2.95	6.6	88.8	78.3	10.5	7.8	7.6	15.37
50.00	3.03	3.03	6.9	92.6	81.5	11.1	8.1	8.0	15.40
51.00	3.13	3.13	7.5	96.5	84.8	11.7	8.5	8.3	15.44
52.00	3.23	3.23	8.4	100.5	88.0	12.5	8.8	8.6	15.48
53.00	3.37	3.37	9.9	104.6	91.3	13.3	9.1	9.0	15.51
54.00	3.54	3.54	12.3	108.8	94.8	14.0	9.5	9.3	15.55
55.00	3.74	3.74	15.0	113.3	98.5	14.8	9.8	9.7	15.59
56.00	3.97	3.97	17.8	117.9	102.3	15.6	10.2	10.0	15.64
57.00	4.24	4.24	20.8	122.8	106.3	16.5	10.6	10.4	15.68
58.00	4.58	4.58	24.9	128.0	110.6	17.4	11.1	10.8	15.73
59.00	5.02	5.02	31.5	133.7	115.4	18.3	11.5	11.3	15.78
60.00	8.12	8.12	115.3	143.1	123.8	19.3	12.2	11.8	15.85
61.00	9.01	9.01	153.3	157.6	137.2	20.4	13.3	12.7	15.98
62.00	9.42	9.42	90.4	171.1	149.6	21.5	14.6	14.0	16.12
63.00	9.67	9.67	49.6	180.2	157.5	22.7	15.6	15.1	16.24
64.00	9.91	9.91	31.3	186.9	162.8	24.1	16.3	16.0	16.31
65.00	10.06	10.06	21.8	192.4	166.9	25.5	16.8	16.6	16.37

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
66.00	10.20	10.20	15.8	197.3	170.4	26.9	17.2	17.0	16.41
67.00	10.34	10.34	13.8	201.8	173.5	28.3	17.5	17.3	16.45
68.00	10.49	10.49	13.1	206.2	176.5	29.7	17.8	17.7	16.48
69.00	10.58	10.58	11.5	210.6	179.3	31.3	18.2	18.0	16.51
70.00	10.68	10.68	9.5	214.7	182.0	32.7	18.8	18.5	16.54
71.00	10.78	10.78	8.8	218.8	184.5	34.3	19.3	19.1	16.57
72.00	10.87	10.87	6.6	222.8	186.9	35.9	19.8	19.6	16.60
73.00	10.87	10.87	5.7	226.8	189.1	37.7	20.3	20.1	16.63
74.00	10.87	10.87	1.9	230.4	191.1	39.3	20.7	20.5	16.65
75.00	10.87	10.87	.6	233.8	192.8	41.0	21.1	20.9	16.67
76.00	10.87	10.87	.2	237.2	194.4	42.8	21.4	21.2	16.69
77.00	10.87	10.87	.1	240.5	195.9	44.6	21.7	21.6	16.71
78.00	10.87	10.87	.0	243.8	197.4	46.4	22.0	21.9	16.72
79.00	10.87	10.87	.0	247.1	198.9	48.2	22.3	22.2	16.74
80.00	10.87	10.87	.0	250.4	200.3	50.1	22.6	22.5	16.76
81.00	10.87	10.87	.0	253.7	201.8	51.9	22.9	22.8	16.77
82.00	10.87	10.87	.0	257.1	203.2	53.9	23.2	23.1	16.79
83.00	10.87	10.87	.0	260.4	204.6	55.8	23.5	23.4	16.81
84.00	10.87	10.87	.0	263.7	205.9	57.8	23.8	23.6	16.82
85.00	10.87	10.87	.0	267.0	207.3	59.7	24.1	23.9	16.84
86.00	10.87	10.87	.0	270.3	208.6	61.7	24.3	24.2	16.85
87.00	10.87	10.87	.0	273.6	209.9	63.7	24.6	24.5	16.87
88.00	10.87	10.87	.0	276.9	211.2	65.7	24.9	24.7	16.88
89.00	10.87	10.87	.0	280.3	212.4	67.9	25.1	25.0	16.89
90.00	10.87	10.87	.0	283.6	213.6	70.0	25.4	25.2	16.91
91.00	10.87	10.87	.0	286.9	214.8	72.1	25.6	25.5	16.92
92.00	10.87	10.87	.0	290.2	216.0	74.2	25.8	25.7	16.94
93.00	10.87	10.87	.0	293.5	217.2	76.3	26.1	26.0	16.95
94.00	10.87	10.87	.0	296.8	218.3	78.5	26.3	26.2	16.96
95.00	10.87	10.87	.0	300.2	219.5	80.7	26.6	26.4	16.98
96.00	10.87	10.87	.0	303.5	220.6	82.9	26.8	26.7	16.99
97.00	10.87	10.87	.0	306.8	221.7	85.1	27.0	26.9	17.00
98.00	10.87	10.87	.0	310.1	222.8	87.3	27.1	27.1	17.01
99.00	10.87	10.87	.0	313.4	223.8	89.6	27.2	27.2	17.02
100.00	10.87	10.87	.0	316.7	224.9	91.8	27.3	27.3	17.04
101.00	10.87	10.87	.0	320.0	225.9	94.1	27.4	27.4	17.05
102.00	10.87	10.87	.0	323.4	227.0	96.4	27.5	27.5	17.06
103.00	10.87	10.87	.0	326.7	228.0	98.7	27.7	27.6	17.07
104.00	10.87	10.87	.0	330.0	229.0	101.0	27.8	27.7	17.08
105.00	10.87	10.87	.0	333.3	230.1	103.2	27.9	27.8	17.10
106.00	10.87	10.87	.0	336.6	231.1	105.5	28.0	27.9	17.11
107.00	10.87	10.87	.0	339.9	232.1	107.8	28.1	28.0	17.12
108.00	10.87	10.87	.0	343.2	233.1	110.1	28.2	28.1	17.13
109.00	10.87	10.87	.0	346.6	234.0	112.6	28.3	28.2	17.14

TIME (HR)	RAIN FALL (IN)	ACCUM. RUNOFF (IN)	BASIN DISCHGE (CFS)	ACCUM. INFLOW (AF)	RESERVOIR VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
[illegible]	10.87	10.87	.0	349.9	235.0	114.9	28.4	28.3	17.15
[illegible]	10.87	10.87	.0	353.2	236.0	117.2	28.5	28.4	17.16
[illegible]	10.87	10.87	.0	356.5	236.9	119.6	28.6	28.5	17.17
[illegible]	10.87	10.87	.0	359.8	237.9	121.9	28.7	28.6	17.18
[illegible]	10.87	10.87	.0	363.1	238.8	124.3	28.8	28.7	17.20
[illegible]	10.87	10.87	.0	366.4	239.8	126.6	28.9	28.8	17.21
[illegible]	10.87	10.87	.0	369.8	240.7	129.1	28.9	28.9	17.22
[illegible]	10.87	10.87	.0	373.1	241.6	131.5	29.0	29.0	17.23
[illegible]	10.87	10.87	.0	376.4	242.5	133.9	29.1	29.1	17.24
[illegible]	10.87	10.87	.0	379.7	243.4	136.3	29.2	29.2	17.25
[illegible]	10.87	10.87	.0	383.0	244.3	138.7	29.3	29.3	17.26
[illegible]	10.87	10.87	.0	386.3	245.2	141.1	29.4	29.4	17.27
[illegible]	10.87	10.87	.0	389.6	246.1	143.5	29.5	29.5	17.28
[illegible]	10.87	10.87	.0	393.0	247.0	146.0	29.6	29.5	17.29
[illegible]	10.87	10.87	.0	396.3	247.8	148.5	29.7	29.6	17.30
[illegible]	10.87	10.87	.0	399.6	248.7	150.9	29.8	29.7	17.31
[illegible]	10.87	10.87	.0	402.9	249.5	153.4	29.9	29.8	17.32
[illegible]	10.87	10.87	.0	406.2	250.4	155.8	29.9	29.9	17.33
[illegible]	10.87	10.87	.0	409.5	251.2	158.3	30.0	30.0	17.34
[illegible]	10.87	10.87	.0	412.8	252.0	160.8	30.1	30.1	17.35
[illegible]	10.87	10.87	.0	416.2	252.9	163.3	30.2	30.1	17.35
[illegible]	10.87	10.87	.0	419.5	253.7	165.8	30.3	30.2	17.36
[illegible]	10.87	10.87	.0	422.8	254.5	168.3	30.4	30.3	17.37
[illegible]	10.87	10.87	.0	426.1	255.3	170.8	30.4	30.4	17.38
[illegible]	10.87	10.87	.0	429.4	256.1	173.3	30.5	30.5	17.39
[illegible]	10.87	10.87	.0	432.7	256.9	175.8	30.6	30.6	17.40
[illegible]	10.87	10.87	.0	436.1	257.7	176.4	30.7	30.6	17.41
[illegible]	10.87	10.87	.0	439.4	258.4	181.0	30.8	30.7	17.42
[illegible]	10.87	10.87	.0	442.7	259.2	183.5	30.8	30.8	17.43
[illegible]	10.87	10.87	.0	446.0	260.0	186.0	30.9	30.9	17.44
[illegible]	10.87	10.87	.0	449.3	260.7	188.6	31.0	31.0	17.44
[illegible]	10.87	10.87	.0	452.6	261.5	191.1	31.1	31.0	17.45
[illegible]	10.87	10.87	.0	455.9	262.2	193.7	31.1	31.1	17.46
[illegible]	10.87	10.87	.0	459.3	263.0	196.3	31.2	31.2	17.47
[illegible]	10.87	10.87	.0	462.6	263.7	198.9	31.3	31.3	17.48
[illegible]	10.87	10.87	.0	465.9	264.4	201.5	31.4	31.3	17.49
[illegible]	10.87	10.87	.0	469.2	265.1	204.1	31.4	31.4	17.49
[illegible]	10.87	10.87	.0	472.5	265.8	206.7	31.5	31.5	17.50
[illegible]	10.87	10.87	.0	475.8	266.5	209.3	31.6	31.6	17.51
[illegible]	10.87	10.87	.0	479.1	267.2	211.9	31.7	31.6	17.52
[illegible]	10.87	10.87	.0	482.5	267.9	214.6	31.7	31.7	17.53
[illegible]	10.87	10.87	.0	485.8	268.6	217.2	31.8	31.8	17.53
[illegible]	10.87	10.87	.0	489.1	269.3	219.8	31.9	31.8	17.54
[illegible]	10.87	10.87	.0	492.4	270.0	222.4	31.9	31.9	17.55
154.00	10.87	10.87	.0	495.7	270.7	225.0	32.0	32.0	17.56
155.00	10.87	10.87	.0	499.0	271.3	227.7	32.1	32.0	17.56
156.00	10.87	10.87	.0	502.3	272.0	230.3	32.1	32.1	17.57
157.00	10.87	10.87	.0	505.7	272.6	233.1	32.2	32.2	17.58
158.00	10.87	10.87	.0	507.3	271.6	235.7	32.2	32.2	17.58
159.00	10.87	10.87	.0	507.3	269.0	238.3	32.0	32.1	17.56
160.00	10.87	10.87	.0	507.3	266.4	240.9	31.7	31.9	17.53
161.00	10.87	10.87	.0	507.3	263.7	243.6	31.5	31.6	17.50
162.00	10.87	10.87	.0	507.3	261.2	246.1	31.2	31.3	17.47
163.00	10.87	10.87	.0	507.3	258.6	248.7	30.9	31.1	17.44
164.00	10.87	10.87	.0	507.3	256.0	251.3	30.7	30.8	17.41
165.00	10.87	10.87	.0	507.3	253.5	253.8	30.4	30.6	17.38
166.00	10.87	10.87	.0	507.3	251.0	256.3	30.2	30.3	17.35
167.00	10.87	10.87	.0	507.3	248.5	258.8	29.9	30.0	17.32
168.00	10.87	10.87	.0	507.3	246.1	261.2	29.7	29.8	17.30
169.00	10.87	10.87	.0	507.3	243.6	263.7	29.4	29.5	17.27
170.00	10.87	10.87	.0	507.3	241.2	266.1	29.2	29.3	17.24
171.00	10.87	10.87	.0	507.3	238.8	268.5	28.9	29.0	17.21
172.00	10.87	10.87	.0	507.3	236.4	270.9	28.7	28.8	17.19
173.00	10.87	10.87	.0	507.3	234.1	273.2	28.4	28.6	17.16
174.00	10.87	10.87	.0	507.3	231.7	275.6	28.2	28.3	17.13
175.00	10.87	10.87	.0	507.3	229.4	277.9	28.0	28.1	17.11
176.00	10.87	10.87	.0	507.3	227.1	280.2	27.7	27.8	17.08
177.00	10.87	10.87	.0	507.3	224.8	282.5	27.5	27.6	17.05
178.00	10.87	10.87	.0	507.3	222.6	284.7	27.3	27.4	17.03
179.00	10.87	10.87	.0	507.3	220.3	287.0	27.0	27.1	17.00
180.00	10.87	10.87	.0	507.3	218.1	289.2	26.6	26.8	16.98
181.00	10.87	10.87	.0	507.3	215.9	291.4	26.2	26.4	16.95
182.00	10.87	10.87	.0	507.3	213.8	293.5	25.7	25.9	16.93
183.00	10.87	10.87	.0	507.3	211.7	295.6	25.3	25.5	16.91
184.00	10.87	10.87	.0	507.3	209.6	297.7	24.9	25.1	16.88
185.00	10.87	10.87	.0	507.3	207.6	299.7	24.5	24.7	16.86
186.00	10.87	10.87	.0	507.3	205.5	301.8	24.0	24.2	16.84
187.00	10.87	10.87	.0	507.3	203.6	303.7	23.6	23.8	16.81
188.00	10.87	10.87	.0	507.3	201.6	305.7	23.2	23.4	16.79
189.00	10.87	10.87	.0	507.3	199.7	307.6	22.9	23.0	16.77
190.00	10.87	10.87	.0	507.3	197.9	309.4	22.5	22.7	16.75
191.00	10.87	10.87	.0	507.3	196.0	311.3	22.1	22.3	16.73
192.00	10.87	10.87	.0	507.3	194.2	313.1	21.7	21.9	16.71
193.00	10.87	10.87	.0	507.3	192.4	314.9	21.4	21.5	16.69
194.00	10.87	10.87	.0	507.3	190.7	316.6	21.0	21.2	16.67
195.00	10.87	10.87	.0	507.3	189.0	318.3	20.7	20.8	16.65
196.00	10.87	10.87	.0	507.3	187.3	320.0	20.3	20.5	16.63
197.00	10.87	10.87	.0	507.3	185.6	321.7	20.0	20.1	16.61
198.00	10.87	10.87	.0	507.3	184.0	323.3	19.6	19.8	16.59
199.00	10.87	10.87	.0	507.3	182.4	324.9	19.3	19.5	16.57
200.00	10.87	10.87	.0	507.3	180.8	326.5	19.0	19.1	16.55
201.00	10.87	10.87	.0	507.3	179.2	328.1	18.7	18.8	16.54
202.00	10.87	10.87	.0	507.3	177.7	329.6	18.3	18.5	16.52
203.00	10.87	10.87	.0	507.3	176.2	331.1	18.0	18.2	16.50
204.00	10.87	10.87	.0	507.3	174.7	332.6	17.9	18.0	16.49
205.00	10.87	10.87	.0	507.3	173.2	334.1	17.7	17.8	16.47
206.00	10.87	10.87	.0	507.3	171.8	335.5	17.6	17.6	16.45
207.00	10.87	10.87	.0	507.3	170.3	337.0	17.4	17.5	16.44
208.00	10.87	10.87	.0	507.3	168.9	338.4	17.3	17.3	16.42
209.00	10.87	10.87	.0	507.3	167.5	339.8	17.1	17.2	16.40
210.00	10.87	10.87	.0	507.3	166.1	341.2	17.0	17.1	16.39
211.00	10.87	10.87	.0	507.3	164.7	342.6	16.8	16.9	16.37
212.00	10.87	10.87	.0	507.3	163.3	344.0	16.7	16.8	16.36
213.00	10.87	10.87	.0	507.3	161.9	345.4	16.6	16.6	16.34
214.00	10.87	10.87	.0	507.3	160.5	346.8	16.4	16.5	16.32
215.00	10.87	10.87	.0	507.3	159.2	348.1	16.3	16.4	16.31
216.00	10.87	10.87	.0	507.3	157.9	349.4	16.1	16.2	16.29
217.00	10.87	10.87	.0	507.3	156.5	350.8	16.0	16.1	16.28
218.00	10.87	10.87	.0	507.3	155.2	352.1	15.9	15.9	16.26
219.00	10.87	10.87	.0	507.3	153.9	353.4	15.7	15.8	16.25
220.00	10.87	10.87	.0	507.3	152.6	354.7	15.6	15.7	16.23
221.00	10.87	10.87	.0	507.3	151.3	356.0	15.5	15.5	16.22
222.00	10.87	10.87	.0	507.3	150.0	357.3	15.3	15.4	16.21
223.00	10.87	10.87	.0	507.3	148.8	358.5	15.2	15.3	16.19
224.00	10.87	10.87	.0	507.3	147.5	359.8	15.1	15.2	16.18
225.00	10.87	10.87	.0	507.3	146.3	361.0	15.0	15.0	16.16
226.00	10.87	10.87	.0	507.3	145.1	362.2	14.8	14.9	16.15
227.00	10.87	10.87	.0	507.3	143.8	363.5	14.7	14.8	16.13
228.00	10.87	10.87	.0	507.3	142.6	364.7	14.6	14.6	16.12
229.00	10.87	10.87	.0	507.3	141.4	365.9	14.5	14.5	16.11
230.00	10.87	10.87	.0	507.3	140.2	367.1	14.3	14.4	16.09
231.00	10.87	10.87	.0	507.3	139.1	368.2	14.2	14.3	16.08
232.00	10.87	10.87	.0	507.3	137.9	369.4	14.1	14.2	16.07
233.00	10.87	10.87	.0	507.3	136.7	370.6	14.0	14.0	16.05
234.00	10.87	10.87	.0	507.3	135.6	371.7	13.9	13.9	16.04
235.00	10.87	10.87	.0	507.3	134.4	372.9	13.7	13.8	16.03
236.00	10.87	10.87	.0	507.3	133.3	374.0	13.6	13.7	16.01
237.00	10.87	10.87	.0	507.3	132.2	375.1	13.5	13.6	16.00
238.00	10.87	10.87	.0	507.3	131.1	376.2	13.4	13.5	15.99
239.00	10.87	10.87	.0	507.3	130.0	377.3	13.3	13.3	15.98
240.00	10.87	10.87	.0	507.3	128.9	378.4	13.2	13.2	15.96
241.00	10.87	10.87	.0	507.3	127.8	379.5	13.1	13.1	15.95
242.00	10.87	10.87	.0	507.3	126.7	380.6	13.0	13.0	15.94
243.00	10.87	10.87	.0	507.3	125.6	381.7	12.8	12.9	15.93
244.00	10.87	10.87	.0	507.3	124.6	382.7	12.7	12.8	15.92
245.00	10.87	10.87	.0	507.3	123.5	383.8	12.6	12.7	15.90
246.00	10.87	10.87	.0	507.3	122.5	384.8	12.5	12.6	15.89
247.00	10.87	10.87	.0	507.3	121.5	385.8	12.4	12.5	15.88
248.00	10.87	10.87	.0	507.3	120.4	386.9	12.3	12.4	15.87
249.00	10.87	10.87	.0	507.3	119.4	387.9	12.2	12.3	15.86
250.00	10.87	10.87	.0	507.3	118.4	388.9	12.1	12.2	15.85
251.00	10.87	10.87	.0	507.3	117.4	389.9	12.0	12.1	15.83
252.00	10.87	10.87	.0	507.3	116.4	390.9	11.9	12.0	15.82
253.00	10.87	10.87	.0	507.3	115.5	391.8	11.8	11.9	15.81
254.00	10.87	10.87	.0	507.3	114.5	392.8	11.7	11.8	15.80
255.00	10.87	10.87	.0	507.3	113.5	393.8	11.6	11.7	15.79
256.00	10.87	10.87	.0	507.3	112.6	394.7	11.5	11.6	15.78
257.00	10.87	10.87	.0	507.3	111.6	395.7	11.4	11.5	15.77
258.00	10.87	10.87	.0	507.3	110.7	396.6	11.3	11.4	15.76
259.00	10.87	10.87	.0	507.3	109.7	397.6	11.2	11.3	15.75
260.00	10.87	10.87	.0	507.3	108.8	398.5	11.1	11.2	15.74
261.00	10.87	10.87	.0	507.3	107.9	399.4	11.0	11.1	15.73
262.00	10.87	10.87	.0	507.3	107.0	400.3	10.9	11.0	15.72
263.00	10.87	10.87	.0	507.3	106.1	401.2	10.9	10.9	15.71
264.00	10.87	10.87	.0	507.3	105.2	402.1	10.8	10.8	15.70
265.00	10.87	10.87	.0	507.3	104.3	403.0	10.7	10.7	15.69
266.00	10.87	10.87	.0	507.3	103.4	403.9	10.6	10.6	15.68
267.00	10.87	10.87	.0	507.3	102.6	404.7	10.5	10.5	15.67
268.00	10.87	10.87	.0	507.3	101.7	405.6	10.4	10.4	15.66
269.00	10.87	10.87	.0	507.3	100.9	406.4	10.3	10.4	15.65
270.00	10.87	10.87	.0	507.3	100.0	407.3	10.2	10.3	15.64
271.00	10.87	10.87	.0	507.3	99.2	408.1	10.1	10.2	15.63
272.00	10.87	10.87	.0	507.3	98.3	409.0	10.1	10.1	15.62
273.00	10.87	10.87	.0	507.3	97.5	409.8	10.0	10.0	15.61

