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MONITORING OF SINKHOLE DEVELOPMENT IN THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT



MONITORING OF SINKHOLE DEVELOPMENT IN THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, FLORIDA

Prepared For

The St. Johns River Water Management District

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INTRODUCTION

The Florida Sinkhole Research Institute (FSRI) at the University of Central Florida created a database of occurrence of new sinkholes from 1984 to 1992. After their funding source was stopped, the database was transferred to the Florida Geological Survey and updated when possible. As drought conditions prevailed during the 1990's, the St. Johns River Water Management District (District) began receiving reports of sinkholes. The District then initiated a project to update the new sinkhole database to include sinkholes that had occurred since 1992 and to make initial evaluations of sinkhole occurrence throughout the District.

Subsurface Evaluations, Inc., (SEI), was chosen for this project due to their experience with the FSRI activities. Both District staff and SEI participated in field investigations and database compilation. As of April 2004, the St. Johns River Water Management District (SJRWMD) database contained 1,031 reported new sinkholes having occurred within the Area of Investigation. SEI has continued to update the database through August 2005.

OBJECTIVES

The objectives of monitoring sinkhole development are numerous. The first objective is to provide the public with a place to report sinkholes and to obtain information related to the development of sinkholes. Field investigations of specific sinkholes can identify risks to property owners and the potential for contamination of aquifers. The second objective is to provide a continuous database of sinkhole occurrence to help identify trends utilizing geostatistical analysis. And the third objective is to consolidate and standardize sinkhole reports with the District.

SCOPE

Area of Investigation

The primary Area of Investigation is comprised of the principal counties in which sinkholes develop within and adjacent to the District boundaries. These counties include: Alachua, Baker, Bradford, Clay, Lake, Marion, Orange, Osceola, Polk (east of and including the Lake Wales Ridge), Putnam, Seminole, Volusia, Okeechobee, and Highlands. The Area of Investigation also included any county within the District boundary.

Monitoring Sinkhole Development and Updating the New Sinkhole Database

As discussed above, the FSRI formerly located at the University of Central Florida in Orlando, Florida, collected information about new sinkhole development in Florida from 1984 to 1992. Information about new sinkholes was obtained from civil engineering companies, government agencies, news reports, private individuals and site investigations conducted by the staff of the FSRI. Data were collected from as early as 1948, but most known new sinkholes developed after about 1960. When the institute closed in 1992, new sinkhole data were transferred to an EXCEL spreadsheet by SEI. This database forms the core of information about new sinkhole development in Florida. SEI has contracted with the District to update and maintain the sinkhole database.

Because of the hiatus that developed in the sinkhole database between the years 1992 through 2001, the new sinkhole database was updated in the following manner:

1) SEI entered data for new sinkholes obtained through newspaper clippings from 1995 through 1997, which were provided to SEI by a newspaper clipping service.

2) SEI performed an Internet search of online newspaper articles for the entire state of Florida to locate and compile reports of new sinkholes which had occurred for the period 1993 through 1994 and from 1998 to present.

3) SEI contacted appropriate personnel in as many of the public works department (or similar agencies) as possible within each county and city in the Area of Investigation to obtain copies of files regarding new sinkhole development. These various agencies included: the local district of the Florida Department of Transportation (FDOT), appropriate Water Management Districts, and geotechnical engineering companies (or similar private-sector companies). Most of these reports were restricted to public works projects, such as road repair. It should be noted that numerous new sinkholes on private property are likely unreported, because of the proprietary nature of the data.

4) SEI performed site investigations as requested by the District Project Manager.

The following data regarding new sinkhole development were compiled and recorded, as provided by the various information sources. However, for any given new sinkhole occurrence, one or more items may be missing:

Location
City
Longitude in Degrees, Minutes and Seconds
Latitude in Degrees, Minutes and Seconds
Decimal Longitude

Decimal Latitude
Congressional Township and Range Coordinates:
-¼, Section, Township, Range
7.5 Minute Topographic Quadrangle Name
County Name

Date of Occurrence

Year
Month
Day
Hour

Dimensions

Length (Primary Axis)
Width (Secondary Axis)
Total Depth
Depth to Water (if present)
Side Slope Angle
General Shape (cone, truncated cone, funnel, cylinder)
Volume

Hydrogeologic Setting

Water Table Elevation
Potentiometric Surface Elevation
Cover Thickness
Head Difference
Surface Elevation
Soluble Bedrock Elevation
24-Hour Rainfall Day of Occurrence
7-Day Rainfall Prior to Occurrence
90-Day Rainfall Prior to Occurrence
Soil Type
Physiographic Area of Occurrence

RESULTS

SEI has collected and compiled information and updated the FSRI sinkhole database with reported new sinkhole information through August 2005. The following Table 1 lists the number of reported new sinkholes for each county as well as average lengths and depths for the new reported sinkholes. Currently, the database contains reports for 1,056 new sinkholes within the Area of Investigation, with 1,034 reports containing location information. The approximate locations of these new sinkholes are shown on Figure 1.

Our review of the database information indicates that of the 1,056 new sinkholes, 668 formed within the boundaries of the SJRWMD. The average length of the new sinkholes

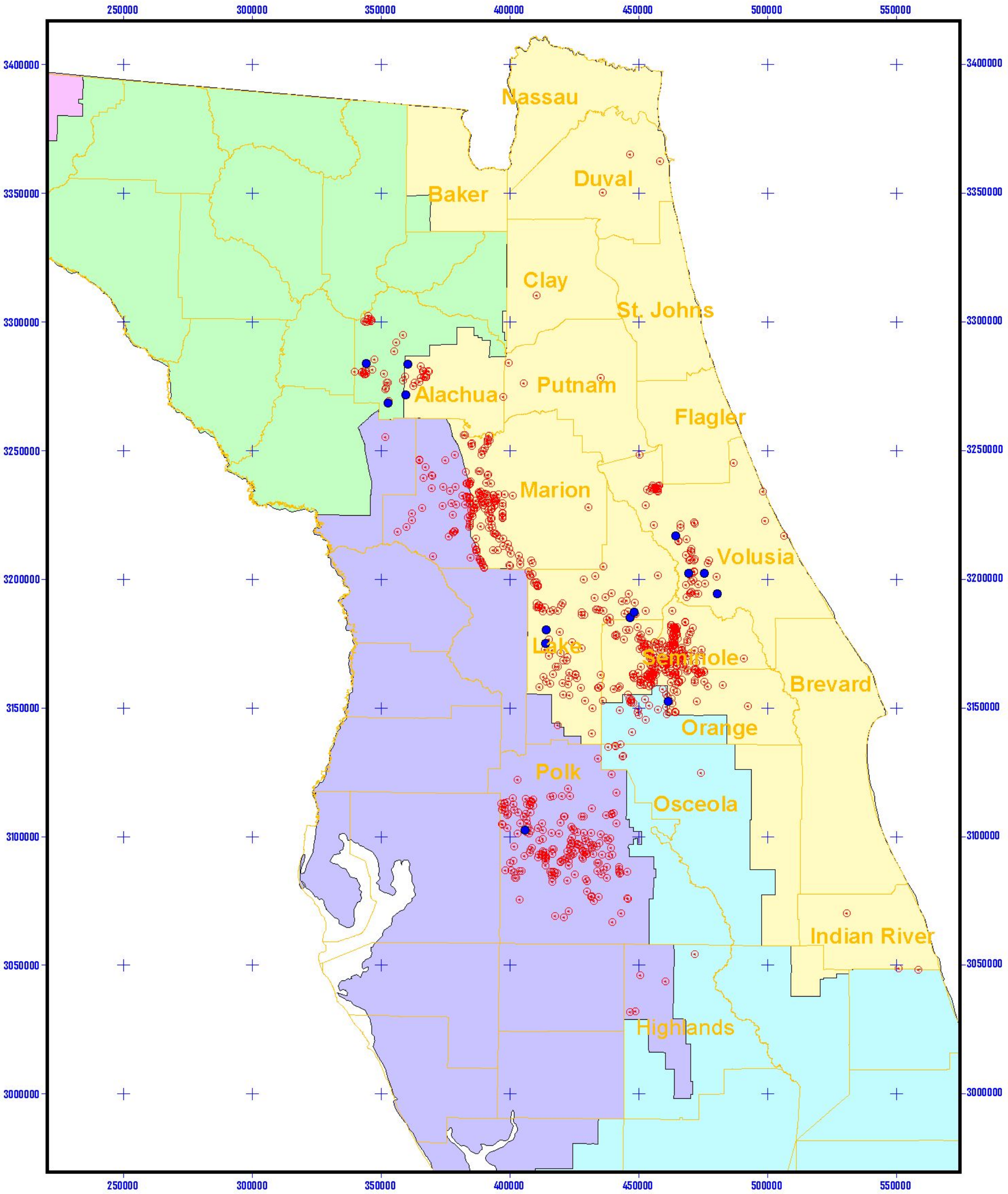


Figure 1. Location of New Sinkholes in the St. Johns River Water Management District.

This Map is based upon data compiled by the Florida Sinkhole Research Institute (FSRi), University of Central Florida, Orlando, Florida. The data contains reports of new sinkholes that developed between approximately 1960 and 1995. Subsurface Evaluations, Inc. has reformatted, edited, and updated the original data. SEI has collected data and compiled reports of new sinkholes through August 2005 for the St. Johns River Water Management District. SEI accepts no responsibility for any inaccuraccies. In no event shall SEI be liable for any damages whatsoever arising out of the use or inability to use this information.

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reported in the Area of Investigation was 22.3 feet, the median length was 10.0 feet and the maximum length was 360 feet. The average depth of the sinkholes was 11.8 feet and median depth was 6.0 feet. The maximum depth observed was approximately 250 feet.

Table 1. Number of New Sinkholes Reported in the Counties
The St. John's River Water Management District
(includes all sinkholes reported through August 2005)

Location	No. of sinks Sept04-Aug05	No. of Sinks	Length (feet)			Depth (feet)		
			Average	Median	Maximum	Average	Median	Maximum
Alachua	12	71	11.7	6.0	210.0	11.5	7.0	60.0
Duval	0	3	unk	unk	unk	unk	unk	unk
Highlands	0	4	102.9	98.8	210.0	15.0	10.3	15.0
Indian River	0	4	unk	unk	unk	unk	unk	unk
Lake	4	107	19.3	10.0	350.0	11.5	6.0	100.0
Marion	0	212	10.0	5.0	100.0	8.0	6.0	100.0
Okeechobee	0	0	na	na	na	na	na	na
Orange	1	198	28.7	15.0	360.0	14.0	5.0	250.0
Osceola	0	7	30.3	33.0	80.0	15.2	10.0	40.0
Polk	1	238	31.6	12.0	225.0	15.2	6.0	185.0
Putnam	0	3	21.7	8.0	50.0	15.3	10.0	30.0
Seminole	0	132	24.7	15.0	300.0	9.0	6.0	60.0
Volusia	4	77	29.8	13.0	250.0	10.8	4.0	75.0
Total 13 Counties	22	1056	23.2	10.0	360.0	11.8	6.0	250.0

It should also be noted that five (5) sinkholes that occurred prior to September 2004 were added to the Marion County database. These sinkholes had been incorrectly plotted in the state database (latitude typographical error) and had been shown to occur within Hillsborough County, Florida. The new sinkhole database was updated with the correct latitude.

The database had previously been created in a decimal-degree format. SEI imported the database into GPS Pathfinder Office Software v.2.90 and then exported it out as a shape file utilizing the UTM 17 North coordinate system to obtain the UTM northings and eastings for each location. These attributes are now included in the database. The database for the District is presented in Table 2, included in Appendix A of this report.

Twenty-two sinkholes were reported in the Area of Investigation since September 1, 2005. The approximate location of each of these sinkholes is shown in Figure 2. The database for these reported sinkholes are presented in Table 3, included in Appendix A of this report.

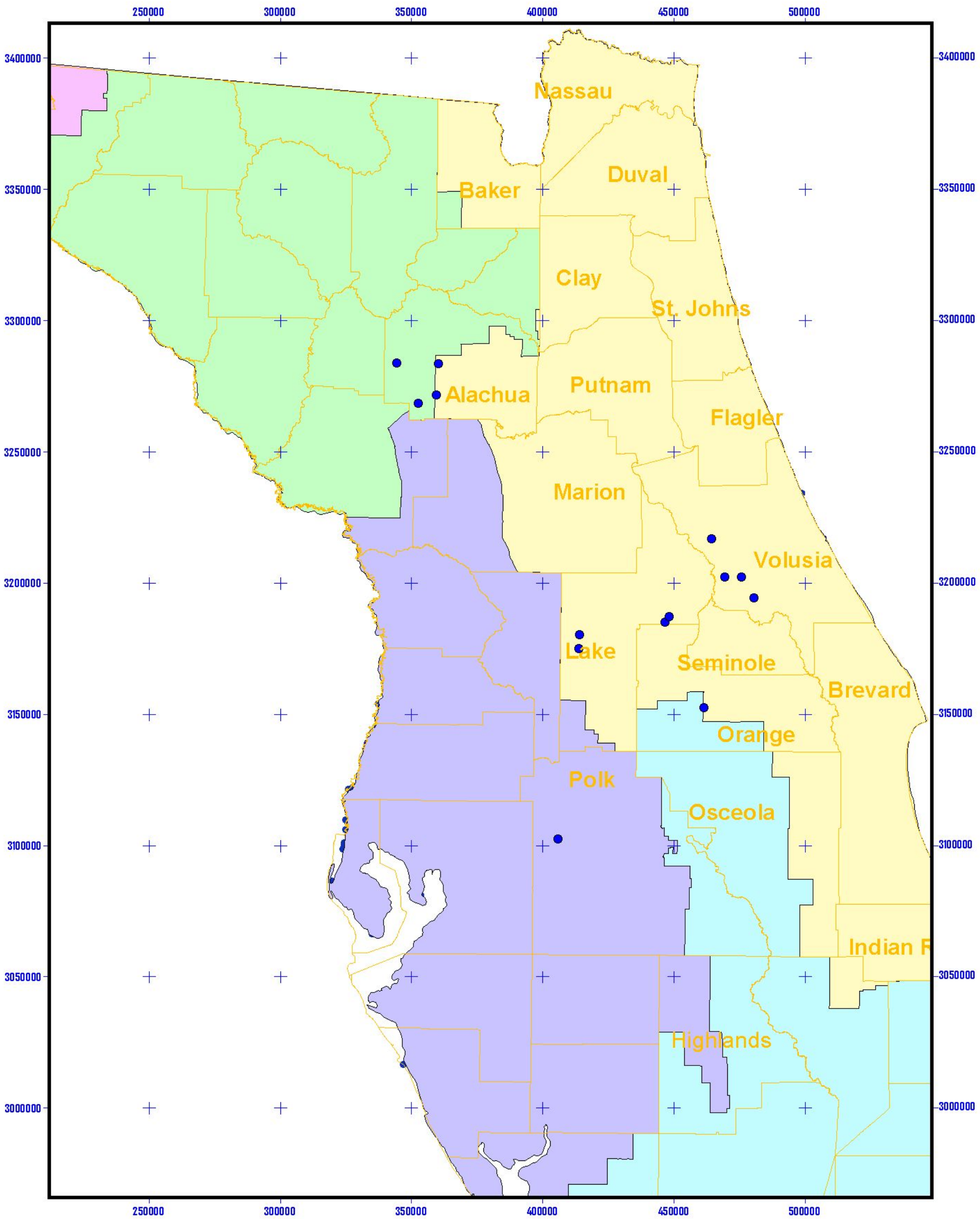


Figure 2. Location of New Sinkholes reported in the St. Johns River Water Management District during Sept. 1, 2004 to August 30, 2005.

This Map is based upon data compiled by the Florida Sinkhole Research Institute (FSRi), University of Central Florida, Orlando, Florida. The data contains reports of new sinkholes that developed between approximately 1960 and 1995. Subsurface Evaluations, Inc. has reformatted, edited, and updated the original data. SEI has collected data and compiled reports of new sinkholes through August 2005 for the St. Johns River Water Management District. SEI accepts no responsibility for any inaccuraccies. In no event shall SEI be liable for any damages whatsoever arising out of the use or inability to use this information.

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Arcview 3.2 shape files were created for the database and only include information on sinkholes with known locations. These shape files were imported into ArcGis and converted into layer files. These files are provided to the District on the enclosed CD (CD1).

Newspaper clippings, data worksheets, site visit reports, and report appendices were scanned into computer files and are additionally provided in digital format on the enclosed CD (CD1). Hard copies of this supporting documentation are presented in Appendix B of this report.

GEOLOGICAL CERTIFICATION

I, Kathleen M. McDonald, hereby certify that I am a registered professional geologist in the State of Florida practicing with Subsurface Evaluations, Inc. (SEI), a corporation authorized to operate as a business providing geological consulting services (GB 0000016) by the State of Florida Department of Professional Regulation, Board of Professional Geologists, and that I, or others under my direct supervision, have prepared the geological evaluations, findings, opinions, calculations, conclusions, or technical advice hereby represented in this report. In witness whereof I have hereunto affixed my signature and seal as required by Florida Statutes, Chapter 492.

Signature: Kathleen M. McDonald

Name: Kathleen M. McDonald,P.G.

License Number: 2142 (Florida)

Date: 10/5/2005

Attachments: CD 1, Appendix A (Tables 2 & 3), and Appendix B
X:\Projects\2005\SJRWMD\2005-sept report

