

Table 4
Average Chloride¹ Values (mg/L) in E-Series and F-Series Wells

Well	Cl @ 20 '	Cl @ 40 '	Cl @ 60 '
E-1	15,125	17,250	
E-2	15,750		
E-3	10,667		
E-4	14,083		
E-5	15,167		
E-6	12,750		
E-7	17,417		
E-8	16,333		
E-9	17,083		
E-10	18,917		
E-11	18,500		
E-12	19,083		
E-13	19,083		
E-14	17,583		
E-15	16,667		
E-16	15,500		
E-17	17,083		
E-18	15,750		
E-19	9,917		
E-20	12,750		
E-21	16,750		
E-22	18,750		
E-23	18,500		
F-3	19,800	20,400	21,300
F-4	21,900	21,700	22,200
F-6	13,600	17,200	17,600
F-7	1,400	13,600	15,200
F-8	800	10,100	10,900

Note 1: Period of Record 4/1/1972 through 2/1/1973 as available

FIGURES

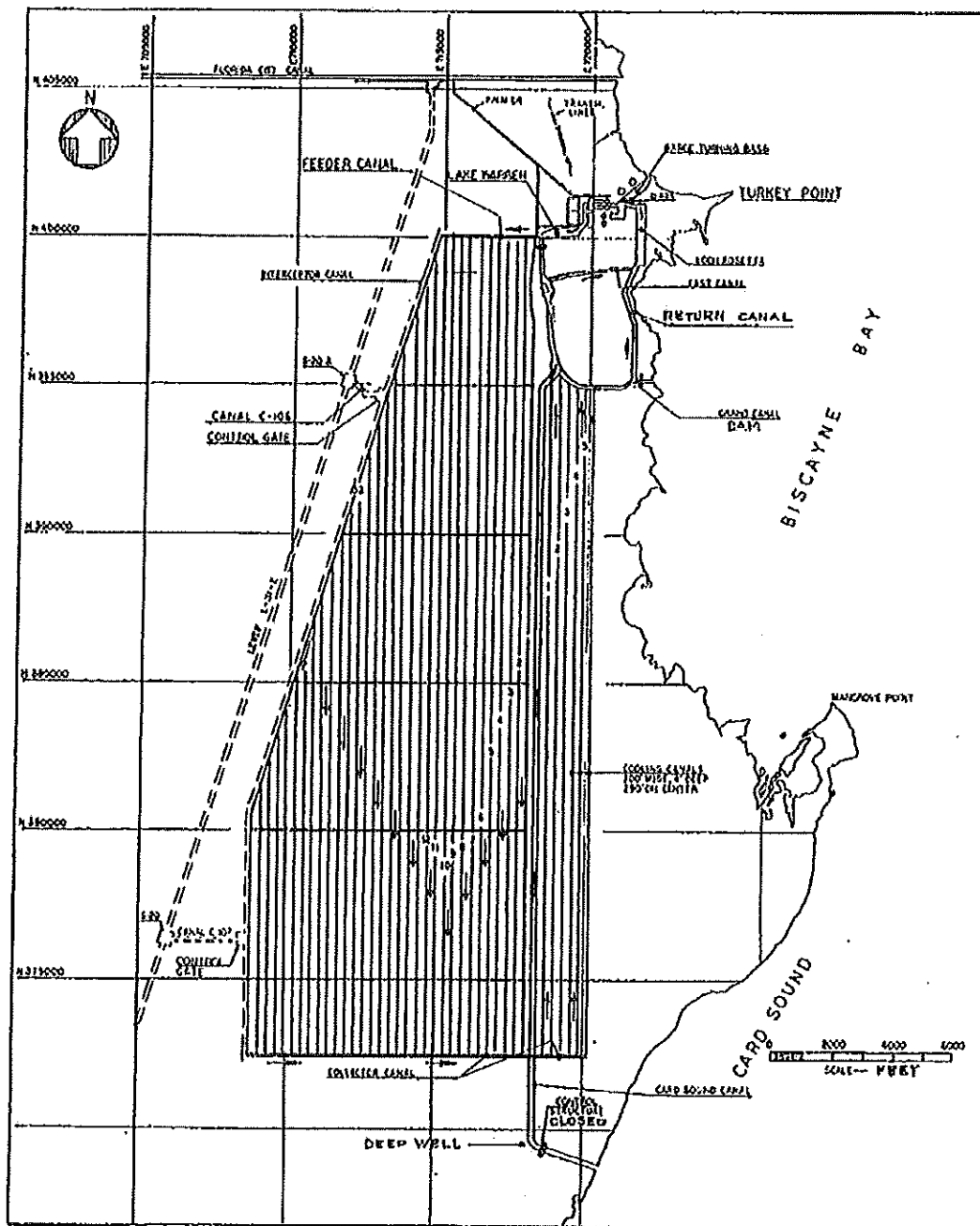


Figure -1

Turkey Point Cooling Canal System Source: FPL, 1972



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TITLE

Turkey Point Cooling Canal System

CLIENT/PROJECT

FPL/Saltwater Orientation/FL

DRAWN

MT

DATE

10/19/10

JOB NO.

10390308

CHECKED

SM

SCALE

NTS

DWG. NO.

REV. NO.

REVIEWED

HF

FILE NO.

10390308 Figure 1

SUBTITLE

FIGURE NO.

1

Map Document: C:\GIS\FPL\FPL Turkey Point\PROJECTS\Figure-2_E Well Locations.mxd / Modified 12/12/2010 1:58:53 PM / Plotted 12/13/2010 1:58:53 PM by B. Jefferson

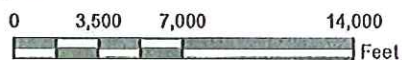


LEGEND

- COOLING CANAL SYSTEM OUTLINE
- ◆ WELL

REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.



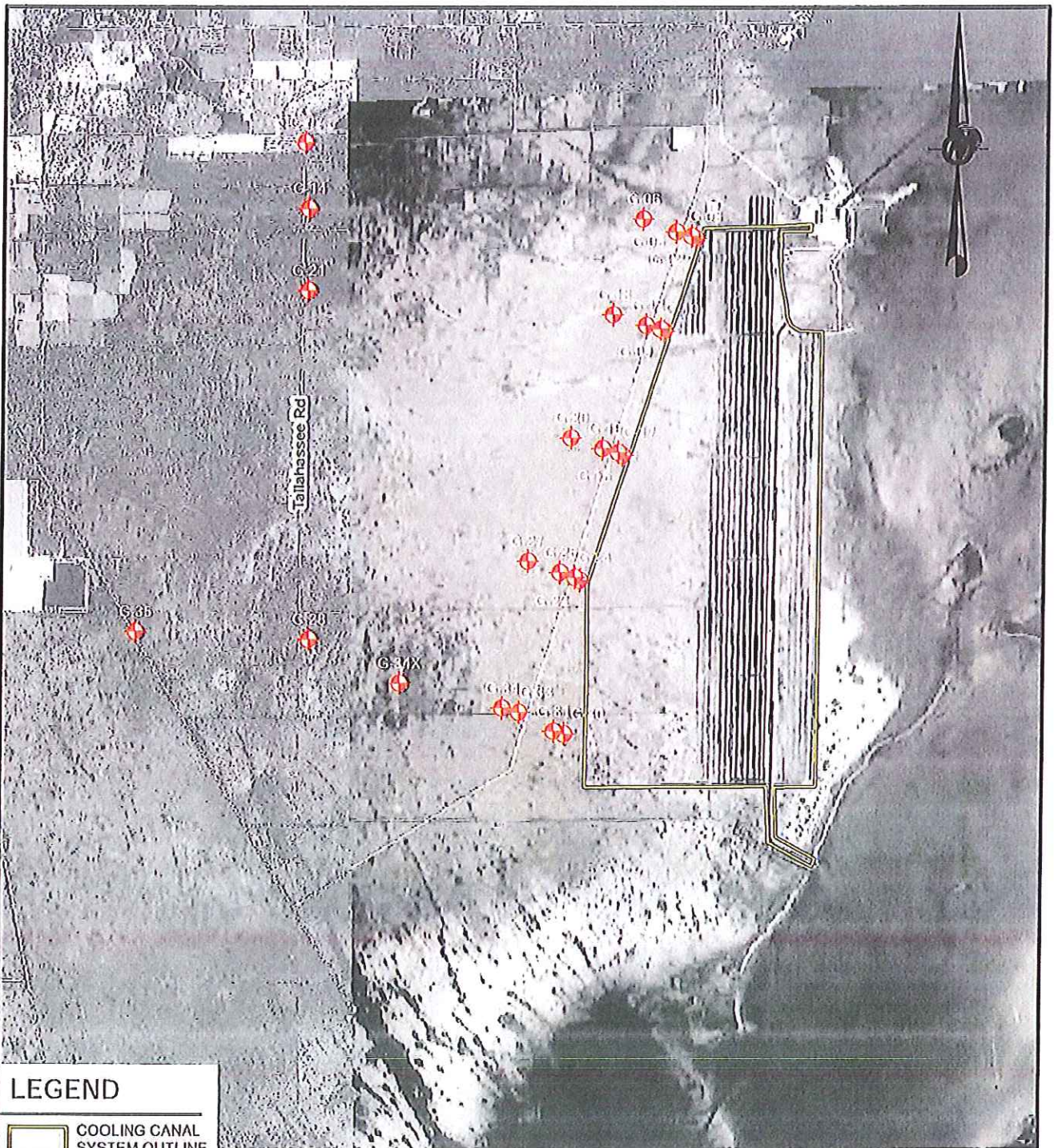
REV.	DATE	DES.	REVISION DESCRIPTION	GIS	CHK	RWY
PROJECT: FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE: E WELL LOCATIONS						
PROJECT No. 10320259			FILE No. ...			
DESIGN ...			SCALE: AS SHOWN REV. 0			
GIS EDJ 12/2010						
CHECK HF 12/2010						
REVIEW HIF 12/2010						