SUMMARY INFORMATION

MAXIMUM STAGE WAS 17.58 FEET AT 157.00 HOURS
MAXIMUM DISCHARGE WAS 32.2 CFS AT 157.00 HOURS

Method 2)

a) Mass route from 2 pumps (page 5) from field. Assume that the 1 pump into retention area will run for 66 hours on at hour 41 and shut off @ hr 107

b) add rainfall into retention area.

time	Pump hours	Pump (ac-ft)	rainfall (ac-ft)	total
0	0	0	0	0
12	0	0	4.3	4
24	0	0	8.6	9
36	0	0	14.8	15
40	0	0	16.9	17
41	0	0	17.4	18
48	7	23.2	20.6	44
50	9	29.8	22.2	52
58	17	56.4	33.6	90
60	19	63	37.6	123
60.5	19.5	64.7	38.8	139
61	20	66.4	66	132
62	21	69.7	69	139
63	22	72.9	70.3	149
64	23	76.3	72.7	149
65	24	79.6	73.8	153
67	26	86.2	75.7	162
68	27	89.6	76.7	167
70	29	96.2	78.7	175
72	31	102.8	79.8	183
100	57	189.7		275
107	65	215.9		299

Pump $1 - 18{,}000\,gpm = \frac{40\,ft^3}{sec} \cdot \frac{ac}{43560\,ft^2} \cdot \frac{3600\,sec}{hr} = 3.3\,\frac{ac\text{-}ft}{hr}$

Rainfall $\frac{8\,in}{12\,in} \cdot ft \cdot 58\,ac = 38.7\,ac\text{-}ft$

MASS ROUTE PROGRAM

PROJECT NAME . . . . . : BONITA FARMS
REMARKS . . . . . : 1 PUMP INTO RETENT
TERMINATION DISPLAYS : 24.00 CFS
REPETITIVE SEQUENCE . : 1 WEEK CAN

STAGE (FT)	STORAGE (AF)	DISCHARGE (CFS)
14.50	0.00	0.00
16.50	176.00	18.00
17.00	266.00	27.00
18.00	505.00	38.00

ACCUMULATED TIME AND INFLOW CURVE

TIME (HR)	INFLOW (AF)	TIME (HR)	INFLOW (AF)	TIME (HR)	INFLOW (AF)
0.00	0.00	12.00	4.00	24.00	9.00
30.00	15.00	40.00	17.00	42.00	18.00
48.00	23.00	50.00	26.00	58.00	40.00
60.00	63.00	61.50	124.00	61.00	132.00
62.00	139.00	63.00	144.00	64.00	149.00
65.00	153.00	67.00	162.00	68.00	167.00
70.00	175.00	72.00	182.00	100.00	275.00
107.00	299.00				

- - - - - - - RESERVOIR - - - - - -

TIME (HR)	ACCUM. INFLOW (AF)	VOLUME (AF)	ACCUM. OUTFLOW (AF)	INSTANT DISCHGE (CFS)	AVERAGE DISCHGE (CFS)	STAGE (FT)
0.00	0.0	0.0	0.0	0.0	0.0	14.50
12.00	4.0	3.8	.2	.4	.2	14.54
24.00	9.0	8.2	.8	.8	.8	14.59
36.00	15.0	13.1	1.9	1.2	1.1	14.65
48.00	17.0	14.6	2.4	1.5	1.4	14.67
48.00	18.0	15.5	2.5	1.6	1.5	14.68
50.00	26.0	23.7	4.1	4.1	2.8	14.75
50.00	32.0	27.1	4.9	4.9	4.4	15.04
58.00	90.0	86.8	9.2	8.3	8.6	15.42
60.00	123.0	112.6	10.8	11.5	9.9	15.77
60.50	129.0	117.7	11.3	12.0	11.7	15.84
61.00	132.0	120.4	11.6	12.3	12.2	15.87
62.00	139.0	126.1	12.9	12.9	12.8	15.93
63.00	149.0	132.1	13.9	13.3	13.1	15.98
64.00	149.0	132.9	15.1	13.7	13.5	16.02
65.00	153.0	136.8	16.2	14.0	13.8	16.05
67.00	162.0	143.9	18.0	14.7	14.3	16.13
68.00	167.0	147.6	19.0	15.1	14.7	16.17
70.00	175.0	152.7	22.3	15.6	15.3	16.23
72.00	183.0	158.0	25.0	16.2	15.9	16.30
100.00	275.0	224.5	70.5	23.0	19.7	16.86
107.00	299.0	239.1	84.9	25.0	24.0	16.93
110.00	299.0	240.9	92.1	24.1	24.9	16.84
113.00	299.0	192.1	146.9	22.5	23.0	16.75
114.00	299.0	190.0	108.1	21.1	21.8	16.67
122.00	299.0	184.2	114.8	19.7	20.4	16.54
127.00	299.0	177.9	121.1	18.4	19.0	16.52
128.00	299.0	172.0	127.0	17.0	17.7	16.45
135.00	299.0	166.3	132.7	17.0	17.3	16.39
137.00	299.0	160.8	138.2	16.4	16.7	16.33
142.00	299.0	155.4	143.6	15.4	16.2	16.27
147.00	299.0	150.2	148.8	15.4	15.8	16.21
152.00	299.0	145.2	153.8	14.7	15.1	16.15
155.00	299.0	140.4	158.6	14.4	14.8	16.10
159.00	299.0	135.8	163.2	13.9	14.1	16.04
162.00	299.0	131.2	167.8	13.4	13.7	15.99
167.00	299.0	126.9	172.1	13.0	13.2	15.94
171.00	299.0	122.7	176.3	12.5	12.8	15.89
172.00	299.0	118.8	180.4	12.1	12.3	15.85
177.00	299.0	114.8	184.4	11.7	11.9	15.80
182.00	299.0	110.9	188.2	11.3	11.5	15.76
187.00	299.0	107.1	191.9	10.9	11.1	15.72
192.00	299.0	103.6	195.4	10.6	10.6	15.68
199.00	299.0	100.1	198.9	10.2	10.4	15.64
197.00	299.0	97.0	201.2	10.0	10.1	15.61

SUMMARY INFORMATION

MAXIMUM STAGE WAS 16.93 FEET AT 107.00 HOURS
MAXIMUM DISCHARGE WAS 25.0 CFS AT 107.00 HOURS

Conclusions:

method 1)

$Q = 32.2\,c/s$

max stage = 17.6 feet

peak time = hour 157

method 2)

$Q = 25.8\,c/s$

max stage = 16.9 feet

peak time = hour 107

∴ Both methods yield Q's less than the allowable rate (<40 c/s)

Therefore, depending on how the system is operated, it will be within the allowable rate

Retention ⇒ $\frac{1.0\,in}{12\,in} \cdot ft\,(1280\,ac) = 107\,ac\text{-}ft$

discharge ½ of retention in 24 hrs

⇒ $\frac{107\,ac\cdot ft}{2} = \frac{53.5\,ac\text{-}ft}{24\,hrs}$

⇒ $\frac{53.5\,ac\text{-}ft}{24\,hr} \cdot \frac{43560\,ft^2}{ac} \cdot \frac{hr}{3600\,sec} = 27\,c/s$

∴ outfall structure will also meet retention req.

→ For calculation purposes – use Section 20 only.

→ assume drainage off of 578 acres into 62 acre retention area.

→ 2 – 18,000 gpm pumps. Each pump has the capacity to remove 3.3 ac-ft/hr

→ Design Storm – 25yr – 3day (P_{24hr} = 8 in)

$8(1.359) = 10.8\,in$

DWR – 1.0 feet ⇒ S = .6 in

$Q = \frac{[10.8 - .2(.6)]^2}{10.8 + .8(.6)} = 10.1\,in$

⇒ $\frac{10.1\,in}{12\,in} \cdot ft\,(578\,ac) = 486\,ac\text{-}ft$

1 pump could remove 486 ac-ft in 147 hours (6 days)

2 pumps ⇒ 74 hours (3.1 days).

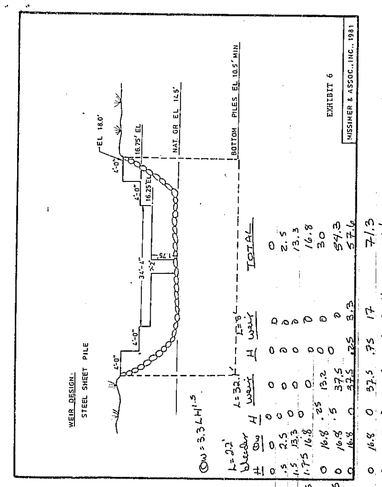
Mass route 1-18000 gpm pump through retention area. Run the pump for 3 days and for 6 days. Add rainfall into retention area.

#36-00315-S/H

hr	Pump	Rainfall	Total
0	0	0	0
12	39.6	3	43
24	79.2	6	85
36	119.8	10.4	130
48	158.4	14.8	173
50	165	15.6	181
55	181.5	19.3	201
58	191.4	23.6	215
59	194.7	25.7	221
60	198	27.9	226
60.5	199.6	29.1	229
62	204.6	32.2	236
63	207.9	34.2	242
65	214.5	38.9	253
68	224.4	39.1	263
70	231	55.1	286
72	237.6	56.1	294
153	505		561

Storage in Retention area
(use vertical storage from elev 14.5')

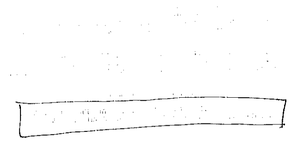
Stage	Storage
14.5	0
15	51
16	103
17	155
18	217



Stage	H	Q	H	Q	H	Q	Total
14.5							
15	0	0					0
16	.5	2.5	0	0			2.5
16.25	1.5	13.3	0	0	0	0	13.3
16.5	1.75	16.8	0	0	0	0	16.8
16.75	0	16.8	.25	13.2	0	0	30
17	0	16.8	.5	37.5	0	0	54.3
17.5	0	16.8	0	37.5	.25	8.3	62.6
18	0	16.8	0	37.5	.5	37.5	71.3
					1.25	36.8	91.1

4B of 6

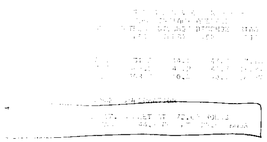
5A of 6



5B of 6

6A of 6

6B of 6



SUMMARY OF INPUT DATA
NON-EQUILIBRIUM (THEIS) MODEL

TRANSMISSIVITY = 160000.

STORAGE COEFFICIENT = .150000D00

TIME (DAYS) = 40.0000

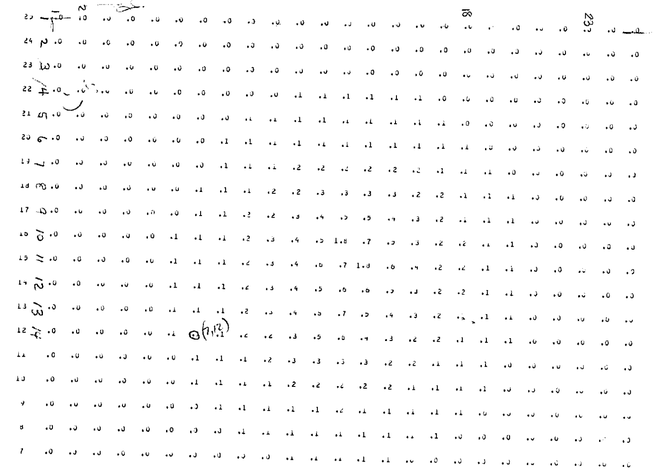
NODE SPACING = 1000.00

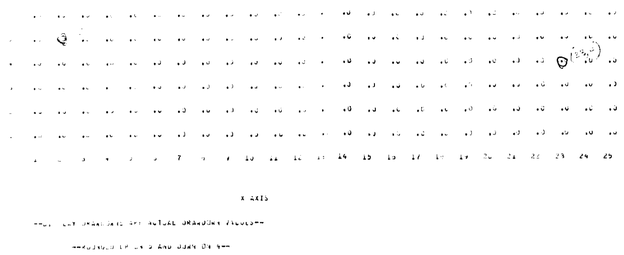
REAL DESCRIPTIONS

X-LOCATION	Y-LOCATION	DISPLY
13.00	16.00	170000.00
14.00	15.00	170000.00
16.00	12.00	170000.00

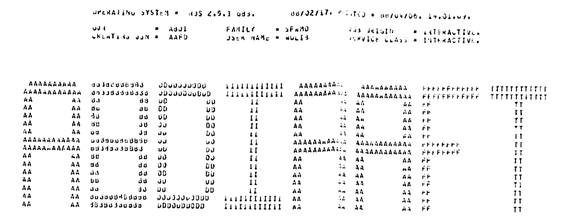
--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ROUNDED UP ON 5 AND DOWN ON 4--