Appendix A

Table 2

Table 2. Reported New Sinkholes in the St. Johns River Water Management District

FSRI_COD	COUNTY	QUADRANGLE	Z_4_SECTIO	SECTION	TOWNSHIP	RANGE	LATITUDE	LONGITUDE	YEAR	MONTH	DATE	TIME	LENGTH	WIDTH	DEPTH	LAND_ELEV	LS_ELEV	COVER_THI	WT_ELEV	POT_SUR_E	HEAD_DIFF	Z4_HR_RAI	Z_DYS_RAI	Z0_DYS_RA	COMMENTS	NORTHING_UTM	EASTING_UTM	ISP_SECTIO	DISTRICT	SUBDISTRIC	SUBDIVISIO
26-001	ALACHUA	ARCHER	tbd	20	10S	18E	29.608333000	-82.523611000	1970	3	unk	unk	2.00	2.00	10.00	11.00	75.00	3.00	unk	45.00	3.00	0.00	0.00	19.80	unk	3276356.054	352468.673	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-002	ALACHUA	NEWBERRY	tbd	8	10S	17E	29.638889000	-82.536111000	1970	3	15	unk	3.00	3.00	15.00	86.00	80.00	10.00	unk	45.00	0.00	0.00	0.00	19.80	unk	3279758.328	351303.036	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-003	ALACHUA	ARCHER	tbd	21	10S	18E	29.608333000	-82.518056000	1965	5	15	unk	10.00	10.00	15.00	65.00	80.00	6.00	unk	40.00	0.00	0.00	0.00	19.70	unk	3276348.998	353006.626	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-004	ALACHUA	ARCHER	tbd	29	10S	18E	29.586111000	-82.527778000	1970	5	2	unk	20.00	20.00	15.00	78.00	75.00	8.00	unk	50.00	0.00	0.00	0.00	17.50	unk	3273898.683	352032.687	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-005	ALACHUA	ARCHER	tbd	29	10S	18E	29.588889000	-82.525000000	1970	2	2	unk	8.00	8.00	20.00	51.00	75.00	6.00	unk	50.00	0.00	0.00	0.00	18.00	unk	3274203.025	352305.827	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-006	ALACHUA	NEWBERRY	tbd	2	10S	17E	29.652778000	-82.581944000	1970	4	4	unk	10.00	10.00	20.00	80.00	50.00	35.00	unk	45.00	0.00	0.00	0.00	18.50	unk	3281357.282	346886.812	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-007	ALACHUA	HIGH SPRINGS	tbd	2	08S	17E	29.823611000	-82.588889000	1970	1	28	unk	2.00	2.00	4.00	13.00	20.00	52.00	unk	40.00	0.00	0.00	0.00	13.80	unk	3300299.149	346475.030	Florida Section	Ocala Uplift District	Northern Peninsual Plains	McAlpin Plain
26-008	ALACHUA	HIGH SPRINGS	tbd	2	08S	17E	29.830556000	-82.588889000	1970	4	20	unk	3.00	3.00	6.00	4.00	20.00	52.00	unk	40.00	0.00	0.00	0.00	12.50	unk	3301068.820	346485.649	Florida Section	Ocala Uplift District	Northern Peninsual Plains	McAlpin Plain
26-009	ALACHUA	HIGH SPRINGS	tbd	34	07S	17E	29.843056000	-82.601389000	1972	9	18	unk	2.00	2.00	14.00	40.00	20.00	44.00	unk	35.00	0.00	0.00	0.00	15.30	unk	3302470.905	345297.042	Florida Section	Ocala Uplift District	Northern Peninsual Plains	McAlpin Plain
26-010	ALACHUA	HIGH SPRINGS	tbd	5	08S	17E	29.820833000	-82.606944000	1973	6	27	unk	3.00	3.00	5.00	4.00	77.00	75.00	46.00	unk	unk	0.00	0.72	1.60	14.70	unk	3300031.457	344725.958	Florida Section	Ocala Uplift District	Northern Peninsual Plains	McAlpin Plain
26-011	ALACHUA	HIGH SPRINGS	tbd	4	08S	17E	29.822222000	-82.616667000	1973	9	20	unk	3.00	3.00	15.00	40.00	25.00	49.00	unk	35.00	0.00	0.00	0.00	1.50	15.30	unk	3300182.555	343788.490	Florida Section	Ocala Uplift District	Northern Peninsual Plains	McAlpin Plain
26-012	ALACHUA	NEWBERRY	tbd	5	10S	17E	29.644444000	-82.625000000	1970	7	12	unk	3.00	3.00	20.00	100.00	75.00	5.00	unk	35.00	0.00	0.00	0.00	14.10	unk	3280491.376	342705.978	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-013	ALACHUA	NEWBERRY	tbd	3	07S	17E	29.826389000	-82.595833000	1971	2	1	unk	25.00	25.00	10.00	45.00	25.00	59.00	unk	35.00	0.00	0.30	0.56	5.60	unk	3300616.300	345808.255	Florida Section	Ocala Uplift District	Northern Peninsual Plains	McAlpin Plain
26-014	ALACHUA	NEWBERRY	tbd	33	09S	17E	29.654167000	-82.608333000	1974	2	30	unk	2.00	2.00	19.00	110.00	50.00	28.00	unk	40.00	0.00	0.00	0.13	8.00	unk	3281546.399	344334.473	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-015	ALACHUA	HIGH SPRINGS	tbd	2	08S	17E	29.825000000	-82.587500000	1977	11	unk	unk	7.00	7.00	25.00	10.00	20.00	52.00	unk	35.00	0.00	0.00	0.00	5.80	unk	3300451.223	346611.378	Florida Section	Ocala Uplift District	Northern Peninsual Plains	McAlpin Plain
26-016	ALACHUA	GAINESVILLE EAST	tbd	28	10S	19E	29.629167000	-82.366667000	1977	9	15	unk	8.00	8.00	15.00	0.00	50.00	38.00	unk	50.00	0.00	0.00	0.00	14.30	unk	3278475.397	367694.360	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-017	ALACHUA	NEWBERRY	NW	9	10S	17E	29.635556000	-82.615000000	1997	12	18	800	0.00	0.00	NM	15.00	31.00	70.00	5.00	unk	0.00	0.00	0.00	5.40	11.52	unk	3279492.824	343660.342	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-021	ALACHUA	NEWBERRY	tbd	9	-10	17	29.636110000	-82.611940000	1996	12	24	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3279550.105	343957.462	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-500	ALACHUA	NEWBERRY	tbd	0	10S	17E	29.640833000	-82.616667000	1983	4	23	unk	40.00	40.00	38.00	52.00	60.00	10.00	0.00	45.00	0.00	2.95	3.85	20.73	unk	3280079.917	343507.110	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-501	ALACHUA	NEWBERRY	tbd	0	10S	17E	29.645000000	-82.622500000	1983	4	23	unk	25.00	25.00	25.00	40.00	60.00	22.00	0.00	45.00	0.00	1.79	3.24	16.86	unk	3280549.604	342948.871	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-502	ALACHUA	GAINESVILLE WEST	tbd	0	08S	18E	29.749444000	-82.486667000	1983	6	7	unk	210.00	100.00	0.00	81.00	0.00	0.00	0.00	45.00	0.00	0.75	2.41	18.01	unk	3291947.800	356247.334	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-503	ALACHUA	HIGH SPRINGS	tbd	10	08S	17E	29.833333000	-82.600000000	1983	7	20	unk	0.00	0.00	0.00	60.00	0.00	0.00	unk	0.00	0.00	0.00	0.03	11.15	unk	3301391.466	345416.267	Florida Section	Ocala Uplift District	Northern Peninsual Plains	McAlpin Plain
26-504	ALACHUA	HAWTHORNE	tbd	1	11S	22E	29.562222000	-82.056389000	1983	3	26	unk	24.00	0.00	15.00	83.00	-20.00	120.00	unk	75.00	0.00	0.00	1.24	14.71	unk	3270743.094	397666.510	Florida Section	Central Lake District	St. Johns Offset	unk
26-505	ALACHUA	GAINESVILLE WEST	tbd	22	10S	19E	29.613889000	-82.393889000	1984	7	10	unk	3.00	5.00	2.00	125.00	70.00	0.00	unk	0.00	0.00	0.05	0.25	3.89	unk	3276813.722	365038.395	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-506	ALACHUA	ALACHUA	tbd	19	08S	18E	29.777778000	-82.461667000	1983	11	28	unk	3.00	5.00	2.00	90.00	50.00	50.00	unk	0.45	0.00	0.05	0.51	16.65	unk	3295056.970	358704.743	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-507	ALACHUA	GAINESVILLE EAST	tbd	14	10S	19E	29.629167000	-82.373611000	1982	7	5	unk	20.00	20.00	40.00	20.00	25.00	50.00	unk	45.00	0.00	0.00	0.00	20.50	unk	3278483.347	367022.057	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-508	ALACHUA	GAINESVILLE EAST	tbd	14	10S	19E	29.632778000	-82.373611000	1982	7	14	unk	8.00	8.00	0.00	50.00	25.00	50.00	unk	45.00	0.00	0.00	0.47	15.11	unk	3278883.516	367026.801	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-509	ALACHUA	GAINESVILLE EAST	tbd	0	10S	19E	29.632778000	-82.373611000	1982	7	14	unk	5.00	5.00	0.00	75.00	25.00	50.00	unk	45.00	0.00	0.00	0.47	15.11	unk	3278883.516	367026.801	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-510	ALACHUA	GAINESVILLE EAST	tbd	13	10S	19E	29.630556000	-82.369444000	1982	7	13	unk	10.00	20.00	0.00	0.00	25.00	50.00	unk	45.00	0.00	0.00	0.66	15.11	unk	3278632.508	367427.314	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-511	ALACHUA	NEWBERRY	tbd	4	10S	17E	29.645833000	-82.607222000	1985	3	1	unk	12.00	12.00	24.00	10.00	50.00	25.00	unk	45.00	0.00	0.00	0.00	1.97	unk	3280621.304	344429.195	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-512	ALACHUA	ARREDONDO	N	28	10S	19E	29.597222000	-82.416667000	1985	11	7	unk	7.00	5.00	10.00	53.00	75.00	2.00	53.00	53.00	0.00	0.00	2.40	6.50	unk	3274993.423	362810.153	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-513	ALACHUA	ARREDONDO	N	28	10S	19E	29.597222000	-82.416667000	1985	11	7	unk	4.00	4.00	2.00	75.00	75.00	2.00	53.00	53.00	0.00	0.00	2.40	6.50	unk	3274993.423	362810.153	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-514	ALACHUA	ARREDONDO	N	28	10S	19E	29.597222000	-82.416667000	1985	11	7	unk	1.00	1.00	0.00	77.00	75.00	2.00	53.00	53.00	0.00	0.00	2.40	6.50	unk	3274993.423	362810.153	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-515	ALACHUA	ARREDONDO	N	28	10S	19E	29.597222000	-82.416667000	1985	11	7	unk	1.00	1.00	0.00	77.00	75.00	2.00	53.00	53.00	0.00	0.00	2.40	6.50	unk	3274993.423	362810.153	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-516	ALACHUA	ARREDONDO	N	28	10S	19E	29.597222000	-82.416667000	1985	11	7	unk	1.00	1.00	0.00	77.00	75.00	2.00	53.00	53.00	0.00	0.00	2.40	6.50	unk	3274993.423	362810.153	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-517	ALACHUA	ARREDONDO	SE	13	10S	18E	29.616667000	-82.583333000	1990	5	10	unk	6.00	6.00	8.00	52.00	37.00	7.00	60.00	45.00	0.00	0.00	0.18	8.63	unk	3277198.347	358801.887	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-518	ALACHUA	ARREDONDO	SE	13	10S	18E	29.616944000	-82.458056000	1990	5	18	unk	4.00	4.00	6.00	92.00	73.00	7.00	60.00	45.00	15.00	0.00	0.10	7.05	unk	3277228.712	358829.090	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-519	ALACHUA	GAINESVILLE EAST	tbd	2	9S	19E	29.651667000	-82.378333000	1996	7	6	unk	6.00	0.00	0.00	77.00	0.00	0.00	unk	0.00	0.00	0.00	0.04	0.95	unk	3280982.209	366594.550	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-520	ALACHUA	GAINESVILLE EAST	tbd	1	9S	19E	29.650000000	-82.355556000	1996	7	6	unk	20.00	0.00	15.00	125.00	0.00	0.00	unk	0.00	0.00	0.00	0.04	0.95	unk	3280771.448	368797.127	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-521	ALACHUA	ARCHER	tbd	19	11S	18E	29.544444000	-82.513889000	1986	10	unk	unk	20.00	15.00	15.00	17.00	75.00	25.00	58.00	48.00	10.00	unk	unk	unk	unk	3269263.485	353317.811	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-522	ALACHUA	HIGH SPRINGS	NE	4	08S	17E	29.819444000	-82.611111000	1987	8	25	1200	6.00	4.00	15.00	25.00	60.00	15.00	36.00	36.00	0.00	0.00	2.18	17.89	unk	3299867.157	344321.102	Florida Section	Ocala Uplift District	Northern Peninsual Plains	McAlpin Plain
26-523	ALACHUA	GAINESVILLE WEST	SE	10	9 S	18	29.718620000	-82.495160000	1995	10	30	unk	6.00	0.00	20.00	58.00	87.00	35.00	98.00	42.00	56.00	0.00	0.01	18.91	fgs db26-018	3288542.400	355381.788	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-525	ALACHUA	Gainesville West	NE	2	10	19	29.652250000	-82.378056000	1996	7	7	unk	6.00	6.00	6.00	80.00	38.00	39.00	70.00	45.00	25.00	0.00	0.00	0.89	fgs db 26-019	3281046.481	366622.714	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-528	ALACHUA	Gainesville East	SE	1	10	19	29.651320000	-82.356730000	1996	7	8	unk	20.00	20.00	15.00	0.00	50.00	75.00	100.00	45.50	54.50	0.00	0.00	0.89	fgs db 26-020	3280919.052	368685.196	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-529	ALACHUA	Newberry	NW	9	10	17	29.635950000	-82.612050000	1997	12	24	unk	8.00	8.00	35.00	51.00	65.00	12.00	70.00	43.00	27.00	0.03	0.15	14.67	fgs db 26-028	3279532.513	343946.563	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-530	ALACHUA	Gainesville West	NW	14	10	19	29.627996000	-82.387602000	1998	2	17	unk	0.00	0.00	0.00	0.00	30.00	46.00	62.00	55.50	6.50	3.93	6.08	10.27	fgs db 26-022	3278369.724	365665.912	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-531	ALACHUA	Waters Lake	NW	6	10	17	29.644900000	-82.652600000	1998	2	18	unk	15.00	15.00	30.00	21.00	62.00	38.00	90.00	49.50	40.50	1.95	4.60	17.96	fgs db26-023	3280579.738	340034.748	Florida Section	Ocala Uplift District	Newberry Sand Hills	unk
26-532	ALACHUA	Waters Lake	NW	6	10	17	29.644900000	-82.652600000	1998	2	18	unk	4.00	4.00	60.00	121.00	62.00	38.00	90.00	49.50	40.50	1.95	4.60	17.96	fgs db26-024	3280579.738	340034.748	Florida Section	Ocala Uplift District	Newberry Sand Hills	unk
26-533	ALACHUA	Gainesville West	NE	34	9 S	19	29.668500000	-82.389000000	1998	5	13	unk	4.00	4.00	2.00	85.00	55.00	112.00	110.00	52.00	58.00	0.00	0.00	16.51	unk	3282859.966	365584.392	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-534	ALACHUA	Newberry	SE	23	9 S	17	29.689450000	-82.575590000	1999	1	6	unk	2.50	2.50	20.00	135.00	68.00	22.00	87.00	41.50	45.50	0.00	0.98	1.63	fgs db 26-026	3285413.029	347557.221	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-535	ALACHUA	Arredondo	NE	21	10	19	29.609890000	-82.411410000	1999	6	2	unk	15.00	5.00	25.00	7.00	63.00	29.00	65.00	49.50	15.50	0.00	0.02	7.04	fgs db 26-027	3276391.077	363336.381	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-536	ALACHUA	GAINESVIL	SW	7	10S	19E	29.631142560	-82.451746560	2003	8	unk	unk	7.00	6.00	3.50	86.00	unk	unk	75	40.00	35.00	unk	unk	unk	SEI site visit 8/	3278794.520	359459.763	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-537	ALACHUA	Gainesville West	sw	7	10S	19E	29.631161540	-82.451717760	2003	8	unk	unk	9.00	5.00	1.50	86.00	unk	unk	75	40.00	35.00	unk	unk	unk	SEI site visit 8/	3278796.590	359462.568	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-538	ALACHUA	Gainesville West	sw	7	10S	19E	29.630921900	-82.451511360	2003	8	unk	unk	3.00	3.00	0.50	86.00	unk	unk	75	40.00	35.00	unk	unk	unk	SEI site visit 8/	3278769.776	359482.219	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-539	ALACHUA	Gainesville West	sw	7	10S	19E	29.631015000	-82.451210960	2003	8	unk	unk	3.00	3.00	0.80	86.00	unk	unk	75	40.00	35.00	unk	unk	unk	SEI site visit 8/	3278779.725	359511.435	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-539	ALACHUA	unk	tbd	7	10S	19E	29.631014998	-82.451210958	2003	8	unk	unk	3.00	3.00	0.80	86.00	unk	unk	75	unk	unk	unk	unk	unk	SEI site visit 8/14	3278779.725	359511.435	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-540	ALACHUA	Gainesville West	sw	7	10S	19E	29.630884700	-82.451135160	2003	8	unk	unk	2.00	2.00	1.50	86.00	unk	unk	75	40.00	35.00	unk	unk	unk	SEI site visit 8/	3278765.204	359518.600	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-541	ALACHUA	Gainesville West	sw	7	10S	19E	29.630886100	-82.451120940	2003	8	unk	unk	2.00	2.00	2.50	86.00	unk	unk	75	40.00	35.00	unk	unk	unk	SEI site visit 8/	3278765.353	359519.977	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-542	ALACHUA	NEWBERRY	SW	3	10s	17e	29.639673000	-82.606590000	2004	6	9	unk	3.00	3.00	3.00	87.00	unk	unk	unk	unk	unk	0.41	1.26	6.02	HIGH SPRINGS HER	3279937.778	344480.908	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-543	ALACHUA	Newberry	se	28	9	17	29.676000000	-82.607200000	2004	10	16	unk	0.00	0.00	6.00	82.00	unk	unk	unk	40.00	unk	0.35	1.25	33.47	2 1/2 mi n newber	3283964.529	344477.745	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-545	ALACHUA	Archer	nw	16	11	18	29.536710000	-82.519120000	2004	9	7	unk	8.00	6.00	10.00	90.00	unk	unk	58	40.00	18.00	5.42	10.96	30.68	Hithcock foodline	3268413.027	352799.700	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-546	ALACHUA	Gainesville West	se	30	9	19	29.674900000	-82.440500000	2004	9	28	unk	50.00	40.00	50.00	135.00	unk	unk	100	40.00	60.00	0.16	5.09	33.12	near Sean Watson	3283630.136	360608.964	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-547	ALACHUA	Gainesville West	se	30	9	19	29.674900000	-82.440500000	2004	9	28	unk	15.00	15.00	5.00	135.00	unk	unk	100	40.00	60.00	0.16	5.09	33.12	near Sean Watson	3283630.136	360608.964	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-548	ALACHUA	Arrendo	ne	6	11S	19E	29.566223300	-82.448073210	2005	6	4	unk	16.10	13.20	4.00	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271595.743	359725.573	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-549	ALACHUA	Arrendo	ne	6	11S	19E	29.566223300	-82.448048620	2005	6	4	unk	3.40	2.10	1.00	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271595.713	359727.962	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-550	ALACHUA	Arrendo	ne	6	11S	19E	29.566538560	-82.448080320	2005	6	4	unk	21.90	16.30	3.50	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271630.688	359725.327	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-551	ALACHUA	Arrendo	ne	6	11S	19E	29.566327470	-82.448055090	2005	6	4	unk	14.60	11.50	5.30	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271607.264	359727.475	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-552	ALACHUA	Arrendo	ne	6	11S	19E	29.566293970	-82.447984040	2005	6	4	unk	15.80	8.50	17.00	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271603.465	359734.315	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-553	ALACHUA	Arrendo	ne	6	11S	19E	29.566274640	-82.447975920	2005	6	4	unk	6.20	5.40	16.00	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271601.302	359735.074	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-554	ALACHUA	Arrendo	ne	6	11S	19E	29.566175280	-82.447971890	2005	6	4	unk	6.00	5.40	2.00	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271590.299	359735.329	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-555	ALACHUA	Arrendo	ne	6	11S	19E	29.566269550	-82.447918350	2005	6	4	unk	6.40	6.10	1.50	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271600.689	359740.650	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
72-500	DUVAL	JACKSONVILLE	tbd	unk	-2	26	30.283300000	-81.662500000	1985	8	12	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3350367.050	436284.996	Atlantic Coastal Plain Secti	Sea Island District	No name in source document	unk
72-502	DUVAL	MAYPORT F-40	tbd	unk	-1	29	30.393890000	-81.430000000	1990	5	30	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	FGS database	3362511.297	458692.064	Florida Section	Eastern Flatwoods Distric	Central Atlantic Coastal Strip	St. Augustine-Edgewater Ridge
72-503	DUVAL	EAST PORT F-39	tbd	unk	-1	27	30.416670000	-81.551390000	1984	10	10	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	FGS database	3365086.245	447042.876	Atlantic Coastal Plain Secti	Sea Island District	The Sea Islands	unk
09-001	HIGHLANDS	LAKE ARBUKLE SW	SW	14	34S	29E	27.515833000	-81.397778000	1989	12	22	1130	98.83	88.17	6.00	110.00	-375.00	485.00	101.00	73.00	28.00	0.00	0.00	0.00	SEE DUP 09-001***N	3043633.596	460715.869	Florida Section	Central Lake District	Lake Wales Ridge	Eastern Complex of the Central Ridge
09-002	HIGHLANDS	Crewsville	SE	21	35	28	27.411800000	-81.515600000	2000	6	20	18:00	0.00	0.00	10.00	34.00	0.00	0.00	95.00	0.00	0.00	1.20	1.34	7.40	unk	3032152.800	449031.908	Florida Section	Southwestern Flatwoods	De Soto Slope	unk
09-003	HIGHLANDS	CREWSVILL	tbd	20	-35	28	27.408330000	-81.537500000	2000	6	19	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	fgs database	3031777.593	446865.351	Florida Section	Southwestern Flatwoods	De Soto Slope	unk
09-004	HIGHLANDS	CREWSVILL	tbd	21	-35	28	27.411670000	-81.515560000	2000	6	21	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	fgs database	3032138.382	449035.802	Florida Section	Southwestern Flatwoods	De Soto Slope	unk
DUP 09001	Highlands	LAKE ARBUKLE SW	tbd	11	34S	29E	27.537500000	-81.496388900	1988	4	29	unk	210.00	210.00	15.00	50.00	unk	unk	unk	unk	unk	unk	unk	unk	Bill Pivnick Residence	3046068.753	450986.644	Florida Section	Southwestern Flatwoods	Carlton Ranch Ridge	unk
88-500	INDIAN RIVER	FELLSMORE	tbd	unk	-33	38	27.555560000	-80.404170000	1981	7	15	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	FGS database	3048112.557	558822.718	Florida Section	Eastern Flatwoods Distric	Sebastian-St. Lucie Flats	unk
88-501	INDIAN RIVER	OSLOOWN	tbd	unk	-33	38	27.561940000	-80.481940000	1981	10	4	unk	unk	unk	unk	unk	unk	unk