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FIGURE 2

Map Document: O:\GIS\FPL\Turkey Point\PROJECTS\Figure-3_G Well Locations.mxd / Modified 12/12/2010 1:59:35 PM / Plotted 12/13/2010 1:59:35 PM by Bjoerfson

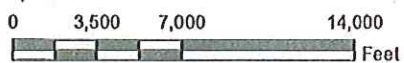


LEGEND

-  COOLING CANAL SYSTEM OUTLINE
-  WELL

REFERENCES

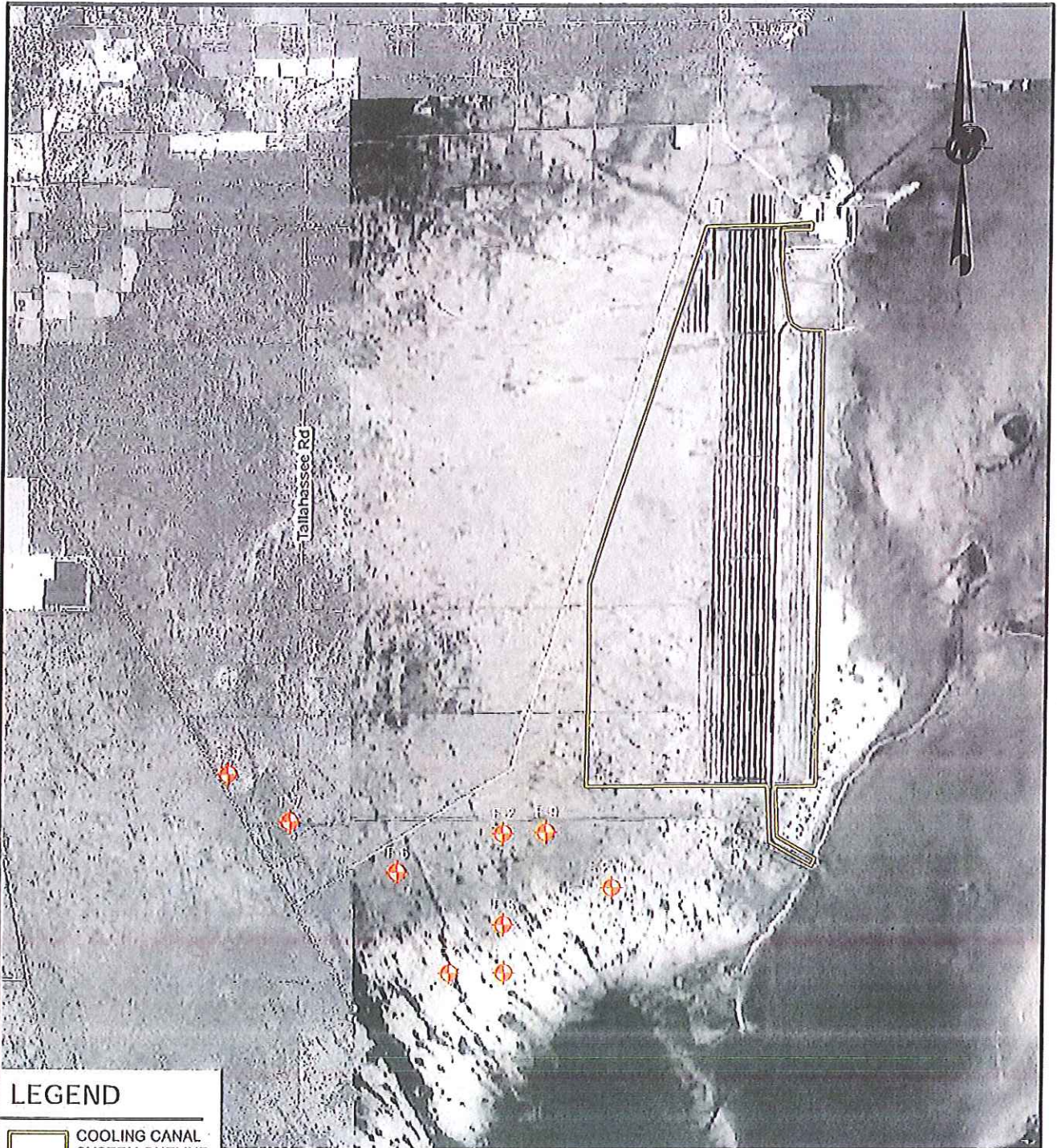
1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.



REV.	DATE	DES	REVISION DESCRIPTION	G/S	CHK	RVW
PROJECT						
FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE						
G WELL LOCATIONS						
PROJECT No.		10350259		FILE No.		---
DESIGN	---	EDJ	12/2010	SCALE: AS SHOWN		REV. 0
GIS	---	HF	12/2010	FIGURE 3		
CHECK	---	HF	12/2010			
REVIEW	---	HF	12/2010			



Map Document: C:\GIS\FPL\Turkey Point\PROJECTS\Figure-4_F Well Locations.mxd / Modified 12/13/2010 1:59:58 PM / Plotted 12/13/2010 1:59:58 PM by Bjerferson



LEGEND

-  COOLING CANAL SYSTEM OUTLINE
-  WELL

REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.

2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.

