



**WATER
MANAGEMENT
DISTRICT**

NAS Jacksonville Administrative Record
Document Index Number

32212-000
19.02.00.0007

POST OFFICE BOX 1429 PALATKA, FLORIDA 32178-1429
904/329-4500 SUNCOM 860-4500 FAX 904/329-4508

7775 Baymeadows Way
Suite 102
Jacksonville, Florida 32256
904/730-6270

618 E. South Street
Orlando, Florida 32801
407/894-5423

OPERATIONS:
2133 N. Wickham Road
Melbourne, Florida 32935-8109
407/254-1761

PERMITTING:
305 East Drive
Melbourne, Florida 32904
407/984-4940

DECEMBER 11, 1990

UNITED STATES NAVY
ATTN: ALLAN W. JOHNSON
BOX 5 CODE 180 NAVAL AIR STATION
JACKSONVILLE, FL 32212

SUBJECT: CONSUMPTIVE USE PERMIT 2-031-0014UNM6FR

ENCLOSED IS YOUR PERMIT AS AUTHORIZED BY THE GOVERNING BOARD OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT ON DECEMBER 11, 1990. PERMIT ISSUANCE DOES NOT RELIEVE YOU FROM THE RESPONSIBILITY OF OBTAINING PERMITS FROM ANY FEDERAL, STATE, AND/OR LOCAL AGENCIES ASSERTING CONCURRENT JURISDICTION FOR THIS WORK. THE ENCLOSED PERMIT WILL EXPIRE ON DECEMBER 11, 1997.

IN THE EVENT YOU SELL YOUR PROPERTY, THE PERMIT WILL BE TRANSFERRED TO THE NEW OWNER IF WE ARE NOTIFIED BY YOU WITHIN NINETY (90) DAYS OF THE RECORDING OF THE SALE. PLEASE ASSIST US IN THIS MATTER SO AS TO MAINTAIN A VALID PERMIT FOR THE NEW PROPERTY OWNER.

THE PERMIT ENCLOSED IS A LEGAL DOCUMENT AND SHOULD BE KEPT WITH YOUR OTHER IMPORTANT DOCUMENTS. PLEASE READ THE PERMIT CAREFULLY SINCE YOU ARE RESPONSIBLE FOR COMPLIANCE WITH ANY CONDITIONS WHICH ARE A PART OF THIS PERMIT. COMPLIANCE IS A LEGAL REQUIREMENT AND YOUR ASSISTANCE IN THIS MATTER WILL BE GREATLY APPRECIATED.

ACCORDING TO CHAPTER 40C-2.40L AND SECTION 6.4 OF THE CONSUMPTIVE WATER USE HANDBOOK, A PERMANENT TAG IS ISSUED BY THE DISTRICT FOR WELL IDENTIFICATION. THE TAG MUST BE PROMINENTLY DISPLAYED AT THE SITE OF WITHDRAWAL BY PERMANENTLY AFFIXING THE TAG TO THE PUMP, HEADGATE, VALVE, OR OTHER WITHDRAWAL FACILITY. FAILURE TO DISPLAY A WELL TAG SHALL CONSTITUTE VIOLATION OF A PERMIT CONDITION AND MAY, IF WILLFUL, BE GROUNDS FOR REVOCATION OF THE PERMIT. PLEASE REFER TO YOUR COPY OF 40C-2 IF YOU NEED FURTHER CLARIFICATION.

Saundra H. Gray, CHAIRMAN
DE BARY

Joe E. Hill, VICE CHAIRMAN
LEESBURG

Thomas L. Durrance, TREASURER
DAYTONA BEACH

Alice J. Weinberg, SECRETARY
LAKE MARY

John E. Simmonds

Val M. Steele

Joseph D. Collins

Merritt C. Ford

MELBOURNE BEACH

JACKSONVILLE

OCALA

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Post Office Box 1429
Palatka, Florida 32178-1429

PERMIT NO. 2-031-0014UNMGFR DATE ISSUED DECEMBER 11, 1990
CONSUMPTIVE USE

A PERMIT AUTHORIZING:
USE OF GROUND WATER FROM THE FLORIDAN AQUIFER TO BE USED IN
INDUSTRIAL PROCESSES AND TO SERVE AN ESTIMATED POPULATION OF
21,093 PEOPLE IN 7 YEARS.

LOCATION:

SECTION 22, TOWNSHIP 35 SOUTH, RANGE 26 EAST
DUVAL COUNTY

ISSUED TO:
(owner)

UNITED STATES NAVY
ATTN: ALLAN W. JOHNSON
BOX 5 CODE 180 NAVAL AIR STATION
JACKSONVILLE, FL 32212

Permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit 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. All structures and works installed by permittee hereunder shall remain the property of the permittee.

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

PERMIT IS CONDITIONED UPON:

SEE CONDITIONS ON ATTACHED "EXHIBIT A", DATED DECEMBER 11, 1990

AUTHORIZED BY: St. Johns River Water Management District

Department of Resource Management Governing Board

By:  (Director)
JEFF ELEDGE

By:  (Assistant Secretary)
HENRY DEAN



**WATER
MANAGEMENT
DISTRICT**

Henry Dean, Executive Director
John R. Wehle, Assistant Executive Director

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PAGE TWO
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OPERATIONS:
2133 N. Wickham Road
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407/254-1761

PERMITTING:
305 East Drive
Melbourne, Florida 32904
407/984-4940

YOU WILL FIND ENCLOSED A COPY OF THE MAP SUBMITTED WITH YOUR APPLICATION, WITH EACH WELL'S LOCATION AND NUMBER IDENTIFIED. WHEN PLACING THE TAG ON THE WELL, REFER TO THIS MAP TO ENSURE PROPER WELL IDENTIFICATION.

IF YOU HAVE ANY QUESTIONS CONCERNING YOUR PERMIT COMPLIANCE INFORMATION OR THE ATTACHED FORMS, CONTACT ME AT 904-329-4267.

THANK YOU FOR YOUR INTEREST IN OUR WATER RESOURCES.

SINCERELY,

ROSIE PARKER, DATA CONTROL TECHNICIAN II
DIVISION OF RECORDS

DTK:LD

ENCLOSURES: PERMIT
MAP
WELL TAG(S)

CC: DISTRICT PERMIT FILE:
NAOMI WHITNEY
JOSEPH G. WALLMEYER
BOX 5 CODE 180 NAVAL AIR STATION

JACKSONVILLE, FL 32212-5000

Sandra H. Gray, CHAIRMAN
DE BARY

Joe E. Hill, VICE CHAIRMAN
LEESBURG

Thomas L. Durrance, TREASURER
DAYTONA BEACH

Alice J. Weinberg, SECRETARY
LAKE MARY

John L. Martin

Ralph E. Simmons
FERNANDINA BEACH

Val M. Steele
MELBOURNE BEACH

Joseph D. Collins
JACKSONVILLE

Water from the limestone, shell and sand portion of the shallow aquifer is classified as hard to very hard (values above 150 ppm) and contains moderate dissolved solids levels (150-400ppm). The iron content is also variable and in some areas the aquifer contains hydrogen sulfide. Except for the high iron and hydrogen sulfide content occurring in localized areas water from this aquifer is considered potable (Leve and Goolsby, 1969).