Table 2. Reported New Sinkholes in the St. Johns River Water Management District

FSRI_COD	COUNTY	QUADRANGLE	Z_4_SECTIO	SECTION	TOWNSHIP	RANGE	LATITUDE	LONGITUDE	YEAR	MONTH	DATE	TIME	LENGTH	WIDTH	DEPTH	LAND_ELEV	LS_ELEV	COVER_TH	WT_ELEV	POT_SUR_E	HEAD_DIFF	Z4_HR_RAI	Z_DYS_RAI	Z0_DYS_RA	COMMENTS	NORTHING_UTM	EASTING_UTM	ISP_SECTIO	DISTRICT	SUBDISTRIC	SUBDIVISIO
11-528	LAKE	EUSTIS	SW	20	19S	26E	28.801944000	-81.736111000	1982	10	11	unk	30.00	30.00	25.00	100.00	-50.00	121.00	63.00	60.00	3.00	0.00	3.46	7.77	unk	3186265.349	428165.527	Florida Section	Central Lake District	Central Lakes	unk
11-529	LAKE	SORRENTO	SW	28	19S	28E	28.804722000	-81.521111000	1987	8	30	unk	16.00	16.00	14.00	80.00	0.00	70.00	60.00	33.00	27.00	0.00	0.00	3.14	unk	3186462.237	449148.343	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
11-530	LAKE	MASCOTTE	NW	27	22S	24E	28.545556000	-81.900833000	1986	9	26	unk	100.00	100.00	1.50	71.00	50.00	60.00	99.00	90.00	9.00	0.00	0.00	4.97	unk	3157969.875	411875.924	Florida Section	Central Lake District	Groveland Karst	unk
11-532	LAKE	LEESBURG EAST	SW	19	19S	25E	28.816667000	-81.851389000	1986	7	24	unk	4.00	4.00	5.00	71.00	5.00	75.00	59.00	57.00	2.00	0.00	0.31	3.96	unk	3187971.687	416927.218	Florida Section	Central Lake District	Central Lakes	unk
11-533	LAKE	SANFORD	SE	23	19S	28E	28.815278000	-81.480556000	1988	9	27	1800	20.00	15.00	0.00	7.00	0.00	30.00	25.00	50.00	-25.00	0.02	0.02	25.25	unk	3187615.055	453110.607	Florida Section	Central Lake District	St. Johns Offset	unk
11-534	LAKE	LADY LAKE	SW	21	18S	24E	28.904167000	-81.913889000	1989	4	4	unk	4.00	4.00	10.00	72.00	15.00	60.00	66.00	55.00	11.00	0.00	0.14	6.80	unk	3197711.694	410903.264	Florida Section	Central Lake District	Central Lakes	unk
11-535	LAKE	CLERMONT EAST	NE	12	22S	26E	28.590278000	-81.658333000	1989	6	1	unk	10.00	10.00	10.00	55.00	-25.00	120.00	66.00	75.00	-9.00	0.00	0.05	7.84	unk	3162770.289	435626.411	Florida Section	Central Lake District	Lake Wales Ridge	The Gap
11-536	LAKE	PAISLEY	SE	33	18S	27E	28.877778000	-81.616667000	1989	6	30	unk	350.00	350.00	100.00	233.00	-75.00	230.00	135.00	58.00	77.00	0.21	1.94	10.02	unk	3194600.880	439865.532	Florida Section	Central Lake District	Apopka Upland	Mt. Dora Ridge
11-537	LAKE	HOWEY IN THE HILLS	SE	15	21S	25E	28.652778000	-81.793056000	1989	7	3	unk	4.00	4.00	3.50	64.00	-50.00	135.00	80.00	75.00	5.00	0.21	3.27	17.55	unk	3169774.588	422498.327	Florida Section	Central Lake District	Groveland Karst	unk
11-538	LAKE	HOWEY IN THE HILLS	SW	10	21S	25E	28.667222000	-81.820000000	1989	12	24	1700	100.00	100.00	20.00	110.00	50.00	46.00	82.00	82.00	0.00	0.00	2.77	6.80	unk	3171392.635	419876.101	Florida Section	Central Lake District	Groveland Karst	unk
11-539	LAKE	HOWEY IN THE HILLS	SW	10	21S	25E	28.667222000	-81.820000000	1989	12	24	1700	8.00	8.00	1.50	70.00	50.00	46.00	82.00	82.00	0.00	0.00	2.77	6.80	unk	3171392.635	419876.101	Florida Section	Central Lake District	Groveland Karst	unk
11-540	LAKE	Leesburg West	NW	23	19	24	28.827050000	-81.884030000	1992	8	3	unk	1.00	1.00	0.80	30.00	-25.00	101.00	72.00	0.00	0.00	0.04	0.61	17.84	FGS database 11-025	3189145.324	413750.754	Florida Section	Ocala Uplift District	Tsala Apopka Basin	unk
11-541	LAKE	Leesburg West	NW	16	19	24	28.839520000	-81.915310000	1992	10	6	unk	15.00	15.00	8.00	10.00	6.00	109.00	77.00	0.00	0.00	0.02	3.97	27.71	FGS database 11-026	3190550.063	410709.467	Florida Section	Ocala Uplift District	Tsala Apopka Basin	unk
11-542	LAKE	Howey-in-the-Hills	SW	25	20	24	28.714220000	-81.866790000	1993	3	18	18:15	0.00	0.00	6.00	134.00	-55.00	150.00	92.00	0.00	0.00	1.50	3.10	14.45	FGS database 11-027	3176631.984	415341.790	Florida Section	Central Lake District	Groveland Karst	unk
11-543	LAKE	Lady Lake	NE	7	18	24	28.940650000	-81.943400000	1993	9	2	unk	16.00	8.00	16.00	45.00	25.00	55.00	69.00	0.00	0.00	0.34	4.98	12.75	FGS database 11-028	3201776.466	408058.241	Florida Section	Central Lake District	Central Lakes	unk
11-544	LAKE	unk	tbd	0	unk	unk	0.000000000	0.000000000	1994	6	8	unk	15.00	15.00	7.00	130.00	0.00	0.00	unk	0.00	0.00	0.05	1.72	7.58	unk	UNK	UNK	UNK	UNK	UNK	UNK
11-545	Lake	Clermont West	NW	32	21S	25E	28.619722200	-81.828888900	1994	6	14	unk	7.00	7.00	5.00	96.00	-20.00	110.00	83	83.00	0.00	0.22	3.12	9.45	FGS database 11-029	3166136.038	418971.018	Florida Section	Central Lake District	Groveland Karst	unk
11-546	LAKE	Lady Lake	NW	28	18	24	28.899790000	-81.911560000	1994	12	20	17:00	10.00	20.00	16.00	94.00	18.00	77.00	83.00	62.00	21.00	0.00	0.14	15.51	unk	3197224.976	411126.607	Florida Section	Central Lake District	Central Lakes	unk
11-547	LAKE	unk	tbd	0	unk	unk	0.000000000	0.000000000	1995	12	20	unk	4.00	4.00	6.00	20.00	0.00	0.00	unk	0.00	0.00	0.01	0.04	10.54	unk	UNK	UNK	UNK	UNK	UNK	UNK
11-548	LAKE	Howey-in-the-Hills	SE	22	21	25	28.639880000	-81.794010000	1996	7	6	18:30	30.00	30.00	15.00	63.00	-75.00	173.00	89.00	85.50	3.50	0.50	0.60	11.96	unk	3168346.213	422395.596	Florida Section	Central Lake District	Groveland Karst	unk
11-549	LAKE	Eustis	SW	33	19	27	28.791388000	-81.625277000	1996	8	13	unk	10.00	10.00	10.00	7.00	20.00	80.00	80.00	54.00	26.00	0.69	1.15	15.76	250' South of rail road	3185033.938	438975.528	Florida Section	Central Lake District	Apopka Upland	Mt. Dora Ridge
11-550	LAKE	Clermont West	NE	7	22S	25E	28.591388000	-81.847221000	1996	11	19	unk	40.00	40.00	2.00	35.00	25.00	105.00	102.00	89.00	13.00	0.00	0.20	7.55	Northbound lane & sh	3163009.407	417156.649	Florida Section	Central Lake District	Groveland Karst	unk
11-551	LAKE	Howey-in-the-Hills	NW	7	21	25	28.675277000	-81.852777000	1998	2	27	unk	8.00	8.00	4.00	96.00	-50.00	153.00	90.00	82.00	8.00	0.00	0.80	8.49	fgs database 11-014	3172307.505	416679.539	Florida Section	Central Lake District	Groveland Karst	unk
11-552	LAKE	Sorrento	NE	11	19	27	28.850670000	-81.577650000	1998	3	25	14:30	22.00	22.00	18.00	100.00	5.00	70.00	73.00	47.00	26.00	0.00	2.91	17.96	fgs-database 11-015	3191578.377	443655.741	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
11-553	LAKE	Howey-in-the-Hills	NE	35	20	25	28.704444000	-81.774166000	1998	7	28	unk	2.00	2.00	3.00	50.00	-60.00	159.00	90.00	78.00	12.00	0.00	0.28	6.02	SR 19 southbound, 84	3175486.643	424381.541	Florida Section	Central Lake District	Groveland Karst	unk
11-554	LAKE	Clermont East	NW	29	22	26	28.546388000	-81.736944000	1998	9	10	unk	5.00	5.00	15.00	102.00	-29.00	36.00	86	80.00	20.00	0.00	1.00	11.20	15' S. EOP, SR 50 EE	3157952.544	427909.485	Florida Section	Central Lake District	Lake Wales Ridge	Sugar Loaf Mountains
11-555	LAKE	unk	tbd	0	unk	unk	0.000000000	0.000000000	1999	10	25	17:00	15.00	15.00	20.00	45.00	0.00	0.00	unk	0.00	0.00	0.00	2.21	25.89	unk	UNK	UNK	UNK	UNK	UNK	UNK
11-556	LAKE	Howey-in-the-Hills	SW	13	21	24	28.657889000	-81.866339000	2000	6	7	unk	25.00	25.00	30.00	122.00	-20.00	168.00	97.00	0.00	0.00	0.00	0.07	3.43	fgs database 11-033	3170390.584	415340.540	Florida Section	Central Lake District	Groveland Karst	unk
11-557	LAKE	Paisley	SE	31	18	28	28.876800000	-81.550100000	2000	7	14	10:00	0.00	0.00	50.00	10.00	-13.00	123.00	74.00	0.00	0.00	0.00	0.34	5.03	fgs database 11-034	3194460.604	446356.444	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
11-558	LAKE	Eustis	SE	19	19	27	28.816640000	-81.649600000	2001	3	18	20:23	12.00	12.00	10.00	75.00	-15.00	104.00	83.00	0.00	0.00	0.02	0.67	4.55	fgs database 11-035	3187844.362	436616.933	Florida Section	Central Lake District	Central Lakes	unk
11-559	LAKE	Lady Lake	NE	20	18	24	28.915036000	-81.922124000	2001	3	31	unk	8.00	8.00	30.00	38.00	20.00	60.00	75.00	0.00	0.00	2.25	2.25	8.15	fgs database 11-036	3198922.168	410109.755	Florida Section	Central Lake District	Central Lakes	unk
11-560	LAKE	Eustis	SW	5	19	27	28.862745000	-81.642722000	2001	4	29	unk	2.00	2.00	2.00	0.00	-53.00	164.00	77.00	0.00	0.00	0.00	0.15	7.90	fgs database 11-037	3192948.811	437315.693	Florida Section	Central Lake District	Apopka Upland	Mt. Dora Ridge
11-561	LAKE	unk	tbd	1	19	27	0.000000000	0.000000000	2001	5	4	unk	35.00	35.00	0.60	27.00	0.00	0.00	unk	0.00	0.00	0.00	0.07	6.93	unk	UNK	UNK	UNK	UNK	UNK	UNK
11-562	LAKE	Sorrento	SE	29	19	28	28.800900000	-81.534100000	2001	5	19	unk	26.00	26.00	2.50	60.00	25.00	48.00	63.00	0.00	0.00	0.00	0.00	6.96	fgsdatabase 11-038	3186044.404	447878.913	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
11-563	LAKE	unk	tbd	20	18	27	0.000000000	0.000000000	2001	5	21	unk	3.00	3.00	0.80	35.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	6.96	unk	UNK	UNK	UNK	UNK	UNK	UNK
11-564	LAKE	Lady Lake	SE	7	18	24	28.937038000	-81.941064000	2001	6	15	unk	9.00	9.00	5.00	123.00	24.00	57.00	69.00	0.00	0.00	0.00	0.43	8.59	fgs database 11-039	3201375.574	408282.739	Florida Section	Central Lake District	Central Lakes	unk
11-565	LAKE	Pine Lakes	NE	8	18	29	28.942063000	-81.433287000	2001	6	16	unk	1.50	1.50	3.50	59.00	-13.00	72.00	45.00	0.00	0.00	0.26	0.69	8.84	fgs database 11-040	3201643.975	457774.148	Florida Section	Central Lake District	Ocala Scrub	unk
11-566	LAKE	Eustis	NW	29	19	26	28.810056000	-81.736639000	2001	7	1	unk	0.00	0.00	50.00	78.00	-60.00	132.00	69.00	0.00	0.00	0.53	1.70	8.01	fgs database 11-041	3187164.437	428119.567	Florida Section	Central Lake District	Central Lakes	unk
11-567	LAKE	Clermont West	NE	4	23	25	28.520300000	-81.806100000	2001	7	12	unk	2.50	2.50	20.00	80.00	30.00	91.00	105.00	0.00	0.00	0.03	0.87	8.66	fgs database 11-042	3155105.795	421124.739	Florida Section	Central Lake District	Groveland Karst	unk
11-568	LAKE	Howey-in-the-Hills	SE	17	20	25	28.739700000	-81.822500000	2001	7	23	unk	10.00	10.00	8.00	91.00	-60.00	149.00	80.00	0.00	0.00	0.00	1.89	10.55	fgs database 11-043	3179424.354	419687.178	Florida Section	Central Lake District	Groveland Karst	unk
11-569	LAKE	Leesburg East	NE	16	19	25	28.840922000	-81.812943000	2001	7	24	unk	3.50	3.50	2.00	102.00	-25.00	108.00	72.00	0.00	0.00	0.00	3.50	5.39	14.05	fgs database 11-044	3190632.753	420697.046	Florida Section	Central Lake District	Central Lakes	unk
11-570	LAKE	Clermont West	SW	2	22	25	28.598537000	-81.782732000	2001	7	31	unk	5.00	5.00	4.00	121.00	-25.00	137.00	100.00	0.00	0.00	0.00	0.35	0.60	14.50	fgs database 11-045	3163758.527	423467.943	Florida Section	Central Lake District	Groveland Karst	unk