0 3,500 7,000 14,000
Feet

REV.	DATE	DES.	REVISION DESCRIPTION	GIS	CHK	RVW
------	------	------	----------------------	-----	-----	-----

PROJECT

FPL TURKEY POINT
SALT WATER ORIENTATION
UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA

TITLE

F WELL LOCATIONS

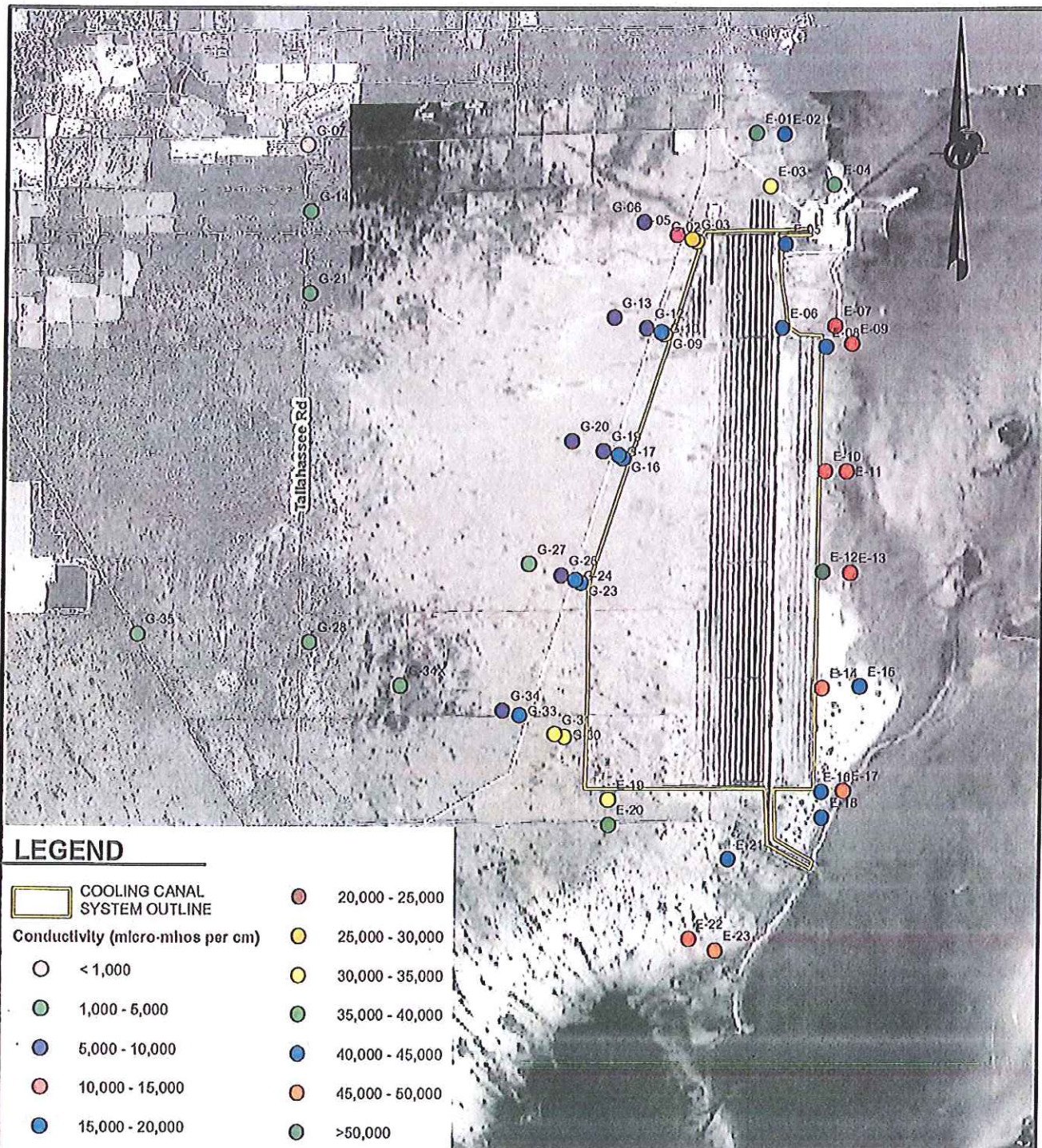


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PROJECT No.	10350229	FILE No.	...
DESIGN	...	SCALE: AS SHOWN	REV. 0
GIS	EDJ	12/2010	
CHECK	HF	12/2010	
REVIEW	HF	12/2010	

FIGURE 4

Map Document Q:\GIS\FPL\Turkey Point\PROJECTS\Figure-5_Conductivity Levels 20 fmsad / Modified 4/22/2011 3:48:42 PM / Plotted 4/22/2011 3:48:42 PM by SHochek



REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.

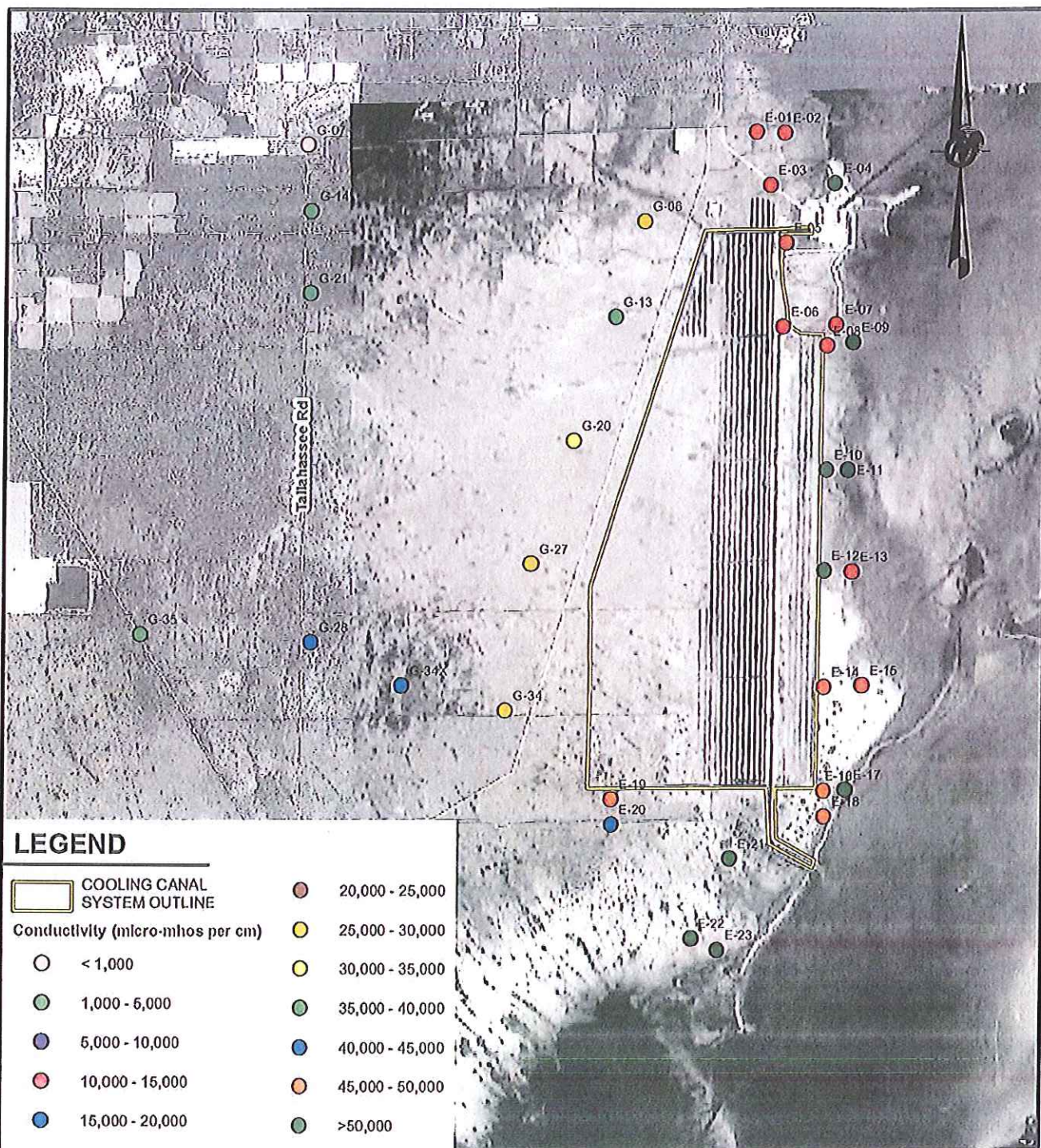
0 3,600 7,000 14,000 Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW
PROJECT						
FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE						
COLOR-CODED CONDUCTIVITY VALUES AT DEPTH OF 20 FEET BELOW TOP OF CASING						
PROJECT No.		10300259		FILE No.		--
DESIGN		SSH		SCALE: AS SHOWN		REV. 0
CHECK		SM				
REVIEW		HF				



FIGURE 5

Map Document: C:\GIS\FPL\Turkey Point\PROJECTS\Figure-6_Conductivity Levels-40 ft.mxd / Modified: 4/22/2011 11:15:38 AM / Plotted: 4/22/2011 2:32:58 PM by Shoshok



LEGEND

COOLING CANAL SYSTEM OUTLINE

Conductivity (micro-mhos per cm)

< 1,000

1,000 - 5,000

5,000 - 10,000

10,000 - 15,000

15,000 - 20,000

20,000 - 25,000

25,000 - 30,000

30,000 - 35,000

35,000 - 40,000

40,000 - 45,000

45,000 - 50,000

>50,000

REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.

2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.