Water quality in the Floridan Aquifer is variable with wells west of the St. Johns River and south of the Ortega River yielding the highest quality (Leve and Goolsby, 1969). Hardness levels range from 200 to 400 ppm over most of the area and dissolved solids are generally 500 ppm or less. Hydrogen sulfide is found in most all wells in the area and treatment is generally necessary. Although the water is generally considered potable, treatment is usually necessary for many industrial uses including boiler feed water (Leve and Goolsby, 1969).

The Floridan Aquifer is also subject to salt-water intrusion in several counties southeast of the Jacksonville area. In the Jacksonville area chloride content (used as an index of seawater contamination) is less than 50 ppm. However, in central St. Johns and Putnam Counties the chloride content of the aquifer is in the 50 to 250 ppm range. In southern St. Johns County and the majority of Flagler County chloride levels are in the 250 to 1,000 ppm range.

Along the Atlantic coast of St. Johns and Flagler counties chloride levels exceed 1,000 ppm. The increase in sea water contamination of the aquifer in the coastal areas is generally the result of lowered artesian pressures in the aquifer. These lowered artesian pressures stem from an increased rate of water withdrawal from the aquifer, particularly in the Jacksonville and Fernandina Beach areas of Florida (Leve, 1968). Typically, salt water underlies the fresh water in the Floridan Aquifer in the discharge areas of northeastern Florida. As the artesian pressures in the fresh water zones of the Floridan Aquifer are reduced by discharge or water withdrawal salt water from the lower part of the aquifer tends to move into the zones of reduced pressure and mix with the fresh water. Leve (1968) concluded that salt water contamination will continue to increase as more water is withdrawn from the Floridan Aquifer in northwestern Florida. Careful planning is necessary in the future to ensure that wells are properly spaced in the area and that water wells in the farming areas of northeastern Florida selectively utilize water from the upper part of the aquifer without disturbing the deeper saline water.

5.3.7.3 Naval Air Station Wells

The water supply system at the NAS Jacksonville utilizes ground-water as the source of supply. Currently, the water supply distribution network is fed from 5 deep wells, which are completed in the Floridan Aquifer beneath the site. Many more wells, however, have been drilled at the NAS over the stations' history and NAS personnel are in the process of locating and inventorying all wells located on base. To date 27 wells have been identified by NAS personnel, inclusive of the 5 major water supply wells that furnish water to the distribution network (Figure 5.3-17).

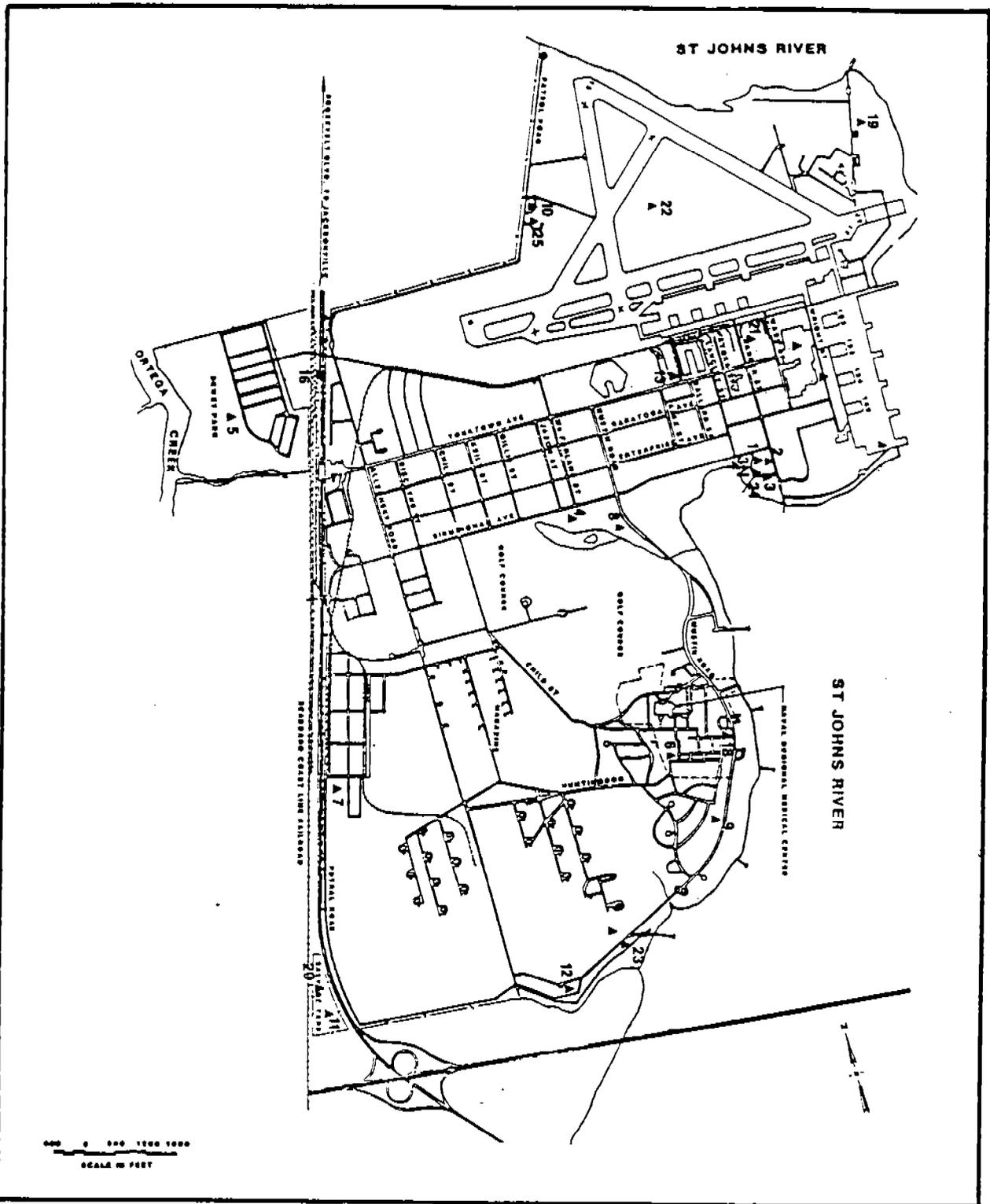


Figure 5.3-17 WELL LOCATIONS NAS JACKSONVILLE

FCHA INITIAL ASSESSMENT STUDY NAVAL AIR STATION JACKSONVILLE, FLORIDA

Table 5.3-10 summarizes the available information that could be obtained on the 27 wells. It can be seen from this table that many of the wells are used for non-potable purposes, such as irrigation, fire protection, or cooling water. A number of the wells are no longer utilized where this has been demonstrated, it is indicated on Table 5.3-10.