11-571	LAKE	LAKE LOUISA	tbd	22	24	26	28.385838000	-81.692500000	2001	8	9	unk	0.00	0.00	0.00	90.00	0.00	0.00	unk	0.00	0.00	0.00	1.72	6.81	fgs database 11-050	3140138.865	432154.801	Florida Section	Central Lake District	Lake Wales Ridge	The Gap
11-572	LAKE	Clermont West	NE	21	22	25	28.562597000	-81.811079000	2001	8	16	unk	30.00	30.00	35.00	103.00	25.00	110.00	95.00	0.00	0.00	0.38	0.92	7.24	fgs database 11-046	3159795.163	420669.234	Florida Section	Central Lake District	Groveland Karst	unk
11-573	LAKE	Eustis	NW	11	19	26	28.861452000	-81.685716000	2001	8	16	unk	1.50	1.50	1.00	0.00	-60.00	142.00	62.00	0.00	0.00	0.38	0.92	7.24	fgs database 11-047	3192829.017	433121.582	Florida Section	Central Lake District	Central Lakes	unk
11-574	LAKE	CLERMONT WEST	NW	2	23S	25E	28.519568000	-81.783245000	2002	5	8	unk	6.00	5.00	5.00	135.00	0.00	0.00	110.00	0.00	0.00	0.00	0.00	1.84	fgs database 11-048	3155009.885	423360.602	Florida Section	Central Lake District	Groveland Karst	unk
11-575	LAKE	LEESBURG WEST	NE	21	19S	24E	28.826500000	-81.907700000	2002	6	22	unk	13.00	11.00	5.50	82.00	0.00	0.00	72.00	0.00	0.00	0.85	4.64	13.48	fgs database 11-049	3189101.794	411440.851	Florida Section	Ocala Uplift District	Tsala Apopka Basin	unk
11-576	LAKE	LEESBURG WEST	NE	21	19S	24E	28.825847000	-81.916606000	2002	7	21	unk	10.00	6.00	6.00	124.00	0.00	0.00	80.00	0.00	0.00	0.31	0.46	14.12	unk	3189036.123	410571.347	Florida Section	Ocala Uplift District	Tsala Apopka Basin	unk
11-577	LAKE	unk	tbd	unk	unk	unk	0.000000000	0.000000000	2000	6	5	unk	15.00	15.00	20.00	90.00	unk	unk	unk	unk	unk	unk	unk	unk	Monarch Golf Course	UNK	UNK	UNK	UNK	UNK	UNK
11-578	LAKE	CLERMONT WEST	SW	23	22S	25E	28.557222200	-81.788611100	2001	3	1	unk	50.00	50.00	1.00	76.00	unk	unk	95	unk	unk	unk	unk	1	unk	EB shoulder, 1753' W	3159185.018	422862.954	Florida Section	Central Lake District	Groveland Karst	unk
11-579	Lake	HOWEY IN THE HILLS	SE	21	21S	25E	28.640833300	-81.808888900	2001	8	11	unk	5.00	5.00	4.00	77.00	unk	unk	83	unk	unk	unk	unk	unk	Southbound ramp fgs	3168461.586	420942.037	Florida Section	Central Lake District	Groveland Karst	unk
11-580	Lake	unk	NE	30	19S	28E	28.812777800	-81.551388900	2001	9	17	unk	8.00	8.00	unk	100.00	unk	unk	58	unk	unk	unk	unk	unk	31815 CR 437, 10' fro	3187368.070	446197.821	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
11-581	Lake	Leesburg West	SE	16	19S	24E	28.833611100	-81.906666700	2001	3	15	unk	5.00	5.00	7.00	75.00	unk	unk	71	unk	unk	unk	unk	unk	In wooded area fgs dt	3189888.904	411547.684	Florida Section	Ocala Uplift District	Tsala Apopka Basin	unk
11-582	Lake	Leesburg West	SE	16	19S	24E	28.833888900	-81.905833300	2001	4	13	unk	2.00	2.00	7.00	75.00	unk	unk	71	unk	unk	unk	unk	unk	Near future hay barn f	3189919.075	411629.226	Florida Section	Ocala Uplift District	Tsala Apopka Basin	unk
11-583	Lake	SORRENTO	NW	7	19S	28E	28.851944400	-81.558611100	1998	3	25	unk	20.00	20.00	18.00	100.00	unk	unk	74	unk	unk	unk	unk	unk	2,068 ft. west of CR 4	3191710.669	445513.500	Florida Section	Apopka Upland	Apopka Hills
11-584	Lake	LADY LAKE	NW	28	18S	24E	28.899166700	-81.912222200	1994	12	20	unk	20.00	20.00	15.00	100.00	unk	unk	74	unk	unk	unk	unk	unk	S.B. shoulder & outsi	3197156.417	411061.510	Florida Section	Central Lake District	Central Lakes	unk
11-585	Lake	Lady Lake	SW	7	18S	24E	28.936388900	-81.940833300	2001	6	14	unk	9.00	9.00	5.00	80.00	unk	unk	63	unk	unk	unk	unk	unk	Turn lane under const	3201302.367	408304.642	Florida Section	Central Lake District	Central Lakes	unk
11-586	Lake	Lady Lake	SW	6	18S	24E	28.952222200	-81.948055600	2001	9	6	unk	unk	unk	unk	170.00	unk	unk	unk	unk	unk	unk	unk	unk	* House settlement	3203062.282	407614.760	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
11-587	Lake	UMATILLA	SW	11	18S	26E	28.937777800	-81.682222200	1991	6	1	unk	30.00	30.00	1.00	110.00	unk	unk	68	unk	unk	unk	unk	unk	McDaniel Residence,	3201283.501	433511.005	Florida Section	Central Lake District	Central Lakes	unk
11-588	LAKE	Lady Lake	NW	8	18S	24E	28.942041000	-81.931884000	2003	6	23	PM	9.00	8.00	10.00	100.00	unk	unk	63	unk	unk	unk	unk	unk	ZIMMER RES, NEWS	3201921.699	409181.829	Florida Section	Central Lake District	Central Lakes	unk
11-589	LAKE	Lady Lake	NE	20	18S	24E	28.913000000	-81.925800000	2003	6	25	1200	10.00	10.00	5.00	unk	unk	unk	unk	unk	unk	unk	unk	unk	DAILY COMMERC, L	3198699.374	409749.630	Florida Section	Central Lake District	Central Lakes	unk
11-590	LAKE	LADY LAKE	SE	17	18	24	29.919580000	-81.924350000	2003	11	10	10:00 PM	4.00	3.00	4.00	unk	unk	unk	unk	unk	unk	unk	unk	unk	Island food store	3310233.224	410774.829	Atlantic Coastal Plain Secti	Sea Island District	Trail Ridge	unk
11-591	LAKE	LAKE LOUISA	SW	9	23	26	28.498770000	-81.720540000	2004	2	2	unk	30.00	30.00	6.00	150.00	unk	unk	99.00	85.00	14.00	0.25	2.02	4.51	SOUTH LAKE PRESS	3152678.341	429482.619	Florida Section	Central Lake District	Lake Wales Ridge	The Gap
11-592	LAKE	CLERMONT EAST	SE	24	22S	26E	28.553080000	-81.657480000	2004	6	unk	unk	10.00	10.00	40.00	150.00	unk	unk	96	72.00	24.00	unk	unk	unk	LEESBURG DAILY C	3158648.729	435687.204	Florida Section	Central Lake District	Lake Wales Ridge	The Gap
11-593	LAKE	Mount Plymouth	ne	29	19S	28E	28.810880000	-81.529110000	2004	9	29	unk	15.00	15.00	20.00	80.00	unk	unk	65	45.00	20.00	0.00	4.71	23.64	star banner, 2583	3187147.916	448370.799	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
11-594	LAKE	Center Hill	ne	14	20	24	28.747590000	-81.879330000	2004	9	9	unk	11.00	13.00	6.00	80.00	unk	unk	72	72.00	0.00	0.40	5.24	23.44	on CR48, near lak	3180338.156	414144.250	Florida Section	Central Lake District	Groveland Karst	unk
11-595	Lake	Center Hill	se	35	20	24	28.700650000	-81.880630000	2005	7	6	unk	10.00	10.00	3.00	90.00	unk	unk	85	85.00	0.00	0.00	0.29	13.57	on Fla turnpike,	3175138.419	413978.899	Florida Section	Central Lake District	Groveland Karst	unk
11-596	Lake	Sorrento	se	31	19	28	28.793065600	-81.545958400	2005	8	18	unk	40.00	40.00	25.00	103.00	unk	unk	58	45.00	13.00	0.00	0.00	14.70	Orlando Sentinel	3185181.675	446717.689	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
36-001	MARION	SHADY	tbd	18	16S	21E	29.091667000	-82.244444000	1975	11	unk	unk	4.00	4.00	6.00	42.00	30.00	41.00	unk	50.00	0.00	0.00	0.00	7.30	unk	3218781.139	378893.279	Florida Section	Ocala Uplift District	Newberry Sand Hills	unk
36-002	MARION	DUNNELLON SE	tbd	17	17S	20E	29.002778000	-81.330556000	1973	11	15	unk	2.00	2.00	4.00	63.00	40.00	17.00	unk	50.00	0.00	0.00	0.00	10.40	unk	3209021.583	370401.182	Florida Section	Ocala Uplift District	Tsala Apopka Basin	unk
36-003	MARION	OCALA EAST	tbd	11	15S	23E	29.197222000	-82.083333000	0	0	unk	unk	100.00	100.00	25.00	7.00	-45.00	124.00	unk	50.00	0.00	0.00	0.00	0.00	unk	3230322.177	394681.046	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-004	MARION	unk	tbd	29	12S	18E	29.416944000	-82.525556000	1994	4	22	unk	0.00	0.00	25.00	113.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	1.59	unk	3255148.751	352002.054	Florida Section	Ocala Uplift District	Newberry Sand Hills	unk
36-005	MARION	LADY LAKE	tbd	29	17S	24E	28.980556000	-81.931944000	1974	1	17	unk	4.00	4.00	8.00	90.00	20.00	74.00	unk	50.00	0.00	0.00	0.00	9.30	unk	3206189.155	409209.597	Florida Section	Central Lake District	Central Lakes	unk
36-006	MARION	REDDICK	tbd	4	14S	21E	29.300000000	-82.204167000	1974	3	21	unk	1.00	1.00	4.00	10.00	60.00	46.00	unk	45.00	0.00	0.00	0.00	6.80	unk	3241825.276	383049.962	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-007	MARION	LAKE PANASOFFKEE	tbd	32	17S	22E	28.973611000	-82.130556000	1974	4	12	unk	1.00	1.00	4.00	0.00	35.00	33.00	unk	45.00	0.00	0.00	0.00	7.60	unk	3205588.392	389852.142	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-008	MARION	REDDICK	tbd	22	14S	21E	29.258333000	-82.187500000	1974	4	2	unk	8.00	8.00	4.00	0.00	50.00	19.00	unk	45.00	0.00	0.00	0.80	7.60	unk	3237191.663	384621.990	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-009	MARION	REDDICK	tbd	22	14S	21E	29.255556000	-82.187500000	1974	4	2	unk	6.00	6.00	6.00	68.00	50.00	18.00	unk	45.00	0.00	0.00	0.80	7.60	unk	3236883.960	384618.872	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-010	MARION	REDDICK	tbd	22	14S	21E	29.259722000	-82.198611000	1974	4	2	unk	3.00	3.00	3.00	69.00	50.00	8.00	unk	45.00	0.00	0.00	0.80	7.60	unk	3237356.575	383543.941	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-011	MARION	MORRISTON	tbd	23	13S	19E	29.338889000	-82.388889000	1974	4	24	unk	6.00	6.00	6.00	105.00	45.00	37.00	0.00	50.00	0.00	0.24	0.24	7.10	unk	3246333.437	365158.994	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Williston Plain
36-012	MARION	OCALA EAST	tbd	4	15S	22E	29.216667000	-82.113889000	1974	6	27	unk	60.00	60.00	5.00	8.00	20.00	37.00	unk	45.00	0.00	1.30	6.10	21.00	unk	3232504.602	391730.713	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-013	MARION	BELLEVIEW	tbd	15	16S	22E	29.105556000	-82.095833000	1974	7	10	unk	10.00	10.00	8.00	30.00	15.00	71.00	unk	45.00	0.00	0.52	3.30	25.30	unk	3220176.451	393371.110	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-014	MARION	REDDICK	tbd	18	13S	21E	29.359722000	-82.247222000	1974	10	15	unk	6.00	6.00	6.00	12.00	65.00	40.00	unk	50.00	0.00	0.00	0.00	11.00	unk	3248486.885	378938.642	Florida Section	Ocala Uplift District	Marion Hills	Fairfield Hills
36-015	MARION	SHADY	tbd	12	17S	21E	29.026389000	-82.158333000	1975	1	29	unk	10.00	10.00	6.00	16.00	30.00	51.00	unk	45.00	0.00	0.00	0.54	4.70	unk	3211462.588	387203.015	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-017	MARION	OCALA EAST	tbd	6	14S	23E	29.222222000	-82.047222000	1976	9	6	unk	3.00	3.00	0.00	75.00	5.00	54.00	unk	40.00	0.00	0.96	3.50	20.50	unk	3233060.446	398216.589	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-018	MARION	REDDICK	tbd	22	14S	21E	29.263889000	-82.190278000	1976	5	23	unk	12.00	12.00	10.00	69.00	50.00	18.00	unk	45.00	0.00	1.40	2.10	18.30	unk	3237810.068	384358.313	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-019	MARION	LAKE PANASOFFKEE N	tbd	30	17S	22E	28.980556000	-82.133333000	1980	2	7	unk	4.00	4.00	8.00	60.00	35.00	47.00	unk	45.00	0