0 3,500 7,000 14,000
Feet

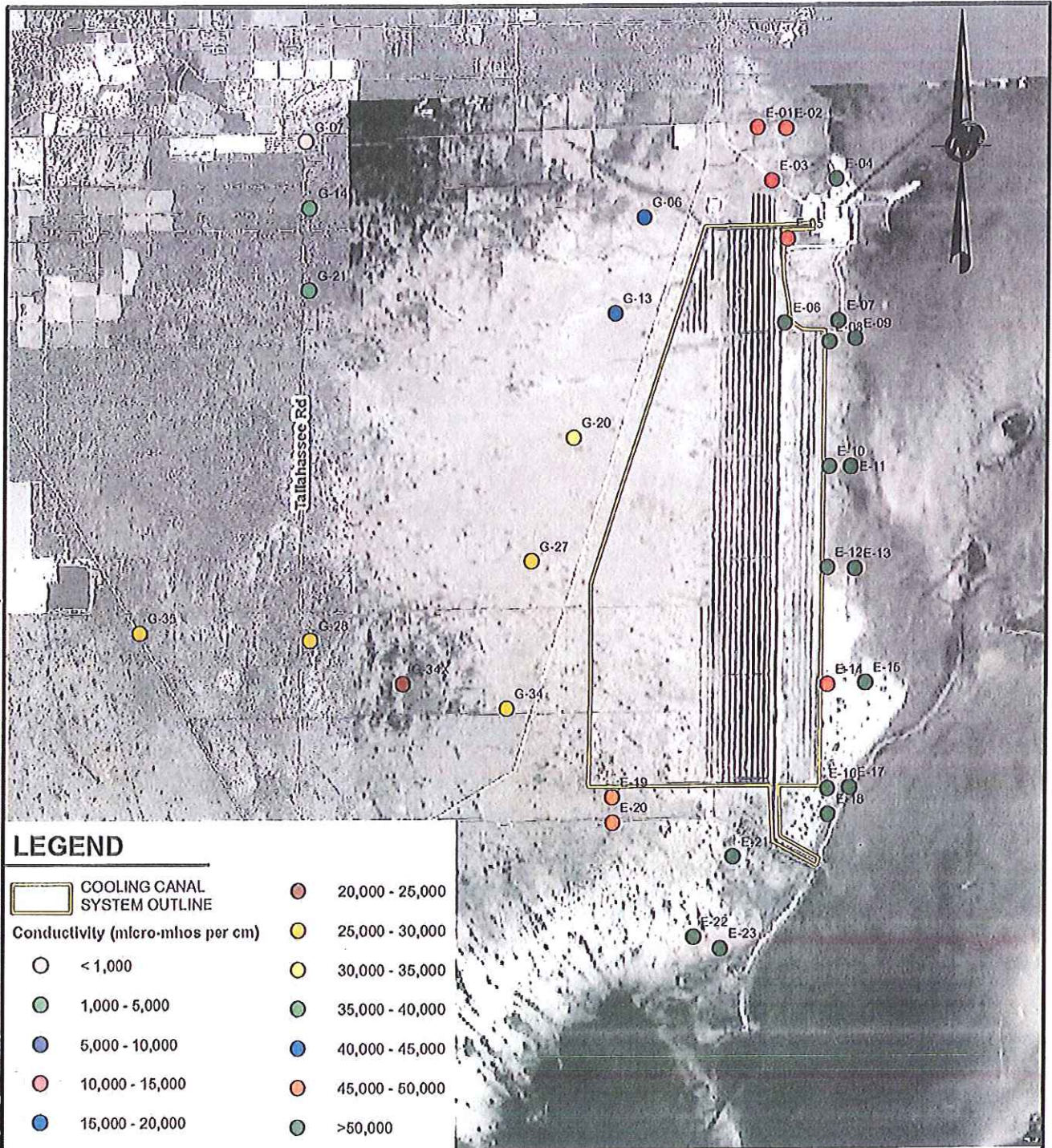
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PROJECT						
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TITLE						
COLOR-CODED CONDUCTIVITY VALUES AT DEPTH OF 40 FEET BELOW TOP OF CASING						
PROJECT No. 1053259			FILE No. --			
DESIGN	---			SCALE: AS SHOWN REV. 0		
G/S	SSH	4/2011				
CHECK	SM	4/2011				
REVIEW	HF	4/2011				



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FIGURE 6

Map Document: Q:\GIS\FPL\Turkey Point\PROJECTS\Figure-7_Conductivity Levels 60 ft.mxd / Modified 4/22/2011 4:24:39 PM / Plotted 4/22/2011 4:24:39 PM by SHeshek



REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.

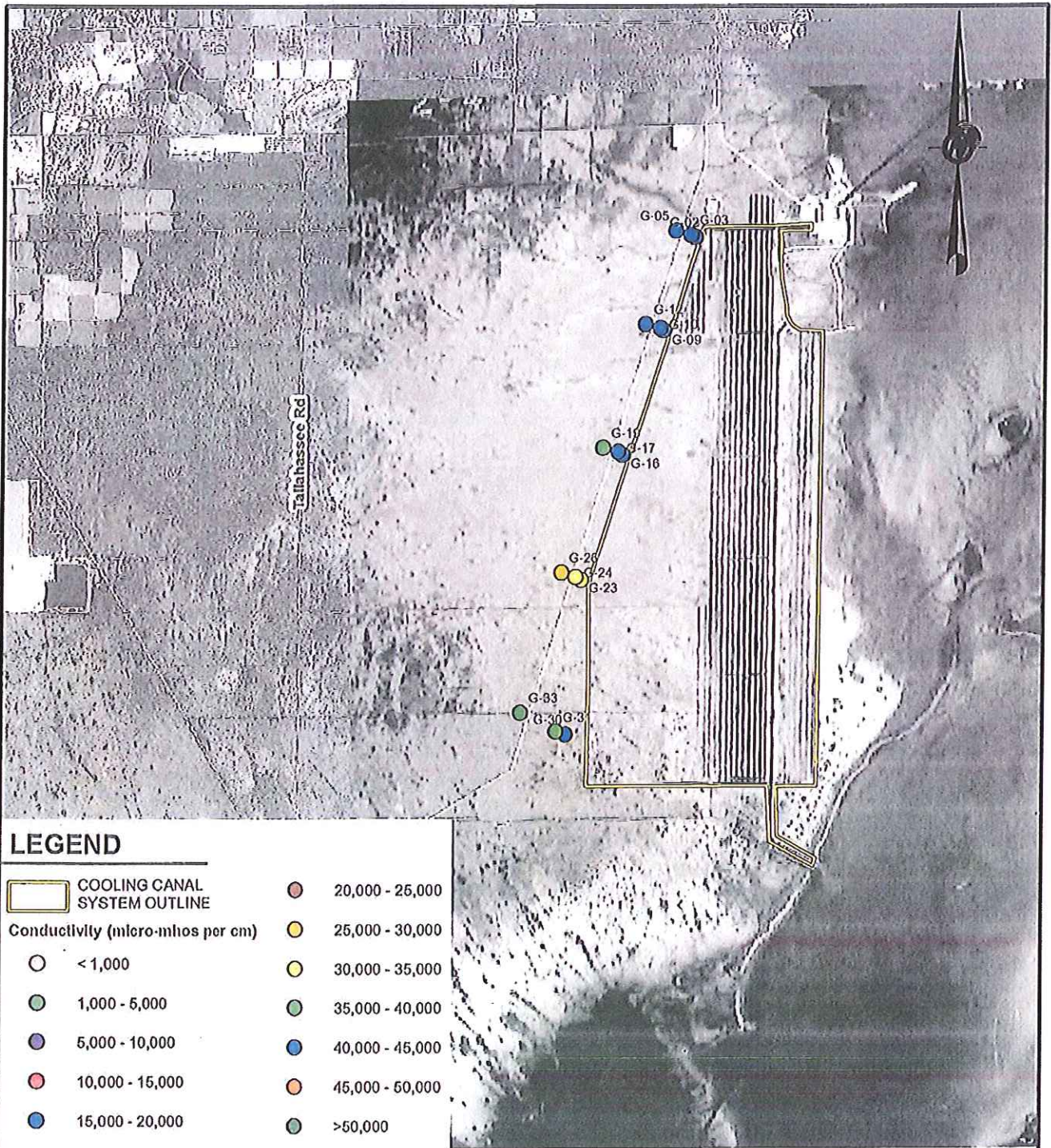
0 3,600 7,000 14,000
Feet

REV.	DATE	DES.	REVISION DESCRIPTION	GIS	CHK	RVW
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TITLE: COLOR-CODED CONDUCTIVITY VALUES AT DEPTH OF 60 FEET BELOW TOP OF CASING						
PROJECT No. 1030259		FILE No.		REV. 0		
DESIGN	---	4/2011	SCALE: AS SHOWN			
GIS	SSH	4/2011				
CHECK	SM	4/2011				
REVIEW	HF	4/2011				

FIGURE 7

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Map Document: C:\GIS\FPL\FPL_Turkey Point\PROJECTS\Figure-8_Conductivity Levels 50 ft.mxd / Modified 4/22/2011 2:48:12 PM / Plotted 4/22/2011 2:48:12 PM by SHoschek



REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.