There has also been some confusion regarding the numbering system used over the years to identify the wells. Consequently a number of the wells bear the same number, depending on which system is utilized. In Table 5.3-10 two numbering systems are shown. The well number shown first in Table 5.3-10 is derived from the numbering system shown on NAS Public Works Drawing Number 1-25-99, entitled, Wells-Location and Information. The alternate well numbers shown parenthetically in Table 5.3-10 are derived from the numbers utilized in various engineering reports and water supply file information, such as: Smith and Gillespie (1970); SOUTHDIV (1974); Chas. T. Main, Inc. (November, 1954); and NAS Public Works water quality file data (Appendix A).

It can be seen from Table 5.3-10 that the majority of the NAS wells are deep wells, most likely completed in the Floridan Aquifer. Typically, the wells are cased from the land surface to the point where the Floridan Aquifer Zone is encountered. Below that depth, the wells are completed as open boreholes to the total depth of the well. In Table 5.3-10, the cased interval and the total depth of the wells are identified where this information is available.

Four of the wells (10(9), 13(12), 19 and 21) may be completed in the limestone, shell and sand portion of the shallow aquifer which is situated several hundred feet above the Floridan Aquifer. Typically, the limestone, shell and sand portion of the shallow aquifer is found at depths between 50 and 100 feet below the land surface in the Jacksonville area (Leve and Goolsby, 1969). Judging by the depths of these four wells (160 feet or less) it appears likely that they are completed in the limestone, shell and sand portion of the shallow aquifer.

None of the NAS wells identified by base personnel are completed in the surficial sand portion of the shallow aquifer. However, the depths of wells 20, 22, and 26 were not available from base personnel and therefore it cannot be concluded if all the wells on the base are completed in the shallow water-bearing zones found in the surficial sand deposits at the site.

Generally, the data base on the existing wells present at the site is extremely limited, with the exception of the five main water supply wells. For those wells at the site that are not currently in use, it is unknown if they have been sealed or otherwise properly abandoned. It is also unknown if any of these wells can or will be brought back into service in the future. Improperly sealed or open wells or bore holes are a common conduit to groundwater contamination, as potential contaminants have a direct and easy access to deeper waterbearing zones. This condition is not a current problem for the wells at the NAS, which tap the Floridan Aquifer. However, increased water usage and trends toward drawing down water levels may cause problems in the future (5 to 10 years).

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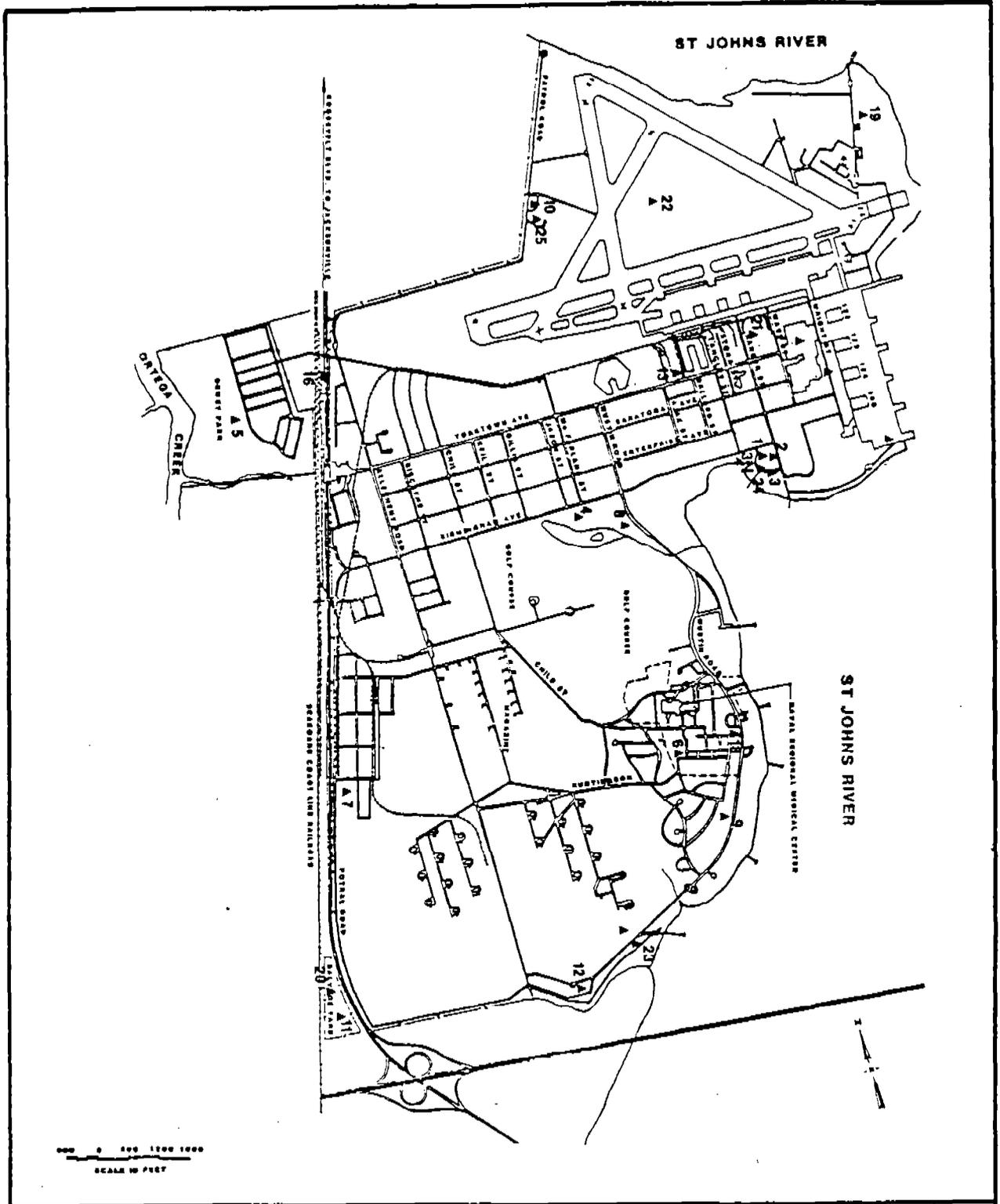


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FCHA INITIAL ASSESSMENT STUDY
NAVAL AIR STATION
JACKSONVILLE, FLORIDA

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TABLE 5.3-10
Inventory of Wells at the Jacksonville NAS