Table 2. Reported New Sinkholes in the St. Johns River Water Management District

FSRI_COD	COUNTY	QUADRANGLE	Z_4_SECTIO	SECTION	TOWNSHIP	RANGE	LATITUDE	LONGITUDE	YEAR	MONTH	DATE	TIME	LENGTH	WIDTH	DEPTH	LAND_ELEV	LS_ELEV	COVER_THI	WT_ELEV	POT_SUR_E	HEAD_DIFF	Z4_HR_RAI	Z_DYS_RAI	Z0_DYS_RA	COMMENTS	NORTHING_UTM	EASTING_UTM	ISP_SECTIO	DISTRICT	SUBDISTRIC	SUBDIVISIO
36-512	MARION	BELLEVIEW	SW	30	16S	23E	29.066667000	-82.050000000	1982	3	27	unk	5.00	3.00	10.00	5.00	20.00	80.00	unk	47.00	0.00	0.00	1.19	12.43	unk	3215826.795	397792.718	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-513	MARION	OCALA WEST	NE	10	15S	21E	29.208056000	-82.186944000	1981	8	26	unk	12.00	3.00	8.00	35.00	30.00	35.00	unk	42.00	0.00	0.06	1.36	21.75	unk	3231620.053	384619.646	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-514	MARION	OCALA WEST	NE	10	15S	21E	29.208611000	-82.186944000	1981	8	26	unk	6.00	6.00	4.00	8.00	30.00	34.00	unk	42.00	0.00	0.06	1.36	21.75	unk	3231681.546	384620.268	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-515	MARION	OCALA EAST	SE	36	15S	22E	29.138889000	-82.053611000	1981	8	24	unk	8.00	8.00	25.00	32.00	23.00	42.00	unk	42.00	0.00	0.00	1.30	22.70	unk	3223832.372	397512.785	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-516	MARION	OCALA WEST	SW	23	15S	21E	29.164722000	-82.178889000	1981	7	22	unk	27.00	27.00	12.00	75.00	22.00	56.00	unk	42.00	0.00	0.88	8.21	17.15	unk	3226810.441	385354.532	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-517	MARION	MCINTOSH	SW	35	12S	21E	29.398333000	-82.181111000	1983	8	21	unk	3.00	3.00	3.00	2.00	51.00	54.00	unk	55.00	0.00	0.00	0.00	23.00	unk	3252698.690	385399.457	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-518	MARION	MCINTOSH	SW	35	12S	21E	29.399167000	-82.180833000	1983	8	15	unk	8.00	8.00	8.00	122.00	50.00	53.00	unk	55.00	0.00	0.00	1.28	23.76	unk	3252790.824	385427.368	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-519	MARION	MCINTOSH	SE	35	12S	21E	29.398889000	-82.178889000	1980	8	15	unk	10.00	10.00	7.00	35.00	51.00	51.00	unk	52.00	0.00	0.00	0.47	14.03	unk	3252758.122	385615.696	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-520	MARION	ANTHONY	NE	20	14S	22E	29.260833000	-82.121389000	1980	7	5	unk	10.00	10.00	10.00	23.00	53.00	unk	unk	44.00	0.00	0.00	0.13	10.76	unk	3237405.419	391048.462	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-521	MARION	ANTHONY	SW	22	14S	22E	29.259167000	-82.130833000	1983	10	12	unk	12.00	11.00	18.50	50.00	22.00	68.00	unk	46.00	0.00	0.00	4.21	16.58	unk	3237201.889	393044.031	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-522	MARION	OCALA EAST	NE	16	15S	22E	29.189722000	-82.112500000	0	0	unk	unk	30.00	30.00	20.00	0.00	20.00	97.00	0.00	0.00	0.00	0.00	0.00	0.00	unk	3229517.649	391837.447	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-523	MARION	OCALA WEST	tbd	10	15S	21E	29.208333000	-82.186111000	1982	4	9	unk	8.00	15.00	10.00	70.00	50.00	25.00	unk	45.00	0.00	0.04	11.76	24.11	unk	3231649.910	384700.943	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-524	MARION	OCALA WEST	NW	24	15S	21E	29.175000000	-82.166667000	1982	4	9	unk	40.00	40.00	10.00	87.00	50.00	25.00	unk	45.00	0.00	0.04	11.76	24.11	unk	3227937.468	386554.496	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-525	MARION	CITRA	SW	28	12S	22E	29.412500000	-82.116667000	1984	0	unk	unk	0.00	0.00	0.00	0.00	25.00	50.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3254206.973	391667.768	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-526	MARION	OCALA WEST	NW	37	15S	22E	29.183333000	-82.133333000	1984	3	16	unk	2.00	2.00	2.00	40.00	100.00	25.00	unk	48.00	0.00	0.00	0.16	5.42	unk	3228829.073	389804.992	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-527	MARION	unk	tbd	0	unk	unk	0.000000000	0.000000000	1982	2	19	unk	20.00	20.00	100.00	113.00	0.00	0.00	unk	0.00	0.00	0.00	3.19	9.90	unk	UNK	UNK	UNK	UNK	UNK	UNK
36-528	MARION	CITRA	tbd	28	12S	22E	29.413889000	-82.113889000	1975	2	11	unk	15.00	15.00	8.00	125.00	0.00	75.00	unk	50.00	0.00	0.00	0.10	5.70	unk	3254358.296	391938.756	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-529	MARION	OCALA WEST	tbd	37	15S	22E	29.196667000	-82.131944000	1985	6	18	unk	30.00	30.00	30.00	10.00	20.00	105.00	unk	41.00	0.00	0.00	4.69	5.66	unk	3230305.261	389954.296	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-530	MARION	OCALA WEST	tbd	17	15S	22E	29.183889000	-82.131944000	1985	6	18	unk	15.00	15.00	4.00	68.00	20.00	50.00	unk	41.00	0.00	0.00	4.69	5.66	unk	3228889.381	389940.652	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-531	MARION	OCALA WEST	tbd	37	15S	22E	29.196667000	-82.131944000	1985	8	18	unk	30.00	30.00	10.00	80.00	20.00	105.00	unk	42.00	0.00	0.01	3.88	10.30	unk	3230305.261	389954.296	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-532	MARION	REDDICK	tbd	23	14S	21E	29.266667000	-82.183333000	1981	6	unk	unk	9.00	9.00	16.00	85.00	50.00	20.00	unk	42.00	0.00	0.00	0.00	0.00	unk	3238111.056	385036.217	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-533	MARION	OCALA EAST	tbd	0	15S	22E	29.183333000	-82.086667000	1981	7	18	unk	6.00	6.00	22.00	20.00	20.00	60.00	unk	42.00	0.00	0.88	8.20	17.15	unk	3228786.203	394342.667	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-534	MARION	OCALA WEST	SE	23	15S	21E	29.164722000	-82.178889000	1981	7	18	unk	22.00	22.00	10.00	42.00	22.00	53.00	unk	42.00	0.00	0.88	8.20	17.15	unk	3226810.441	385354.532	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-535	MARION	OCALA WEST	SE	23	15S	21E	29.164722000	-82.178889000	1981	7	18	unk	8.00	8.00	4.00	80.00	22.00	53.00	unk	42.00	0.00	0.88	8.20	17.15	unk	3226810.441	385354.532	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-536	MARION	unk	tbd	0	unk	unk	0.000000000	0.000000000	1981	7	28	unk	6.00	6.00	20.00	100.00	0.00	0.00	unk	0.00	0.00	0.00	2.02	10.73	unk	UNK	UNK	UNK	UNK	UNK	UNK
36-537	MARION	COTTON PLANT	tbd	27	14S	20E	29.245833000	-82.291667000	1982	4	22	unk	80.00	80.00	60.00	65.00	100.00	50.00	unk	46.00	0.00	0.00	0.00	18.18	unk	3235913.590	374484.952	Florida Section	Ocala Uplift District	Marion Hills	Fairfield Hills
36-538	MARION	OCALA WEST	tbd	18	15S	21E	29.193056000	-82.140278000	1985	9	30	unk	5.00	5.00	0.00	20.00	50.00	25.00	46.00	46.00	0.00	0.00	1.06	12.00	unk	3229912.974	389140.137	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-539	MARION	OCALA WEST	SW	8	15S	22E	29.196667000	-82.135278000	1981	6	18	unk	0.00	0.00	0.00	93.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	3.45	unk	3230308.390	389630.144	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-540	MARION	OCALA EAST	SW	34	15S	22E	29.136389000	-82.101389000	1985	12	9	unk	0.00	0.00	5.00	150.00	50.00	35.00	44.00	44.00	0.00	0.00	0.12	10.86	unk	3223597.919	392862.420	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-541	MARION	OCALA WEST	tbd	10	15S	21E	29.207778000	-82.200000000	1986	12	10	unk	1.50	1.50	0.00	145.00	45.00	0.00	45.00	44.00	1.00	0.00	0.05	4.65	unk	3231602.139	383350.086	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-542	MARION	COTTON PLANT	SE	15	15S	20E	29.179444000	-82.295000000	0	0	unk	unk	5.00	5.00	0.00	79.00	40.00	45.00	48.00	44.00	4.00	0.00	0.00	0.00	unk	3228560.605	374079.890	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-543	MARION	OCALA EAST	tbd	16	15S	22E	29.192222000	-82.111944000	1987	1	15	unk	0.00	0.00	0.00	0.00	80.00	26.00	48.00	43.00	5.00	0.00	0.17	3.93	unk	3229794.158	391894.126	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-544	MARION	OCALA EAST	SE	20	15S	22E	29.171111000	-82.125000000	1986	2	19	unk	0.00	0.00	0.00	80.00	85.00	32.00	48.00	43.00	5.00	0.00	0.46	3.08	unk	3227467.021	390602.311	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-545	MARION	OCALA EAST	NE	22	15S	22E	29.181944000	-82.088333000	1986	7	15	unk	0.00	0.00	0.00	71.00	65.00	27.00	48.00	42.00	6.00	0.00	0.23	7.31	unk	3228633.808	394179.242	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-546	MARION	OCALA EAST	SE	28	15S	22E	29.151944000	-82.105556000	1986	12	unk	unk	0.00	0.00	0.00	70.00	100.00	46.90	48.00	44.00	4.00	0.00	0.00	0.00	unk	3225325.278	392473.247	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-547	MARION	OCALA EAST	SE	14	15S	22E	29.191111000	-82.055556000	1981	7	17	unk	0.00	0.00	0.00	65.00	50.00	0.00	80.00	48.00	37.00	11.00	2.57	4.90	8.92	unk	3229620.471	397375.535	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-548	MARION	OCALA EAST	SE	14	15S	22E	29.191111000	-82.055556000	1985	1	9	unk	0.00	0.00	0.00	150.00	0.00	80.00	48.00	37.00	11.00	0.00	0.46	0.46	unk	3229620.471	397375.535	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-549	MARION	OCALA EAST	SE	14	15S	22E	29.191111000	-82.055556000	1986	9	17	unk	0.00	0.00	0.00	105.00	0.00	80.00	48.00	37.00	11.00	0.00	0.34	3.00	unk	3229620.471	397375.535	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-550	MARION	OCALA WEST	NE	7	15S	22E	29.208056000	-82.136944000	1987	9	28	unk	8.00	5.00	0.00	15.00	45.00	11.00	44.00	42.00	2.00	0.00	0.12	4.69	unk	3231571.943	389480.388	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-551	MARION	BELLEVIEW	SE	3	17S	22E	29.025000000	-82.091667000	1980	3	12	1800	1.20	2.40	7.00	20.00	15.00	65.00	70.00	60.00	10.00	0.00	0.00	10.28	unk	3211246.812	393693.874	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-552	MARION	BELLEVIEW	NE	22	16S	22E	29.085556000	-82.088889000	1989	12	20	1800	10.00	9.00	10.00	20.00	50.00	13.00	45.00	45.00	0.00	0.25	2.78	10.37	unk	3217954.103	394026.351	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-553	MARION	LADY LAKE	SE	19	17S	24E	28.990278000	-81.939722000	1990	1	2	1400	7.00	7.00	14.00	106.00	-75.00	190.00	60.00	49.00	11.00	0.00	0.10	6.82	unk	3207272.357	408460.383	Florida Section	Central Lake District	Central Lakes	unk
36-554	MARION	OCALA EAST	NW	4	15S	22E	29.220556000	-82.118611000	1990	6	27	1930	2.00	2.00	3.00	9.00	62.00	2.00	45.00	45.00	0.00	0.00	3.79	13.53	unk	3232939.886	391275.819	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-555	MARION	COTTON PLANT	SE	30	14S	20E	29.241111000	-82.337500000	1990	2	11	unk	2.00	1.00	8.00	20.00	50.00	12.00	43.00	43.00	0.00	0.00	0.12	1.40	9.28	unk	3235440.275	370024.848	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Williston Plain
36-556	MARION	ROMEO	tbd	23	15S	19E	29.171111000	-82.375833000	1990	2	5	1630	50.00	30.00	5.00	40.00	25.00	75.00	50.00	38.00	12.00	0.00	0.00	8.47	unk	3227726.550	366208.453	Florida Section	Ocala Uplift District	Newberry Sand Hills	unk
36-557	MARION	OCALA EAST	SW	10	15S	22E	29.200833000	-82.095278000	1988	6	29	unk	5.00	5.00	0.00	130.00	15.00	57.00	44.00	44.00	0.00	0.00	2.74	10.71	unk	3230733.072	393523.442	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-558	MARION	ANTHONY	SE	9	14S	22E	29.289722000	-82.113333000	1988	6	28	unk	35.00	35.00	20.00	75.00	57.00	20.00	48.00	48.00	0.00	0.92	2.74	6.96	unk	3240599.075	391861.637	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-559	MARION	LADY LAKE	SW	23	17S	23E	28.991667000	-81.981944000	1988	11	15	unk	20.00	20.00	12.00	45.00	25.00	50.00	52.00	52.00	0.00	0.00	0.00	15.03	unk	3207459.677	404348.549	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-561	MARION	CITRA	tbd	33	12S	22E	29.408056000	-82.118056000	1990	8	19	unk	3.00	3.00	1.50	55.00	25.00	65.00	58.00	58.00	0.00	0.00	0.60	14.26	unk	3253715.816	391528.284	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-562	MARION	COTTON PLANT	NW	29	15S	19E	29.151944000	-82.417500000	1990	2	17	1820	15.00	10.00	0.00	63.00	45.00	5.00	43.00	33.00	10.00	0.16	0.28	9.40	unk	3225650.772	362130.553	Florida Section	Ocala Uplift District	Newberry Sand Hills	unk
36-563	MARION	ROMEO	NW	23	17S	21E	28.998056000	-82.180833000	1990	7	25	unk	4.50	4.50	2.50	12.00	50.00	20.00	55.00	43.00	12.00	0.03	0.83	13.51	unk	3208344.865	384980.442	Florida Section	Ocala Uplift District	Newberry Sand Hills	unk
36-569	MARION	DUNNELLON SE	NW	25	16S	20E	29.071111000	-82.267222000	1990	6	19	unk	3.00	2.00	3.00	150.00	50.00	42.00	50.00	43.00	7.00	0.00	1.00	9.74	unk	3216527.005	376651.887	Florida Section	Ocala Uplift District	Newberry Sand Hills	unk
36-570	MARION	LAKE WEIR	tbd	15	17S	23E	29.007500000	-81.988333000	1990	6	28	unk	5.00	6.00	20.00	44.00	25.00	78.00	57.00	45.00	12.00	0.00	3.79	13.53	unk	3209219.167	403740.833	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-572	MARION	OCALA WEST	SE	16	15S	21E	29.185000000	-82.205833000	1991	1	12	unk	50.00	33.00	12.70	150.00	75.00	5.00	50.00	42.00	8.00	0.07	1.55	4.26	unk	3229083.968	382757.112	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-573	MARION	DUNNELLON	SE	12	16S	19E	29.103333000	-82.437500000	1990	10	3	1500	1.00	1.00	9.00	40.00	40.00	0.00	35.00	40.00	-5.00	0.00	0.71	8.44	2 sinks in SW quadrat	3220287.718	380119.286	Florida Section	Ocala Uplift District	Tsala Apopka Basin	unk
36-703	MARION	OCALA WEST	tbd	31	14S	21E	29.247222000	-82.243056000	1978	2	6	unk	5.00	4.00	6.00	117.00	0.00	0.00	unk	0.00	0.00	0.00	0.91	5.03	unk	3236016.454	379210.664	Florida Section	Ocala Uplift District	Marion Hills	Fairfield Hills
36-718	MARION	unk	tbd	22	17S	21E	0.000000000	0.000000000	1994	5	5	unk	7.00	8.00	0.00	113.00	70.00	70.00	0.00	0.00	0.00	0.00	0.78	1.70	unk	UNK	UNK	UNK	UNK	UNK	UNK
36-719	MARION	Shady	NW	19	16S	21E	29.091111000	-82.247222000	1996	1	26	unk	0.00	0.00	15.00	0.00	0.00	0.00	64	0.00	0.00	0.00	0.19	7.16	unk	3218722.387	378622.248	Florida Section	Ocala Uplift District	Newberry Sand Hills	unk
36-720	MARION	Reddick	SE	22	14	21	29.254444000	-82.190277000	1993	3	29	unk	8.00	8.00	5.00	0.00	50.00	22.00	71.00	0.00	0.00	0.00	0.40	14.80	In median 1,135 ft. no	3236763.474	384347.789	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-721	MARION	Ocala West	SW	2	15	21	29.211606000	-82.184386000	1995	5	13	unk	10.00	50.00	37.00	120.00	37.00	35.00	62.00	43.00	19.00	3.20	3.20	11.77	fgs36-101	3232010.906	384872.293	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-722	MARION	Shady	NW	11	16	21	29.117194000	-82.184750000	1995	5	16	unk	5.00	5.00	5.00	70.00	25.00	86.00	110.00	43.00	67.00	0.00	3.20	11.77	fgs36-102	3221549.784	384731.473	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-723	MARION	unk	tbd	0	unk	unk	0.000000000	0.000000000	1995	6	20	unk	30.00	30.00	20.00	0.00	0.00	0.00	unk	0.00	0.00	0.00	0.91	4.77	unk	UNK	UNK	UNK	UNK	UNK	UNK
36-724	MARION	Belleview	NE	11	17	22	29.026040000	-82.070870000	1995	9	12	8:45	8.00	8.00	8.00	84.00	30.00	45.00	67.00	50.00	17.00	0.00	0.00	22.49	fgs 36-103	3211343.511	395720.252	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-725	MARION	Ocala West	NE	26	15	21	29.162789000	-82.172101000	1995	10	10	unk	0.00	0.00	0.00	7.00	22.00	58.00	67.00	44.00	23.00	0.60	4.50	25.60	fgs36-104	3226589.657	386012.573	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-726	MARION	Ocala West	NW	24	15	21	29.172652000	-82.168442000	1995	10	11	unk	0.00	0.00	0.00	65.00	20.00	55.00	67.00	44.00	23.00	1.60	6.10	27.20	fgs 36-105	3227678.999	386379.298	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-727	MARION	Ocala West	SW	24	15	21	29.166197000	-82.168621000	1995	10	11	unk	0.00	0.00	0.00	65.00	20.00	58.00	68.00	44.00	24.00	1.60	6.10	27.20	fgs 36-106	3226963.922	386354.782	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-728	MARION	Ocala West	NW	35	15	21	29.145740000	-82.185320000	1995	10	11	0:30	15.00	15.00	10.00	75.00	25.00	57.00	75.00	45.00	30.00	1.60	6.10	27.20	fgs 36-107	3224713.406	384707.872	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-729	MARION	Ocala West	NW	14	15	21	29.190710000	-82.184490000	1995	10	13	unk	10.00	10.00	5.00	190.00	30.00	45.00	73.00	44.00	29.00	2.80	7.00	29.90	fgs 36-108	3229695.568	384838.831	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-730	MARION	Shady	NE	15	16	21	29.105970000	-82.188460000	1995	10	13	unk	0.00	0.00	0.00	7.00	28.00	57.00	unk	46.00	0.00	2.80	7.00	29.90	fgs 36-109	3220309.722	384357.937	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-731	MARION	Ocala West	SW	3	15	21	29.213850000	-82.200500000	1995	10	13	unk	0.00	0.00	0.00	75.00	38.00	27.00	unk	45.00	0.00	2.80	7.00	29.90	fgs 36-110	3232275.464	383308.360	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-732	MARION	Ocala West	NE	24	15	21	29.176270000	-82.157220000	1995	10	13	unk	0.00	0.00	0.00	85.00	17.00	48.00	unk	44.00	0.00	2.80	7.00	29.90	fgs 36-111	3228069.107	387474.565	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-733	MARION	Ocala East	NE	17	15	22	29.189610000	-82.124680000	1995	10	13	unk	0.00	0.00	0.00	65.00	15.00	113.00	unk	43.00	0.00	2.80	7.00	29.90	fgs 36-112	3229516.533	390653.046	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-734	MARION	Fairfield	NW	36	13	19	29.314444000	-82.365000000	1996	4	18	unk	5.00	5.00	2.50	63.00	50.00	20.00	68	49.00	20.00	1.00	1.00	13.15	2.77 mi. north of inters	3243597.283	367446.888	Florida Section	Ocala Uplift District	Marion Hills	Fairfield Hills
36-735	MARION	Reddick	SE	22	14	21	29.254444000	-82.189999000	1996	8	20	unk	11.00	11.00	7.00	45.00	50.00	23.00	69.00	46.00	23.00	0.00	2.54	28.76	South of SR 326 near	3236763.199	384374.793	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-736	MARION	Lake Panasoffee NW	SE	32	17	22	28.963888000	-82.125833000	1997	2	13	unk	10.00	10.00	11.00	10.00	30.00	36.00	58.00	44.00	14.00	0.00	3.20	6.60	200 ft. north Mile Marl	3204506.672	390302.074	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-737	MARION	Ocala West	SW	31	14	22	29.226388000	-82.148333000	1997	2	19	unk	3.00	3.00	3.00	52.00	25.00	35.00	58.00	42.00	8.00	0.00	0.11	6.71	1000 ft. North of 35th	3233614.031	388393.091	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-738	MARION	Shady	NE	12	17	21	29.026666700	-82.158333300	1997	12	29	unk	20.00	20.00	6.00	91.00	30.00	55.00	60	44.00	16.00	0.00	3.31	19.53	Southbound exit ramp	3211493.357	387203.286	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-739	MARION	Ocala West	SW	2	16	21	29.125833000	-82.184721000	1998	2	26	unk	9.00	9.00	5.00	13.00	25.00	60.00	75.00	52.00	23.00	0.00	2.29	22.29	fgs 36-050	3222506.998	384743.932	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-740	MARION	McIntosh	SE	5	13	22	29.384721000	-82.126667000	1998	6	16	unk	5.00	5.00	15.00	71.00	45.00	25.00	61.00	55.00	6.00	0.00	0.00	1.22	Northbound outside tr	3251138.130	390667.843	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-741	MARION	Shady	SE	12	17	21	29.024721000	-82.157777000	1998	10	9	unk	15.00	15.00	10.00	50.00	30.00	75.00	58.00	45.00	13.00	0.00	0.00	25.33	fgs 36-074	3211277.229	387255.351	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-742	MARION	Ocala East	SW	30	15	23	29.154722000	-82.053611000	1999	1	26	unk	18.00	18.00	14.00	2.00	5.00	81.00	55.00	42.00	13.00	0.00	3.92	8.60	1 mi. N CR 464, 23' N	3225586.707	397528.499	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-743	MARION	Shady	SE	10	16	21	29.111944000	-82.185277000	1999	1	26	unk	8.00	8.00	10.00	22.00	25.00	45.00	unk	45.00	unk	0.00	3.92	8.60	1 mi. north of rest are	3220968.562	384674.340	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-744	MARION	Ocala West	NW	11	15	21	29.205555000	-82.184444000	1999	3	1	unk	2.00	2.00	5.00	35.00	35.00	35.00	50.00	45.00	5.00	0.00	0.60	7.70	220' S. of US 27, 27' V	3231340.455	384859.894	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-745	MARION	Ocala West	SW	2	15	21	29.211944000	-82.184444000	1999	4	5	unk	3.00	3.00	2.50