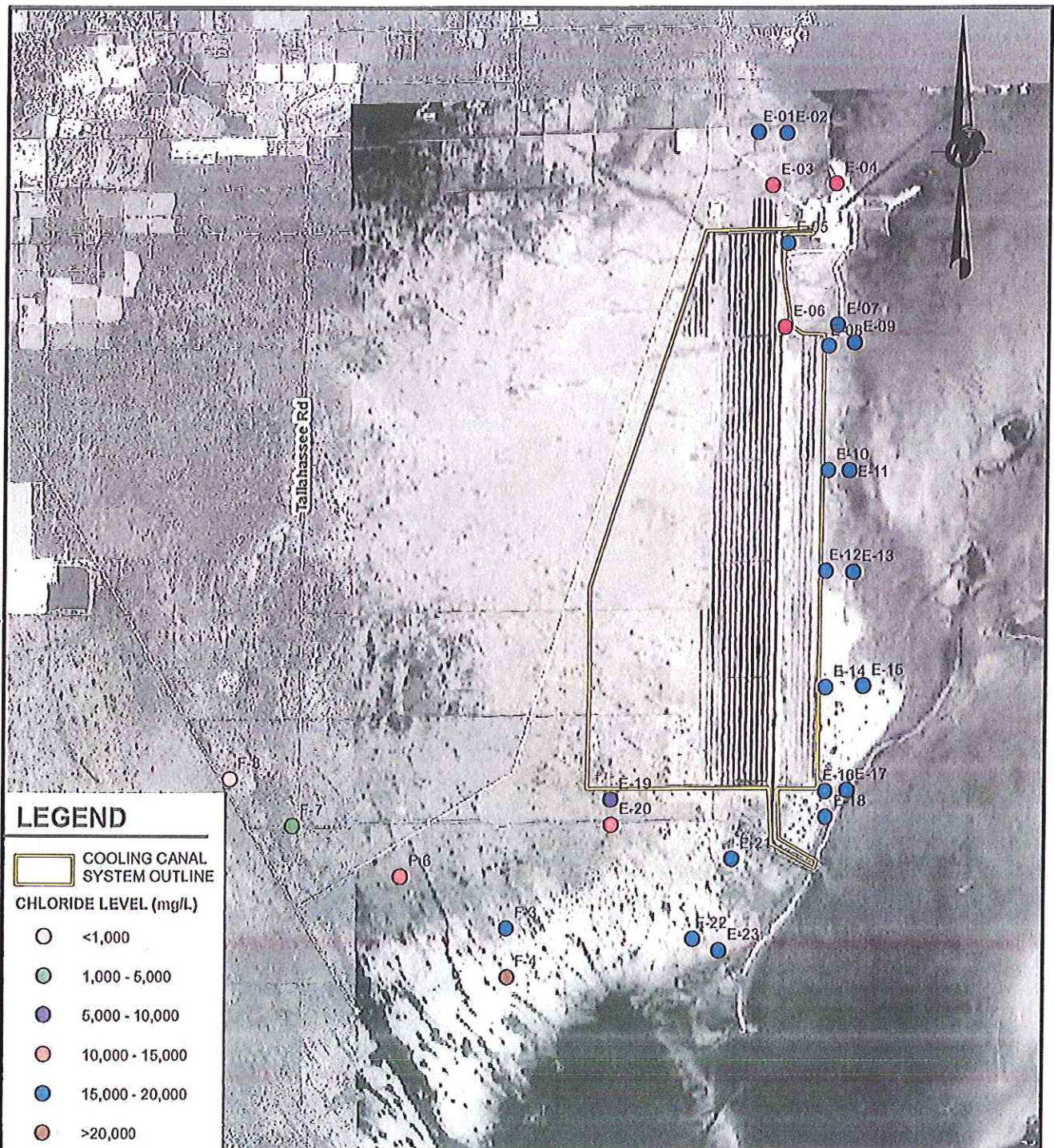
0 3,500 7,000 14,000
Feet

REV.	DATE	DES	REVISION DESCRIPTION	G/S	CHK	R/W
PROJECT						
FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE						
COLOR-CODED CONDUCTIVITY VALUES AT DEPTH OF 50 FEET BELOW TOP OF CASING						
PROJECT No.		10330259		FILE No.		---
DESIGN	---			SCALE: AS SHOWN		REV. 0
G/S	SSH	4/2011				
CHECK	S/M	4/2011				
REV. EV	HF	4/2011				



FIGURE 8

Map Document C:\GIS\FPL\Turkey Point\PROJECTS\Figure-9_Chloride Levels 20 ft.mxd / Modified 4/22/2011 3:36:26 PM / Plotted 4/22/2011 3:36:26 PM by SHoschok



LEGEND

COOLING CANAL SYSTEM OUTLINE

CHLORIDE LEVEL (mg/L)

- <1,000
- 1,000 - 5,000
- 5,000 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- >20,000

REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.

0 3,500 7,000 14,000
Feet

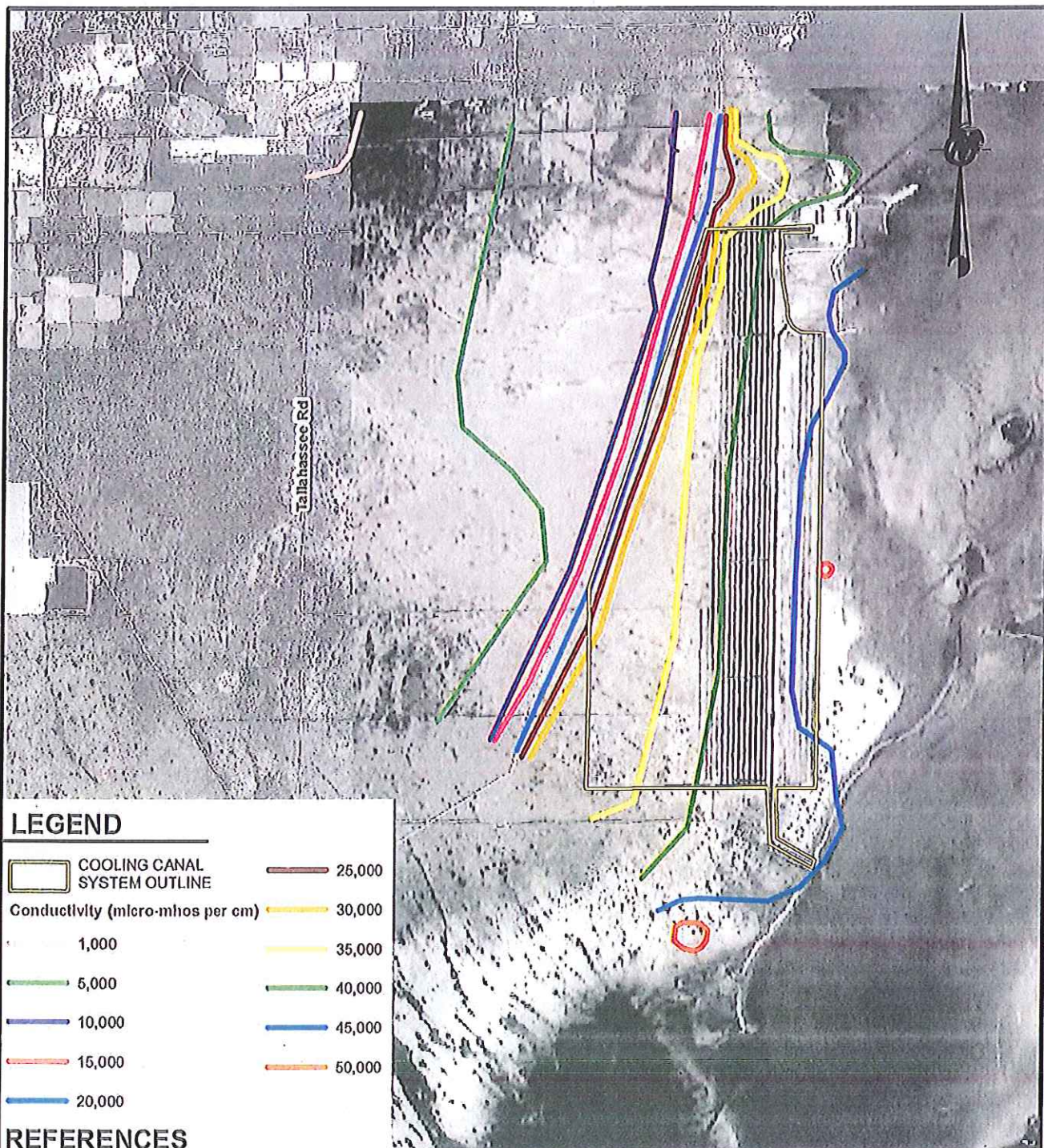
REV.	DATE	DES.	REVISION DESCRIPTION	GIS	CHK	RVW
PROJECT						
FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE						
COLOR-CODED CHLORIDE VALUES AT DEPTH OF 20 FEET BELOW TOP OF CASING						
PROJECT No.			1030259		FILE No.	
DESIGN	SCALE: AS SHOWN	REV. 0
GIS	SSH	4/2011		
CHECK	SM	4/2011		
REVIEW	HF	4/2011		



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FIGURE 9

Map Document: Q:\GIS\FPL\FPL_Turkey Point\PROJECTS\Figure-8_Isoconductivity 20 ft.mxd / Modified 4/22/2011 1:55:59 PM / Plotted 4/22/2011 1:55:59 PM by Shochek



LEGEND

	COOLING CANAL SYSTEM OUTLINE		25,000
	1,000		30,000
	5,000		35,000
	10,000		40,000
	15,000		45,000
	20,000		50,000

REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.