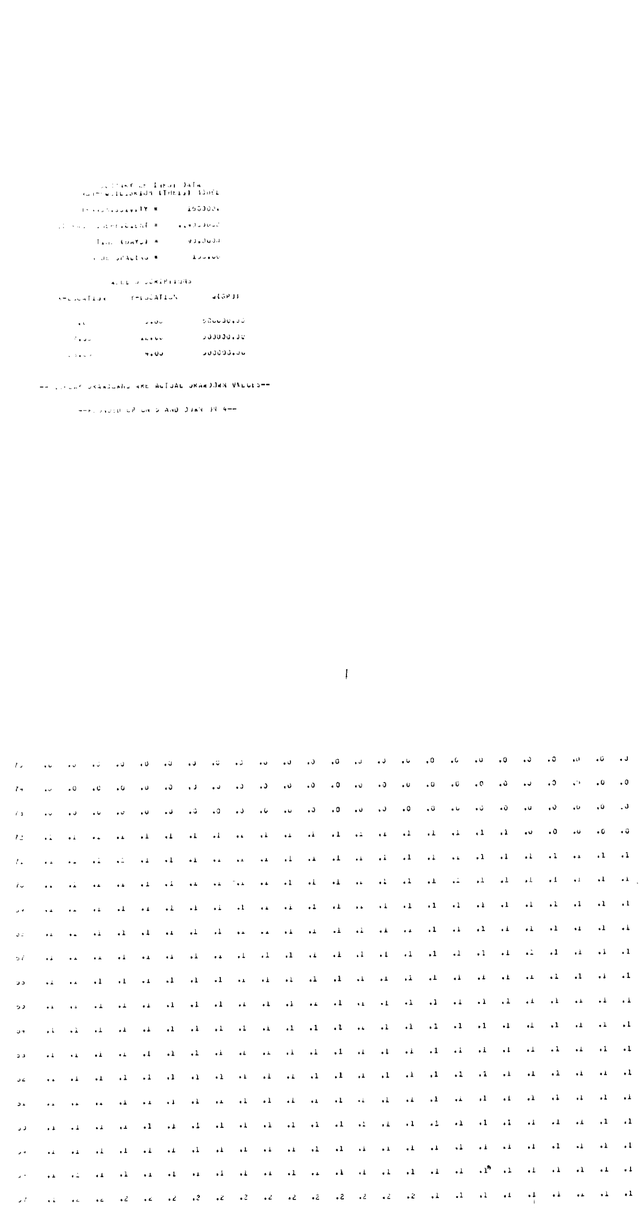


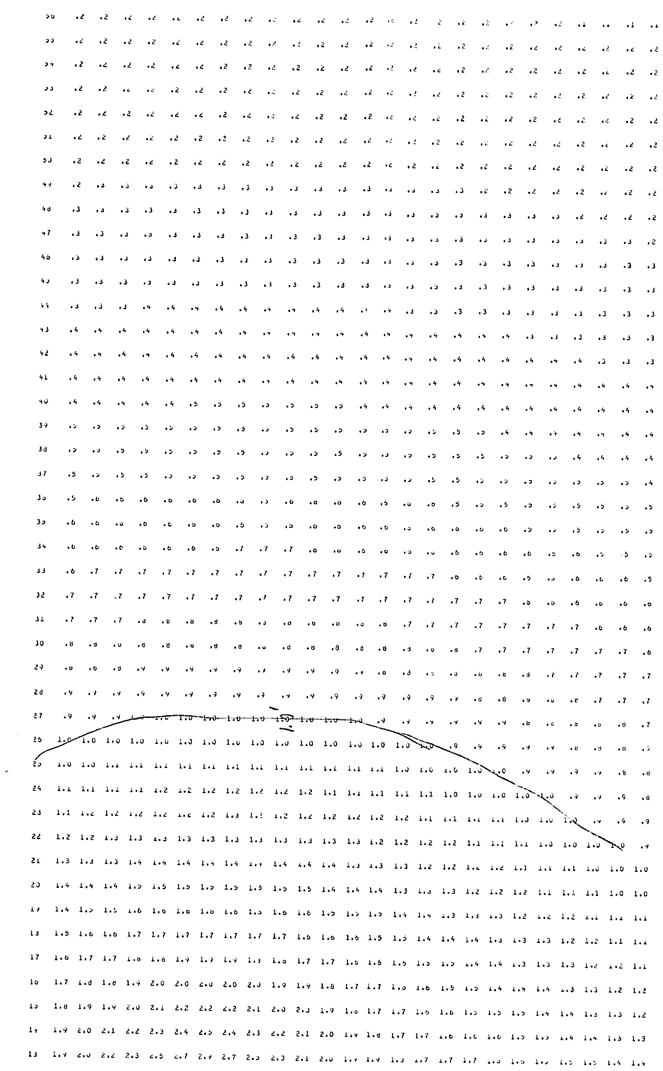


Thus
T: 160,000 gpd/ft
S: 0.14
Q: 500,000 gpd/well
n: 150 ft, 150 nodes
t: 90 days



T = 160,000 gpd/ft
S = 0.14
Q = 500,000 gpd/well
n = 150'
t = 90 days



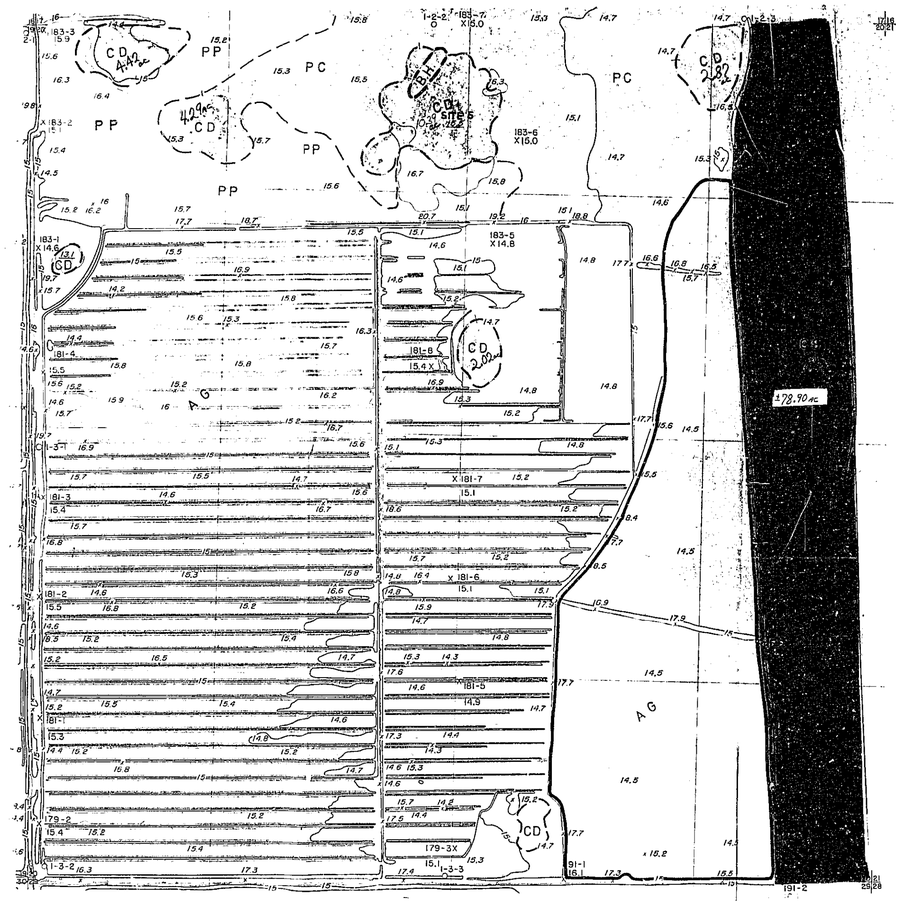


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	1.0	1.0	2.0	2.0	1.9	2.0	1.7	3.4	1.7	2.0	2.3	2.1	2.1	1.7	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.9
2	1.0	1.0	2.0	2.0	1.9	2.0	1.7	3.3	3.0	2.0	2.3	2.2	2.1	1.7	2.0	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.5	1.5	1.9
3	2.0	2.0	2.0	2.0	2.0	2.0	1.7	2.7	2.0	2.5	2.3	2.2	2.1	1.7	2.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.0
4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	2.3	2.2	2.1	2.1	1.7	2.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
5	2.3	2.0	2.2	2.2	2.2	2.2	2.2	2.9	2.3	2.3	2.2	2.1	2.1	1.7	2.0	2.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.7
6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.7	2.3	2.3	2.2	2.1	2.1	2.0	2.0	2.3	1.5	1.7	1.7	1.7	2.0	2.0	2.0	1.9	1.5
7	2.0	2.0	2.0	2.0	2.0	2.0	1.8	2.3	2.3	2.2	2.1	2.0	2.0	2.0	2.3	1.7	1.7	2.0	2.0	2.0	2.1	2.2	1.6	2.1	1.7
8	2.0	2.0	2.0	2.0	2.0	2.0	1.8	2.3	2.2	2.2	2.1	2.0	2.0	2.0	1.7	1.7	1.7	2.0	2.0	2.1	2.2	2.9	2.5	2.3	2.0
9	2.0	2.0	2.7	2.5	2.9	2.3	2.2	2.1	2.1	2.2	2.0	2.0	2.0	1.7	1.7	1.7	1.7	2.0	2.0	2.1	2.1	2.3	2.5	2.5	2.1
10	2.3	2.9	2.9	2.3	2.3	2.2	2.1	2.1	2.3	2.2	2.1	2.1	2.1	1.7	1.7	1.7	1.9	2.0	2.0	2.1	2.1	2.9	2.5	2.3	2.2
11	2.1	2.2	2.2	2.2	2.1	2.1	2.3	2.3	1.7	1.7	1.7	1.7	1.7	1.0	1.0	1.3	1.0	1.7	1.7	2.0	2.1	2.1	2.1	2.1	1.7
12	2.0	2.0	2.0	2.0	2.0	2.0	1.7	1.7	1.7	1.7	1.0	1.1	1.1	1.0	1.3	1.5	1.0	1.3	1.5	1.7	1.7	1.7	1.7	1.7	1.0

X AXIS

--DISPLAY DRAWING ARE ACTUAL DRAWING VALUES--

--REDUCED BY 0.5 AND 0249 DY --



COMPILED BY PHOTOGRAMMETRIC METHODS

LEGEND

HORIZONTAL CONTROL	
TRAVERSE STATIONS	4-5-2
VERTICAL CONTROLS	9-3 X
SECTION CORNERS	[illegible]
CONTOURS	[illegible]
DEPRESSION CONTOURS	[illegible]
SPOT ELEVATIONS	12.5
T B M	TBM X 7.2
CD	CYPRESS DOME
CS	CYPRESS STRAND
PC	PINE / CYPRESS
PP	PINE / PALMETTO
BH	BAYHEAD
AG	AGRICULTURAL

300 0 300 600 900

SCALE 1" = 300' CONTOUR INTERVAL 1'

DATE OF PHOTOGRAPHY [illegible]

DATE OF MAPPING [illegible]

MISSIMER AND ASSOCIATES, INC.

SECTION 20 T 47 S R 26 E

36-00315

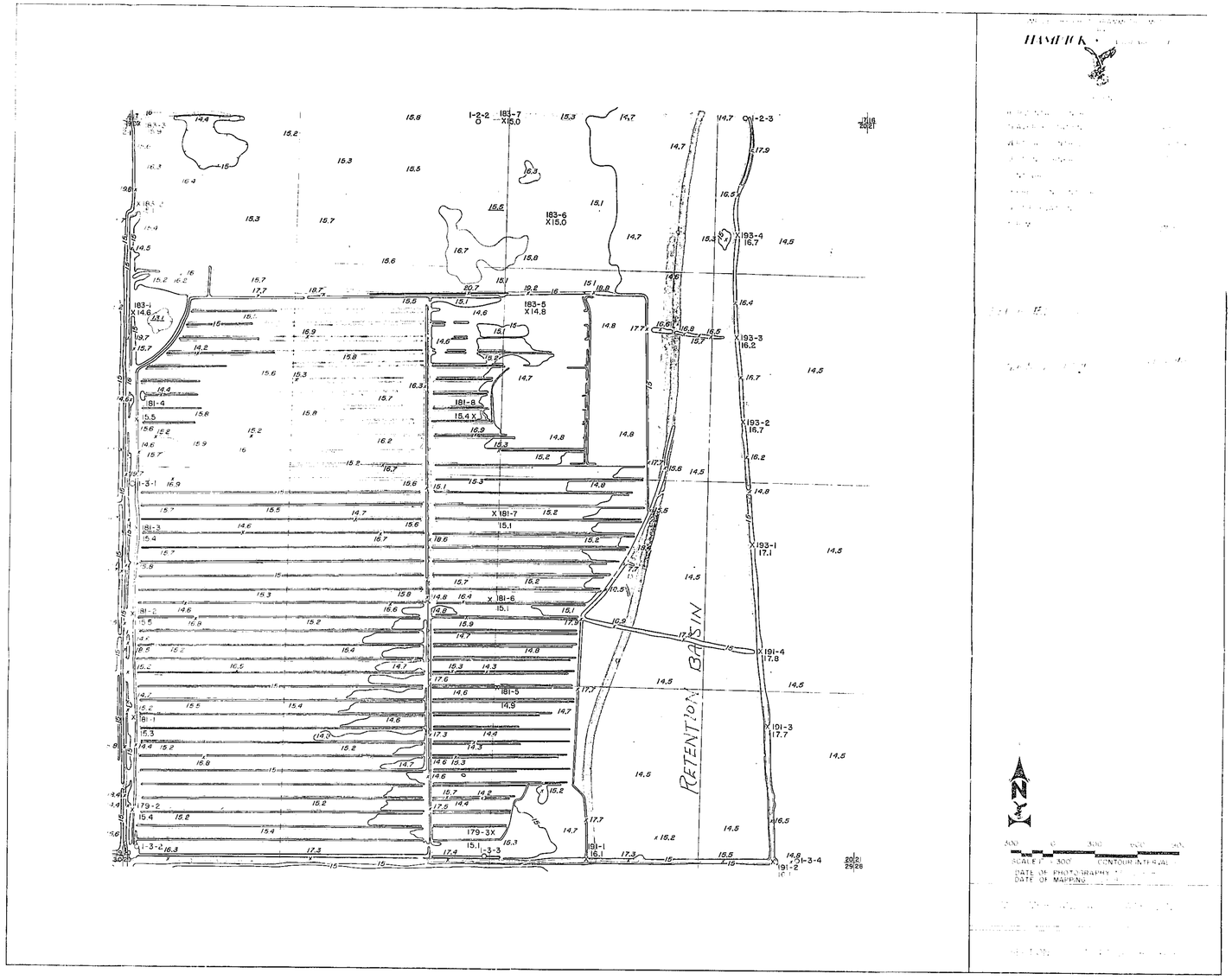
2 of 4

187-5
X 16.0
X 197-4
15.8
X 197-3
16.0
187-4
X 16.0
X 197-2
15.6
185-4
X 14.4
185-6
X 15.2
197-1
X 15.2
185-3
X 14.6
185-7
X 15.9
X 195-3
14.3
185-2
14.6
185-6
X 16.0
1-2-4
195-1
X 15.8
185-5
X 15.8
X 195-2
14.7
X 195-1
14.6
83-4
X 14.9
X 183-8
15.4
1-2-2
O
183-7
X 15.0
1-2-3
12/16
20121

N

36 00815

4 of 4


RETENTION BASIN
183-7
X15.0
183-6
X15.0
183-5
X14.8
183-1
X14.6
181-8
15.4 X
181-7
15.1
181-6
15.1
181-5
14.9
181-4
15.5
181-3
15.4
181-2
15.5
181-1
15.3
179-2
15.4
179-3X
15.1
1-2-2
1-2-3
1-3-1
1-3-2
1-3-3
1-3-4
191-1
16.1
191-2
191-3
17.7
191-4
17.8
193-1
17.1
193-2
16.7
193-3
16.2
193-4
16.7
N
SCALE 1" = 300'
CONTOUR INTERVAL
DATE OF PHOTOGRAPHY
DATE OF MAPPING

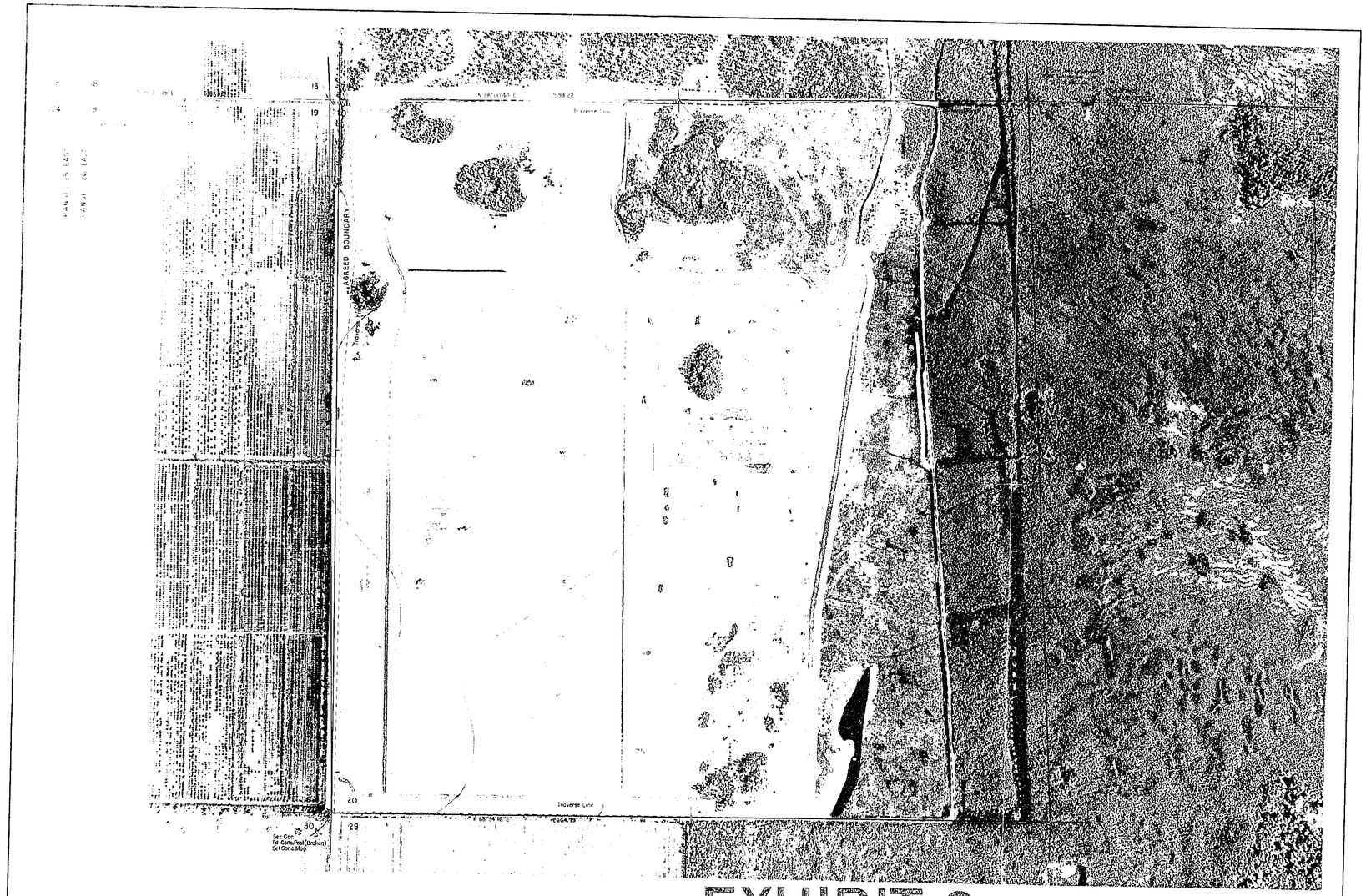


EXHIBIT 9

JOHNSON ENGINEERING, INC.
CIVIL ENGINEERS LAND SURVEYORS

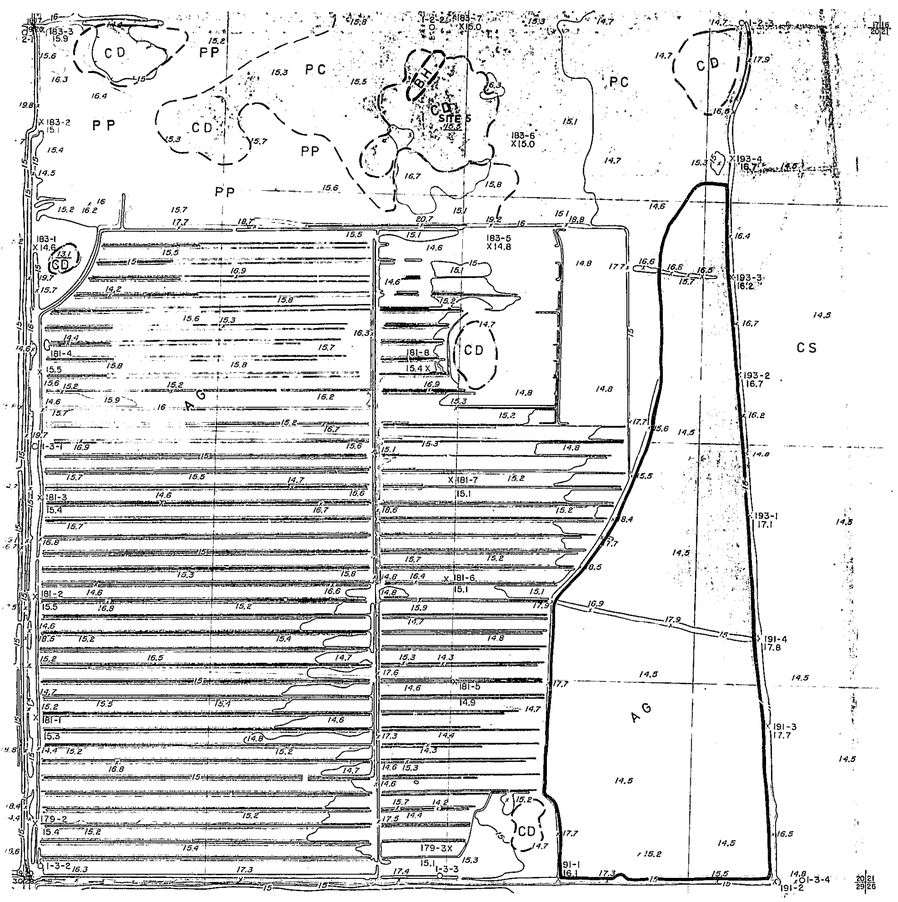
DATE	PROJECT NO.	FIELD NO.	SCALE	SHEET
MAY, 1987	[illegible]	17-47-26	[illegible] 300	5 of 5