Table 2. Reported New Sinkholes in the St. Johns River Water Management District

FSRI_COD	COUNTY	QUADRANGLE	Z_4_SECTIO	SECTION	TOWNSHIP	RANGE	LATITUDE	LONGITUDE	YEAR	MONTH	DATE	TIME	LENGTH	WIDTH	DEPTH	LAND_ELEV	LS_ELEV	COVER_THI	WT_ELEV	POT_SUR_E	HEAD_DIFF	Z4_HR_RAI	Z_DYS_RAI	Z0_DYS_RA	COMMENTS	NORTHING_UTM	EASTING_UTM	ISP_SECTIO	DISTRICT	SUBDISTRIC	SUBDIVISIO
36-784	Marion	OCALA EAST	SW	11	15S	22E	29.197777800	-82.086666700	1982	4	8	unk	8.00	8.00	unk	70.00	unk	unk	65	unk	unk	11.72	11.72	14.37	NEC SR40 & NE36th,	3230386.758	394357.500	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-785	Marion	OCALA EAST	SW	11	15S	22E	29.197777800	-82.086666700	1982	4	8	unk	35.00	35.00	unk	70.00	unk	unk	65	unk	unk	11.72	11.72	14.37	North EOP, 100' east	3230386.758	394357.500	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-786	Marion	OCALA EAST	SW	11	15S	22E	29.197777800	-82.086666700	1982	4	8	unk	5.00	5.00	2.00	70.00	unk	unk	65	unk	unk	11.72	11.72	14.37	North shoulder, 185' e	3230386.758	394357.500	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-787	Marion	SHADY	SE	12	17S	21E	29.018055600	-82.155000000	1997	3	24	unk	30.00	30.00	7.00	65.00	unk	unk	48	unk	unk	unk	unk	unk	2900' south of CR 484	3210536.027	387518.572	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-788	Marion	OCALA EAST	SE	13	15S	22E	29.180555600	-82.053611100	2001	12	12	unk	3.00	3.00	5.00	140.00	unk	unk	74	unk	unk	unk	unk	unk	1320' South Fort King	3228449.187	397554.146	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-789	Marion	OCALA WEST	SE	15	15S	21E	29.185833300	-82.185000000	1981	7	24	unk	4.00	4.00	3.00	140.00	unk	unk	NVONMAP	unk	unk	0.01	5.58	10.62	Toe of southern I-75 a	3229155.689	384783.789	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-790	Marion	Shady	NW	19	16S	21E	29.087222200	-82.248888900	2001	3	22	unk	4.00	4.00	12.00	67.00	unk	unk	64	unk	unk	unk	unk	unk	Country Side Farms,	3218293.184	378455.448	Florida Section	Ocala Uplift District	Newberry Sand Hills	unk
36-791	Marion	LAKE PANASOFFKEE N	SE	19	17S	22E	28.991944400	-82.143611100	1993	11	18	unk	3.00	3.00	12.00	65.00	unk	unk	48	unk	unk	unk	unk	unk	In grass area along fe	3207632.029	388599.768	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-792	Marion	LAKE PANASOFFKEE N	SE	19	17S	22E	28.993611100	-82.144444400	1993	11	18	unk	5.00	5.00	3.00	95.00	unk	unk	48	unk	unk	unk	unk	unk	In grass area along fe	3207817.499	388520.380	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-793	Marion	LAKE PANASOFFKEE N	SE	19	17S	22E	28.990833300	-82.141944400	2001	7	25	unk	37.00	37.00	10.00	70.00	unk	unk	48	unk	unk	unk	unk	unk	In ditch 29' EOP MP 3	3207036.336	388760.947	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-794	Marion	JUNIPER SPRINGS	SE	20	15S	26E	29.178055600	-81.711388900	1984	4	18	unk	6.00	6.00	4.00	40.00	unk	unk	24 OR 38?	unk	unk	0.00	0.00	5.00	100 yds. E. of park en	3227922.265	430828.909	Florida Section	Central Lake District	Ocala Scrub	unk
36-795	Marion	OCALA EAST	SW	22	15S	22E	29.168055600	-82.099444400	1989	1	9	unk	6.00	6.00	6.00	65.00	unk	unk	48?	unk	unk	unk	unk	unk	In roadside drainage	3227104.945	393084.393	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-796	Marion	OCALA EAST	SW	22	15S	22E	29.169444400	-82.101111100	1989	7	3	unk	5.00	5.00	6.00	65.00	unk	unk	48?	unk	unk	unk	unk	unk	In roadside drainage	3227260.356	392923.743	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-797	Marion	MORRISTON	NW	23	13S	19E	29.341111100	-82.388333300	2003	3	5	unk	3.00	3.00	4.00	73.00	unk	unk	56	unk	unk	unk	unk	unk	Sta. 27+97, 6.55 mete	3246579.042	365215.874	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Williston Plain
36-797	Marion	MORRISTON	NW	23	13S	19E	29.341111100	-82.388333300	2003	3	5	unk	3.00	3.00	4.00	73.00	unk	unk	56	unk	unk	unk	unk	unk	Sta. 27+97, 6.55	3246579.042	365215.874	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Williston Plain
36-798	Marion	BELLEVIEW	SE	23	16S	22E	29.078888900	-82.076111100	1988	7	19	unk	1.00	1.00	14.00	65.00	unk	unk	56	unk	unk	unk	unk	unk	In roadside ditch near	3217203.942	395263.264	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-799	Marion	LADY LAKE	SW	26	17S	23E	28.976111100	-81.981944400	2002	2	20	unk	4.00	4.00	4.00	60.00	unk	unk	NVONMAP	unk	unk	unk	unk	unk	Southbound, 0.5 miles	3205736.102	404334.197	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-800	Marion	LAKE PANASOFFKEE	NE	30	17S	22E	28.985555600	-82.139166700	2000	6	20	unk	9.00	9.00	5.00	65.00	unk	unk	51	unk	unk	unk	unk	unk	WIM Sta. ditch, 2mi. N	3206919.951	389025.912	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-801	Marion	OCALA EAST	NW	30	15S	23E	29.158333300	-82.053888900	2002	3	5	unk	6.00	6.00	6.00	105.00	unk	unk	NVONMAP	unk	unk	unk	unk	unk	575 feet south of Bany	3225987.113	397505.056	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-802	Marion	LAKE PANASOFFKEE N	NE	30	17S	22E	28.988333300	-82.140555600	1980	2	7	unk	7.00	7.00	3.00	145.00	unk	unk	51	unk	unk	0.00	0.00	5.44	~1500' south of Wildw	3207229.039	388893.567	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-803	Marion	OCALA EAST	SW	31	15S	23E	29.138333300	-82.053611100	2000	1	24	unk	5.00	5.00	3.00	65.00	unk	unk	NVONMAP	unk	unk	unk	unk	unk	unk	3223770.787	397512.223	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-804	Marion	LAKE PANASOFFKEE N	SE	32	17S	22E	28.965277800	-82.126944400	1988	4	11	unk	3.00	3.00	3.00	80.00	unk	unk	49	unk	unk	unk	unk	unk	0.42 miles north of Su	3204661.712	390195.242	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-805	Marion	LAKE PANASOFFKEE N	SE	32	17S	22E	28.966111100	-82.126944400	1988	4	11	unk	2.00	2.00	5.00	unk	unk	unk	49	unk	unk	unk	unk	unk	0.49 miles north of Su	3204754.042	390196.122	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-806	Marion	LAKE PANASOFFKEE N	SE	32	17S	22E	28.963333300	-82.126111100	1989	2	2	unk	3.00	3.00	3.00	85.00	unk	unk	49	unk	unk	unk	unk	unk	1,600 ft. north of Mari	3204445.488	390274.389	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-807	Marion	LAKE PANASOFFKEE N	SE	32	17S	22E	28.965000000	-82.126666700	1989	2	2	unk	5.00	5.00	5.00	84.00	unk	unk	49	unk	unk	unk	unk	unk	2,084 ft. north of Mari	3204630.662	390222.008	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-808	Marion	LAKE PANASOFFKEE N	tbd	32	17S	22E	28.964722200	-82.126388900	1998	2	26	unk	1.00	1.00	8.00	65.00	unk	unk	unk	unk	unk	unk	unk	unk	1945' north of Marion/	3204599.636	390248.784	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-809	Marion	CITRA	NE	33	12S	22E	29.411111100	-82.110277800	1984	4	19	unk	5.00	5.00	5.00	0.00	unk	unk	55	unk	unk	0.00	0.25	4.87	Station 799+20, 15 fe	3254047.156	392286.181	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-810	Marion	OCALA WEST	SW	34	15S	21E	29.139444400	-82.193333300	2001	3	15	unk	4.00	4.00	15.00	70.00	unk	unk	55	unk	unk	unk	unk	unk	Bonnie Heath Farms,	3224023.704	383921.308	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-811	Marion	COTTON PLANT	NE	36	14S	20E	29.231111100	-82.263611100	2004	9	24	unk	1.00	1.00	3.00	65.00	unk	unk	134	unk	unk	unk	unk	unk	Station 647+50, 66.5	3234252.561	377193.891	Florida Section	Ocala Uplift District	Marion Hills	Fairfield Hills
36-812	Marion	Ocala East	NE	36	15S	22E	29.145277800	-82.053888900	2001	8	16	unk	8.00	8.00	4.00	120.00	unk	unk	74	unk	unk	unk	unk	unk	528' south of SE 41st,	3224540.516	397492.093	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-813	Marion	Ocala East	SE	36	15S	22E	29.140833300	-82.053611100	2002	7	26	unk	50.00	50.00	0.00	75.00	unk	unk	74	unk	unk	unk	unk	unk	556 feet north of SR 4	3224047.803	397514.704	Florida Section	Ocala Uplift District	Marion Hills	Anthony Hills
36-814	MARION	MCINTOSH	NE	2	13S	21E	29.389547000	-82.180578000	2003	2	10	unk	3.00	2.00	3.00	95.00	unk	unk	57	unk	unk	unk	unk	unk	SEI GPR PER SJRW	3251724.591	385441.336	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-815	MARION	Ocala Wes	SW	4	15S	21E	29.214700000	-82.216000000	2003	3	10	unk	50.00	40.00	unk	75.00	unk	unk	unk	unk	unk	unk	unk	unk	13th Hole, Ocala	3232385.154	381802.584	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-816	MARION	BELLEVIEW	SW	6	17S	23E	29.039250000	-82.051183000	2003	7	15	PM	5.00	5.00	10.00	80.00	77.00	unk	48	unk	unk	unk	unk	unk	SEI SITE VISIT, NAD	3212789.977	397650.493	Florida Section	Ocala Uplift District	Marion Hills	Ocala Hills
36-817	MARION	Ocala West	NE	35	15S	21E	29.144994000	-82.173561700	2003	4	20	unk	41.00	27.00	20.00	70.00	unk	unk	unk	unk	unk	unk	unk	unk	sei SITE VISIT, MCC	3224619.278	385850.831	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
36-818	MARION	OCALA WEST	NE	7	14S	21E	29.226637000	-82.142040000	2004	7	unk	unk	4.00	4.00	8.00	unk	60.00	unk	unk	unk	unk	unk	unk	unk	STAR BANNER OCA	3231419.497	388983.453	Florida Section	Ocala Uplift District	Marion Hills	Kendrick Hills
75-001	ORANGE	ORLANDO WEST	tbd	19	22S	29E	28.563889000	-81.447222000	1967	10	20	2330	15.00	15.00	5.00	55.00	-25.00	140.00	87.00	55.00	32.00	0.00	0.11	15.60	unk	3159751.441	456258.786	Florida Section	Central Lake District	Orlando Promontory	unk
75-002	ORANGE	ORLANDO WEST	SE	6	22S	29E	28.600000000	-81.447778000	1998	4	25	999	8.00	0.00	4.00	67.00	0.00	0.00	86.00	0.00	0.00	0.00	0.12	0.24	unk	3163752.252	456219.363	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-008	ORANGE	ORLANDO W	tbd	7	-22	29	28.595560000	-81.454720000	1981	5	6	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3163262.925	455538.746	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-011	ORANGE	WINTER GA	tbd	8	-22	28	28.585280000	-81.529720000	1986	5	29	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3162154.177	448200.311	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-015	ORANGE	OVIEDO SW	tbd	6	-22	31	28.601670000	-81.248330000	1997	4	0	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3163880.555	475720.487	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chulu	unk
75-029	ORANGE	FOREST CI	tbd	27	-21	29	28.636390000	-81.396390000	2001	5	21	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3167766.055	461257.132	Florida Section	Central Lake District	Orlando Promontory	unk
75-500	ORANGE	ORLANDO EAST	tbd	7	22S	30E	28.593333000	-81.360000000	1981	5	8	unk	350.00	350.00	107.00	0.00	-80.00	173.00	85.00	48.00	37.00	0.00	0.00	3.44	unk	3162986.680	464799.537	Florida Section	Central Lake District	Orlando Promontory	unk
75-501	ORANGE	WINDERMERE	tbd	17	23S	28E	28.492500000	-81.527778000	1981	5	14	unk	35.00	35.00	10.00	81.00	-25.00	125.00	95.00	70.00	25.00	0.00	0.00	3.30	unk	3151874.572	448344.979	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-502	ORANGE	FOREST CITY	tbd	2	21S	28E	28.691667000	-81.483333000	1979	1	4	unk	60.00	60.00	50.00	43.00	-10.00	95.00	68.00	48.00	20.00	0.00	1.56	6.40	unk	3173921.357	452784.068	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-503	ORANGE	ORLANDO WEST	tbd	1	22S	28E	28.491944000	-81.375278000	1982	1	22	unk	3.50	4.00	5.00	110.00	-10.00	117.00	86.00	48.00	38.00	0.00	3.40	10.79	unk	3151756.872	463270.503	Florida Section	Central Lake District	Orlando Promontory	unk
75-504	ORANGE	ORLANDO EAST	tbd	4	22S	30E	28.603611000	-81.315278000	1983	3	20	unk	4.00	4.00	17.00	92.00	-10.00	96.00	66.00	47.00	19.00	0.00	1.69	12.94	unk	3164111.008	469175.437	Florida Section	Eastern Flatwoods Distric	Holopaw-Indian Town Ridges and	unk
75-505	ORANGE	FOREST CITY	tbd	35	20S	28E	28.698889000	-81.487500000	1981	8	22	unk	20.00	12.00	30.00	16.00	-50.00	120.00	57.00	42.00	15.00	0.17	1.08	17.78	unk	3174723.124	452380.265	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-506	ORANGE	FOREST CITY	tbd	29	21S	28E	28.635278000	-81.441944000	1981	8	18	unk	2.00	1.50	11.00	65.00	-70.00	165.00	90.00	41.00	49.00	0.10	0.67	18.67	unk	3167658.478	456804.217	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-507	ORANGE	SORRENTO	tbd	4	20S	27E	28.776111000	-81.622222000	1983	10	21	unk	10.00	10.00	15.00	15.00	25.00	120.00	81.00	57.00	24.00	0.00	2.30	17.90	unk	3183339.803	439264.841	Florida Section	Central Lake District	Apopka Upland	Mt. Dora Ridge
75-508	ORANGE	SORRENTO	tbd	4	20S	27E	28.776111000	-81.622222000	1983	9	24	unk	70.00	70.00	15.00	15.00	25.00	123.00	81.00	57.00	24.00	0.00	2.30	17.90	unk	3183339.803	439264.841	Florida Section	Central Lake District	Apopka Upland	Mt. Dora Ridge
75-509	ORANGE	ORLANDO WEST	tbd	13	22S	28E	28.591111000	-81.471111000	1983	8	25	unk	7.00	7.00	5.00	3.00	-25.00	125.00	68.00	48.00	20.00	0.22	0.22	19.54	unk	3162776.230	453934.120	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-510	ORANGE	ORLANDO EAST	SE	12	22S	29E	28.583333000	-81.361389000	1981	5	8	unk	350.00	350.00	100.00	100.00	0.00	0.00	75.00	0.00	0.00	0.00	0.00	0.29	unk	3161877.238	464660.377	Florida Section	Central Lake District	Orlando Promontory	unk
75-511	ORANGE	PINE CASTLE	NE	25	23S	29E	28.461944000	-81.364444000	1977	5	12	unk	32.00	32.00	12.00	34.00	-51.00	150.00	84.00	45.00	39.00	0.00	0.78	3.78	unk	3148430.084	464320.785	Florida Section	Central Lake District	Orlando Promontory	unk
75-512	ORANGE	ORLANDO EAST	tbd	6	22S	30E	28.594444000	-81.372500000	1961	4	21	unk	35.00	35.00	0.00	38.00	-58.00	150.00	90.00	48.00	42.00	0.00	0.02	6.17	unk	3163111.500	463577.672	Florida Section	Central Lake District	Orlando Promontory	unk
75-513	ORANGE	FOREST CITY	tbd	25	21S	28E	28.628056000	-81.460833000	1964	11	15	unk	50.00	50.00	20.00	8.00	2.00	110.00	85.00	46.00	39.00	0.02	0.10	15.82	unk	3166865.335	454954.894	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-514	ORANGE	ORLANDO WEST	tbd	3	23S	29E	28.523333000	-81.399167000	1965	5	11	unk	10.00	10.00	0.00	60.00	-45.00	150.00	99.00	44.00	55.00	0.00	0.00	6.72	unk	3155241.834	460943.963	Florida Section	Central Lake District	Orlando Promontory	unk
75-515	ORANGE	FOREST CITY	tbd	28	21S	29E	28.634722000	-81.426667000	1965	5	18	unk	0.00	0.00	0.00	25.00	-36.00	122.00	84.00	30.00	54.00	0.00	0.00	6.53	unk	3167591.454	458297.192	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-517	ORANGE	LAKE JESSAMINE	tbd	27	23S	29E	28.478889000	-81.397778000	1967	5	14	unk	0.00	0.00	0.00	100.00	12.00	90.00	91.00	45.00	46.00	0.00	0.23	3.60	unk	3150317.662	461063.559	Florida Section	Central Lake District	Orlando Promontory	unk
75-518	ORANGE	ORLANDO WEST	tbd	19	22S	29E	28.590278000	-81.450278000	1967	10	21	unk	15.00	15.00	15.00	71.00	-51.00	142.00	80.00	59.00	21.00	0.00	0.11	14.70	unk	3162676.099	459570.876	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-519	ORANGE	ORLANDO WEST	tbd	11	23S	28E	28.506944000	-81.483333000	1969	7	23	unk	0.00	0.00	0.00	12.00	-24.00	168.00	91.00	46.00	45.00	0.01	1.57	12.56	unk	3153456.449	452701.428	Florida Section	Central Lake District	Dr. Phillips Ridge	unk
75-520	ORANGE	ORLANDO WEST	tbd	13	22S	28E	28.575278000	-81.465833000	1970	8	25	unk	20.00	20.00	25.00	7.00	-20.00	140.00	83.00	57.00	26.00	0.00	0.90	17.86	unk	3161020.125	454443.394	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-521	ORANGE	APOPKA	tbd	22	20S	27E	28.733333000	-81.597778000	1971	1	16	unk	40.00	40.00	70.00	50.00	5.00	80.00	68.00	45.00	23.00	0.00	0.00	4.17	unk	3178588.170	441627.082	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-522	ORANGE	FOREST CITY	tbd	12	21S	28E	28.696389000	-81.470833000	1968	6	18	unk	22.00	22.00	18.00	15.00	-43.00	128.00	75.00	45.00	30.00	0.26	3.77	16.80	unk	3174439.619	454007.249	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-523	ORANGE	ORLANDO EAST	tbd	17	22S	30E	28.570278000	-81.351111000	1984	4	28	unk	1.00	1.00	5.00	110.00	-50.00	150.00	unk	0.00	0.00	0.00	0.02	10.79	unk	3160427.936	465661.212	Florida Section	Central Lake District	Orlando Promontory	unk
75-524	ORANGE	FOREST CITY	tbd	3	21S	28E	28.712500000	-81.498611000	1984	4	1	unk	2.00	2.00	2.00	136.00	-25.00	85.00	63.00	45.00	18.00	0.00	0.50	6.59	unk	3176235.564	451301.213	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-525	ORANGE	FOREST CITY	NW	12	21S	28E	28.679167000	-81.473333000	1963	2	16	unk	0.00	0.00	0.00	100.00	-40.00	140.00	66.00	46.00	20.00	0.38	1.96	5.49	unk	3172532.588	453755.471	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-526	ORANGE	CASSELBERRY	tbd	30	21S	30E	28.635000000	-81.359444000	1967	5	18	unk	40.00	40.00	15.00	130.00	-20.00	110.00	66.00	47.00	19.00	0.00	0.05	1.20	unk	3167600.653	464867.771	Florida Section	Central Lake District	Orlando Promontory	unk
75-527	ORANGE	ORLANDO WEST	SE	32	21S	29E	28.611944000	-81.428611000	1965	5	9	unk	0.00	0.00	0.00	100.00	-20.00	110.00	86.00	60.00	26.00	0.00	0.00	0.66	unk	3165068.624	458098.138	Florida Section	Central Lake District	Orlando Promontory	unk
75-528	ORANGE	ORLANDO EAST	tbd	1	22S	30E	28.601667000	-81.270000000	1969	4	8	unk	0.00	0.00	0.00	125.00	-50.00	114.00	53.00	45.00	8.00	0.00	0.42	3.86	unk	3163884.812	473601.777	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chulu	unk
75-529	ORANGE	ORLANDO EAST	tbd	1	22S	30E	28.598611000	-81.265278000	1969	1	3	unk	0.00	0.00	0.00	100.00	-50.00	120.00	53.00	45.00	8.00	0.00	0.22	0.88	unk	3163545.222	474062.704	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chulu	unk
75-530	ORANGE	ORLANDO WEST	tbd	24	22S	28E	28.551944000	-81.465556000	1961	4	23	unk	0.00	0.00	0.00	106.00	-25.00	165.00	65.00	50.00	15.00	0.00	0.00	0.90	unk	3158434.926	454460.440	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-531	ORANGE	ORLANDO WEST	tbd	12	22S	28E	28.585278000	-81.470000000	1962	5	12	unk	0.00	0.00	0.00	90.00	-20.00	120.00	65.00	50.00	15.00	0.00	0.02	0.93	unk	3162129.587	454040.220	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-532	ORANGE	WINTER GARDEN	tbd	28	22S	28E	28.522500000	-81.551111000	1962	5	22	unk	100.00	100.00	20.00	110.00	-25.00	125.00	83.00	60.00	23.00	0.18	0.54	1.47	unk	3155208.415	446076.538	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-533	ORANGE	WINTER GARDEN	SW	8	23S	28E	28.501111000	-81.536111000	1964	5	1	unk	10.00	10.00	9.00	100.00	-5.00	105.00	98.00	60.00	38.00	1.28	3.33	3.42	unk	3152832.167	447533.653	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-534	ORANGE	WINTER GARDEN	SW	8	23S	28E	28.506556000	-81.538056000	1969	5	28	unk	50.00	50.00	20.00	70.00	-5.00	105.00	98.00	60.00	38.00	0.00	0.00	1.40	unk	3152771.526	447343.027	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-535	ORANGE	FOREST CITY	tbd	13	20S	28E	28.745833000	-81.466111000	1970	5	17	unk	0.00	0.00	0.00	100.00	-15.00	40.00	50.00	50.00	0.00	0.00	0.00	0.00	no rain 30 days	3179915.646	454489.934	Florida Section	Central Lake District	St. Johns Offset	unk
75-536	ORANGE	ORLANDO EAST	tbd	14	22S	29E	28.557778000	-81.360000000	1970	5	18	unk	0.00	0.00	0.00	130.00	-25.00	125.00	77.00	50.00	27.00	0.00	0.00	0.00	1201 Russell Dr. ,Lot	3159045.699	464787.699	Florida Section	Central Lake District	Orlando Promontory	unk
75-537	ORANGE	ORLANDO WEST	tbd	12	22S	28E	28.593333000	-81.473333000	1971	5	2	unk	0.00	0.00	0.00	56.00	-20.00	95.00	65.00	50.00	15.00	0.00	0.00	5.95	unk	3163023.250	453717.821	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-538	ORANGE	FOREST CITY	tbd	2	21S	28E	28.685000000	-81.736667000	1984	12	29	unk	23.00	23.00	13.00	58.00	-30.00	115.00	63.00	50.00	13.00	0.00	0.02	2.85	behind 1410 Elks Cou	3173309.213	428031.152	Florida Section	Central Lake District	Central Lakes	unk
75-539	ORANGE	ORLANDO EAST	tbd	19	22S	30E	28.565278000	-81.347222000	1975	5	1	unk	65.00	45.00	11.00	62.00	-50.00	160.00	105.00	45.00	60.00	0.00	0.00	3.85	Audubon Elem. Schoo	3159872.898	466039.956	Florida Section	Central Lake District	Orlando Promontory	unk
75-540	ORANGE	ORLANDO WEST	SW	1	23S	29E	28.508889000	-81.376389000	1968	7	20	unk	15.00	20.00	15.00	90.00	-50.00	150.00	77.00	50.00	27.00	0.00	2.52	6.74	unk	3153634.451	463167.650	Florida Section	Central Lake District	Orlando Promontory	unk
75-541	ORANGE	FOREST CITY	tbd	12	21S	28E	28.677778000	-81.463889000	1968	7	21	unk	0.00	0.00	0.00	75.00	-50.00	175.00	75.00	50.00	25.00	0.00	2.55	6.77	unk	3172375.084	454677.561	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-542	ORANGE	ORLANDO EAST	tbd	31	21S	30E	28.623611000	-81.358333000	1967	5	18	unk	55.00	55.00	125.00	90.00	-50.00	125.00	66.00	50.00	16.00	0.00	0.05	1.20	unk	3166338.577	464972.581	Florida Section	Central Lake District	Orlando Promontory	unk
75-543	ORANGE	ORLANDO EAST	tbd	6	22S	30E	28.600000000	-81.350000000	1961	4	22	unk	35.00	35.00	15.00	98.00	-50.00	140.00	66.00	50.00	16.00	0.00	0.02	0.90	unk	3163720.392	465779.494	Florida Section	Central Lake District	Orlando Promontory	unk
75-544	ORANGE	ORLANDO WEST	tbd	19	22S	29E	28.555556000	-81.459722000	1961	4	24	unk	30.00	30.00	15