NOTE

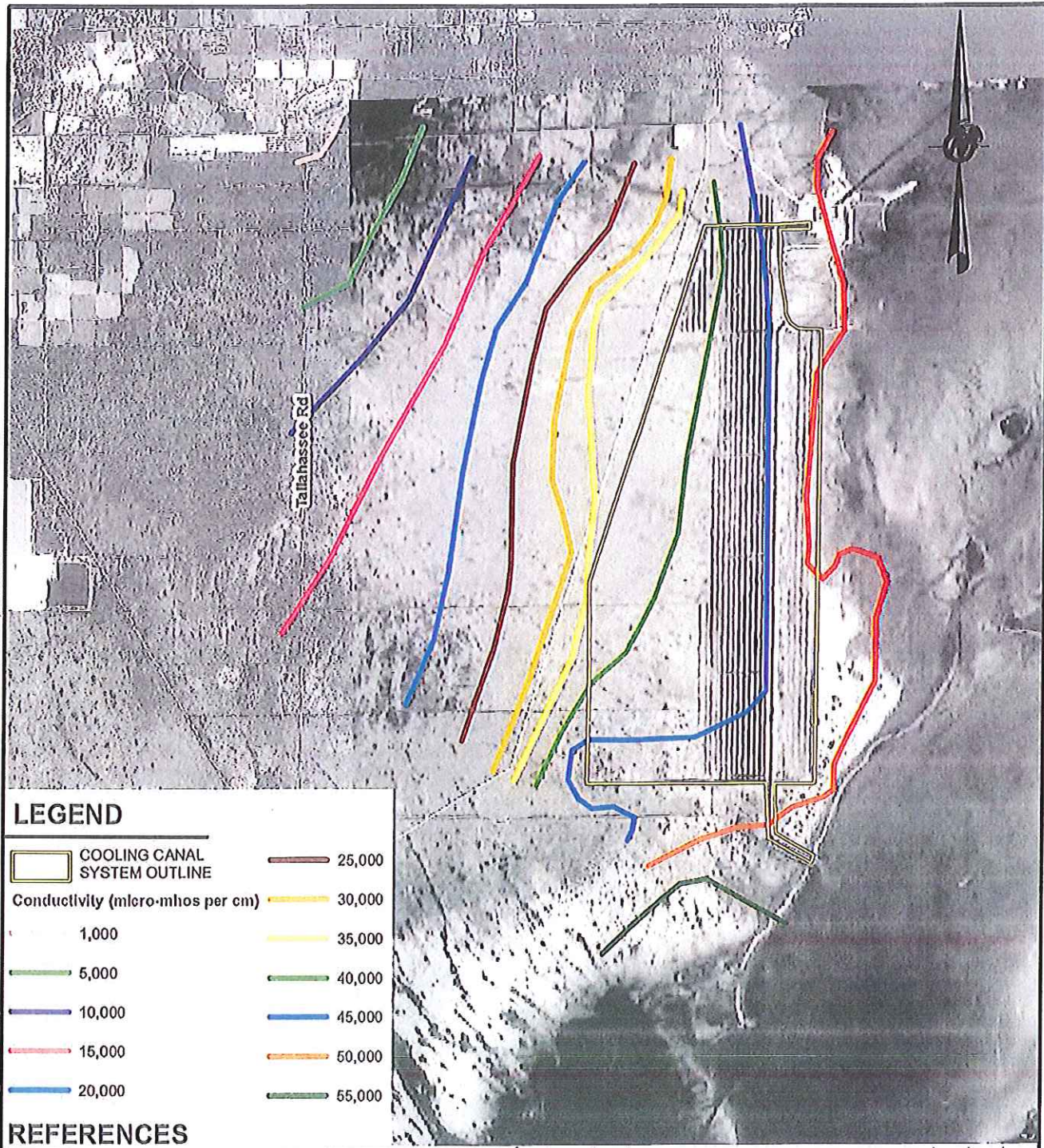
1. ISOCHLORS WITHIN THE FOOTPRINT OF THE PRESENT-DAY COOLING CANAL SYSTEM ARE APPROXIMATE AS NO WELLS WERE INSTALLED WITHIN THAT FOOTPRINT.

0 3,500 7,000 14,000
Feet

REV.	DATE	DES	REVISION DESCRIPTION	G/S	CHK	RVW
PROJECT						
FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE						
ISO-CONDUCTIVITY LINES AT 20 FEET BELOW TOP OF CASING						
PROJECT No.			10350259	FILE No. Figure-8_Isoconductivity 20 ft		
DESIGN	---			SCALE: AS SHOWN		
G/S	SSH		4/2011	REV. 0		
CHECK	HF		4/2011	FIGURE 10		
REVIEW	HF		4/2011			

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Map Document: Q:\GIS\FPL\Turkey Point\PROJECTS\Figure-11_Isoconductivity 40 ft.mxd / Modified 4/22/2011 2:08:37 PM / Plotted 4/22/2011 2:08:37 PM by Shoschek



LEGEND

COOLING CANAL SYSTEM OUTLINE

Conductivity (micro-mhos per cm)

1,000	25,000
5,000	30,000
10,000	35,000
15,000	40,000
20,000	45,000
	50,000
	55,000

REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.

NOTE

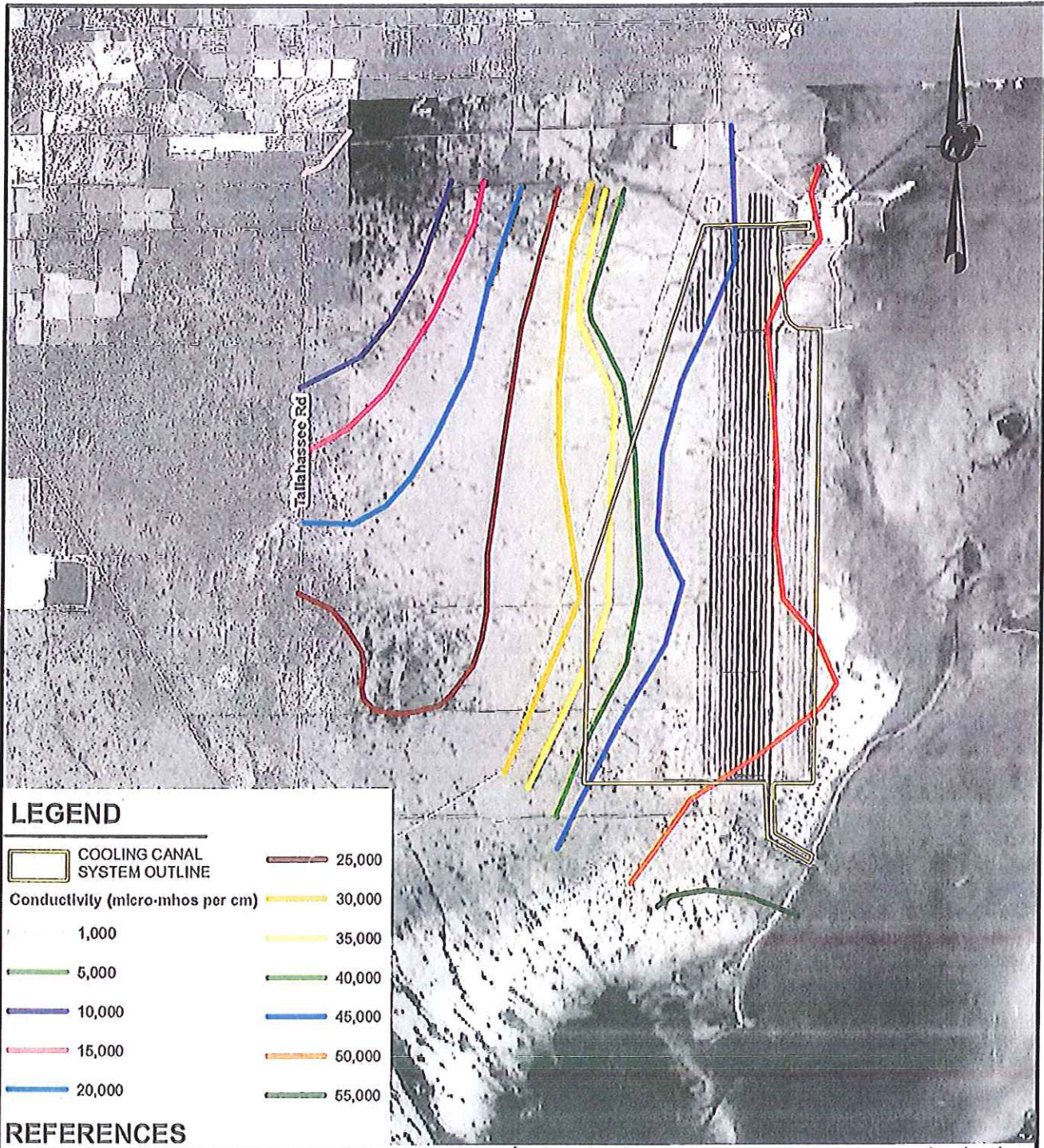
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REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW
PROJECT						
FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE						
ISO-CONDUCTIVITY LINES AT 40 FEET BELOW TOP OF CASING						
PROJECT No. 10220250			FILE No. Figure-11_Isoconductivity 40 ft			
DESIGN	...	4/2011		SCALE: AS SHOWN REV. 0		
G/S	SSH	4/2011		FIGURE 11		
CHECK	HF	4/2011				
REVIEW	HF	4/2011				

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LEGEND

COOLING CANAL SYSTEM OUTLINE

Conductivity (micro-mhos per cm)

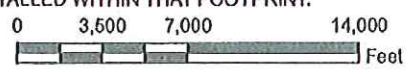
1,000	25,000
5,000	30,000
10,000	35,000
15,000	40,000
20,000	45,000
	50,000
	55,000

REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.