COMPILED BY PHOTOGRAMMETRIC METHODS

Exhibit 2

LEGEND

HORIZONTAL CONTROL	
TRAVERSE STATIONS	4 5 2
VERTICAL CONTROLS	9-3 X
SECTION CORNERS	2 1
CONTOURS	5
DEPRESSION CONTOURS	15
SPOT ELEVATIONS	12.5
T. B. M.	TBM X 7.7
CD	CYPRESS DOME
CS	CYPRESS STRAND
PC	PINE / CYPRESS
PP	PINE / PALMETTO
BH	BAYHEAD
AG	AGRICULTURAL
	RETENTION POND
	DRAINAGE DITCH



36-00315

300 0 300 600 900

SCALE 1" = 300' CONTOUR INTERVAL 1'

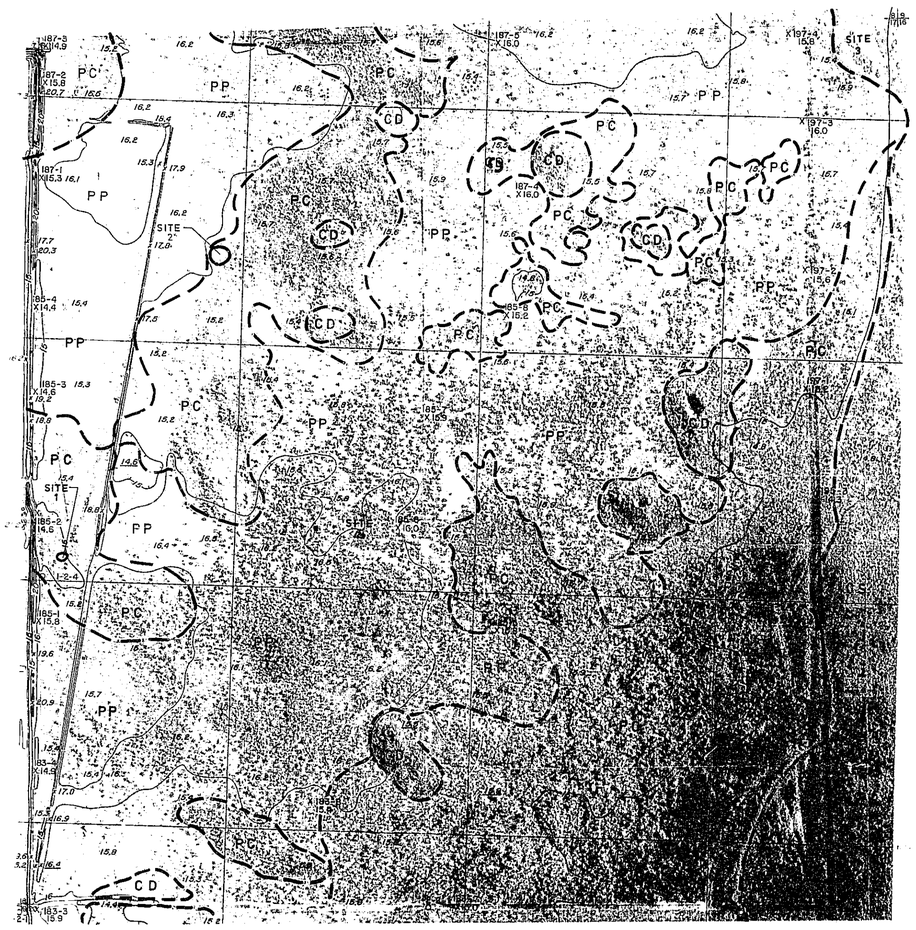
DATE OF PHOTOGRAPHY [illegible]

DATE OF MAPPING [illegible]

WISSNER AND ASSOCIATES, INC

SECTION 30 T 47 S R 26 E

1 of 4



COMPILED BY PHOTOGRAMMETRIC METHODS

Exhibit 3

LEGEND

HORIZONTAL CONTROL	
TRAVERSE STATIONS	4 5 2
VERTICAL CONTROLS	9 13 X
SECTION CORNERS	2 1
CONTOURS	1 2
DEPRESSION CONTOURS	10
SPOT ELEVATIONS	2 5
T B M	TBM X
CD	CYPRESS DOME
CS	CYPRESS STRAND
PC	PINE / CYPRESS
PP	PINE / PALMETTO
BH	BAYHEAD
AG	AGRICULTURAL
	DRAINAGE DITCH

300 0 300 600 900

SCALE 1" = 300' CONTOUR INTERVAL 1'

DATE OF PHOTOGRAPHY [illegible]

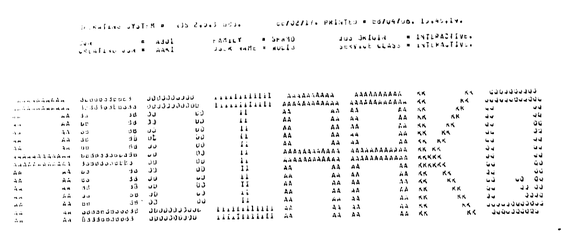
DATE OF MAPPING [illegible]

MISSIVER AND ASSOCIATES, INC

36-00315

SECTION [illegible] T [illegible] S R [illegible] E

3F4



SUMMARY OF INPUT DATA
NON-EQUILIBRIUM THEIS MODEL

TRANSMISSIVITY = 160000.

STORAGE COEFFICIENT = .16000000

TIME (HRS) = 40.0000

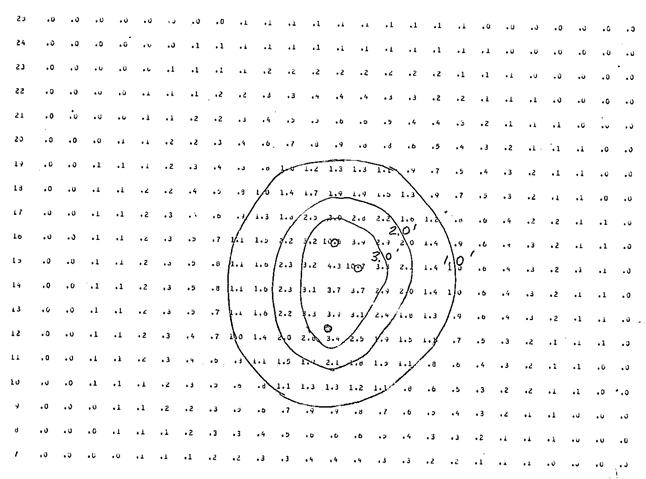
NODE SPACING = 1000.00

WELL DESCRIPTIONS

X-LOCATION	Y-LOCATION	Q(GPD)
13.00	16.00	1000000.00
14.00	15.00	1000000.00
12.70	12.00	1000000.00

--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ROUNDED UP ON 5 AND DOWN ON 4--



6	.0	.0	.0	.0	.0	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.0	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
4	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

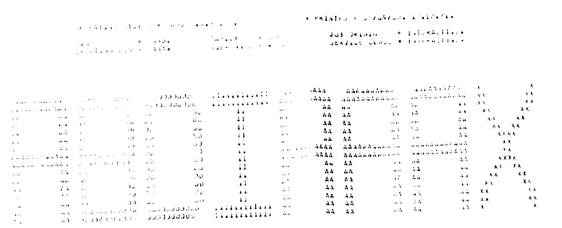
X AXIS

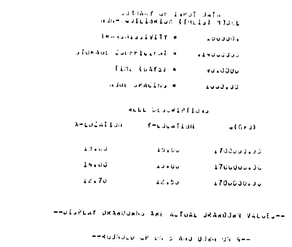
--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

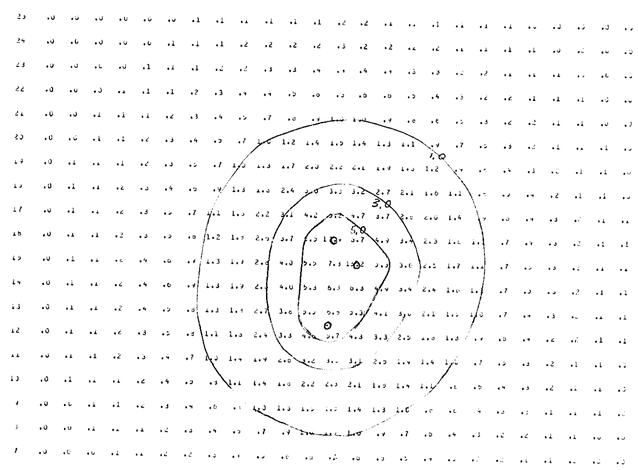
--ROUNDED UP ON 5 AND DOWN ON 4--

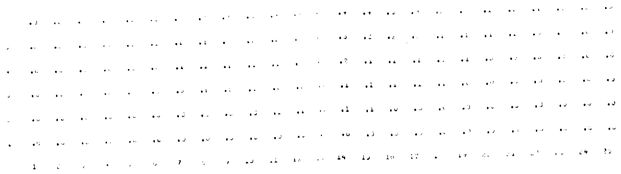
15.45.28.OCLP, AA, 013, 5.258KLNS.

2.0'
3.0'
1.0'



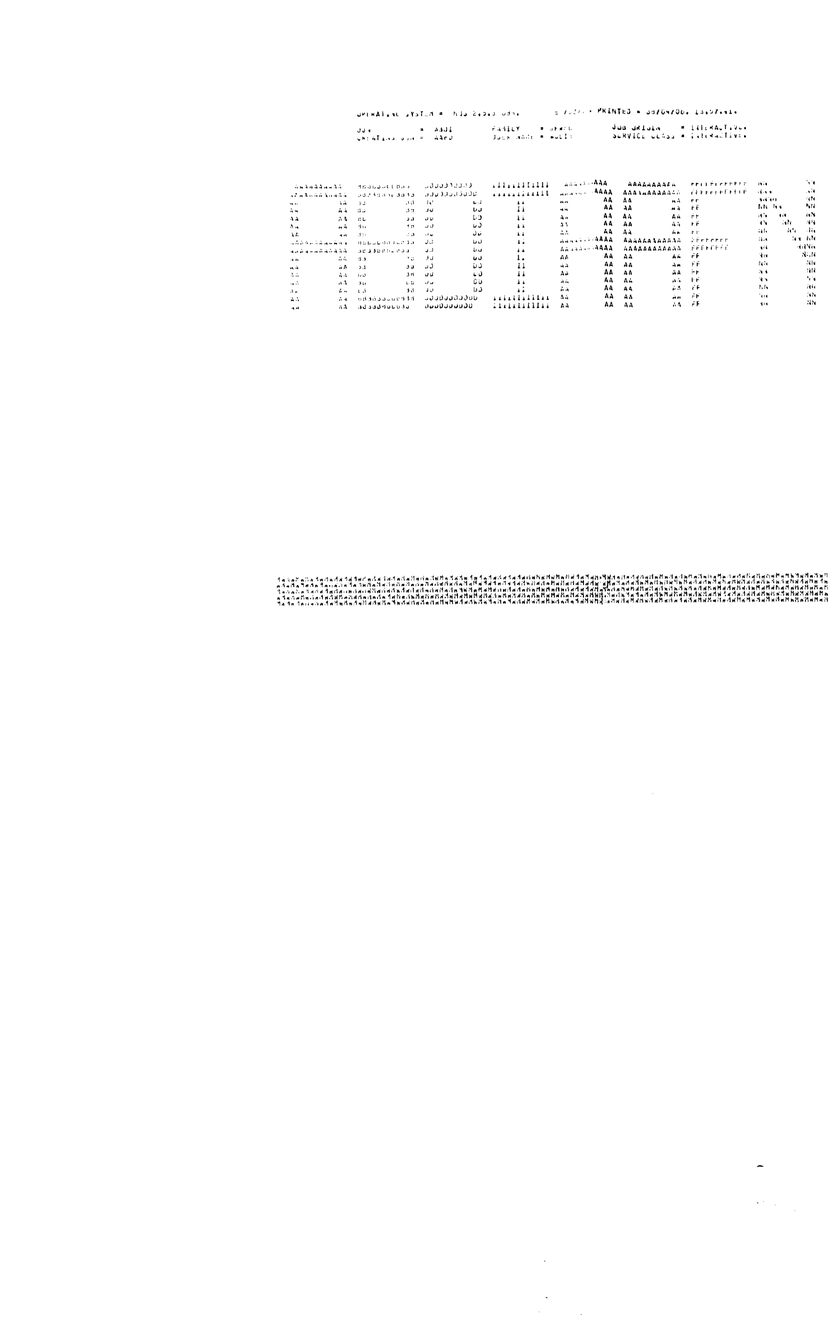






Thus
T 160,000 gpd/ft
S = 0.14
Q = 1.7 mgd/mile
n = [illegible]
Z = 90 days

Wetland impact



--SUMMARY OF INPUT DATA
FROM-WILLIAMSON [EHIIS] MODEL

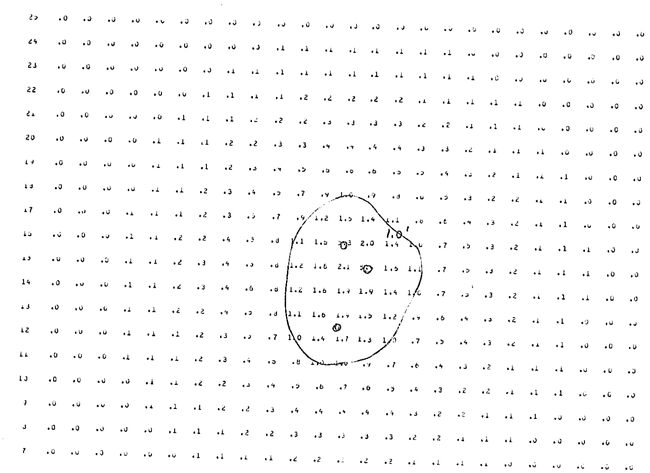
TRANSMISSIVITY =	100000.
STORAGE COEFFICIENT =	.14000000
TIME (DAYS) =	70.0000
WELL SPACING =	1000.00

WELL VELOCITIES

X-LOCATION	Y-LOCATION	V(SP)3
22.00	10.00	000000.00
14.00	10.00	000000.00
12.70	10.00	000000.00

--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--DOMAIN OF DRAWDOWN DISPLAY--



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

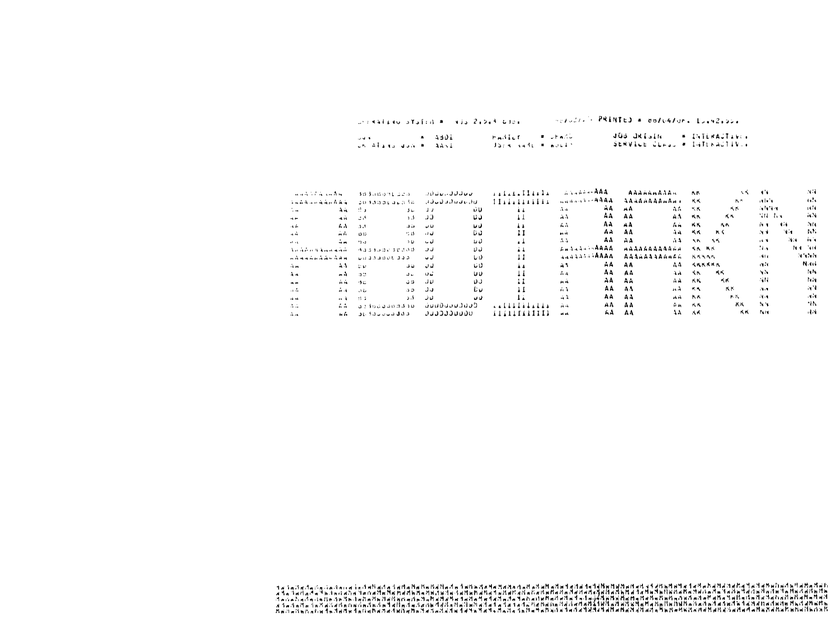
A AREA

--DISPLAY PARAMETERS ARE ACTUAL DRAWING VALUES--

--PLOTTED BY EN 5 AND JUNE 3% 4--

13:07:00:DELTA ARA 013A 0VERFLOWS.