Well No. (All Nos)	Location	Map Grid	Diameter	Depth	Ft. of Casing	Status (current)	Free flow (GPM) in 1971	Piezometric elv. (msl)	Well logs avail.?	H ₂ O quality?	Notes
1(01)	Water Plant #1	12J	8"	708	463	NIU	150-613	40' Nov 1969		Limited	
✓ 2(1)	Water Plant #1	12J	12"	1005	380	In use	600-3500	40' Nov 1969		Yes	Main water supply well
3(2)	Water Plant #1	12J	12"	998	464	NIU	3300	39' Nov 1969		Yes	Main water supply well
3(2) new	Water Plant #1	12J	12"/18"/ 26"	1210	410	In use	-	-		Yes	Replaces well 3(2)
4(3)	Water Plant #2	9J	10"	1015	312	In use	400-3800	41' Nov 1969		Yes	Main water supply well
5(4)	Water Plant #3	3G	12"	988	400	In use	1250	43' Nov 1969		Yes	Main water supply well
6(5)	Hospital Water Plant	90	12"	646	271	In use	1200	37' Nov 1969		Yes	Main water supply well
7(6)	S. of Bldg. #164	3N	10"	1096	316	In use	1700				fire Protection only
8(7)	S. end of Casa Linda lake	9K	6"	500	?	In use	500				Golf course irriga- tion

TABLE 5.3-10 (continued)
Inventory of Wells at the Jacksonville NAS

Well No. (Alt Nos)	Location	Map Grid	Diameter	Depth	Ft. of Casing	Status (current)	Free flow (GPM) in 1971	Piezometric elv. (msl)	Well logs avail.?	H ₂ O quality?	Notes
9(8)	NW of GG Otrs.	10P	6"	498	?	In use	1000				Supply Hospital sprinklers
10(9)	West Side Sewage Plant	9D	6"	120	120	In use	50				Supplies wastewater Treatment plant
11(10)	Salvage Yd.	2R	8"	400	288	In use	800				Supplies salvage yard
12(11)	Radio Tower Area	6S	4"	407	251	In use	300			limited USGS data	Used in Radio tower Area
13(12)	Bldg. #135	11H	6"	144	95	In use	45				Cooling water
14(13)	S. Boundary	Not Located	6"	400	?	NIU	300				Capped
15(14)	CPO Club	Not Located	4"	400	?	NIU	300				Capped
16(15)	YUKON	4F	4"	400	?	NIU	300				Capped
17(16)	Highway	Not Located	3"	400	?	NIU	300				Capped
18(17)	Hospital	100	6"	400	?	NIU	300				Capped
19	Bldg#201	16D	2"	101	?	?	515-600				
20	Salvage Yd	1R	3"	?	?	?					
21	Bldg#104	13G	?	160	115	?					
22	CRASH STA.	12E	?	?	?	?					

TABLE 5.3-10 (continued)
Inventory of Wells at the Jacksonville NAS

Well No. {All Nos}	Location	Map Grid	Diameter	Depth	Ft. of Casing	Status (current) in 1971	Free flow (GPM)	Piezometric elv. (msl)	Well Logs avail.?	H ₂ O quality?	Notes
23	Inductance Pier	8R.	8"	522	297	Avail. for Use					
24	Water Plant #1	12J	18"	1200	350	?					
25	Sewage Plant	9D	4"	650	120	?					
26	Black Point Test cell	?	12"	?	?	?					

Notes:

NIU = Not in use

Well numbering system according to Public Works Drawing #1-25-99 entitled, Wells-Location and Information. Alternate numbers shown in parentheses and appear in reports as Smith and Gillespie (1970) and SOUTH DIV (1974).

Map grid according to Public Works Drawing #1-25-99 Wells - Location and Information.

During the site visit at the NAS facility, base personnel described a problem that had developed with well 3(2) at Water Plant No. 1. A large quantity (several truckloads) of fine to medium grained sand had been pumped from this well in the recent past. Subsequent surface erosion and slumping of the pumphouse foundation occurred, indicating that the integrity of the well bore was suspect. The well was inspected by NAS contractors in March of 1979 using downhole TV equipment and recommendations were made to drill a new well or line the existing 12-inch casing with a deeper 8-inch casing string. In the summer of 1979 a new well was drilled at the No. 1 Water Plant to replace the damaged well. This well is identified in Table 5.3-10 as well 3(2) New and the well permit for this well is included in Appendix A. Interviews revealed that the old well has not been plugged and abandoned to date. The damage to the well bore of the old well indicates that this well could serve as a conduit for potential vertical migration of contaminants since the well casing is no longer functional. The old well is close to 1,000 feet in depth and contaminants would have access to the deep zones of the Floridan Aquifer. As with the other non-useable wells at the NAS, it is recommended that the old well 3(2) at Water Plant No. 1 be plugged and properly abandoned as quickly as possible.

The NAS is in the process of completing the identification and inventory of all existing wells on the Naval property. It is therefore possible that more than the 27 wells listed in Table 5.3-10 will be identified. As an understanding of well location, status, depth, and aquifer zone(s) utilized, the elements of well construction or abandonment are crucial to the assessment of any potential risk of contamination to groundwater supply.

5.3.7.4 Groundwater Quality at the Naval Air Station

Water quality information is available for the 5 principal water supply wells that serve the NAS water supply network. The system consists of four main treatment plants connected to a central distribution network. Table 5.3-11 shows the results of water quality analyses conducted at the four water supply plants in August of 1981. Wells 1(01) through 3(2) supply Water Plant No.1, well 4(3) supplies Water Plant No. 2, well 5(4) supplies Water Plant No.3, and well 6(5) supplies the Hospital Water Plant. Generally, the quality of the NAS water supply is good, meeting applicable drinking water standards. The base water system is tested every three years, with the next sampling due in September 1984.

5.3.7.5 Naval Fuel Depot Wells

Three wells are located at the NFD area, although only one well is utilized. Minimal information on the wells was obtained through interviews with NFD area personnel. The information that was obtained is summarized below.

Well 1, located at Building 19, is not being used at present and is capped off (see Figure 5.3-18). This well is artesian. The well was used in the past for potable water supply. Depth of the well and other completion characteristics are unknown.



CONSUMPTIVE USE PERMIT APPLICATION

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
 RESOURCE MANAGEMENT DEPARTMENT
 RECORDS DIVISION
 P.O. BOX 1429
 PALATKA, FLORIDA 32078-1429

APPLICATION NO. _____
 DATE RECEIVED _____
 COUNTY _____
 ASSIGNED REVIEWER _____
 REVIEW COMPLETION DATE _____
 PROJECTED BOARD DATE _____

Please type or print with BLACK ball point pen. Read ALL instructions on the back of this sheet before completing application. Complete necessary data sheets attached. PRESS HARD!