NOTE

1. ISOCHLORS WITHIN THE FOOTPRINT OF THE PRESENT-DAY COOLING CANAL SYSTEM ARE APPROXIMATE AS NO WELLS WERE INSTALLED WITHIN THAT FOOTPRINT.

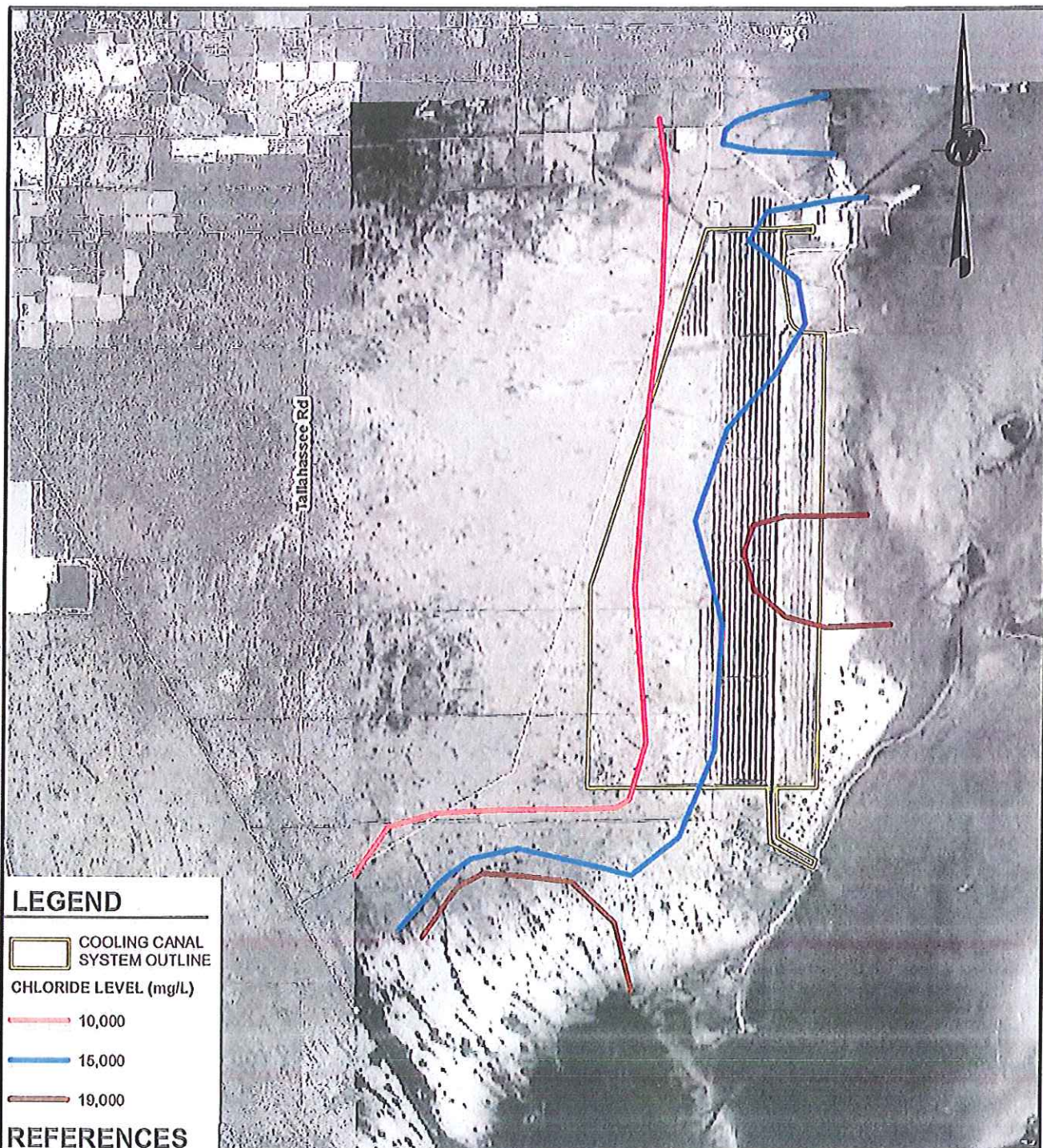


REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW
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FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE						
ISO-CONDUCTIVITY LINES AT 60 FEET BELOW TOP OF CASING						
PROJECT No. 10020259			FILE No. Fgtr-12_Isocond-Cl-749R			
DESIGN	SSH	4/2011	SCALE: AS SHOWN			
CHECK	HF	4/2011	REV. 0			
REVIEW	HF	4/2011	FIGURE 12			

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Map Document: Q:\GIS\FPL_Turkey Point\PROJECTS\Figure-12_Isoconductivity 60 ft.mxd / Modified: 4/22/2011 2:22:19 PM / Plotted: 4/22/2011 2:22:19 PM by: Shoshok

Map Document: C:\GIS\FPL\Turkey Point\PROJECTS\Figure-13_Isochlores 20 f.mxd / Modified 4/22/2011 4:15:38 PM / Plotted 4/22/2011 4:15:38 PM by SHeschock



LEGEND

COOLING CANAL SYSTEM OUTLINE

CHLORIDE LEVEL (mg/L)

10,000

15,000

19,000

REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.

2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.

NOTE

1. ISOCHLORS WITHIN THE FOOTPRINT OF THE PRESENT-DAY COOLING CANAL SYSTEM ARE APPROXIMATE AS NO WELLS WERE INSTALLED WITHIN THAT FOOTPRINT.

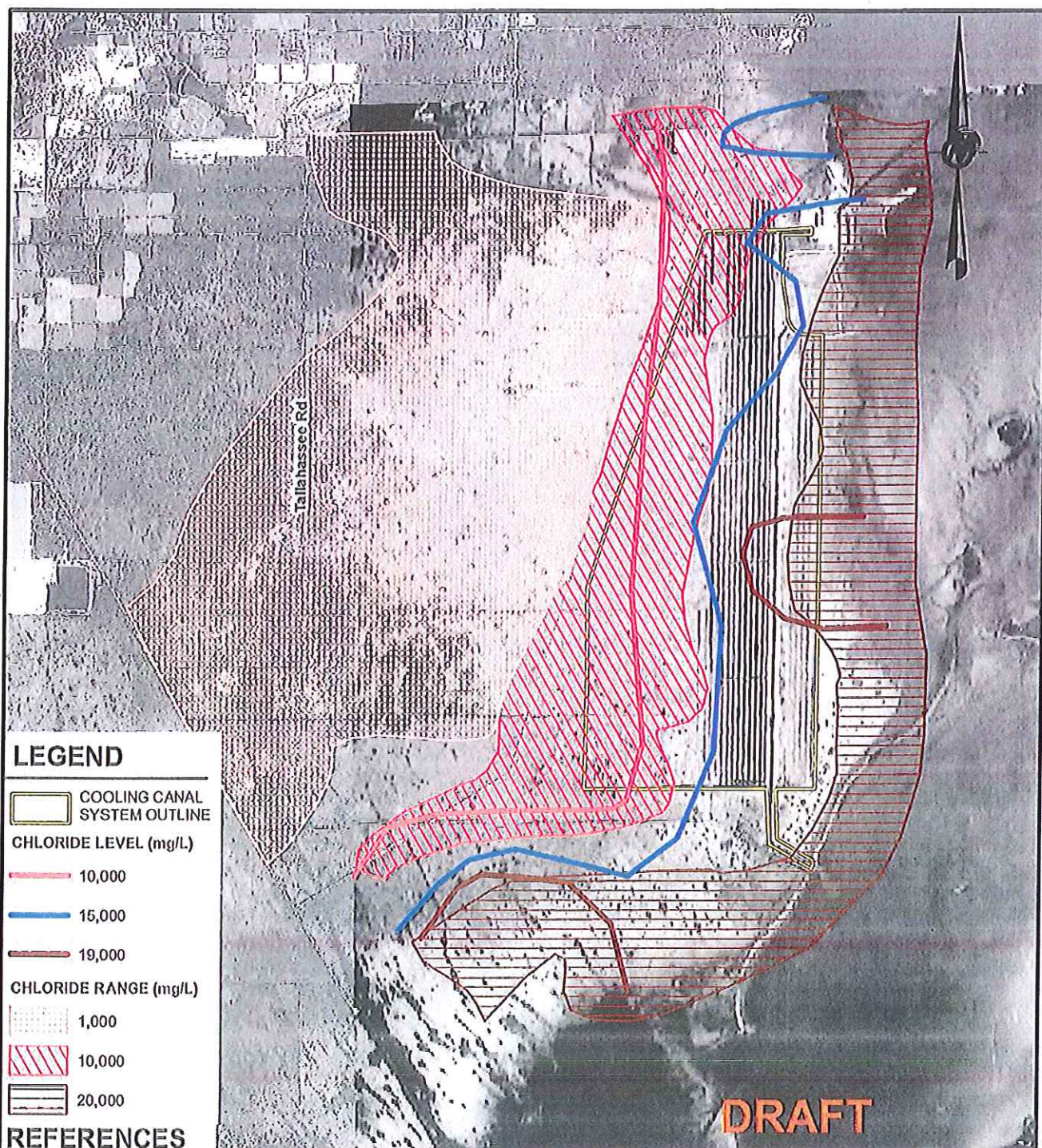
0 3,500 7,000 14,000
Feet

REV.	DATE	DES.	REVISION DESCRIPTION	GIS	CHK	REV.
PROJECT						
FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE						
ISOCHLORS AT DEPTH OF 20 FEET BELOW TOP OF CASING						
PROJECT No.		10390259		FILE No.		Figure 13
DESIGN	---			SCALE: AS SHOWN		REV. 0
G/S	SSH	4/2011				
CHECK	SM	4/2011				
REVIEW	HF	4/2011				