20'
10'
T = 160,000 gpd/ft
S = 0.14
Q = 750,000 gpd/acre
r1 = 10 ft
r2 = 90 ft



SUMMARY OF INPUT DATA
NON-EQUILIBRIUM (THEIS) MODEL

TRANSMISSIVITY = 100000.

STORAGE COEFFICIENT = .19000000

TIME (DAYS) = 90.0000

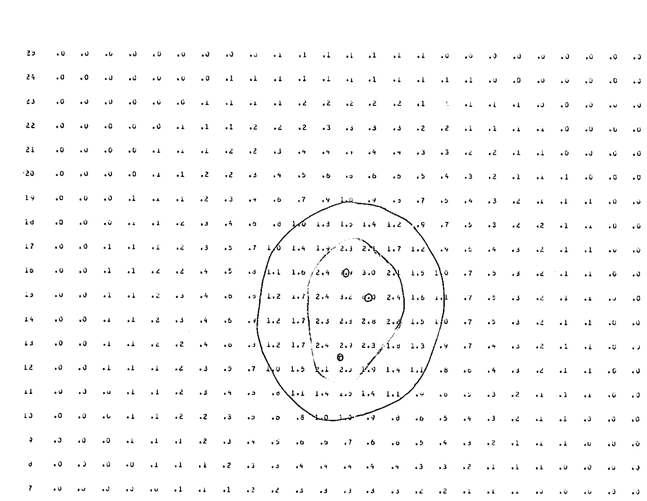
MODEL SPACING = 1000.00

WELL DESCRIPTIONS

X-LOCATION	Y-LOCATION	DEBOD
42.00	15.00	750000.00
44.00	15.00	750000.00
14.70	12.50	750000.00

--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ADJUSTED UP ON 2 AND DOWN ON 4--



.	.	.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.	.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.	.	.	.0	.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.	.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.	.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	

X =412

MULTIPLE DRAWDOWN ARE INITIAL DRAWDOWN VALUES

REDUCED OF 0.5 AND TAKE 25 *

T- 100 gpd/ft
S- 0.14
Q-
m-

SUMMARY OF INPUT DATA
NON-EQUILIBRIUM (THEIS) MODEL

TRANSMISSIVITY = 160000.

STORAGE COEFFICIENT = .14000000

TIME (DAYS) = 90.0000

NODE SPACING = 1000.00

WELL DESCRIPTIONS

X-LOCATION	Y-LOCATION	Q(GPD)
17.30	16.00	250000.00
14.33	15.00	250000.00
12.70	17.50	250000.00

--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ROUNDED UP ON 5 AND DOWN ON 4--

25	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
24	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
23	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	
22	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	
21	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	
20	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.2	.2	.2	.2	.2	.2	.1	.1	.1	.0	.0	.0	
19	.0	.0	.0	.0	.0	.0	.1	.1	.1	.2	.2	.3	.3	.3	.3	.2	.2	.1	.1	.1	.0	.0	
18	.0	.0	.0	.0	.0	.1	.1	.1	.2	.3	.3	.4	.5	.5	.4	.3	.2	.2	.1	.1	.1	.0	.0
17	.0	.0	.0	.0	.0	.1	.1	.2	.2	.3	.5	.6	.8	.7	.6	.4	.3	.2	.1	.1	.1	.0	.0
16	.0	.0	.0	.0	.1	.1	.1	.2	.3	.4	.5	.8	2.0	1.0	.7	.5	.3	.2	.2	.1	.1	.0	.0
15	.0	.0	.0	.0	.1	.1	.1	.2	.3	.4	.6	.8	1.1	2.0	.8	.5	.4	.2	.2	.1	.1	.0	.0
14	.0	.0	.0	.0	.1	.1	.1	.2	.3	.4	.6	.8	.9	.9	.7	.5	.3	.2	.2	.1	.1	.0	.0
13	.0	.0	.0	.0	.1	.1	.1	.2	.3	.4	.6	.8	1.0	.8	.6	.4	.3	.2	.1	.1	.1	.0	.0
12	.0	.0	.0	.0	.0	.1	.1	.2	.2	.3	.5	.7	.8	.6	.5	.4	.3	.2	.1	.1	.1	.0	.0
11	.0	.0	.0	.0	.0	.1	.1	.1	.2	.3	.4	.5	.5	.5	.4	.3	.2	.2	.1	.1	.0	.0	.0
10	.0	.0	.0	.0	.0	.1	.1	.1	.2	.2	.3	.3	.3	.3	.3	.2	.2	.1	.1	.1	.0	.0	.0
9	.0	.0	.0	.0	.0	.0	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.0	.0	.0	.0
8	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0
7	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

X AXIS

--DISPLAY DRAWDOWNS ARE ACTUAL DRAWDOWN VALUES--

--ROUNDED UP ON 5 AND DOWN ON 4--

SURFACE WATER MANAGEMENT REPORT

AND

IRRIGATION CHECKLIST

FOR

BONITA FARMS - FARMS I AND II

MODIFICATION OF SFWMD PERMITS

No. 36-00764-S AND No. 36-00315-W

LEE COUNTY, FLORIDA

PREPARED BY:

HOWARD L. SEARCY, P. E.
CONSULTING ENGINEER, INC.
2000 PALM BEACH LAKES BOULEVARD
SUITE 702
WEST PALM BEACH, FLORIDA 33409

AUGUST, 1987

Howard L. Searcy 8/10/87

SURFACE WATER MANAGEMENT REPORT

BONITA FARMS - FARMS I AND II

INTRODUCTION

This application is a request to modify Surface Water Management Permit No. 36-00764-S to cover the construction and operation of Farm II and slight modifications within Farm I.

LOCATION

Bonita Farms - Farms I and II are located in Sections 17 and 20, Township 47 South, Range 26 East, Lee County. Refer to Exhibit 1 for the location map and to Exhibit 2 for the aerial photograph of the site.

TOPOGRAPHY

The existing elevations on the site range from elevation 14.5' NGVD to 16.5' NGVD with an average elevation of 16.0' NGVD. The site has an existing perimeter dike and ditch system which will remain and be incorporated into the surface water management system.

RUNOFF

No off-site lands drain onto the project. Discharges from the project are into the Kehl Canal via an unnamed slough.

WATER TABLE

The existing average wet season water table is at or near elevation 14.5' NGVD (1.5' below ground). The permitted control elevation for both the farm field and the water storage areas is 14.5' NGVD.

LANDUSE

Farm I, Section 20, contains an existing farm with current construction of the water storage areas, irrigation pond and internal conveyance systems (in accordance with SFWMD Permit). Farm II, Section 17, is undeveloped rangeland with the exception of the existing perimeter dike and ditch system.

VEGETATION

The existing vegetation in Farm II consists of pine, palmetto and cypress. Mr. Dick Workman of Consplan, Inc. is working with Ms. Rae Ann Boylan of the SFWMD Ft. Myers office to determine the amount of cypress in Farm II and the areas that can be cleared now in accordance with the SFWMD Permit.

MASTER DRAINAGE PLAN

Drainage from the farms, Farms I and II, will be pumped into the 279.7 acre water storage system via 1 - 18,000 GPM pump station and 1 - 28,000 GPM pump station. The pump stations will turn on when the water level within the farm reaches elevation 15.0' NGVD and shut off when the water level returns to elevation 14.5' NGVD. Discharges from the water storage area will be via the outfall structure which will consists of 5 - 18" CMP culverts set at elevation 14.5' NGVD (natural ground). The outfall structure has been sized to meet the water quality and quantity criteria of the South Florida Water Management District. Refer to Exhibit 4 for the Master Plan, Exhibit 5 for typical details of the water management facilities and to Exhibit 6 for the surface water management calculations.

DRAINAGE CALCULATIONS

The 25 year - 3 day design storm event calculations (stage-storage-discharge, flood routings, etc.) are attached as Exhibit 6. The allowable discharge rate for this area is 3/4 in/day (40.3 cfs) and is based on documentation in South Florida Water Management District's Permit No. 36-00315-S file (which may have been incorporated into SFWMD Permit No. 36-00764-S file). The 100 year - 3 day storm event was also routed as a design aid in sizing an overflow structure from the water storage area back into the farm.

OPERATION AND MAINTENANCE

The Permittee's, Samuel and Connie Nuhsbman, are the responsible entity for the operation and maintenance of the surface water management system.

PROPOSED MODIFICATION

The modification to SFWMD Permit No. 36-00764-S includes the proposed development of Farm II which includes the addition of 362.2 acres of farm field, 147.1 acres of water storage areas, 86.7 acres of irrigation pond and 1 - 28,000 GPM pump station. The water storage areas in Farm II are directly connected to the water storage area in Farm I. The entire Farm, Farms I and II, will be served via the one outfall structure and the permitted emergency overflow structure.

The permit modification also includes modifying the outfall structure from 3 - 18" CMP culverts to 5 - 18" CMP culverts. The control elevation remains the same (natural ground).

The proposed changes in Farm I include realignment of some internal farm ditches and the change to the outfall structure. A Permit Modification by Letter request was submitted to the District on July 29, 1987 for the reduction of the water storage

area and mitigation within the water storage area (3.8 acres) and the addition of 3.8 acres of mitigation within the irrigation pond (total mitigation area remains the same). Refer to Exhibit 4 for the Master Plan, Exhibit 5 for typical details and to Exhibit 6 for the surface water management calculations.

IRRIGATION CHECKLIST

BONITA FARMS - FARMS I AND II

A. GENERAL

1. Project Ownership

The Permittee is the owner and developer of the project.

2. Drainage District

The project is not located within a Drainage District.

3. Purpose of Application

The purpose of the application is to modify South Florida Water Management District Permit No. 36-00315-W to include Farm II and to utilize the proposed 146.9 acre irrigation pond as the primary source of irrigation water. The existing permitted wells will only be used as a supplemental source of water if needed.

4. New Facilities

The irrigation system for Farm II is proposed. Irrigation water will be supplied from an on-site 146.9 acre irrigation pond. A 4000 GPM pump station will pump the water from the pond into the conveyance canal system which carries the water throughout the farm. The irrigation pond will be the primary source of irrigation water for both Farm I and Farm II. Refer to Exhibit 4 for the Master Plan of the farm.

B. LOCATION

1. Location Map

Refer to Exhibit 1 for the Location Map.

2. Site Map

The Site Map is attached as Exhibit 4 (Master Plan). Typical details of the water management system are found in Exhibit 5.

3. Section, Township and Range

The project is located in Sections 17 and 20, Township 47 South, Range 26 East, Lee County, Florida.

FACILITIES

1. Wells

Permit No. 36-00315-W was issued for wells located in Section 20. The wells will only be used as a supplemental source of irrigation water if needed.

2. Abandoned Wells

There are no abandoned flowing wells on the site.

3. Pumps

Refer to Table B (Exhibit 7) for information pertaining to the irrigation pump.

4. Irrigation Culverts

Numerous internal culverts will be utilized to allow the flow of irrigation water from the conveyance canal system to the lateral canals.

D. CROP TYPE

Refer to Table G (Exhibit 8) for crop information.

E. WATER USAGE

1. Pumping Records

N/A

2. Monthly Irrigation Requirement

167.5 MG/month

3. Annual Irrigation Requirement

598.6 MG

7.65" X 4 crops/year = 30.6 inches

30.6 in X 720.7 ac X .0833 ft/in = 1837.0 ac-ft

1837.0 ac-ft X .32585 = 598.6 MG

4. Basis for Monthly Irrigation Requirement

4.28 in X 720.7 ac X 2(50% efficiency) = 6169.2 ac-in/mo

6169.2 ac-in/mo X .02715 = 167.5 MG/MO

F. WATER PROBLEMS

This project, as with all projects within Lee County, are within a "Reduced Threshold Area".

The Bonita Springs Water System Wellfield is near this project. Refer to SFWMD Permit No. 36-00315-W which analyzed the affect of the wellfield on a portion of this property.

G. FROST PROTECTION

The surface water management system (irrigation and drainage) will keep the water table within 1.5' of the ground surface. A high water table will help to provide frost protection.

H. WATER CONSERVATION

1. Water Conservation Techniques

The design and operation of the water management system will help conserve water. The water table within the farm fields will not fluctuate very much due to the farming operation.

2. Reusing Wastewater

N/A

I. IMPACTS

Adverse impacts are not expected as a result of the requested irrigation demand.

SUMMARY OF EXHIBITS

BONITA FARMS - FARMS I and II

EXHIBIT NUMBER	DESCRIPTION
1	Location Map
2	Aerial Photograph
3	Aerial Topography
4	Master Plan
5	Typical Details
6	SWM Calculations
7	Table B
8	Table G

EXHIBITS

FOR

BONITA FARMS - FARMS I AND II

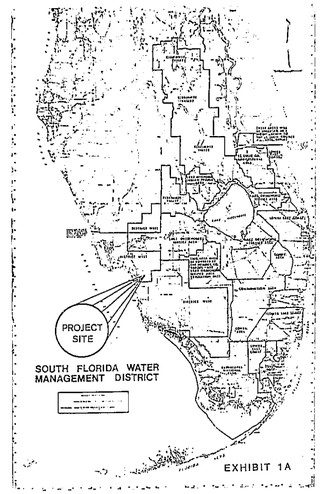


EXHIBIT 1A

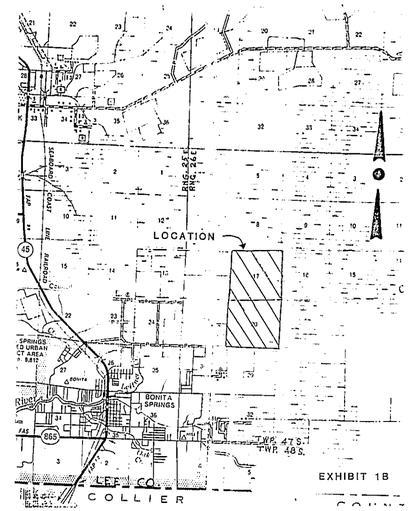
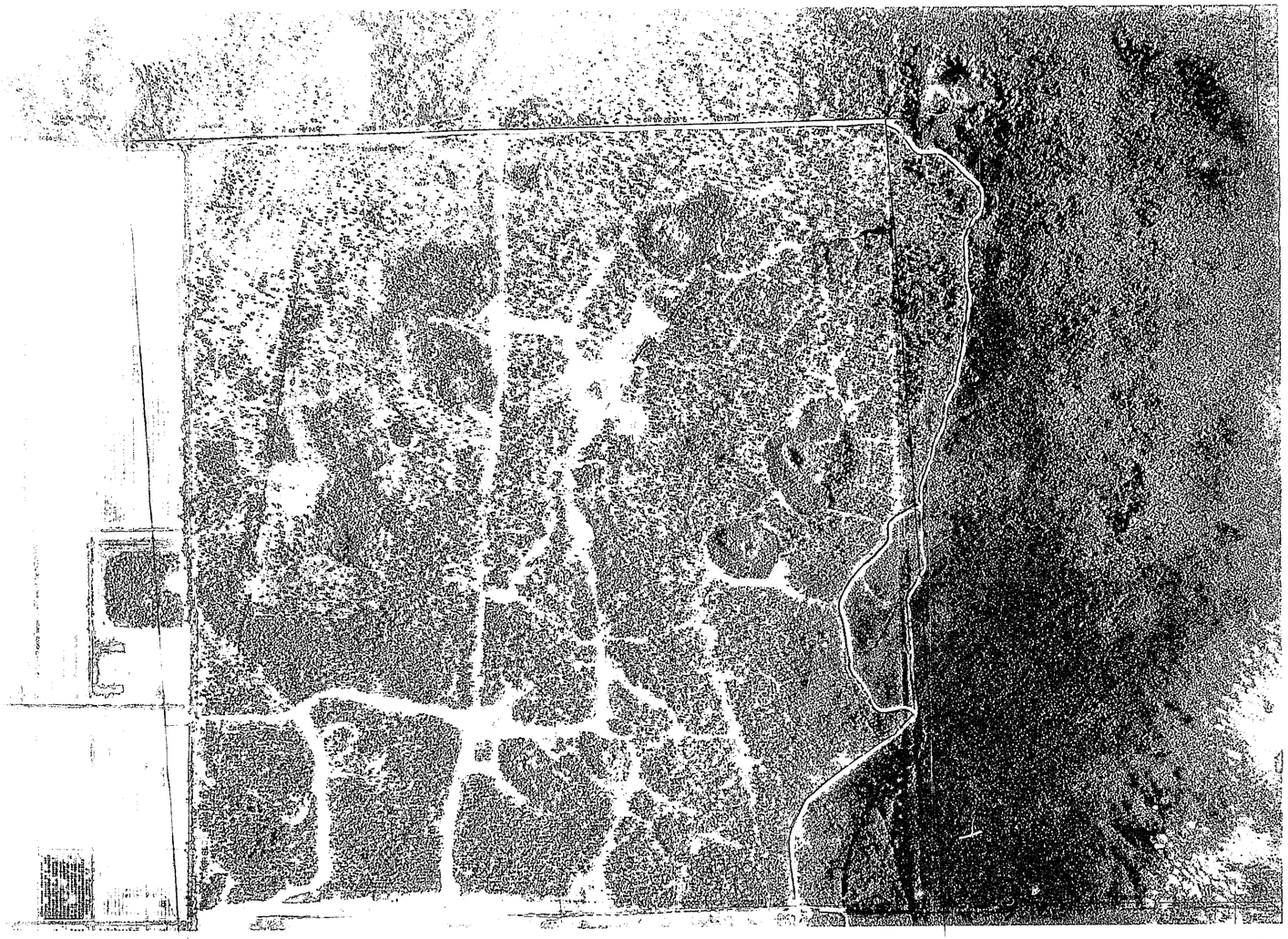