APPLICATION IS FOR: NEW USE EXISTING USE MODIFICATION OF EXISTING PERMIT RENEWAL

CONTACT	NAME OF OWNER LAST: [UNITED STATES NAVY] FIRST: [] ADDRESS: [NAVAL AIR STATION JACKSONVILLE] CITY: [JACKSONVILLE] COUNTY: [DUVAL] STATE: [FL] ZIP CODE: [32211] - [50010] TELEPHONE NO. [904] / [772] - [2114]
APPLICANT	NAME OF APPLICANT LAST: [JOHNSON] FIRST: [WILLIAM] ADDRESS: [15 CLODIE BLVD NAVAL AIR STATION] CITY: [JACKSONVILLE] COUNTY: [DUVAL] STATE: [FL] ZIP CODE: [32211] - [50010] TELEPHONE NO. [904] / [772] - [2114]
AGENT (IF APPLICABLE)	NAME OF AGENT LAST: [WALLMEYER] FIRST: [JOSEPH] ADDRESS: [15 CLODIE BLVD NAVAL AIR STATION] CITY: [JACKSONVILLE] COUNTY: [DUVAL] STATE: [FL] ZIP CODE: [32211] / [50010] TELEPHONE NO. [904] / [772] - [2117]
CONSULTANT (OR ENGINEER (IF APPLICABLE))	NAME OF FIRM _____ NAME OF FIRM CONTACT _____ ADDRESS _____ CITY _____ COUNTY _____ STATE _____ ZIP CODE _____ / _____ TELEPHONE NO. _____ / _____ - _____
SITE LOCATION	U.S.G.S. TOPO QUAD MAP [ORANGE PARK FL QUAD] [7.5 MIN] COUNTY [DUVAL] TOTAL ACREAGE [31895] - [] - [] SECTION [22, 23, 37, 39, 42, 43, 44] TOWNSHIP [0135] RANGE [216]
USE	AESTHETIC _____ % AGRICULTURAL _____ % COOLING AND AIR CONDITIONING [1] % DEWATERING _____ % DIVERSION AND IMPOUNDMENT INTO NON-DISTRICT FACILITIES _____ % ESSENTIAL [2] % FREEZE PROTECTION _____ % GOLF COURSE [4] % RECREATION AREA _____ % HOUSEHOLD TYPE [30] % LIVESTOCK _____ % NAVIGATIONAL _____ % NURSERY _____ % POWER PRODUCTION _____ % COMMERCIAL AND INDUSTRIAL [60] % WATER BASED RECREATION [1] % SOIL FLOODING _____ % URBAN LANDSCAPE IRRIGATION _____ % WATER UTILITY [2] %
AMOUNT	INCHES PER YEAR _____ MILLION GALLONS PER YEAR _____ MILLION GALLONS PER DAY (AVERAGE) _____ MILLION GALLONS PER DAY (MAXIMUM) _____
MODIFICATION OR RENEWAL	PLEASE PROVIDE INFORMATION IF APPLICATION IS FOR MODIFICATION ^{and} RENEWAL OF AN EXISTING PERMIT. PERMIT NO. [2-031-0014UNMGF] OWNER'S NAME [UNITED STATES NAVY, NAS JACKSONVILLE] DESCRIBE MODIFICATION [Renewal and modification to include all groundwater sources and the surface water source]

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

ALLAN W. JOHNSON, CAPT, CEC, USN
 APPLICANT'S NAME (Please Print)

[Signature] 3/9/90
 APPLICANT'S SIGNATURE DATE

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

JOSEPH G. WALLMEYER
 AGENT'S NAME (Please Print)

[Signature] 3/9/90
 AGENT'S SIGNATURE DATE

SUMMARY DATA SHEET

Complete applicable sections only. Type or print legibly.
Attach additional sheets if space provided below is not sufficient.

EXISTING SOURCE(S) OF WATER INFORMATION

GROUND WATER

Well number	Open Hole Diameter	Casing Diameter	Total Depth	Casing Depth	Average Withdrawal	Flowing* or Pumped	Pump Capacity or Flow Rate	Source Aquifer (if known)	Use
1/13	in	12 in	1215 ft	380 ft	1200 gpm	Pumped	1600 gpm	Floridan	Potable Water Plant #1
2/13	in	18 in	1200 ft	400 ft	2500 gpm	Pumped	3000 gpm	Floridan	Potable Water Plant #1
3/13	in	18 in	1200 ft	400 ft	2500 gpm	Pumped	3000 gpm	Floridan	Potable Water Plant #1

*Flowing wells must be equipped with a working valve, per Chapter 373.206, Florida Statutes.

SURFACE WATER

Source number	Pump capacity	Average withdrawal	Contingent property	Impounded area	Name of water source	Use
	2@ 500GPM 1@ 250 gpm	547,500 gpd	wholly owned acres	10 acres	Casa Linda	Ball field, CPO Club and Golf Course Irrigation
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		

PROPOSED SOURCE(S) OF WATER INFORMATION

GROUND WATER

Well number	Open Hole Diameter	Casing Diameter	Total Depth	Casing Depth	Average Withdrawal	Flowing or Pumped	Pump Capacity or flow rate	Source Aquifer	Use
	in	in	ft	ft	gpm		gpm		
	in	in	ft	ft	gpm		gpm		
	in	in	ft	ft	gpm		gpm		

SURFACE WATER

Source Number	Pump capacity	Average withdrawal	Contingent property	Impounded area	Name of water source	Use
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		

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

If modification or renewal, state amount of additional water applied for _____ inches per year
_____ million gallons per year.

Describe in detail reason(s) for request for additional water and/or sources:

This application is a permit renewal with update to reflect all potential and actual groundwater sources and one surface water source.

Attach a list of adjacent property owners as prescribed by S.4.4 of the "Applicant's Handbook, Chapter 40C-2, F.A.C."

SUMMARY DATA SHEET

Complete applicable sections only. Type or print legibly.
Attach additional sheets if space provided below is not sufficient.

EXISTING SOURCE(S) OF WATER INFORMATION

GROUND WATER									
Well number	Open Hole Diameter	Casing Diameter	Total Depth	Casing Depth	Average Withdrawal	Flowing* or Pumped	Pump Capacity or Flow Rate	Source Aquifer (if known)	Use
4/13	in	12 in	1015 ft	312 ft	2000 gpm	Pumped	2500gpm	Floridan	Potable Water Plan #3
5/13	in	12 in	988 ft	400 ft	700 gpm	Pumped	2000 gpm	Floridan	Potable Water Plan #3
6/13	in	12 in	646 ft	271 ft	2000 gpm	Pumped	2500 gpm	Floridan	Potable Water Plan #4

*Flowing wells must be equipped with a working valve, per Chapter 373.206, Florida Statutes.

SURFACE WATER

Source number	Pump capacity	Average withdrawal	Contingent property	Impounded area	Name of water source	Use
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		

PROPOSED SOURCE(S) OF WATER INFORMATION

GROUND WATER									
Well number	Open Hole Diameter	Casing Diameter	Total Depth	Casing Depth	Average Withdrawal	Flowing or Pumped	Pump Capacity or flow rate	Source Aquifer	Use
	in	in	ft	ft	gpm		gpm		
	in	in	ft	ft	gpm		gpm		
	in	in	ft	ft	gpm		gpm		

SURFACE WATER

Source Number	Pump capacity	Average withdrawal	Contingent property	Impounded area	Name of water source	Use
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		

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

If modification or renewal, state amount of additional water applied for _____ inches per year

_____ million gallons per year.

Describe in detail reason(s) for request for additional water and/or sources:

Attach a list of adjacent property owners as prescribed by S.4.4 of the "Applicant's Handbook, Chapter 40C-2, F.A.C."