Table 2. Reported New Sinkholes in the St. Johns River Water Management District

FSRI_COD	COUNTY	QUADRANGLE	Z_4_SECTIO	SECTION	TOWNSHIF	RANGE	LATITUDE	LONGITUDE	YEAR	MONTH	DATE	TIME	LENGTH	WIDTH	DEPTH	LAND_ELEV	LS_ELEV	COVER_TH	WT_ELEV	POT_SUR_E	HEAD_DIFF	Z4_HR_RAI	Z_DYS_RAI	Z0_DYS_RA	COMMENTS	NORTHING_UTM	EASTING_UTM	ISP_SECTIO	DISTRICT	SUBDISTRIC	SUBDIVISIO
75-584	ORANGE	ORLANDO WEST	tbd	1	22S	28E	28.604722000	-81.462222000	1986	6	21	1700	40.00	40.00	35.00	89.00	-25.00	105.00	65.00	56.00	9.00	0.57	2.44	13.01	Foxbriar Subdivision U	3164280.758	454809.132	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-585	ORANGE	FOREST CITY	SE	12	21S	28E	28.677778000	-81.471389000	1986	5	10	unk	4.00	4.00	3.00	95.00	-30.00	135.00	61.00	49.00	12.00	0.00	0.03	4.13	unk	3172377.954	453944.794	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-587	ORANGE	ORLANDO EAST	SE	35	21S	30E	27.611667000	-81.282778000	1985	9	3	unk	0.00	0.00	0.00	75.00	-50.00	130.00	66.00	47.00	19.00	0.00	1.11	39.42	unk	3054217.862	472097.454	Florida Section	Eastern Flatwoods Distric	Kissimmee Valley	unk
75-588	ORANGE	LAKE JESSAMINE	NE	13	23S	28E	28.483611000	-81.467500000		0	0	unk	1.50	1.50	4.00	83.00	-50.00	156.00	99.00	56.00	43.00	0.00	0.00	0.00	unk	3150865.363	454240.790	Florida Section	Eastern Flatwoods Distric	Kissimmee Valley	unk
75-589	ORANGE	ORLANDO EAST	tbd	14	22S	30E	28.573056000	-81.284722000	1985	12	23	unk	0.00	0.00	0.00	75.00	-50.00	120.00	57.00	47.00	10.00	0.00	0.00	6.64	unk	3160718.464	472154.846	Florida Section	Eastern Flatwoods Distric	Holopaw-Indian Town Ridges and	unk
75-590	ORANGE	FOREST CITY	SE	29	21S	29E	28.635278000	-81.432222000	1986	8	27	unk	2.00	2.00	4.00	100.00	-50.00	120.00	61.00	47.00	14.00	0.00	0.67	5.67	unk	3167655.004	457754.459	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-591	ORANGE	LAKE JESSAMINE	SE	20	23S	29E	28.469444000	-81.430556000	1987	0	unk	unk	3.00	3.00	0.00	70.00	-70.00	160.00	94.00	44.00	50.00	0.00	0.00	0.00	unk	3149282.364	457851.308	Florida Section	Eastern Flatwoods Distric	Kissimmee Valley	unk
75-592	ORANGE	ORLANDO WEST	tbd	10	23S	29E	28.515278000	-81.394167000	1987	1	4	unk	2.00	2.00	5.00	68.00	-75.00	181.00	91.00	45.00	46.00	0.78	2.05	4.19	unk	3154347.840	461430.256	Florida Section	Central Lake District	Orlando Promontory	unk
75-593	ORANGE	BITHLO	tbd	0	23S	32E	28.483333000	-81.075000000	1986	10	6	unk	2.00	2.00	2.00	160.00	-140.00	208.00	65.00	31.00	34.00	0.74	0.74	4.49	unk	3150747.824	492658.975	Florida Section	Eastern Flatwoods Distric	Holopaw-Indian Town Ridges and	unk
75-594	ORANGE	PINE CASTLE	SW	11	23S	30E	28.499722000	-81.272222000	1987	3	18	unk	1.00	1.00	2.50	80.00	-140.00	227.00	84.00	43.00	41.00	0.00	1.32	8.19	unk	3152592.479	472869.553	Florida Section	Eastern Flatwoods Distric	Holopaw-Indian Town Ridges and	unk
75-595	ORANGE	PINE CASTLE	SE	25	23S	29E	28.461111000	-81.360000000		0	0	unk	2.00	2.00	20.00	82.00	-110.00	208.00	86.00	45.00	41.00	0.00	0.00	0.00	The Winter Park Sinkh	3148336.482	464755.581	Florida Section	Central Lake District	Orlando Promontory	unk
75-596	ORANGE	ORLANDO EAST	SE	17	22S	30E	28.575000000	-81.337778000	1987	12	7	unk	3.00	3.00	1.00	120.00	-40.00	165.00	110.00	48.00	62.00	0.00	0.00	6.23	unk	3160947.317	466966.669	Florida Section	Central Lake District	Orlando Promontory	unk
75-597	ORANGE	WINDERMERE	NE	28	24S	28E	28.461111000	-81.511111000	1987	8	27	930	20.00	15.00	20.00	90.00	-10.00	130.00	98.00	78.00	20.00	0.03	0.03	5.86	unk	3148390.079	449961.454	Florida Section	Eastern Flatwoods Distric	Kissimmee Valley	unk
75-598	ORANGE	ORLANDO EAST	SW	21	22S	30E	28.555556000	-81.173889000	1988	2	9	unk	4.00	4.00	0.50	99.00	-35.00	143.00	95.00	48.00	47.00	0.00	0.54	3.00	unk	3158758.985	482991.268	Florida Section	Eastern Flatwoods Distric	Holopaw-Indian Town Ridges and	unk
75-599	ORANGE	LAKE JESSAMINE	NE	26	23S	29E	28.461111000	-81.386944000	1987	11	19	unk	10.00	10.00	0.00	106.00	-62.00	161.00	96.00	46.00	50.00	1.49	3.46	8.52	unk	3148344.677	462117.712	Florida Section	Eastern Flatwoods Distric	Kissimmee Valley	unk
75-600	ORANGE	ORLANDO WEST	SE	27	23S	29E	28.453333000	-81.396111000	1988	3	7	unk	2.00	1.00	1.50	108.00	-70.00	172.00	95.00	48.00	47.00	0.00	1.48	2.65	unk	3147485.923	461217.404	Florida Section	Eastern Flatwoods Distric	Kissimmee Valley	unk
75-601	ORANGE	ORLANDO EAST	tbd	0	22S	30E	28.593333000	-81.360000000	1987	12	26	730	250.00	250.00	30.00	30.00	-80.00	170.00	82.00	48.00	34.00	0.00	0.00	16.30	unk	3162984.680	464799.537	Florida Section	Central Lake District	Orlando Promontory	unk
75-602	ORANGE	FOREST CITY	SW	27	21S	29E	28.629444000	-81.414167000	1988	7	26	unk	10.00	10.00	2.00	50.00	-25.00	119.00	80.00	51.00	29.00	0.00	3.20	17.99	unk	3167002.421	459516.940	Florida Section	Central Lake District	Orlando Promontory	unk
75-603	ORANGE	ORLANDO WEST	tbd	18	22S	29E	28.575000000	-81.458333000	1962	5	12	unk	6.00	6.00	14.00	100.00	0.00	100.00	87.00	50.00	37.00	0.00	0.02	0.93	*Shallow Depression (	3160986.496	455176.755	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-604	ORANGE	ORLANDO WEST	tbd	0	22S	28E	28.566667000	-81.500000000	1982	3	26	unk	50.00	50.00	40.00	110.00	0.00	100.00	70.00	50.00	20.00	0.00	1.40	3.37	unk	3160079.606	451097.972	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-605	ORANGE	FOREST CITY	tbd	2	21S	28E	28.693889000	-81.488889000	1984	12	29	unk	23.00	23.00	16.00	19.00	-25.00	100.00	55.00	55.00	0.00	0.00	0.02	2.85	behind 1410 Elks Cou	3174169.746	452242.313	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-606	ORANGE	FOREST CITY	tbd	27	21S	29E	28.633333000	-81.400000000	1986	12	3	unk	10.00	10.00	3.00	75.00	-25.00	120.00	90.00	50.00	40.00	0.00	0.74	12.00	Paragon parking lot: J	3167428.562	460903.158	Florida Section	Central Lake District	Orlando Promontory	unk
75-607	ORANGE	FOREST CITY	tbd	26	21S	29E	28.630556000	-81.383333000	1987	5	14	unk	15.00	15.00	3.00	61.00	-25.00	125.00	75.00	50.00	25.00	0.00	0.00	13.64	unk	3167115.570	462531.252	Florida Section	Central Lake District	Orlando Promontory	unk
75-608	ORANGE	ORLANDO EAST	NE	13	22S	29E	28.581944000	-81.361111000	1989	3	31	unk	1.00	1.00	1.00	90.00	-25.00	115.00	73.00	50.00	23.00	0.21	0.21	1.15	unk	3161723.265	464687.098	Florida Section	Central Lake District	Orlando Promontory	unk
75-609	ORANGE	FOREST CITY	SE	30	21S	29E	28.629167000	-81.445833000	1988	2	21	unk	0.00	0.00	0.00	125.00	-25.00	115.00	85.00	55.00	30.00	0.26	0.82	3.01	unk	3166982.870	456421.576	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-610	ORANGE	ORLANDO EAST	NW	31	22S	30E	28.533333000	-81.355556000	1989	4	12	unk	2.00	2.00	2.50	105.00	-50.00	150.00	90.00	45.00	45.00	0.00	0.00	5.34	unk	3156336.254	465214.347	Florida Section	Central Lake District	Orlando Promontory	unk
75-611	ORANGE	FOREST CITY	NE	24	21S	28E	28.651389000	-81.464167000	1985	7	15	unk	0.00	0.00	0.00	45.00	-50.00	175.00	115.00	55.00	60.00	0.87	0.94	11.84	unk	3169451.611	454639.039	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-612	ORANGE	WINDERMERE	SW	8	23S	28E	28.495833000	-81.541667000	1989	5	30	unk	60.00	40.00	8.50	69.00	0.00	94.00	98.00	75.00	23.00	0.49	0.57	6.01	unk	3152249.876	446987.269	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-613	ORANGE	LAKE JESSAMINE	SE	35	23S	28E	28.434722000	-81.479167000	1989	6	6	unk	40.00	40.00	8.00	83.00	-50.00	150.00	95.00	60.00	35.00	0.67	0.67	6.02	unk	3145453.710	453077.215	Florida Section	Central Lake District	Dr. Phillips Ridge	unk
75-614	ORANGE	SORRENTO	SE	9	20S	28E	28.758333000	-81.512500000	1989	8	11	unk	20.00	20.00	30.00	8.00	40.00	10.00	47.00	25.00	22.00	0.02	1.49	15.08	unk	3181319.120	449966.510	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-615	ORANGE	APOPKA	SE	18	20S	28E	28.749167000	-81.545833000	1990	8	5	1100	59.83	56.17	41.58	59.00	50.00	50.00	58.00	55.00	3.00	0.00	0.62	14.07	unk	3180318.089	446707.626	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-616	ORANGE	APOPKA	SE	18	20S	28E	28.749167000	-81.545833000	1990	8	5	1200	51.67	46.17	14.67	83.00	50.00	50.00	58.00	55.00	3.00	0.00	0.62	14.07	unk	3180318.089	446707.626	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-617	ORANGE	ORLANDO WEST	NW	33	21S	29E	28.618889000	-81.418333000	1990	1	24	unk	40.00	40.00	0.50	100.00	-35.00	132.00	80.00	57.00	23.00	0.00	0.00	6.44	unk	3165834.484	459105.637	Florida Section	Central Lake District	Orlando Promontory	unk
75-618	ORANGE	CLERMONT EAST	tbd	7	23S	27E	28.500556000	-81.649444000	1990	8	4	1900	50.00	40.00	2.50	64.00	0.00	95.00	91.00	81.00	10.00	0.43	0.90	22.67	Green Valley Greenho	3152825.433	436441.780	Florida Section	Central Lake District	Lake Wales Ridge	The Gap
75-619	ORANGE	ORLANDO EAST	NE	4	22S	30E	28.608333000	-81.311111000	1989	10	27	unk	6.00	5.00	3.00	86.00	-25.00	115.00	84.00	49.00	35.00	0.03	0.47	19.22	unk	3164633.074	469584.205	Florida Section	Eastern Flatwoods Distric	Holopaw-Indian Town Ridges and	unk
75-620	ORANGE	FOREST CITY	NE	34	20S	28E	28.713889000	-81.495556000	1991	3	20	1700	2.00	2.00	5.00	90.00	-25.00	42.00	57.00	57.00	0.00	0.00	3.93	5.58	unk	3176388.205	451600.237	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-700	ORANGE	WINTER GARDEN	tbd	7	23S	28E	28.505556000	-81.535556000	1979	4	25	unk	40.00	60.00	4.00	25.00	25.00	85.00	98.00	80.00	18.00	0.77	0.98	1.00	unk	3153324.364	447590.163	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-701	ORANGE	Eustis	NW	5	20S	27E	28.784999000	-81.634999000	1991	4	23	unk	8.00	8.00	13.00	225.00	13.00	142.00	70.00	0.00	0.00	0.00	2.01	11.47	400' S. Lake/Orange (	3184331.104	438022.902	Florida Section	Central Lake District	Apopka Upland	Mt. Dora Ridge
75-702	ORANGE	Orlando West	SW	12	22S	28E	28.587970000	-81.475380000	1992	7	21	2:00	40.00	40.00	5.00	59.00	-15.00	104.00	72.00	0.00	0.00	0.03	1.84	14.21	fgs 75-039	3162429.895	453515.305	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-703	ORANGE	Oviedo SW	NE	29	22S	31E	28.551540000	-81.233650000	1992	8	8	unk	3.00	3.00	2.00	25.00	-62.00	144.00	73.00	0.00	0.00	0.00	0.94	13.09	fgs 75-040	3158324.018	477144.939	Florida Section	Eastern Flatwoods Distric	Holopaw-Indian Town Ridges and	unk
75-704	ORANGE	Orlando West	SW	5	22S	29E	28.598480000	-81.442500000	1992	9	10	unk	10.00	10.00	10.00	74.00	-15.00	110.00	92.00	0.00	0.00	0.00	1.17	17.11	fgs 75-041	3163581.933	456734.793	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-705	ORANGE	Forest City	SE	25	21S	28E	28.626450000	-81.462130000	1993	8	16	unk	6.00	6.00	30.00	10.00	-37.00	148.00	92.00	0.00	0.00	0.06	0.72	13.95	fgs 75-042	3166687.905	454827.427	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-706	ORANGE	Forest City	SW	36	20S	28E	28.699130000	-81.475240000	1994	5	12	unk	0.00	0.00	250.00	165.00	-37.00	112.00	72.00	35.00	37.00	0.00	0.07	8.48	fgs 75-043	3174745.002	453577.962	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-707	ORANGE	unk	tbd	0	unk	unk	0.000000000	0.000000000	1994	5	15	unk	10.00	10.00	20.00	8.00	0.00	0.00	unk	0.00	0.00	0.00	0.03	6.68	unk	UNK	UNK	UNK	UNK	UNK	UNK
75-708	ORANGE	Winter Garden	SW	3	22S	28E	28.599437000	-81.509249000	1994	10	5	unk	30.00	30.00	10.00	10.00	-20.00	110.00	77.00	60.00	17.00	0.00	0.97	24.26	fgs 75-044	3163713.913	450208.807	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-709	ORANGE	Forest City	SW	26	21S	29E	28.630554000	-81.396110000	1996	3	13	unk	6.00	6.00	5.00	0.00	-13.00	115.00	92.00	47.00	45.00	0.00	2.80	11.14	Mile Post 39.8, 0.2 mi	3167119.416	461282.357	Florida Section	Central Lake District	Orlando Promontory	unk
75-710	ORANGE	Forest City	NE	27	21S	29E	28.634760000	-81.400820000	1997	11	25	16:00	20.00	15.00	90.00	60.00	-18.00	123.00	94.00	46.00	48.00	0.00	0.00	9.78	unk	3167586.920	460823.538	Florida Section	Central Lake District	Orlando Promontory	unk
75-711	ORANGE	Forest City	SE	13	21S	28E	28.659740000	-81.465550000	1998	3	26	unk	30.00	30.00	25.00	85.00	-40.00	155.00	90.00	48.00	42.00	0.00	2.30	19.55	1370 Ravida Woods D	3170377.322	454507.487	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-712	ORANGE	unk	tbd	0	unk	unk	0.000000000	0.000000000	2000	1	1	unk	25.00	25.00	8.00	115.00	0.00	0.00	unk	47.00	0.00	0.00	0.00	19.58	unk	UNK	UNK	UNK	UNK	UNK	UNK
75-713	ORANGE	unk	tbd	0	unk	unk	0.000000000	0.000000000	2000	1	1	unk	15.00	15.00	5.00	90.00	0.00	0.00	unk	47.00	0.00	0.00	0.00	19.58	unk	UNK	UNK	UNK	UNK	UNK	UNK
75-714	ORANGE	Orlando West	SE	28	22S	29E	28.542500000	-81.413090000	2000	5	5	unk	50.00	50.00	25.00	68.00	-48.00	153.00	101.00	0.00	0.00	0.00	0.00	2.94	fgs 75-025	3157369.868	459588.984	Florida Section	Central Lake District	Orlando Promontory	unk
75-715	ORANGE	Oviedo SW	SE	18	22S	31E	28.568888000	-81.246388000	2000	5	26	unk	60.00	60.00	0.50	122.00	-50.00	125.00	55.00	40.00	15.00	0.00	0.00	3.33	fgs 75-021	3160248.412	475902.887	Florida Section	Eastern Flatwoods Distric	Holopaw-Indian Town Ridges and	unk
75-716	ORANGE	Forest City	SE	3	21S	28E	28.687221000	-81.496666000	2000	5	27	unk	50.00	50.00	10.00	100.00	-33.00	103.00	69.00	25.00	44.00	0.00	0.00	3.33	fgs 75-034	3173434.136	451479.523	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-717	ORANGE	unk	tbd	0	unk	unk	0.000000000	0.000000000	2000	5	27	unk	40.00	40.00	40.00	102.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	3.67	unk	UNK	UNK	UNK	UNK	UNK	UNK
75-718	ORANGE	unk	tbd	0	unk	unk	0.000000000	0.000000000	2000	6	1	unk	60.00	60.00	16.00	0.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	3.67	unk	UNK	UNK	UNK	UNK	UNK	UNK
75-719	ORANGE	Forest City	SE	22	20S	28E	28.732221000	-81.499166000	2000	6	4	unk	68.00	64.00	40.00	0.00	-10.00	85.00	56.00	35.00	21.00	0.00	0.00	3.67	Near primitive campin	3178420.664	451256.156	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-721	ORANGE	Apopka	SW	18	20S	28E	28.748333000	-81.559444000	2000	6	6	unk	15.00	15.00	10.00	75.00	44.00	40.00	70.00	45.00	25.00	0.00	0.00	3.67	Wayside Gen. Store,F	3180231.852	445378.258	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-722	ORANGE	Orlando West	SE	3	22S	29E	28.601840000	-81.399110000	2000	6	9	unk	0.00	0.00	0.00	98.00	-25.00	127.00	98.00	0.00	0.00	0.00	0.00	3.67	fgs 75-046	3163939.263	460978.508	Florida Section	Central Lake District	Orlando Promontory	unk
75-723	ORANGE	Pine Castle	NE	25	23S	29E	28.460420000	-81.364580000	2000	7	14	unk	140.00	150.00	6.00	15.00	-68.00	170.00	94.00	0.00	0.00	0.02	0.71	10.18	fgs 75-047	3148261.279	464306.958	Florida Section	Central Lake District	Orlando Promontory	unk
75-724	ORANGE	Intercession City	SE	35	24S	27E	28.348200000	-81.579710000	2000	9	5	unk	30.00	30.00	12.00	91.00	-50.00	136.00	85.00	0.00	0.00	0.00	1.17	14.76	fgs 75-048	3135911.733	443185.182	Florida Section	Eastern Flatwoods Distric	Kissimmee Valley	unk
75-725	ORANGE	Orlando West	SW	11	22S	28E	28.584670000	-81.482050000	2001	1	10	unk	0.00	0.00	0.00	30.00	-15.00	117.00	85.00	0.00	0.00	0.00	0.26	3.04	unk	3162066.901	452861.605	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-726	ORANGE	Pine Castle	NE	25	23S	29E	28.463720000	-81.364100000	2001	4	11	3:00	0.00	0.00	0.00	12.00	-68.00	166.00	95.00	0.00	0.00	0.00	0.49	5.21	fgs 75-049	3148626.729	464355.059	Florida Section	Central Lake District	Orlando Promontory	unk
75-727	ORANGE	Forest City	SE	27	21S	29E	28.628680000	-81.396260000	2001	5	8	unk	0.00	0.00	0.00	80.00	-18.00	123.00	94.00	0.00	0.00	0.10	0.86	7.09	unk	3166911.846	461267.008	Florida Section	Central Lake District	Orlando Promontory	unk
75-728	ORANGE	Forest City	NE	27	21S	29E	28.636800000	-81.397990000	2001	5	21	11:00	10.00	10.00	5.00	40.00	-18.00	123.00	95.00	0.00	0.00	0.00	0.00	7.38	unk	3167812.000	461100.899	Florida Section	Central Lake District	Orlando Promontory	unk
75-729	ORANGE	Orlando East	NW	36	22S	29E	28.539712000	-81.368243000	2001	5	26	22:00	0.00	0.00	0.00	40.00	50.00	30.00	70.00	0.00	0.00	1.52	2.11	9.47	fgs 75-050	3157046.706	463975.281	Florida Section	Central Lake District	Orlando Promontory	unk
75-730	ORANGE	FOREST CITY	NE	27	21S	29E	28.634531000	-81.395112000	2002	5	8	unk	40.00	15.00	20.00	112.00	0.00	0.00	92.00	0.00	0.00	0.00	0.00	0.00	fgs 75-051	3167559.690	461381.364	Florida Section	Central Lake District	Orlando Promontory	unk
75-731	ORANGE	FOREST CITY	NE	27	21S	29E	28.636853000	-81.396083000	2002	5	8	unk	0.00	0.00	5.00	90.00	0.00	0.00	92.00	0.00	0.00	0.00	0.00	0.00	fgs 75-052	3167817.257	461287.308	Florida Section	Central Lake District	Orlando Promontory	unk
75-732	ORANGE	WINDEMERE	SW	27	23S	28E	28.451218000	-81.506161000	2002	5	23	unk	25.00	25.00	10.00	100.00	0.00	0.00	118.00	0.00	0.00	0.00	0.00	0.00	fgs 75-053	3147292.034	450441.460	Florida Section	Central Lake District	Dr. Phillips Ridge	unk
75-733	ORANGE	ORLANDO WEST	SW	23	22S	28E	28.556944000	-81.485806000	2002	6	11	17:15	0.00	150.00	60.00	95.00	0.00	0.00	90.00	0.00	0.00	0.00	0.00	0.00	fgs 75-054	3158996.720	452481.853	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-734	ORANGE	APOPKA	SW	22	20S	27E	28.730673000	-81.602781000	2002	6	21	unk	30.00	30.00	0.00	124.00	0.00	0.00	89.00	0.00	0.00	0.00	0.00	0.00	fgs 75-055	3178295.936	441137.039	Florida Section	Central Lake District	Central Lakes	unk
75-735	ORANGE	FOREST CITY	SW	35	20S	28E	28.702896000	-81.486135000	2002	6	28	unk	0.00	0.00	0.00	100.00	0.00	0.00	62.00	0.00	0.00	0.00	0.00	0.00	fgs 75-056	3175166.519	452515.411	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-736	Orange	APOPKA	SE	25	20S	27E	28.715833000	-81.566944000	1981	8	-	unk	50.00	50.00	1.00	100.00	unk	unk	68	unk	unk	unk	unk	unk	1794 Banberry Circle:	3176046.169	444628.813	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-737	Orange	FOREST CITY	NE	24	21S	28E	28.651944000	-81.460000000	1986	1	22	unk	5.00	5.00	4.00	100.00	unk	unk	115	unk	unk	unk	unk	unk	McLeod Residence: J	3169511.565	455046.502	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
75-738	Orange	FOREST CITY	NE	26	21S	29E	28.639722200	-81.380555600	1978	8	-	unk	unk	unk	unk	105.00	unk	unk	69	unk	unk	unk	unk	unk	*Shallow Dep. 1599 D	3168130.199	462805.963	Florida Section	Central Lake District	Orlando Promontory	unk
75-739	Orange	FOREST CITY	NE	26	21S	29E	28.639722200	-81.380833300	1978	8	-	unk	unk	unk	unk	120.00	unk	unk	69	unk	unk	unk	unk	unk	*Shallow Dep. 1519 D	3168130.285	462778.821	Florida Section	Central Lake District	Orlando Promontory	unk
75-740	Orange	FOREST CITY	NW	26	21S	29E	28.633611100	-81.391388900	1981	10	13	unk	25.00	25.00	1.00	100.00	unk	unk	unk	unk	unk	unk	unk	unk	100 Lincoln Place par	3167456.588	461744.932	Florida Section	Central Lake District	Orlando Promontory	unk
75-741	Orange	FOREST CITY	NW	26	21S	29E	28.634444400	-81.393333300	1981	11	1	unk	25.00	25.00	0.00	100.00	unk	unk	unk	unk	unk	unk	unk	unk	J&A #79-220 fgs 75-0	3167549.528	461555.185	Florida Section	Central Lake District	Orlando Promontory	unk
75-742	Orange	FOREST CITY	SE	26	21S	29E	28.630000000	-81.381111100	1987	5	4	unk	15.00	15.00	3.00	98.00	unk	unk	71	unk	unk	unk	unk	unk	Orangewood Presbyte	3167053.276	462748.237	Florida Section	Central Lake District	Orlando Promontory	unk
75-743	Orange	FOREST CITY	SE	26	21S	29E	28.630000000	-81.381111100	1987	5	6	unk	5.00	5.00	3.00	97.00	unk	unk	69	unk	unk	unk	unk	unk	Orangewood Presbyte	3167053.276	462748.237	Florida Section	Central Lake District	Orlando Promontory	unk
75-745	Orange	FOREST CITY	SE	27	21S	29E	28.627500000	-81.396666700	2001	5	5	unk	unk	unk	unk	92.00	unk	unk	92	unk	unk	unk	unk	unk	*shallow depressions,	3166781.259	461226.820	Florida Section	Central Lake District	Orlando Promontory	unk
75-746	Orange	FOREST CITY	NE	27	21S	29E	28.636388900	-81.396388900	2001	5	21	unk	5.00	5.00	6.00	95.00	unk	unk	89	unk	unk	unk	unk	unk	S. EOP 75' E. of Maitl	3167765.936	461257.240	Florida Section	Central Lake District	Orlando Promontory	unk
75-747	Orange	CASSELBERRY	SE	29	21S	30E	28.628611100	-81.330555600	1981	5	9	unk	75.00	75.00	0.00	95.00	unk	unk	70	unk	unk	unk	unk	unk	2955/2961 Lolissa La	3166884.702	467689.398	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
75-749	Orange	CASSELBERRY	SW	30	21S	30E	28.625555600	-81.358055600	1966	5	-	unk	unk	unk	unk	87.00	unk	unk	66	unk	unk	unk	unk	unk	311 W. Trotters Drive	3166553.928	465000.342	Florida Section	Central Lake District	Orlando Promontory	unk
75-750	Orange	ORLANDO EAST	NE	31	21S	30E	28.622777800	-81.356666700	1981	5	6	unk	40.00	40.00	3.00	unk	unk	unk	66	unk	unk	unk	unk	unk	920 Trotters Dr.: J&A	3166245.785	465135.189	Florida Section	Central Lake District	Orlando Promontory	unk
75-751