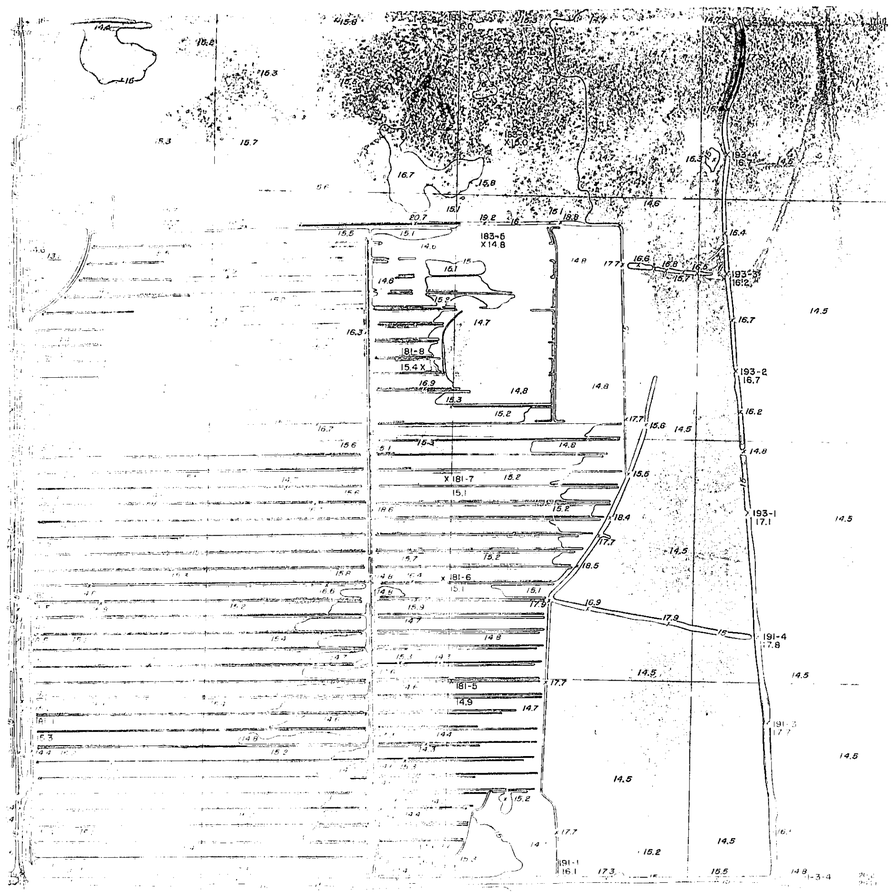
EXHIBIT 1B

AERIAL PHOTGRAPH

EXHIBIT 2



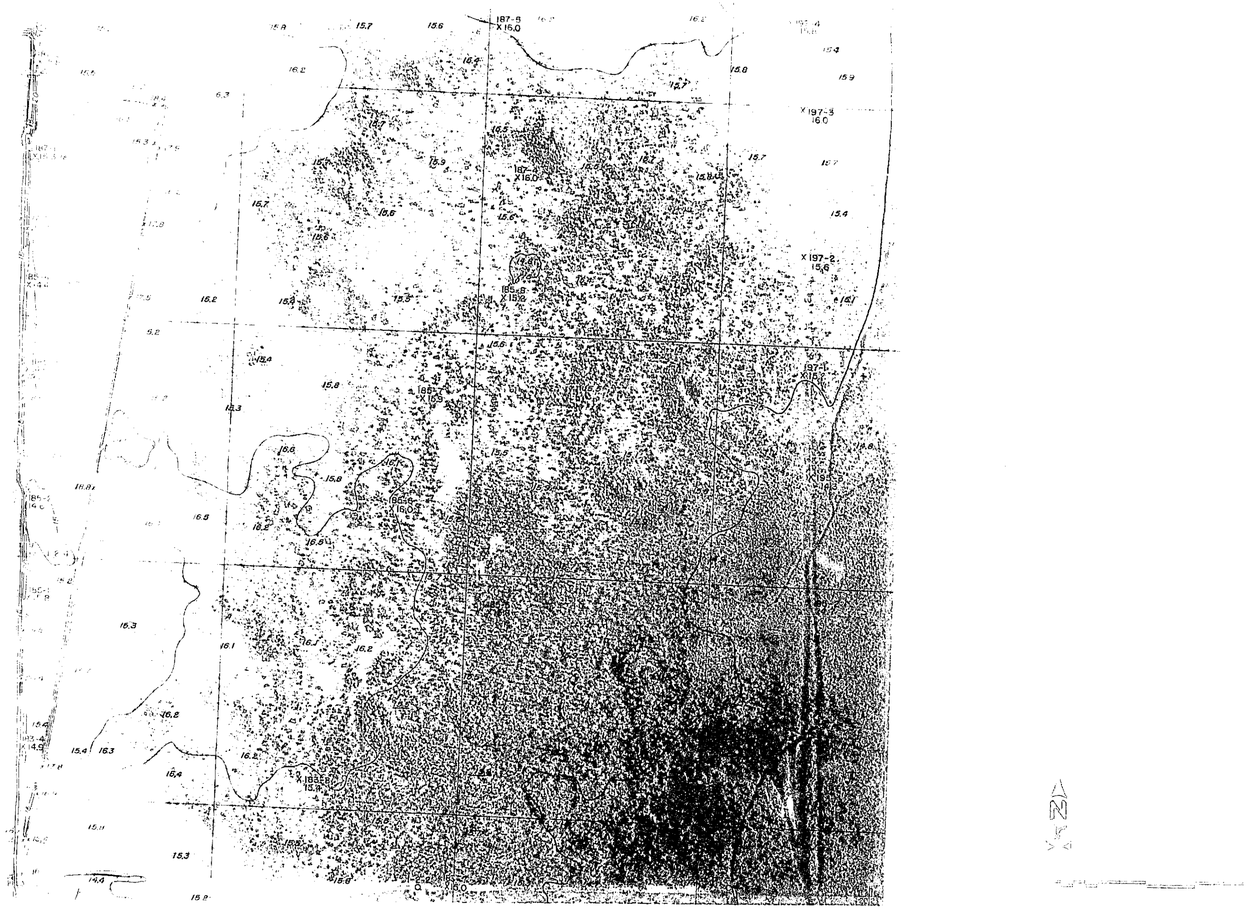
JOHNSON ENGINEERING, INC.



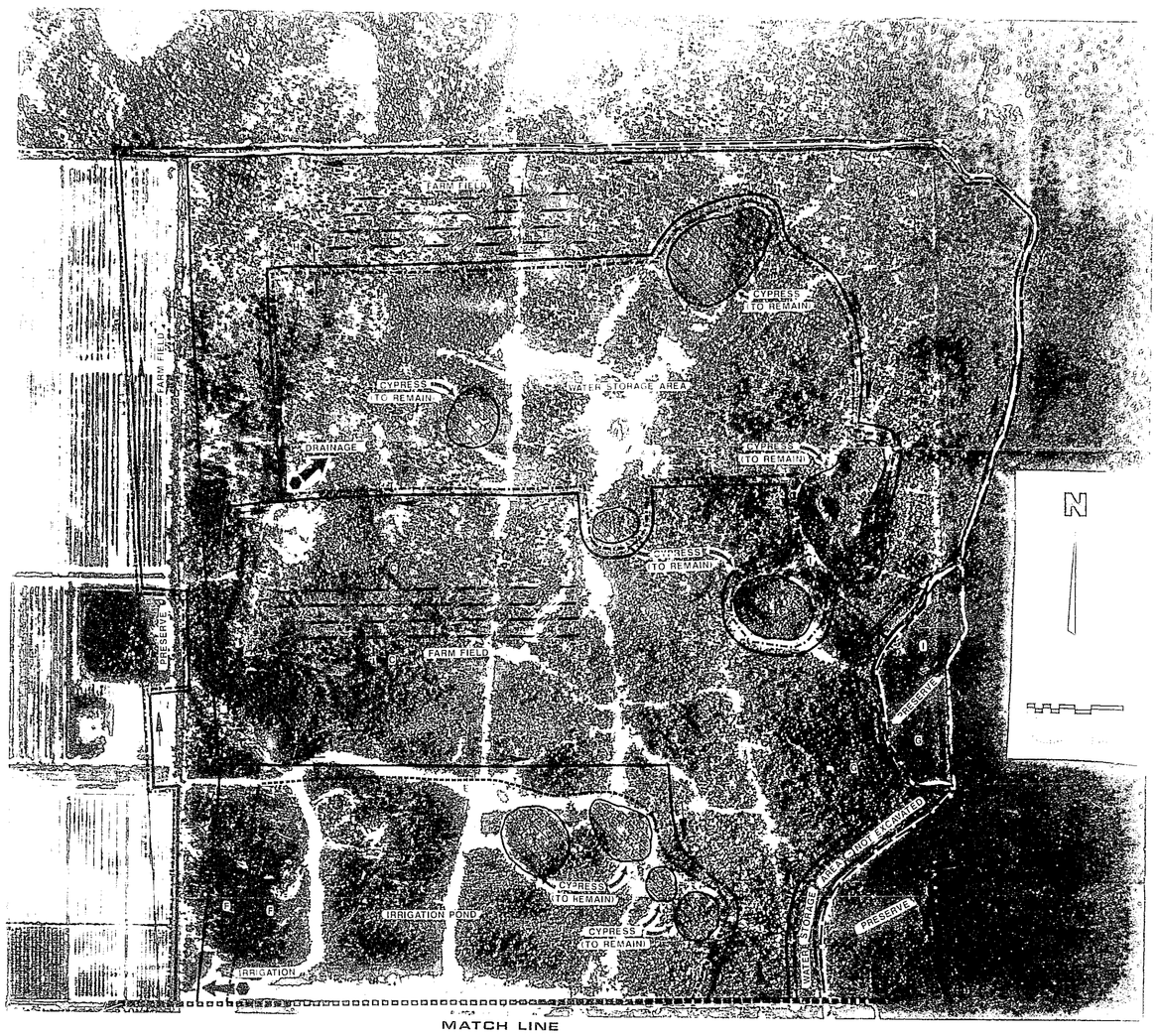
BONITA FARMS - FARM I

TOPOGRAPHY MAP

EXHIBIT 1



BONITA FARMS - FARM II



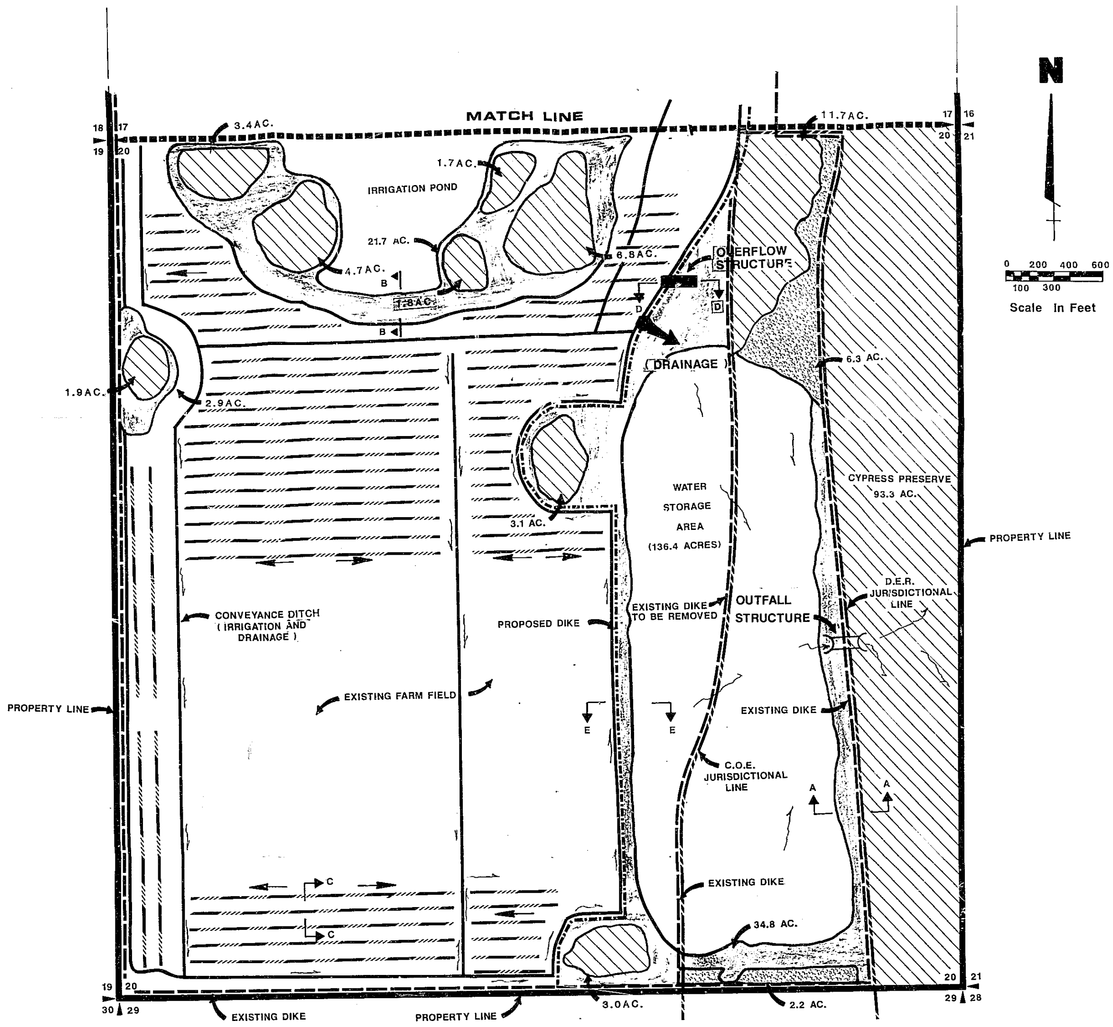
LEGEND

EXISTING DITCH
EXISTING DIKES
PROPOSED DIKES
CONVEYANCE SYSTEM
FARM DITCHES
PRESERVE AREAS
PUMP STATION
OUTFALL STRUCTURE
DIRECTION OF FLOW

BONITA FARMS
FARMS I AND II

MASTER PLAN

HOWARD E. DEARCH, P.E.



BONITA FARMS
FARM I

MASTER PLAN

HOWARD L. SEARCY, P.E.
CONSULTING ENGINEER, INC.

LEGEND

- PROPERTY LINE
- D.E.R./C.O.E. JURISDICTIONAL LINE
- EXISTING DIKES
- PROPOSED DIKES
- CONVEYANCE SYSTEM
- FARM DITCHES
- PRESERVE AREAS (CYPRESS - 131.4 ACRES)
- CREATED MARSH AREAS (57.9 ACRES)
- MAIDENCANE/JUNCUS MARSH PRESERVE AREAS (8.5 ACRES)
- PUMP STATION
- OUTFALL STRUCTURE
- OVERFLOW STRUCTURE
- TYPICAL SECTION A-A
- DIRECTION OF FLOW

EXHIBIT 4
REVISED 7/13/87
(1/27/87) 3/19/87
REVISED 2/12/87 2/23/87

TYPICAL DETAILS

TYPICAL DIKE & WATER STORAGE AREA DETAIL
TYPICAL SECTION A – A

BONITA FARMS – FARMS I AND II
JULY 13, 1987

TYPICAL IRRIGATION POND SECTION
TYPICAL SECTION B – B

BONITA FARMS – FARMS I AND II
JULY 13, 1987

TYPICAL FARM FIELD SECTION
TYPICAL SECTION C – C

BONITA FARMS – FARMS I AND II
JULY 13, 1987

TYPICAL SECTION D – D

BONITA FARMS – FARMS I AND II
JULY 13, 1987

TYPICAL SECTION E – E

BONITA FARMS – FARMS I AND II
JULY 13, 1987

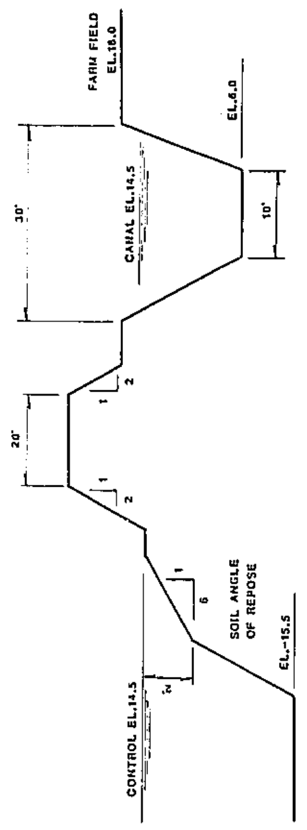
TYPICAL IRRIGATION POND SECTION
TYPICAL SECTION F–F

BONITA FARMS – FARMS I AND II
JULY 13, 1987

TYPICAL SECTION G–G

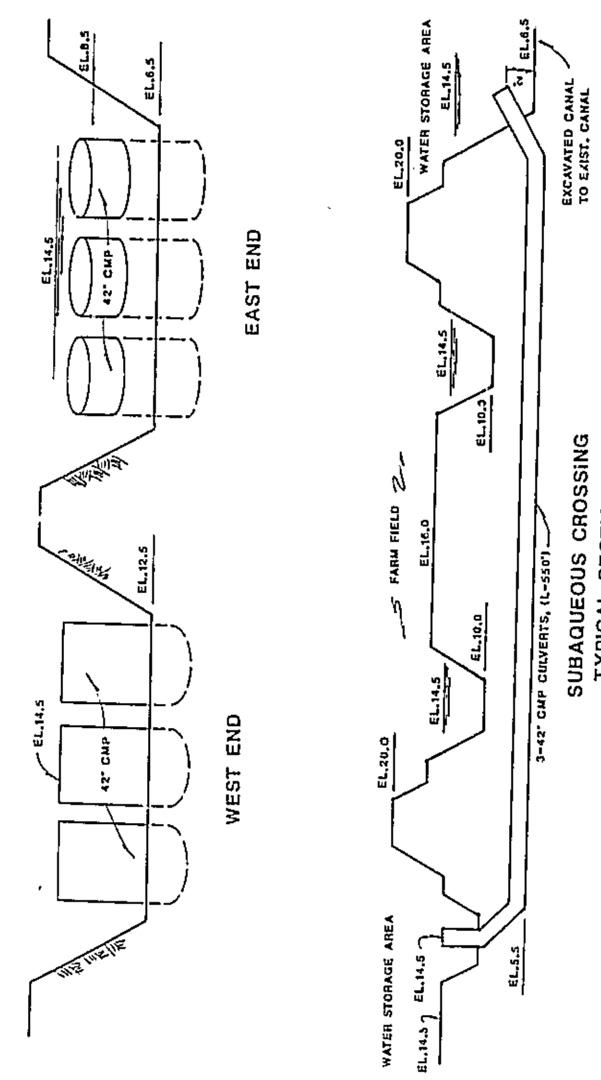
BONITA FARMS – FARMS I AND II
JULY 13, 1987