SUMMARY DATA SHEET

Complete applicable sections only. Type or print legibly.
Attach additional sheets if space provided below is not sufficient.

EXISTING SOURCE(S) OF WATER INFORMATION

GROUND WATER

Well number	Open Hole Diameter	Casing Diameter	Total Depth	Casing Depth	Average Withdrawal	Flowing* or Pumped	Pump Capacity or Flow Rate	Source Aquifer (if known)	Use
7/13	4 inch well in	not in service. To in	ft	ft	gpm		gpm		Crash cre: Non-potabl: water
8/13	in	8 in	400 ft	288 ft	1000 gpd		2000 gpm/10-15 gpm		DRMO Non-potable water
9/13	in	12 in	800 ft	ft	37,000 gpd (actual) 625 gpm	Pumped	625 gpm	Floridan	Black Point Kamen Cel:

*Flowing wells must be equipped with a working valve, per Chapter 373.206, Florida Statutes.

SURFACE WATER

Source number	Pump capacity	Average withdrawal	Contingent property	Impounded area	Name of water source	Use
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		

PROPOSED SOURCE(S) OF WATER INFORMATION

GROUND WATER

Well number	Open Hole Diameter	Casing Diameter	Total Depth	Casing Depth	Average Withdrawal	Flowing or Pumped	Pump Capacity or flow rate	Source Aquifer	Use
	in	in	ft	ft	gpm		gpm		
	in	in	ft	ft	gpm		gpm		
	in	in	ft	ft	gpm		gpm		

SURFACE WATER

Source Number	Pump capacity	Average withdrawal	Contingent property	Impounded area	Name of water source	Use
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		

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

If modification or renewal, state amount of additional water applied for _____ inches per year

_____ million gallons per year.

~~DESIGNATION OF WATER USES AND SOURCE(S) OF WATER INFORMATION~~

For Well 8/13 2000 gpm fire fighting capacity; however actual usage is provided by 10-15 gpm non-potable supply pump for total of 1000 gpd.

Attach a list of adjacent property owners as prescribed by S.4.4 of the "Applicant's Handbook, Chapter 40C-2, F.A.C."

SUMMARY DATA SHEET

Complete applicable sections only. Type or print legibly.
Attach additional sheets if space provided below is not sufficient.

EXISTING SOURCE(S) OF WATER INFORMATION

GROUND WATER

Well number	Open Hole Diameter	Casing Diameter	Total Depth	Casing Depth	Average Withdrawal	Flowing* or Pumped	Pump Capacity or Flow Rate	Source Aquifer (if known)	Use
10/13	in	10 in	1096 ft	316 ft	contingency fire fighting about 1000 gpm	pumped	2000 gpm		Fire Protection Whse area
11/13	in	4 in	407 ft	251 ft	60gpm altered w/ #13	pumped	10-12 gpm		COMSTA Non Potable water
12/13	in	6 in	120 ft	120 ft		Pumped	140 gpm		STP non-potable water

*Flowing wells must be equipped with a working valve, per Chapter 373.206, Florida Statutes.

SURFACE WATER

Source number	Pump capacity	Average withdrawal	Contingent property	Impounded area	Name of water source	Use
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		

PROPOSED SOURCE(S) OF WATER INFORMATION

GROUND WATER

Well number	Open Hole Diameter	Casing Diameter	Total Depth	Casing Depth	Average Withdrawal	Flowing or Pumped	Pump Capacity or flow rate	Source Aquifer	Use
	in	in	ft	ft	gpm		gpm		
	in	in	ft	ft	gpm		gpm		
	in	in	ft	ft	gpm		gpm		

SURFACE WATER

Source Number	Pump capacity	Average withdrawal	Contingent property	Impounded area	Name of water source	Use
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		

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

If modification or renewal, state amount of additional water applied for _____ inches per year
_____ million gallons per year.

Describe in detail reason(s) for request for additional water and/or sources:

Attach a list of adjacent property owners as prescribed by S.4.4 of the "Applicant's Handbook, Chapter 40C-2, F.A.C."

SUMMARY DATA SHEET

Complete applicable sections only. Type or print legibly.
Attach additional sheets if space provided below is not sufficient.

EXISTING SOURCE(S) OF WATER INFORMATION

GROUND WATER

Well number	Open Hole Diameter	Casing Diameter	Total Depth	Casing Depth	Average Withdrawal	Flowing* or Pumped	Pump Capacity or Flow Rate	Source Aquifer (if known)	Use
13/13	in	4 in	650 ft	120 ft	60gpm alternated w/ #12 gpm	Pumped	200 gpm		STP Non-potable
	in	in	ft	297 ft	gpm	Pumped	gpm		
	in	in	ft	ft	gpm		gpm		

*Flowing wells must be equipped with a working valve, per Chapter 373.206, Florida Statutes.

SURFACE WATER

Source number	Pump capacity	Average withdrawal	Contingent property	Impounded area	Name of water source	Use
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		

PROPOSED SOURCE(S) OF WATER INFORMATION

GROUND WATER

Well number	Open Hole Diameter	Casing Diameter	Total Depth	Casing Depth	Average Withdrawal	Flowing or Pumped	Pump Capacity or flow rate	Source Aquifer	Use
	in	in	ft	ft	gpm		gpm		
	in	in	ft	ft	gpm		gpm		
	in	in	ft	ft	gpm		gpm		

SURFACE WATER

Source Number	Pump capacity	Average withdrawal	Contingent property	Impounded area	Name of water source	Use
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		
	gpm	gpm	acres	acres		

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

If modification or renewal, state amount of additional water applied for _____ inches per year
_____ million gallons per year.

Describe in detail reason(s) for request for additional water and/or sources:

Attach a list of adjacent property owners as prescribed by S.4.4 of the "Applicant's Handbook, Chapter 40C-2, F.A.C."

COMMERCIAL/INDUSTRIAL TYPE USES
SUPPLEMENTARY DATA SHEET

Complete the appropriate sections only. Type or print legibly.
Attach additional sheets if space provided below is not sufficient.

Area owned at withdrawal site 3895 acres.

Type of business National Security, SIC Code 9711

Specific use(s) of water Potable water for consumptive and non-consumptive uses,
industrial process water (cooling, rinse, quench water), irrigation, aircraft
washing, paint stripping.

Average daily use last service year 2.304 MGD August 1989-July 1990 for water treatment plants.

Maximum daily use last service year 2.600 MGD May 90 for water treatment plants

Number of days per week when used 7

Months of year used 12

Proposed average daily use 2.5 MGD in 1990 (year) through water treatment plants

Proposed maximum daily use 3 MGD in 1990 (year)

Reason for any increase in use No projections for increase at this time, however, changing national defense posture/base realignment is possible.

Average amount of wastewater disposed per day 2.17 MGD August 89-July 90

Maximum amount of wastewater disposed per day 2.47 MGD July 1990

Method of treatment Activated sludge secondary treatment.