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FIGURE 13

Map Document: C:\GIS\FPL\Turkey Point\PROJECTS\Figure-14_Pre-CCS_Isochors 20 ft.mxd / Modified 4/25/2011 4:43:21 PM / Plotted 4/25/2011 4:43:21 PM by S.Hochek



LEGEND

COOLING CANAL SYSTEM OUTLINE

CHLORIDE LEVEL (mg/L)

10,000

15,000

19,000

CHLORIDE RANGE (mg/L)

1,000

10,000

20,000

REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.
3. DAMES AND MOORE APRIL 1975 QUARTERLY REPORT GROUNDWATER MONITORING PROGRAM, FLORIDA POWER AND LIGHT COMPANY, TURKEY POINT, FLORIDA.

NOTE

1. ISOCHLORS WITHIN THE FOOTPRINT OF THE PRESENT-DAY COOLING CANAL SYSTEM ARE APPROXIMATE AS NO WELLS WERE INSTALLED WITHIN THAT FOOTPRINT.

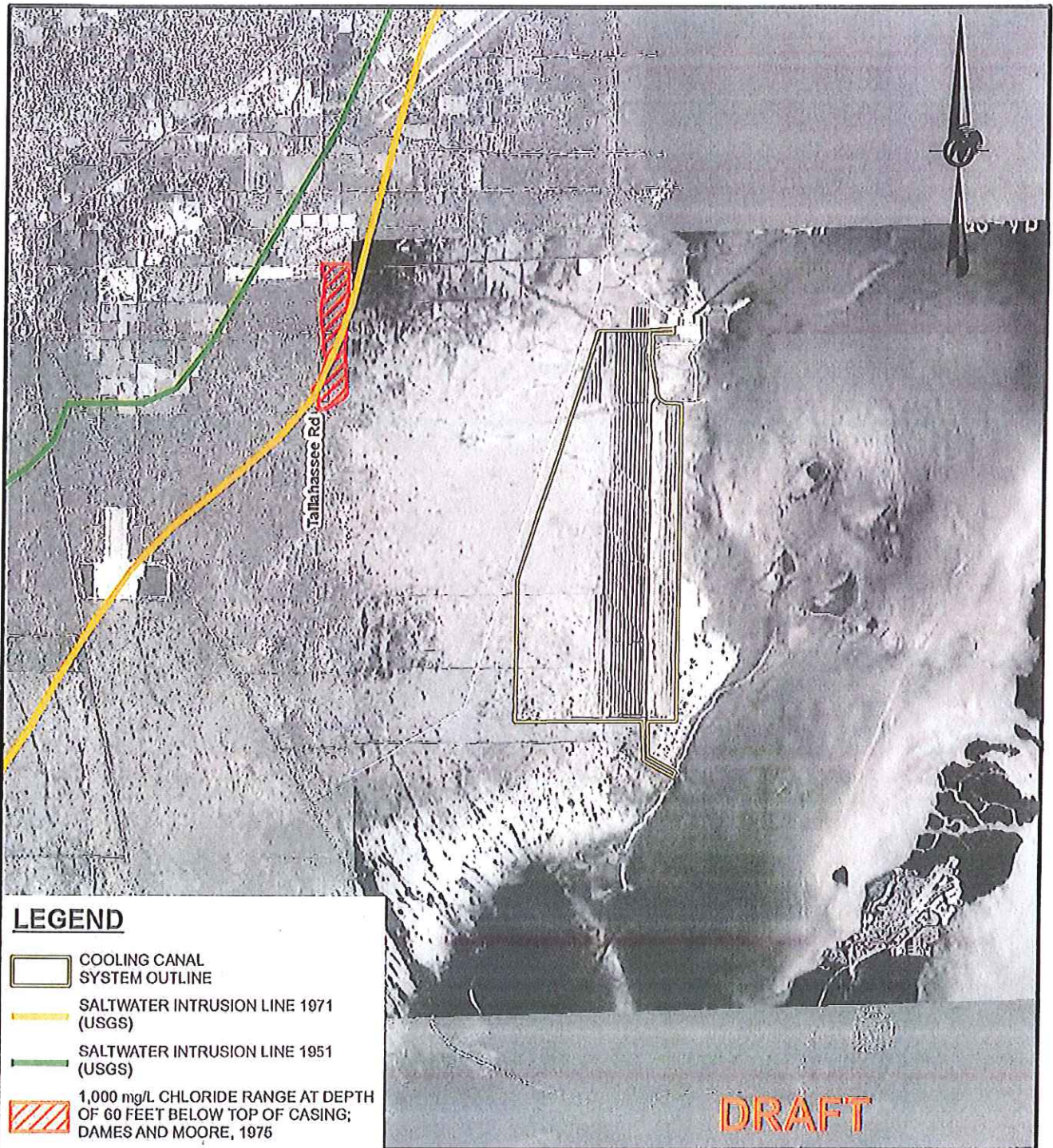
0 3,500 7,000 14,000
Feet

DRAFT





REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW
PROJECT						
FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE PRE-CCS ISOCHLORS AT DEPTH OF 20 FEET BELOW TOP OF CASING VS. ESTIMATED RANGE OF ISOCHLORS, 1972 TO 1975						
PROJECT No.		1039259		FILE No.		Figure 14_2000-9-17g 20R
DESIGN	...	DATE	4/2011	SCALE	AS SHOWN	REV. 0
GIS	SSH	DATE	4/2011	FIGURE 14		
CHECK	EM	DATE	4/2011			
REVIEW	HF	DATE	4/2011			

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Map Document: C:\GIS\FPL\Turkey Point\PROJECTS\Figure-15_Saltlines.mxd / Modified 5/2/2011 9:24:52 AM / Plotted 5/2/2011 9:24:53 AM by Shochek



LEGEND

-  COOLING CANAL SYSTEM OUTLINE
-  SALTWATER INTRUSION LINE 1971 (USGS)
-  SALTWATER INTRUSION LINE 1951 (USGS)
-  1,000 mg/L CHLORIDE RANGE AT DEPTH OF 60 FEET BELOW TOP OF CASING; DAMES AND MOORE, 1976

REFERENCES

1. AERIAL SOURCE WEST OF TALLAHASSEE ROAD: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION LAND BOUNDARY INFORMATION SYSTEM.
2. AERIAL SOURCE EAST OF TALLAHASSEE ROAD: USGS, FEBRUARY 4, 1973.
3. UNITED STATES GEOLOGICAL SURVEY (USGS)

0 5,000 10,000 20,000
Feet

DRAFT

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	REV
PROJECT						
FPL TURKEY POINT SALT WATER ORIENTATION UNINCORPORATED MIAMI-DADE COUNTY, FLORIDA						
TITLE						
SALTWATER INTRUSION LINES						
PROJECT No.		1059259		FILE No.		---
DESIGN	---			SCALE: AS SHOWN		REV. 0
GIS	SSH	04/2011				
CHECK	HF	01/2011				
REVIEW	HF	01/2011				

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FIGURE 15

APPENDIX A

[illegible]

**Golder
Associates**

SUBJECT Cataloging of References

Job No. 10390308
Ref. Calc 001
FPL TP Salt Orientation

Made By: H. Frediani
Checked S. Major
Reviewed

Date 10/8/2010
Sheet 1 of 1

The first task is to review the references received during the Uprate Project and distributed to the agencies during the completeness phase of that project. These are in the folder "from FPL" in the Uprate/Turkey Point folder. Start a spreadsheet called "References.xlsx" to document file name, title, and relevant sections of the document that address the extent of the salt water in the Biscayne Aquifer in the plant vicinity. As each reference is reviewed and its information added to the data base, its file is copied to a folder called "References" in the Calc 1 folder. For the purpose of this study, the date at which the salt water orientation is desired is assumed to be between Sept 10, 1971 (date of the final Consent Order ordering construction of the cooling canal system [CCS]), and February 18, 1973 (date the CCS was closed off from Biscayne Bay and Card Sound). The reference for these dates is "CASE STUDY: THE TURKEY POINT COOLING CANAL SYSTEM", by Charles D. Henderson, FPL, May 11, 1977.