EXHIBIT 5



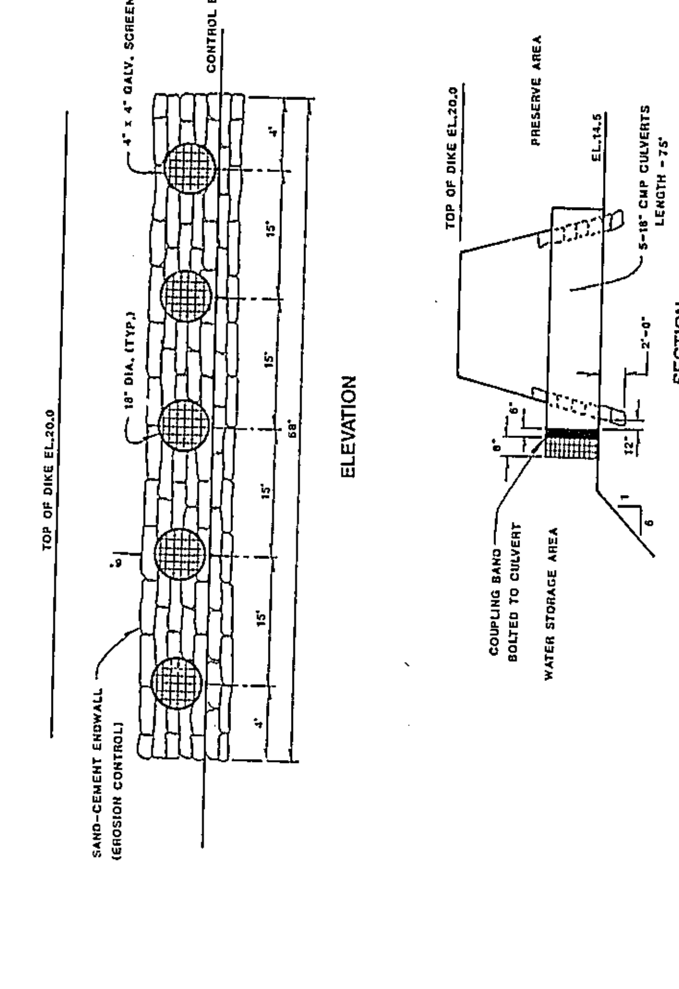
TYPICAL DIKE & WATER STORAGE AREA DETAIL
TYPICAL SECTION H-H

BONITA FARMS – FARMS I AND II
JULY 13, 1987



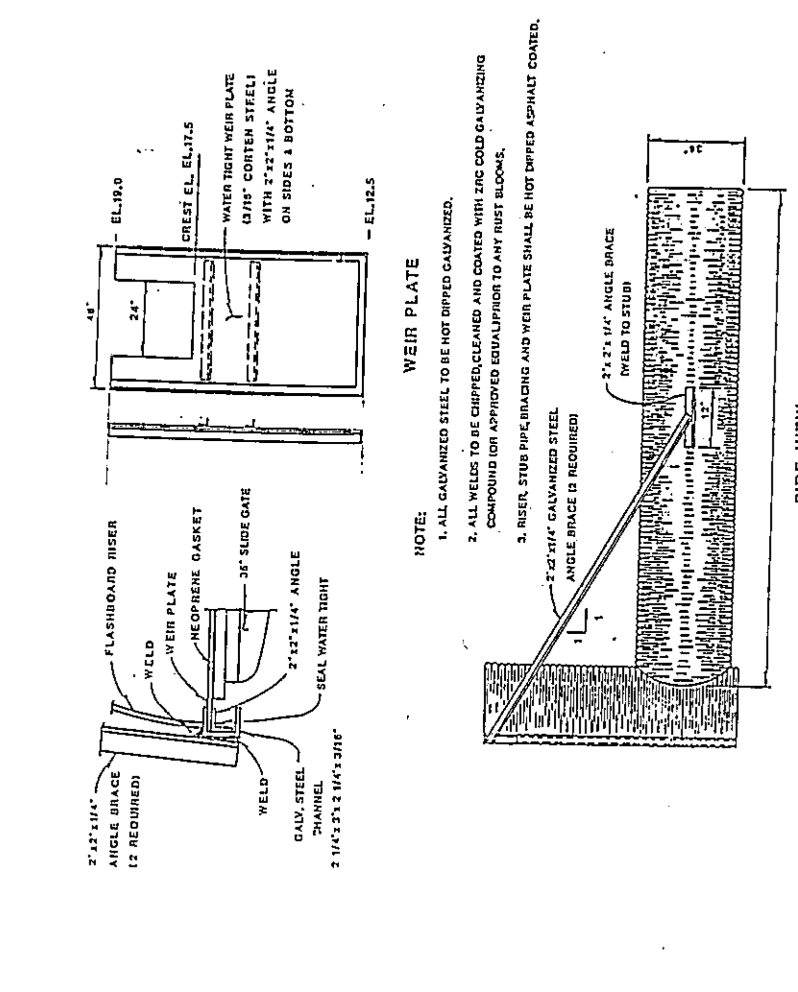
SUBAQUEOUS CROSSING
TYPICAL SECTION I-I

BONITA FARMS – FARMS I AND II
JULY 13, 1987



OUTFALL STRUCTURE DETAIL

BONITA FARMS – FARMS I AND II
JULY 13, 1987



OVERFLOW STRUCTURE DETAIL

BONITA FARMS – FARMS I AND II
JULY 13, 1987

BONITA FARMS - FARMS I AND II

AREA

TOTAL AREA = 1279.1 ACRES

LANDUSE	FARM I	FARM II	COMBINED
FARM FIELD	358.5	362.2	720.7
WATER STORAGE AREA	132.6	147.1	279.7
IRRIGATION POND	60.2	86.7	146.9
PRESERVE AREA	93.3	38.5	131.8
TOTALS	644.6	634.5	1279.1

FARM FIELD

FIELD = 720.7 ACRES

85 % IN BEDS = 612.6 ACRES
15 % IN CANALS = 108.1 ACRES

SOIL STORAGE

AVERAGE GROUND ELEVATION = 16.0'
CONTROL ELEVATION IN FIELD = 14.5'
AVERAGE DEPTH TO WATER = 1.5'

"S" = 1.5"(612.6/867.6*) = 1.06"

SITE STORAGE

612.6 ACRES OF FARM BEDS STORE VERTICAL FROM EL. 16.0'
108.1 ACRES OF CANALS STORE VERTICAL FROM EL. 14.5'

WATER QUALITY

DETAIN 1" OF RUNOFF FROM THE FARM

1 IN/ 12IN/FT X 867.6 AC* = 72.2 AC-FT
72.2 AC-FT WILL BE DETAINED IN THE WATER STORAGE AREA.
STAGE IN THE WATER STORAGE AREA WILL BE 14.75'(H =.25').

PUMPS

1 - 18.000 GPM (40 CFS) AND 1 - 28.000 GPM (62.6 CFS) PUMP STATIONS WILL PUMP STORM WATER FROM THE FARM FIELDS INTO THE WATER STORAGE AREA.

PUMPS WILL TURN ON AT EL. 15.0' AND OFF AT EL. 14.5'.

*AREA DOES NOT INCLUDE WATER STORAGE AREA OF PRESERVE AREA.

Company Name..............: Howard L. Searcy
Execution Date............: 07-20-1987

Computation Type..........: STAGE-STORAGE

Project Name..............: BONITA FARMS I & II
Engineer's Name...........: FARM FIELD

Name	BEDS	CANALS	
Area	612.60	108.10	
S.Elev	16.00	14.50	
E.Elev	0.00	0.00	
Stage Feet NGVD	Vert. Storage ac-ft	Vert. Storage ac-ft	Total Storage ac-ft
14.50	0.00	0.00	0.00
15.00	0.00	54.05	54.05
15.50	0.00	108.10	108.10
16.00	0.00	162.15	162.15
16.50	306.30	216.20	522.50
17.00	612.60	270.25	882.85
17.50	918.90	324.30	1243.20

Company Name..............: Howard L. Searcy
Execution Date............: 07-20-1987

Program Name..............: Santa Barbara -- (05/03/85)

Project Name..............: BONITA FARMS I & II
Engineer's Name...........: FARM FIELD
Project Area..............: 867.6 acres
Ground Storage............: 1.06 inches
Termination Discharge.....: 50 cfs
Time of Concentration.....: .5 hours
Distribution Type.........: SFWMD
Return Frequency..........: 25 years
Rainfall Duration.........: 3 -day
24-hr Rainfall............: 8.3 inches
Reporting Sequence........: Standardized
Discharge Hydrograph......: bonf25

Pump No.	Pump On Elevation (ft)	Pump Off Elevation (ft)	Pump Rate Discharge (cfs)
1	15.00	14.50	102.60

Storage Information.......:

	Component Name	Storage Type	Area (acres)	Start Elev (NGVD-ft)	Ending Elev (NGVD-ft)
Entry No. 1	BEDS	V	612.6	16.0	
Entry No. 2	CANALS	V	108.1	14.5	

Point No.	Stage (ft)	Storage (af)
1	14.50	0.00
2	15.00	54.05
3	15.50	108.10
4	16.00	162.15
5	16.50	522.50
6	17.00	882.85
7	17.50	1243.20

Time (hr)	Rain fall (in)	Accum. Runoff (in)	Basin Dischge (cfs)	Accum. Inflow (af)	RESERVOIR Volume (af)	Accum. Outflow (af)	Instant Dischge (cfs)	Average Dischge (cfs)	Stage (ft)
0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	14.50
4.00	0.20	0.00	0.0	0.0	0.0	0.0	0.0	0.0	14.50
8.00	0.40	0.03	10.8	1.7	1.7	0.0	0.0	0.0	14.51
12.00	0.61	0.11	19.6	6.9	6.9	0.0	0.0	0.0	14.56
16.00	0.81	0.21	25.3	14.4	14.4	0.0	0.0	0.0	14.63
20.00	1.01	0.34	29.3	23.6	23.6	0.0	0.0	0.0	14.72
24.00	1.21	0.49	32.1	33.8	33.8	0.0	0.0	0.0	14.81
28.00	1.51	0.71	50.8	49.3	49.3	0.0	0.0	0.0	14.95
32.00	1.80	0.95	53.7	66.7	43.4	23.3	102.6	73.7	14.90
36.00	2.10	1.21	55.8	84.8	27.6	57.2	102.6	102.6	14.75
40.00	2.39	1.47	57.3	103.6	12.4	91.2	102.6	102.6	14.61
44.00	2.69	1.73	58.5	122.7	4.0	118.7	0.0	80.2	14.53
48.00	2.98	2.00	59.4	142.2	23.5	118.7	0.0	0.0	14.71
52.00	3.35	2.35	88.2	166.1	47.4	118.7	0.0	0.0	14.93
56.00	4.12	3.07	196.9	213.8	69.6	144.1	102.6	80.3	15.13
58.00	4.75	3.68	286.7	253.7	92.6	161.1	102.6	102.6	15.33
59.00	5.21	4.13	387.7	281.6	112.0	169.6	102.6	102.6	15.50
59.50	5.63	4.53	560.3	302.8	129.0	173.8	102.6	102.6	15.64
59.75	7.03	5.90	1434.6	332.4	156.5	175.9	102.6	102.6	15.81
60.00	8.42	7.27	2781.7	389.9	211.8	178.1	102.6	102.6	16.03
60.50	9.03	7.87	2124.1	492.5	310.2	182.3	102.6	102.6	16.17
61.00	9.35	8.18	1174.1	549.7	363.1	186.6	102.6	102.6	16.26
62.00	9.77	8.60	471.3	604.0	408.9	195.0	102.6	102.6	16.34
64.00	10.28	9.11	221.9	649.7	437.8	212.0	102.6	102.6	16.38
68.00	10.88	9.71	129.6	696.3	450.4	245.9	102.6	102.6	16.40
72.00	11.28	10.10	86.5	726.7	446.9	279.8	102.6	102.6	16.39
80.00	11.28	10.10	0.0	730.3	382.6	347.7	102.6	102.6	16.31
88.00	11.28	10.10	0.0	730.3	314.8	415.5	102.6	102.6	16.21
96.00	11.28	10.10	0.0	730.3	246.9	483.3	102.6	102.6	16.12
104.00	11.28	10.10	0.0	730.3	179.1	551.2	102.6	102.6	16.02
112.00	11.28	10.10	0.0	730.3	111.1	619.0	102.6	102.6	15.53
120.00	11.28	10.10	0.0	730.3	43.4	686.8	102.6	102.6	14.90
125.25	11.28	10.10	0.0	730.3	-1.1	731.3	0.0	100.2	14.49

Maximum Stage = 16.40 feet
Maximum Discharge = 102.60 cfs

Company Name..............: Howard L. Searcy
Execution Date............: 07-20-1987

Program Name..............: Santa Barbara -- (05/03/85)

Project Name..............: BONITA FARMS I & II
Engineer's Name...........: FARM FIELD
Project Area..............: 867.6 acres
Ground Storage............: 1.06 inches
Termination Discharge.....: 50 cfs
Time of Concentration.....: .5 hours
Distribution Type.........: SFWMD
Return Frequency..........: 100 years
Rainfall Duration.........: 3 -day
24-hr Rainfall............: 10.4 inches
Reporting Sequence........: Standardized
Discharge Hydrograph......: bonf100

Pump No.	Pump On Elevation (ft)	Pump Off Elevation (ft)	Pump Rate Discharge (cfs)
1	15.00	14.50	102.60

Storage Information.......:

	Component Name	Storage Type	Area (acres)	Start Elev (NGVD-ft)	Ending Elev (NGVD-ft)
Entry No. 1	BFDS	V	612.6	16.0	
Entry No. 2	CANALS	V	108.1	14.5	

Point No.	Stage (ft)	Storage (af)
1	14.50	0.00
2	15.00	54.05
3	15.50	108.10
4	16.00	162.15
5	16.50	522.50
6	17.00	882.25
7	17.50	1243.20

Time (hr)	Rain fall (in)	Accum. Runoff (in)	Basin Dischge (cfs)	Accum. Inflow (af)	RESERVOIR Volume (af)	Accum. Outflow (af)	Instant Dischge (cfs)	Average Dischge (cfs)	Stage (ft)
0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	14.50
4.00	0.25	0.00	1.3	0.0	0.0	0.0	0.0	0.0	14.50
8.00	0.51	0.06	19.3	3.8	3.8	0.0	0.0	0.0	14.53
12.00	0.76	0.19	30.0	12.2	12.2	0.0	0.0	0.0	14.61
16.00	1.01	0.34	36.6	23.4	23.4	0.0	0.0	0.0	14.71
20.00	1.27	0.53	40.9	36.3	36.3	0.0	0.0	0.0	14.83
24.00	1.52	0.72	43.9	50.3	50.3	0.0	0.0	0.0	14.96
28.00	1.89	1.03	68.1	71.4	45.9	25.4	102.6	80.2	14.92
32.00	2.26	1.35	71.0	94.4	35.1	59.4	102.6	102.6	14.82
36.00	2.63	1.68	73.0	118.3	25.0	93.3	102.6	102.6	14.72
40.00	3.00	2.02	74.4	142.6	15.5	127.2	102.6	102.6	14.64
44.00	3.36	2.36	75.5	167.4	6.3	161.1	102.6	102.6	14.55
48.00	3.73	2.71	76.3	192.6	8.4	184.2	0.0	67.3	14.57
52.00	4.20	3.15	112.8	223.1	39.0	184.2	0.0	0.0	14.85
56.00	5.16	4.07	250.7	284.0	78.6	205.4	102.6	67.3	15.20
58.00	5.95	4.84	363.8	334.8	112.5	222.3	102.6	102.6	15.51
59.00	6.53	5.41	491.3	370.1	139.3	230.8	102.6	102.6	15.74
59.50	7.05	5.92	709.2	396.9	161.9	235.0	102.6	102.6	15.93
59.75	8.80	7.65	1812.4	434.4	197.2	237.2	102.6	102.6	16.02
60.00	10.56	9.38	3509.8	506.9	267.6	239.3	102.6	102.6	16.10
60.50	11.32	10.14	2677.0	636.2	392.7	243.5	102.6	102.6	16.28
61.00	11.71	10.53	1478.8	708.2	460.5	247.8	102.6	102.6	16.39
62.00	12.24	11.05	592.9	776.6	520.3	256.2	102.6	102.6	16.49
64.00	12.89	11.70	278.9	834.1	560.9	273.2	102.6	102.6	16.55
68.00	13.63	12.44	163.9	892.7	585.6	307.1	102.6	102.6	16.59
72.00	14.13	12.94	108.6	930.8	589.8	341.0	102.6	102.6	16.59
80.00	14.13	12.94	0.0	935.3	526.4	408.9	102.6	102.6	16.51
88.00	14.13	12.94	0.0	935.3	458.6	476.7	102.6	102.6	16.41
96.00	14.13	12.94	0.0	935.3	390.8	544.5	102.6	102.6	16.32
104.00	14.13	12.94	0.0	935.3	322.9	612.4	102.6	102.6	16.22
112.00	14.13	12.94	0.0	935.3	255.1	680.2	102.6	102.6	16.13
120.00	14.13	12.94	0.0	935.3	187.3	748.0	102.6	102.6	16.03
132.00	14.13	12.94	0.0	935.3	85.5	849.8	102.6	102.6	15.29
142.25	14.13	12.94	0.0	935.3	-1.1	936.4	0.0	101.3	14.49

Maximum Stage = 16.59 feet
Maximum Discharge = 102.60 cfs

BONITA FARMS - FARMS I AND II

WATER STORAGE AREA

AREA

WATER STORAGE AREA = 279.7 ACRES

SOIL STORAGE

THE WATER STORAGE AREAS ARE/WILL BE EXCAVATED LAKES WHICH WILL ONLY PROVIDE VOLUME STORAGE ABOVE THE CONTROL ELEVATION. NO SOIL STORAGE IS AVAILABLE.