EPA NPDES Permit FL0000957 and FDER-BESD TOP DT16-158162

Disposal On site Off site

If treatment or disposal occurs off site, name treatment facility N/A

If disposal takes place on site, describe in detail Effluent outfall 700 ft from shoreline
into St. Johns River

Is wastewater quality monitored? yes no

Attach any available water quality data on supply water and wastewater.

Explain water conservation measures currently implemented or planned for implementation in the near

future (1) Approximately 100,000 gpd reduction of potable water usage to be brought
about by NADEP hazardous waste minimization projects to close loop 3 major

industrial areas. Projected annual savings 36.5 million gallons.

(2) Approximately 25,000 gpd reduction of non-potable water to be realized at the
Kemen Test Cells due to contaminant treatment/removal system. This will allow recycling
of the quench water with only limited new make-up water required. Projected annual
savings 7 million gallons.

(3) Switching to no-rinse alodine (aluminum conversion coating).

(4) Static rinsing is replacing running water rinsing in the Plating Shops.

(5) Grass-roots level water conservation campaign.

AGRICULTURAL/IRRIGATION TYPE USES
SUPPLEMENTARY DATA SHEET

Complete the appropriate sections only. Type or print legibly. Attach additional sheets if space provided below is not sufficient.

Crop	Irrigation Method	Acres Irrigated	Amount of water applied per application or annually	Source or well numbers	Average number of applications or months irrigated	
					normal year (indicate months irrigated)	dry year
Grass	Spray	approximately 260 acres	547,500 gpd Acre In.	Casa Linda	daily except as interrupted by automatic delay activated by 0.25-inch precipitation.	
			Acre In.			
			Acre In.			
			Acre In.			

Generally describe any surface runoff of irrigation water including amounts, receiving body and conditions when runoff occurs _____

Runoff mostly to Lake Casa Linda

Describe in detail any water use for freeze protection N/A

If any part of the property is in a drainage district, give the district's name _____

Attach any available water quality data _____

System efficiency (Based on system type) _____

Describe method of determining system efficiency: IFAS pump efficiency test _____
Industry standards _____
Other _____

Explain water conservation measures implemented or planned for implementation in the near future _____

PUBLIC SUPPLY TYPE USES
SUPPLEMENTARY DATA SHEET

Complete the appropriate sections only. Type or print legibly.
Attach additional sheets if space provided below is not sufficient.

Area owned at withdrawal site 3895 acres Area served all acres
Is service area determined by Public Service Commission
Local Government Franchise Unregulated Service Area
(Provide map delineating service area)
See attached (housing 407 units, 1550 persons)
Present population 21093 employees Average daily use for last service year 2.304 MGD
Maximum daily use for last service year 2.600 MGD
Projected population 22236 in 1991 (year)
Projected average daily use 2.5 MGD in 1991 (year)

Average historic daily per capita use 103 GPCD
Maximum historic daily per capita use 117 GPCD
Projected average daily per capita use 112 GPCD
Projected maximum daily per capita use 130 GPCD
Average daily per capita use 103 GPCD Maximum daily per capita use 117 GPCD

Explain method of projecting population and estimating per capita usage _____
Water plant flows and actual populations

Treatment plant capacity 3 MGD Planned expansion to N/A MGD
in _____ (year)
Treatment method Activated sludge secondary treatment. To be upgraded to enhanced
secondary in FY-92 by addition of effluent filtration.

Disposal methods and percent of each

- 1) Activated sludge secondary treatment 100 %
- 2) Sludge disposed as hazardous waste off-site. 100 %
- 3) _____ %

Treatment type: Primary Secondary Tertiary Other
Average daily disposal 2.17 MGD

Method of reuse N/A

Quantity reused N/A MGD Describe future reuse plans N/A

Monthly DER pumpage reports for at least the twelve months prior to this application must be attached. Also
attach any available water quality data.

Indicate amount of loss due to system inefficiency est. 4% line loss

Explain water conservation measures implemented or planned for implementation in the near future
See sheet 3/6.

N.A.S. JACKSONVILLE

WATER TREATMENT PLANT No. 1

Wells	12"	1215'
	15"	1200'
	18"	1200'

} See OPERATING REPORTS.
Wells used 12" & 18" or
18" & 18"

WATER TREATMENT PLANT No. 2

Well 12" 1015'

WATER TREATMENT PLANT No. 3

WELL 12" 988'

OPERATED ALTERNATELY

WATER TREATMENT PLANT No. 4

WELL 12" 646'

Using 1984 Summarized operating records,
daily withdrawals from deep wells averaged
2,978,655 GPD

BLdy 73 Well

6" ϕ TO 98'

8" ϕ 98 TO 280'

OPEN HOLE TO 330' bottom

ESTIMATED WITHDRAWAL IN 1954 WAS 44 MG =
120,548 GPD

BLdy 936 Well

4" 80'

EST USAGE - \approx 1,000 GPD

DRMO Well

8" 400' Non-Potable, EST \approx 1000 GPD

BLdy 873 Well - Kamen Test Cell

12" 800' Non-Potable, - 31,000 GPD

BLdy 1913 Well - Warehouse Area

10" 1096' Non-Potable - Fire Fighting
Standby

BLdy 131 Well

4" 407'

EST \approx 1000 GPD

Sewage Treatment Plant

6" 120'
4" 650'

140 GPM Pump
200 GPM Pump



OPERATED
ALTERNATELY

U.S. Naval Air Station, Jacksonville, Fla.
Environmental Division Director's Memorandum

Date 12/13/90

To: Doug Durdan

Hope this memo helps -
it's the best data & estimates
I could find. If there's
any questions, pls give
me a call at
772-2717.
Good Luck.

Jerry Walling

"EXHIBIT A"