SITE STORAGE

279.7 ACRES STORE VERTICAL FROM EL. 14.5'

DISCHARGE

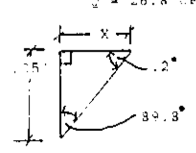
THE ALLOWABLE DISCHARGE IS 3/4 IN/DAY = 40.3 CFS

BLEEDER

SIZE THE BLEEDER TO DISCHARGE 1/2 IN/DAY = 26.8 CFS

V - NOTCH = $\theta = 2\ \tan^{-1}\ (Q/(2.5 \times H^{2.5})$

Q = 26.8 CFS, H = .25', θ = 179.6



$$\frac{\sin .2^\circ}{.25} = \frac{\sin 89.8^\circ}{X}$$

X = 71.6', L = 2X = 143.2'
(LENGTH IS EXCESSIVE)

USE THE EXISTING STRUCTURE WHICH IS 3 - 18" CMP CULVERTS AND ADD 2 ADDITIONAL 18" CMP CULVERTS SET AT INVERT ELEVATION 14.5' (NATURAL GROUND). AT ELEVATION 14.75' (DETENTION STAGE), THE STRUCTURE WILL PASS 3.33 CFS WHICH IS LESS THAN THE 26.8 CFS DETENTION DISCHARGE. THEREFORE, THE STRUCTURE MORE THAN MEETS THE WATER QUALITY REQUIREMENTS.

Company Name..............: Howard L. Searcy
Execution Date............: 07-20-1987

Computation Type..........: STAGE-STORAGE

Project Name..............: BONITA FARMS I & II
Engineer's Name...........: WATER STORAGE AREA

Name STORAGE ARE

Area 279.70
S.Elev 14.50
E.Elev 0.00

Stage Feet NGVD	Vert. Storage ac-ft	Total Storage ac-ft
14.50	0.00	0.00
15.00	139.85	139.85
15.50	279.70	279.70
16.00	419.55	419.55
16.50	559.40	559.40
17.00	699.25	699.25
17.50	839.10	839.10
18.00	978.95	978.95
18.50	1118.80	1118.80

BONITA FARMS - FARMS I AND II

STAGE - DISCHARGE

5 - 18" CMP CULVERTS (L = 75') SET AT INVERT ELEVATION 14.5' (NATURAL GROUND).

STAGE	DISCHARGE
14.5	0.00
15.0	6.66*
15.5	12.16*
16.0	18.33*
16.5	20.17**
17.0	28.50**
17.5	34.90**
18.0	40.35**
18.5	45.11**

* CULVERTS FLOWING PART FULL
** ASSUMES CULVERTS ARE FLOWING FULL UNDER OUTLET CONTROL

EMERGENCY OVERFLOW STRUCTURE

SET THE WEIR CREST OF THE OVERFLOW STRUCTURE AT THE 25 YEAR - 3 DAY STAGE WITHIN THE WATER STORAGE AREA.

25 YEAR - 3 DAY STAGE = 17.5'

THE 100 YEAR - 3 DAY STAGE IS 18.1'

TOP OF DIKE ELEVATION IS 20.0'

USE THE PREVIOUSLY PERMITTED OVERFLOW STRUCTURE WHICH IS A 2.0' WIDE WEIR AT CREST ELEVATION 17.5'. THE STRUCTURE WILL CONTINUE TO PROVIDE SOME FLOW BACK INTO THE FARM FIELD DURING EVENTS LARGER THAN THE 25 YEAR - 3 DAY STORM. THERE IS 2 FEET OF FREEBOARD DURING THE 100 YEAR - 3 DAY EVENT AND 2.5 FEET OF FREEBOARD DURING THE 25 YEAR - 3 DAY EVENT WHICH SHOULD PROVIDE ADEQUATE PROTECTION.

Company Name..............: Howard L. Searcy
Execution Date............: 07-20-1987

Program Name..............: Santa Barbara -- (05/03/85)

Project Name..............: BONITA FARMS I & II
Engineer's Name...........: WATER STORAGE AREA
Project Area..............: 279.7 acres
Ground Storage............: .001 inches
Termination Discharge.....: 19 cfs
Time of Concentration.....: .5 hours
Distribution Type.........: SFWMD
Return Frequency..........: 25 years
Rainfall Duration.........: 3 -day
24-hr Rainfall............: 8.3 inches
Reporting Sequence........: Standardized
Inflow Hydrograph.........: bonf25 lagged by 0 hours

Storage Information.......: Component Name: STORAGE AREA; Storage Type: V; Area (acres): 279.7; Start Elev (NGVD-ft): 14.5; Ending Elev (NGVD-ft):

Entry No. 1...............:

Point No.	Stage (ft)	Storage (af)	Discharge (cfs)
1	14.50	0.00	0.00
2	15.00	139.85	6.66
3	15.50	279.70	12.16
4	16.00	419.55	18.33
5	16.50	559.40	20.17
6	17.00	699.25	28.50
7	17.50	839.10	34.90
8	18.00	978.95	40.35
9	18.50	1118.80	45.11

Time (hr)	Rain fall (in)	Accum. Runoff (in)	Basin Dischge (cfs)	Accum. Inflow (af)	- - - R E S E R V O I R - - - Volume (af)	Accum. Outflow (af)	Instant Dischge (cfs)	Average Dischge (cfs)	Stage (ft)
0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	14.50
4.00	0.20	0.20	14.2	3.9	3.9	0.0	0.2	0.1	14.51
8.00	0.40	0.40	14.2	8.7	8.5	0.1	0.4	0.3	14.53
12.00	0.61	0.60	14.2	13.4	13.1	0.3	0.6	0.5	14.55
16.00	0.81	0.81	14.2	18.1	17.5	0.5	0.8	0.7	14.56
20.00	1.01	1.01	14.2	22.8	21.9	0.8	1.0	0.9	14.58
24.00	1.21	1.21	14.2	27.5	26.3	1.2	1.2	1.1	14.59
28.00	1.51	1.51	20.8	34.0	32.3	1.7	1.5	1.4	14.61
32.00	1.80	1.80	20.8	65.3	62.9	2.4	2.9	2.2	14.72
36.00	2.10	2.09	20.8	105.0	102.4	3.6	4.8	3.9	14.86
40.00	2.39	2.39	20.8	146.8	141.3	5.5	6.7	5.7	15.00
44.00	2.69	2.68	20.8	180.2	172.2	8.0	7.9	7.4	15.11
48.00	2.98	2.98	20.8	187.1	176.4	10.6	8.1	8.0	15.13
52.00	3.35	3.35	30.4	195.2	181.9	13.3	8.3	8.2	15.15
56.00	4.12	4.12	66.7	237.7	221.4	16.3	9.8	8.9	15.29
58.00	4.75	4.75	96.1	267.8	249.8	18.0	10.9	10.3	15.39
59.00	5.21	5.21	129.3	285.2	266.3	18.9	11.5	11.2	15.44
59.50	5.63	5.63	186.3	295.0	276.5	19.4	11.9	11.7	15.48
59.75	7.03	7.02	474.1	304.9	285.2	19.6	12.2	12.1	15.50
60.00	8.42	8.42	915.6	331.3	301.4	19.9	12.8	12.5	15.55
60.50	9.03	9.03	696.7	361.5	341.0	20.5	14.4	13.6	15.69
61.00	9.35	9.34	384.3	387.7	365.6	21.1	15.7	15.1	15.79
62.00	9.77	9.77	153.8	416.3	393.8	22.4	17.1	16.5	15.90
64.00	10.28	10.28	72.2	449.0	423.6	25.4	18.4	17.8	16.01
68.00	10.88	10.88	42.1	498.4	466.8	31.6	18.9	18.7	16.16
72.00	11.24	11.28	28.1	542.3	504.4	37.9	19.4	19.2	16.30
80.00	11.28	11.28	0.0	611.6	560.6	51.0	20.2	19.8	16.50
88.00	11.28	11.28	0.0	679.4	614.0	65.4	23.4	21.8	16.69
96.00	11.28	11.28	0.0	747.3	665.4	81.9	26.4	24.9	16.88
104.00	11.28	11.28	0.0	815.1	714.8	100.3	29.2	27.9	17.05
112.00	11.28	11.28	0.0	882.9	763.6	120.3	31.4	30.3	17.22
120.00	11.28	11.28	0.0	950.8	809.0	141.7	33.5	33.4	17.39
132.00	11.28	11.28	0.0	994.2	818.5	175.7	33.0	33.3	17.43
144.00	11.28	11.28	0.0	994.2	785.6	208.7	32.5	33.3	17.31
156.00	11.28	11.28	0.0	994.2	754.1	240.1	31.0	31.7	17.20
168.00	11.28	11.28	0.0	994.2	724.0	270.2	29.6	30.3	17.09
180.00	11.28	11.28	0.0	994.2	695.3	298.9	28.3	29.0	16.99
192.00	11.28	11.28	0.0	994.2	668.1	326.1	26.6	27.4	16.89
204.00	11.28	11.28	0.0	994.2	642.4	351.8	25.1	25.9	16.80
216.00	11.28	11.28	0.0	994.2	618.3	376.0	23.7	24.4	16.71
228.00	11.28	11.28	0.0	994.2	595.5	398.8	22.1	23.0	16.63
240.00	11.28	11.28	0.0	994.2	574.0	420.3	21.0	21.7	16.55
252.00	11.28	11.28	0.0	994.2	553.7	440.6	20.1	20.5	16.48
264.00	11.28	11.28	0.0	994.2	533.9	460.4	19.8	20.0	16.41
276.00	11.28	11.28	0.0	994.2	514.3	479.9	19.6	19.7	16.34
288.00	11.28	11.28	0.0	994.2	495.0	499.2	19.3	19.4	16.27
300.00	11.28	11.28	0.0	994.2	476.0	518.2	19.1	19.2	16.20
303.75	11.28	11.28	0.0	994.2	470.1	524.1	19.0	19.0	16.18

Maximum Stage = 17.49 feet
Maximum Discharge = 34.81 cfs

Company Name..............: Howard L. Searcy
Execution Date............: 07-20-1987

Program Name..............: Santa Barbara -- (05/03/85)

Project Name..............: BONITA FARMS I & II
Engineer's Name...........: WATER STORAGE AREA
Project Area..............: 279.7 acres
Ground Storage............: .001 inches
Termination Discharge.....: 19 cfs
Time of Concentration.....: .5 hours
Distribution Type.........: SFWMD
Return Frequency..........: 100 years
Rainfall Duration.........: 3 -day
24-hr Rainfall............: 10.4 inches
Reporting Sequence........: Standardized
Inflow Hydrograph.........: bonf100 lagged by 0 hours

Storage Information.......: Component Name: STORAGE AREA; Storage Type: V; Area (acres): 279.7; Start Elev (NGVD-ft): 14.5; Ending Elev (NGVD-ft):

Entry No. 1...............:

Point No.	Stage (ft)	Storage (af)	Discharge (cfs)
1	14.50	0.00	0.00
2	15.00	139.85	6.66
3	15.50	279.70	12.16
4	16.00	419.55	18.33
5	16.50	559.40	20.17
6	17.00	699.25	28.50
7	17.50	839.10	34.90
8	18.00	978.95	40.35
9	18.50	1118.80	45.11

Time (hr)	Rain fall (in)	Accum. Runoff (in)	Basin Dischge (cfs)	Accum. Inflow (af)	- - - R E S E R V O I R - - - Volume (af)	Accum. Outflow (af)	Instant Dischge (cfs)	Average Dischge (cfs)	Stage (ft)
0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	14.50
4.00	0.25	0.25	17.8	4.9	4.9	0.0	0.2	0.1	14.52
8.00	0.51	0.50	17.8	10.8	10.7	0.2	0.5	0.4	14.54
12.00	0.76	0.76	17.8	16.7	16.4	0.4	0.8	0.6	14.56
16.00	1.01	1.01	17.8	22.6	22.0	0.7	1.0	0.9	14.58
20.00	1.27	1.26	17.8	28.5	27.5	1.0	1.3	1.2	14.60
24.00	1.52	1.52	17.8	34.4	32.9	1.5	1.6	1.4	14.62
28.00	1.89	1.89	26.0	69.1	66.9	2.2	3.1	2.2	14.73
32.00	2.26	2.26	26.0	111.6	108.0	3.6	5.1	4.1	14.88
36.00	2.63	2.62	26.0	154.2	148.6	5.6	7.0	6.0	15.03
40.00	3.00	2.99	26.0	196.7	188.5	8.2	8.5	7.7	15.17
44.00	3.36	3.36	26.0	239.2	228.0	11.2	10.1	9.3	15.31
48.00	3.73	3.73	26.0	270.1	255.3	14.8	11.2	10.8	15.41
52.00	4.20	4.20	38.1	280.3	261.8	18.5	11.4	11.3	15.43
56.00	5.16	5.16	63.6	322.5	300.0	22.5	13.0	12.0	15.57
58.00	5.95	5.95	120.5	356.0	331.2	24.7	14.3	13.6	15.68
59.00	6.53	6.53	162.1	375.7	349.7	26.0	15.1	14.7	15.74
59.50	7.05	7.05	233.4	388.0	361.4	26.6	15.6	15.4	15.78
59.75	8.80	8.80	594.1	398.7	371.8	26.9	16.0	15.8	15.81
60.00	10.56	10.55	1147.2	418.8	391.5	27.3	16.7	16.3	15.86
60.50	11.32	11.31	872.9	468.1	440.1	28.0	18.4	17.6	16.03
61.00	11.71	11.71	481.6	499.8	471.0	28.8	18.9	18.7	16.16
62.00	12.24	12.24	192.7	533.5	503.1	30.3	19.4	19.2	16.29
64.00	12.89	12.88	90.5	570.2	536.6	33.6	19.8	19.6	16.41
68.00	13.63	13.62	52.8	623.5	583.1	40.3	21.5	20.4	16.58
72.00	14.13	14.12	35.2	669.9	622.1	47.8	23.8	22.7	16.72
80.00	14.13	14.13	0.0	739.6	674.9	64.7	27.0	25.5	16.92
88.00	14.13	14.13	0.0	807.4	724.0	83.4	29.6	28.4	17.08
96.00	14.13	14.13	0.0	875.3	771.5	103.7	31.8	30.7	17.25
104.00	14.13	14.13	0.0	943.1	817.7	125.4	33.9	32.8	17.42
112.00	14.13	14.13	0.0	1010.9	862.5	148.5	35.8	34.9	17.58
120.00	14.13	14.13	0.0	1078.8	906.1	172.7	37.5	36.6	17.74
132.00	14.13	14.13	0.0	1180.5	969.4	211.1	39.9	38.7	17.96
144.00	14.13	14.13	0.0	1266.4	1014.6	251.7	41.6	41.0	18.13
156.00	14.13	14.13	0.0	1266.4	974.1	292.3	40.2	40.9	17.98
168.00	14.13	14.13	0.0	1266.4	935.0	331.3	38.6	39.4	17.84
180.00	14.13	14.13	0.0	1266.4	897.5	368.9	37.2	37.9	17.71
192.00	14.13	14.13	0.0	1266.4	861.3	405.1	35.8	36.5	17.58
204.00	14.13	14.13	0.0	1266.4	826.5	439.9	34.3	35.1	17.46
216.00	14.13	14.13	0.0	1266.4	793.2	473.1	32.8	33.6	17.34
228.00	14.13	14.13	0.0	1266.4	761.4	504.9	31.1	32.1	17.22
240.00	14.13	14.13	0.0	1266.4	731.0	535.3	30.0	30.6	17.11
252.00	14.13	14.13	0.0	1266.4	702.0	564.4	28.6	29.3	17.01
264.00	14.13	14.13	0.0	1266.4	674.4	592.0	27.0	27.8	16.91
276.00	14.13	14.13	0.0	1266.4	648.4	618.0	25.5	26.2	16.82
288.00	14.13	14.13	0.0	1266.4	623.9	642.5	24.0	24.7	16.73
300.00	14.13	14.13	0.0	1266.4	600.7	665.6	22.6	23.3	16.65
312.00	14.13	14.13	0.0	1266.4	578.9	687.4	21.3	22.0	16.57
324.00	14.13	14.13	0.0	1266.4	558.4	708.0	20.2	20.7	16.50
336.00	14.13	14.13	0.0	1266.4	538.5	727.9	19.9	20.0	16.43
348.00	14.13	14.13	0.0	1266.4	518.9	747.5	19.6	19.8	16.36
360.00	14.13	14.13	0.0	1266.4	499.6	766.8	19.4	19.5	16.29
372.00	14.13	14.13	0.0	1266.4	480.5	785.9	19.1	19.3	16.22
378.50	14.13	14.13	0.0	1266.4	470.2	796.1	19.0	19.1	16.18

Maximum Stage = 18.15 feet
Maximum Discharge = 41.75 cfs

TABLE B

DESCRIPTION OF SURFACE WATER PUMPS

Drainage District:	N/A			
PUMP NO.	N/A			
Map Designation				
Surface Water Body	Irrig-ation Pond			
Existing or Proposed	Pro-posed			
Pump Manufacturer and Model Number	N/A			
Pump Type	Elect-ric			
Pump Capacity	4000 GPM			
Pump Horse Power	N/A			
Pump Diameter	14"			
Elevation of Intake (NGVD)	4.5'			
Is pump a two way pump?	No			
Florida Plane Coordinates				

EXHIBIT 7

TABLE G

IRRIGATION SYSTEM AND CROP DESCRIPTION

Type of Irrigation System FURROW (See categories below)

Acres Served by this System 720.7 Acres

NAME OF CROP	SMALL VEGETABLES			
Existing (and How long) OR Proposed (and When)	Exist-ing	Pro-posed		
Acres Planted	358.5	362.2		
Number of Plantings Per Year	4	4		
Month of First Planting*	WILL	PLANT		
Month of Last Harvest*	AROUND THE	YEAR		
Average Time From Planting to Harvest*	3 MONTHS			

* Complete these sections for seasonal crops only

TYPES OF IRRIGATION SYSTEMS

SEEPAGE: Water is conveyed from the source and distributed to the crop through open ditches, usually 50 to 200 feet apart, and depends on seepage from one ditch to the other ditch.

FURROW: Water is conveyed from the source and distributed to the crop through the furrows between the rows. Furrows usually less than 50 feet apart.

CROWN FLOODING: Water is conveyed from the source and distributed between the beds up to the crown of the beds of the crop, and held for a few hours.

SEMICLOSED: Water is conveyed from the source through closed pipe and distributed to the crop through open ditches between crop rows.

CLOSED PIPE: Water is conveyed from the source and distributed to the crop through closed pipe. This system is used almost exclusively for fish farms.

EXHIBIT 8