CONDITIONS FOR ISSUANCE OF PERMIT NUMBER C-031-00140UMMER

UNITED STATES NAVY

DATED DECEMBER 11, 1980

1. DISTRICT AUTHORIZED STAFF, UPON PROPER IDENTIFICATION, WILL HAVE PERMISSION TO ENTER, INSPECT AND OBSERVE PERMITTED AND RELATED FACILITIES IN ORDER TO DETERMINE COMPLIANCE WITH THE APPROVED PLANS, SPECIFICATIONS AND CONDITIONS OF THIS PERMIT.
2. NOTHING IN THIS PERMIT SHOULD BE CONSTRUED TO LIMIT THE AUTHORITY OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT TO DECLARE A WATER SHORTAGE AND ISSUE ORDERS PURSUANT TO SECTION 373.175, FLORIDA STATUTES, OR TO FORMULATE A PLAN FOR IMPLEMENTATION DURING PERIODS OF WATER SHORTAGE, PURSUANT TO SECTION 373.246, FLORIDA STATUTES. IN THE EVENT OF A WATER SHORTAGE, AS DECLARED BY THE DISTRICT GOVERNING BOARD, THE PERMITTEE MUST ADHERE TO REDUCTIONS IN WATER WITHDRAWALS AS SPECIFIED BY THE DISTRICT.
3. PRIOR TO THE CONSTRUCTION, MODIFICATION, OR ABANDONMENT OF A WELL, THE PERMITTEE MUST OBTAIN A WATER WELL CONSTRUCTION PERMIT FROM THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT PURSUANT TO CHAPTER 40C-3, FLORIDA ADMINISTRATIVE CODE. CONSTRUCTION, MODIFICATION OR ABANDONMENT OF A WELL WILL REQUIRE MODIFICATION OF THE CONSUMPTIVE USE PERMIT WHEN SUCH CONSTRUCTION, MODIFICATION OR ABANDONMENT IS OTHER THAN THAT SPECIFIED AND DESCRIBED ON THE CONSUMPTIVE USE PERMIT APPLICATION FORM.
4. LEAKING OR INOPERATIVE WELL CASINGS, VALVES, OR CONTROLS MUST BE REPAIRED OR REPLACED AS REQUIRED TO PUT THE SYSTEM BACK IN AN OPERATIVE CONDITION ACCEPTABLE TO THE DISTRICT. FAILURE TO MAKE SUCH REPAIRS WILL BE CAUSE FOR DEEMING THE WELL ABANDONED IN ACCORDANCE WITH CHAPTER 17.21.02(5), FLORIDA ADMINISTRATIVE CODE AND CHAPTER 373.309, FLORIDA STATUTES.
5. PERMITTEE MUST MITIGATE ANY ADVERSE IMPACT CAUSED BY WITHDRAWALS PERMITTED HEREIN ON LEGAL USES OF WATER EXISTING AT THE TIME OF PERMIT APPLICATION. THE DISTRICT HAS THE RIGHT TO CURTAIL PERMITTED WITHDRAWAL RATES OR WATER ALLOCATIONS IF THE WITHDRAWALS OF WATER CAUSE AN ADVERSE IMPACT ON LEGAL USES OF WATER WHICH EXISTED AT THE TIME OF PERMIT APPLICATION. ADVERSE IMPACTS ARE EXEMPLIFIED BUT NOT LIMITED TO:
 - (A) REDUCTION OF WELL WATER LEVELS RESULTING IN A REDUCTION OF 10% IN THE ABILITY OF AN ADJACENT WELL TO PRODUCE WATER;
 - (B) REDUCTION OF WATER LEVELS IN AN ADJACENT SURFACE WATER BODY RESULTING IN A SIGNIFICANT IMPAIRMENT OF THE USE OF WATER IN THAT WATER BODY.
 - (C) SALINE WATER INTRUSION OR INTRODUCTION OF POLLUTANTS INTO THE WATER SUPPLY OF AN ADJACENT WATER USE RESULTING IN A SIGNIFICANT REDUCTION OF WATER QUALITY; AND
 - (D) CHANGE IN WATER QUALITY IN EITHER IMPAIRMENT OR LOSS OF USE OF A WELL OR WATER BODY.
6. PERMITTEE MUST MITIGATE ANY ADVERSE IMPACT CAUSED BY WITHDRAWALS PERMITTED HEREIN ON ADJACENT LAND USES WHICH EXISTED AT THE TIME OF PERMIT APPLICATION. THE DISTRICT HAS THE RIGHT TO CURTAIL PERMITTED WITHDRAWAL RATES OF WATER ALLOCATIONS IF WITHDRAWALS OF WATER CAUSE AN ADVERSE IMPACT ON ADJACENT LAND USE WHICH EXISTED AT THE TIME OF PERMIT APPLICATION. ADVERSE IMPACTS ARE EXEMPLIFIED BY BUT NOT LIMITED TO:

- (A) SIGNIFICANT REDUCTION IN WATER LEVELS IN AN ADJACENT SURFACE WATER BODY;
 - (B) LAND COLLAPSE OR SUBSIDENCE CAUSED BY A REDUCTION IN WATER LEVELS; AND
 - (C) DAMAGE TO CROPS AND OTHER TYPES OF VEGETATION.
7. THE DISTRICT MUST BE NOTIFIED, IN WRITING, WITHIN 90 DAYS OF THE TRANSFER OF THIS PERMIT. ALL TRANSFERS ARE SUBJECT TO THE PROVISIONS OF SECTION 40C-2.351, FLORIDA ADMINISTRATIVE CODE, WHICH STATES THAT ALL TERMS AND CONDITIONS OF THE PERMIT SHALL BE BINDING OF THE TRANSFEREE.
 8. A DISTRICT-ISSUED IDENTIFICATION TAG SHALL BE PROMINENTLY DISPLAYED AT EACH WITHDRAWAL SITE BY PERMANENTLY AFFIXING SUCH TAG TO THE PUMP, HEADGATE, VALVE OR OTHER WITHDRAWAL FACILITY AS PROVIDED BY SECTION 40C-2.401, FLORIDA ADMINISTRATIVE CODE. PERMITTEE SHALL NOTIFY THE DISTRICT IN THE EVENT THAT A REPLACEMENT TAG IS NEEDED.
 9. TREATED EFFLUENT MUST BE USED AS IRRIGATION WATER WHEN IT BECOMES PRACTICAL, ECONOMICALLY FEASIBLE, AND PERMISSIBLE UNDER APPLICABLE STATE AND FEDERAL STATUTES OR REGULATIONS PROMULGATED THEREUNDER.
 10. THIS PERMIT WILL EXPIRE 7 YEARS FROM THE DATE OF ISSUANCE.
 11. MAXIMUM ANNUAL WITHDRAWALS MUST NOT EXCEED 912.5 MILLION GALLONS.
 12. MAXIMUM DAILY WITHDRAWALS MUST NOT EXCEED 3 MILLION GALLONS.
 13. SOURCE CLASSIFICATION IS CONFINED OR SEMI-CONFINED AQUIFER AND LAKES OR OTHER IMPOUNDMENTS.
 14. USE CLASSIFICATION IS 44% INDUSTRIAL, 42% HOUSEHOLD, 3% GOLF COURSE AND 7% URBAN LANDSCAPE.
 15. MAXIMUM ANNUAL WITHDRAWALS FOR HOUSEHOLD USE MUST NOT EXCEED 880.1 MGALS.
 16. MAXIMUM ANNUAL WITHDRAWALS OF SURFACE WATER FOR GOLF COURSE IRRIGATION MUST NOT EXCEED 146.6 MGALS (449.9 ACRE-FEET).
 17. MAXIMUM ANNUAL WITHDRAWALS OF SURFACE WATER FOR LANDSCAPE IRRIGATION MUST NOT EXCEED 133.1 MGALS (408.5 ACRE-FEET).
 18. IF CHEMICALS ARE INJECTED INTO THE IRRIGATION SYSTEM, THE WELL OF SURFACE PUMP MUST BE EQUIPPED WITH BACKFLOW PREVENTION DEVICES INSTALLED PURSUANT TO SECTION 5E-2.030 F.A.C.