Table 2. Reported New Sinkholes in the St. Johns River Water Management District

FSRI_COD	COUNTY	QUADRANGLE	Z_4_SECTIO	SECTION	TOWNSHIP	RANGE	LATITUDE	LONGITUDE	YEAR	MONTH	DATE	TIME	LENGTH	WIDTH	DEPTH	LAND_ELEV	LS_ELEV	COVER_THI	WT_ELEV	POT_SUR_E	HEAD_DIFF	Z4_HR_RAI	Z_DYS_RAI	Z0_DYS_RA	COMMENTS	NORTHING_UTM	EASTING_UTM	ISP_SECTIO	DISTRICT	SUBDISTRIC	SUBDIVISIO
92-007	Osceola	Intercess	NE	3	25S	27E	28.34000000	-81.59666670	1987	2	22	unk	33.00	33.00	7.00	unk	unk	unk	102	unk	unk	unk	unk	unk	in median front	3135011.400	441518.807	Florida Section	Central Lake District	Lake Wales Ridge	Eastern Complex of the Central Ridge
16-000	POLK	BARTOW	tbd	1	29S	25E	27.984722000	-81.776389000	0	0	unk	unk	6.00	6.00	6.00	15.00	-70.00	204.00	unk	110.00	0.00	0.22	5.00	24.90	unk	3095752.691	423651.395	Florida Section	Central Lake District	Winter Haven Karst	unk
16-001	POLK	BARTOW	tbd	1	29S	25E	27.991667000	-81.773056000	1974	8	11	unk	6.00	6.00	6.00	33.00	-70.00	204.00	unk	110.00	0.00	0.22	5.00	24.90	unk	3096519.973	423984.036	Florida Section	Central Lake District	Winter Haven Karst	unk
16-002	POLK	PROVIDENCE	tbd	16	27S	24E	28.131389000	-81.922222000	1974	3	25	unk	10.00	10.00	5.00	151.00	-40.00	173.00	unk	110.00	0.00	0.00	2.30	4.30	unk	3112100.827	409432.838	Florida Section	Central Lake District	Bartow Embayment	unk
16-003	POLK	BARTOW	tbd	7	30S	25E	27.864722000	-81.845278000	1974	3	25	unk	10.00	10.00	0.00	100.00	-100.00	211.00	unk	40.00	0.00	0.00	1.20	3.20	unk	3082503.992	416784.863	Florida Section	Central Lake District	Bartow Embayment	unk
16-004	POLK	POLK CITY	tbd	2	27S	25E	28.165278000	-81.810556000	1974	5	16	unk	20.00	20.00	2.00	60.00	30.00	104.00	unk	125.00	0.00	0.49	2.30	8.60	unk	3115776.976	420424.536	Florida Section	Central Lake District	Winter Haven Karst	unk
16-006	POLK	BARTOW	tbd	26	29S	25E	27.934722000	-81.780278000	1974	6	4	unk	50.00	50.00	0.50	60.00	-125.00	236.00	unk	55.00	0.00	0.02	0.27	8.20	unk	3090216.107	423233.576	Florida Section	Central Lake District	Bartow Embayment	unk
16-007	POLK	LAKELAND	tbd	0	28S	24E	28.054167000	-81.947222000	1974	6	26	unk	5.00	5.00	2.00	0.00	100.00	66.00	unk	90.00	0.00	2.80	4.30	12.50	unk	3103564.665	406910.974	Florida Section	Central Lake District	Lakeland Ridge	unk
16-008	POLK	BARTOW	tbd	28	29S	25E	27.931944000	-81.812500000	1974	7	9	unk	10.00	10.00	3.00	85.00	-125.00	238.00	unk	55.00	0.00	0.08	0.65	17.60	unk	3089929.007	420061.303	Florida Section	Central Lake District	Bartow Embayment	unk
16-009	POLK	BARTOW	tbd	28	29S	25E	27.935000000	-81.780278000	1974	7	7	unk	20.00	20.00	10.00	26.00	-125.00	237.00	unk	55.00	0.00	0.04	2.50	17.60	unk	3090246.905	423233.773	Florida Section	Central Lake District	Bartow Embayment	unk
16-010	POLK	NICHOLS	tbd	17	29S	23E	27.902778000	-82.030556000	1974	7	9	unk	25.00	25.00	70.00	113.00	-240.00	354.00	unk	55.00	0.00	0.08	0.65	17.60	unk	3086859.540	398579.240	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-011	POLK	BARTOW	tbd	26	29S	25E	27.935000000	-81.780278000	1974	6	28	unk	20.00	20.00	5.00	70.00	125.00	15.00	unk	55.00	0.00	3.90	6.60	17.70	unk	3090246.905	423233.773	Florida Section	Central Lake District	Bartow Embayment	unk
16-012	POLK	BARTOW	tbd	26	29S	25E	27.935000000	-81.780278000	1974	6	20	unk	16.00	16.00	3.00	15.00	-125.00	233.00	unk	55.00	0.00	0.00	0.05	19.20	unk	3090246.905	423233.773	Florida Section	Central Lake District	Bartow Embayment	unk
16-013	POLK	BARTOW	tbd	26	29S	25E	27.935000000	-81.780278000	1974	7	4	unk	3.00	3.00	0.50	112.00	-125.00	229.00	unk	55.00	0.00	0.21	0.39	17.60	unk	3090246.905	423233.773	Florida Section	Central Lake District	Bartow Embayment	unk
16-014	POLK	BARTOW	tbd	26	29S	25E	27.935000000	-81.780278000	1974	7	5	unk	3.00	3.00	4.00	114.00	-125.00	230.00	unk	55.00	0.00	0.28	3.90	17.60	unk	3090246.905	423233.773	Florida Section	Central Lake District	Bartow Embayment	unk
16-015	POLK	BARTOW	tbd	26	29S	25E	27.935000000	-81.780278000	1974	7	29	unk	10.00	10.00	8.00	0.00	-125.00	225.00	unk	95.00	0.00	1.70	4.30	25.90	unk	3090246.905	423233.773	Florida Section	Central Lake District	Bartow Embayment	unk
16-016	POLK	LAKE WALES	tbd	3	29S	27E	27.960833000	-81.610000000	1974	7	26	unk	20.00	20.00	12.00	33.00	-80.00	215.00	unk	95.00	0.00	0.00	2.10	25.90	unk	3093013.411	440000.949	Florida Section	Central Lake District	Winter Haven Karst	unk
16-017	POLK	BOWLING GREEN	tbd	32	31S	25E	27.743056000	-81.834722000	1968	0	unk	unk	200.00	200.00	45.00	110.00	-285.00	410.00	unk	55.00	0.00	0.00	0.00	0.00	unk	3069018.874	417732.516	Florida Section	Southwestern Flatwoods	Agricola Ridge	unk
16-018	POLK	BARTOW	tbd	14	30S	25E	27.869444000	-81.786111000	1967	0	unk	unk	200.00	200.00	150.00	112.00	-130.00	238.00	unk	70.00	0.00	0.00	0.00	0.00	unk	3082988.329	422613.249	Florida Section	Central Lake District	Bartow Embayment	unk
16-019	POLK	ALTURAS	tbd	11	31S	26E	27.797222000	-81.681944000	1968	0	unk	unk	60.00	60.00	50.00	150.00	-150.00	290.00	unk	75.00	0.00	0.00	0.00	0.00	unk	3074926.378	432823.548	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-020	POLK	BARTOW	tbd	6	31S	27E	27.813056000	-81.661944000	1967	0	unk	unk	225.00	225.00	50.00	105.00	-120.00	266.00	unk	80.00	0.00	0.00	0.00	0.00	unk	3076669.636	434803.197	Florida Section	Central Lake District	Bartow Embayment	unk
16-021	POLK	LAKELAND	tbd	29	28S	24E	28.106944000	-81.933333000	1966	0	unk	unk	100.00	100.00	70.00	150.00	-180.00	323.00	unk	90.00	0.00	0.00	0.00	0.00	unk	3109401.009	408320.829	Florida Section	Central Lake District	Bartow Embayment	unk
16-022	POLK	MULBERRY	tbd	14	29S	24E	27.959722000	-81.883333000	1971	0	unk	unk	60.00	60.00	50.00	135.00	-175.00	307.00	unk	50.00	0.00	0.00	0.00	0.00	unk	3093054.623	413114.256	Florida Section	Central Lake District	Bartow Embayment	unk
16-023	POLK	MULBERRY	tbd	15	29S	24E	27.958333000	-81.900000000	1967	0	unk	unk	150.00	150.00	70.00	108.00	-205.00	343.00	unk	70.00	0.00	0.00	0.00	0.00	unk	3092912.700	411473.660	Florida Section	Central Lake District	Lakeland Ridge	unk
16-024	POLK	BARTOW	tbd	25	29S	25E	27.937778000	-81.871944000	1967	0	unk	unk	200.00	200.00	40.00	146.00	-120.00	237.00	unk	65.00	0.00	0.00	0.00	0.00	unk	3090615.585	414217.203	Florida Section	Central Lake District	Bartow Embayment	unk
16-025	POLK	BARTOW	tbd	36	29S	24E	27.921944000	-81.871944000	1966	0	unk	unk	125.00	125.00	80.00	125.00	-100.00	212.00	unk	75.00	0.00	0.00	0.00	0.00	unk	3088861.466	414204.698	Florida Section	Central Lake District	Bartow Embayment	unk
16-026	POLK	BARTOW	tbd	6	30S	25E	27.878611000	-81.845278000	1965	0	unk	unk	175.00	175.00	35.00	130.00	-100.00	205.00	unk	80.00	0.00	0.00	0.00	0.00	unk	3084042.611	416795.475	Florida Section	Central Lake District	Bartow Embayment	unk
16-027	POLK	BARTOW	tbd	6	30S	25E	27.978611000	-81.845833000	1966	0	unk	unk	60.00	60.00	60.00	143.00	-100.00	205.00	unk	80.00	0.00	0.00	0.00	0.00	unk	3095121.074	416817.444	Florida Section	Central Lake District	Bartow Embayment	unk
16-028	POLK	BARTOW	tbd	6	30S	25E	27.878611000	-81.845278000	1967	0	unk	unk	50.00	50.00	40.00	138.00	-100.00	205.00	unk	80.00	0.00	0.00	0.00	0.00	unk	3084042.611	416795.475	Florida Section	Central Lake District	Bartow Embayment	unk
16-029	POLK	BARTOW	tbd	6	30S	25E	27.962500000	-81.845278000	1967	0	unk	unk	60.00	60.00	60.00	117.00	-100.00	205.00	unk	80.00	0.00	0.00	0.00	0.00	unk	3093335.893	416859.678	Florida Section	Central Lake District	Bartow Embayment	unk
16-030	POLK	BARTOW	tbd	6	30S	25E	27.878611000	-81.845278000	1968	0	unk	unk	120.00	120.00	12.00	125.00	-100.00	205.00	unk	5.00	0.00	0.00	0.00	0.00	unk	3084042.611	416795.475	Florida Section	Central Lake District	Bartow Embayment	unk
16-031	POLK	BARTOW	tbd	6	30S	25E	27.878611000	-81.845833000	1968	0	unk	unk	30.00	30.00	15.00	140.00	-100.00	205.00	unk	80.00	0.00	0.00	0.00	0.00	unk	3084042.988	416740.841	Florida Section	Central Lake District	Bartow Embayment	unk
16-032	POLK	BARTOW	tbd	6	30S	25E	27.878611000	-81.845278000	1968	0	unk	unk	40.00	40.00	15.00	105.00	-100.00	205.00	unk	80.00	0.00	0.00	0.00	0.00	unk	3084042.611	416795.475	Florida Section	Central Lake District	Bartow Embayment	unk
16-033	POLK	BARTOW	tbd	6	30S	25E	27.878611000	-81.845278000	1967	0	unk	unk	25.00	25.00	20.00	105.00	-100.00	205.00	unk	80.00	0.00	0.00	0.00	0.00	unk	3084042.611	416795.475	Florida Section	Central Lake District	Bartow Embayment	unk
16-034	POLK	BARTOW	tbd	6	30S	25E	27.878611000	-81.845278000	1958	0	unk	unk	200.00	200.00	60.00	150.00	-100.00	205.00	unk	80.00	0.00	0.00	0.00	0.00	unk	3084042.611	416795.475	Florida Section	Central Lake District	Bartow Embayment	unk
16-043	POLK	LAKELAND	tbd	18	28S	24E	28.054722000	-81.940833000	1975	5	11	unk	40.00	40.00	35.00	100.00	110.00	35.00	unk	85.00	0.00	0.00	0.12	5.38	unk	3103621.279	407539.365	Florida Section	Central Lake District	Lakeland Ridge	unk
16-044	POLK	BARTOW	tbd	22	29S	25E	27.939444000	-81.805278000	1979	9	31	unk	12.00	12.00	8.00	19.00	-155.00	284.00	unk	70.00	0.00	0.00	2.90	24.10	unk	3090755.157	420777.341	Florida Section	Central Lake District	Bartow Embayment	unk
16-045	POLK	BARTOW	tbd	6	30S	25E	27.878611000	-81.845278000	1979	12	27	unk	3.00	3.00	10.00	55.00	-100.00	205.00	unk	65.00	0.00	0.00	0.01	5.30	unk	3084042.611	416795.475	Florida Section	Central Lake District	Bartow Embayment	unk
16-046	POLK	BARTOW	tbd	28	29S	25E	27.936111000	-81.813889000	1981	9	12	unk	12.00	12.00	14.00	10.00	-125.00	256.00	unk	70.00	0.00	0.00	3.60	32.30	unk	3090391.544	419927.708	Florida Section	Central Lake District	Bartow Embayment	unk
16-047	POLK	ELOISE	tbd	2	29S	26E	27.993056000	-81.684722000	1981	4	27	unk	36.00	36.00	4.00	30.00	80.00	80.00	unk	95.00	0.00	0.00	0.00	4.60	unk	3096621.989	432671.186	Florida Section	Central Lake District	Winter Haven Karst	unk
16-050	POLK	MULBERRY	tbd	15	-30	23	27.876390000	-81.988610000	1994	8	23	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3083902.160	402683.939	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-052	POLK	DUNDEE	tbd	28	-27	27	28.106110000	-81.608330000	1996	6	21	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3109105.027	440491.097	Florida Section	Central Lake District	Lake Wales Ridge	Iron Mountains
16-500	POLK	BARTOW	SE	11	29S	25E	27.972222000	-81.787500000	1983	5	16	unk	10.00	10.00	2.00	105.00	-45.00	179.00	unk	83.00	0.00	0.00	0.00	0.00	unk	3094374.931	422549.791	Florida Section	Central Lake District	Bartow Embayment	unk
16-501	POLK	WINTER HAVEN	NW	6	27S	26E	28.093056000	-81.723056000	1983	5	16	unk	2.00	2.00	3.00	71.00	20.00	152.00	unk	115.00	0.00	0.00	0.00	12.40	unk	3107721.798	428967.420	Florida Section	Central Lake District	Winter Haven Karst	unk
16-502	POLK	MULBERRY	tbd	11	29S	24E	27.970833000	-81.884722000	1983	4	6	unk	10.00	10.00	10.00	7.00	-15.00	146.00	unk	74.00	0.00	0.00	1.70	18.65	unk	3094286.500	412986.541	Florida Section	Central Lake District	Bartow Embayment	unk
16-503	POLK	MULBERRY	tbd	28	29S	23E	27.936944000	-81.998611000	1983	1	27	unk	3.00	3.00	5.00	150.00	-30.00	152.00	unk	75.00	0.00	0.23	0.82	4.89	unk	3090618.507	401754.140	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-504	POLK	ELOISE	tbd	5	30S	26E	27.890278000	-81.756111000	1982	7	23	unk	5.00	5.00	9.00	7.00	-65.00	204.00	unk	68.00	0.00	1.03	1.40	20.05	unk	3085277.709	425580.868	Florida Section	Central Lake District	Bartow Embayment	unk
16-506	POLK	POLK CITY	NE	2	27S	25E	28.164722000	-81.777222000	1982	1	22	unk	10.00	10.00	10.00	0.00	60.00	72.00	unk	128.00	0.00	0.00	0.00	6.00	unk	3115693.973	423696.785	Florida Section	Central Lake District	Winter Haven Karst	unk
16-507	POLK	BARTOW	SE	5	30S	25E	27.895833000	-81.827222000	1981	8	30	unk	15.00	15.00	15.00	80.00	-55.00	168.00	unk	61.00	0.00	0.00	0.14	6.17	25.70	unk	3085938.331	418585.767	Florida Section	Central Lake District	Bartow Embayment	unk
16-508	POLK	WINTER HAVEN	SE	22	27S	26E	28.121389000	-81.691667000	1982	10	1	unk	25.00	25.00	20.00	25.00	30.00	105.00	unk	125.00	0.00	0.00	0.18	2.40	20.50	unk	3110842.639	432068.993	Florida Section	Central Lake District	Winter Haven Karst	unk
16-509	POLK	BARTOW	tbd	14	29S	24E	27.954444000	-81.872778000	0	0	unk	unk	7.00	0.00	7.00	0.00	-23.00	132.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3092462.453	414148.327	Florida Section	Central Lake District	Bartow Embayment	unk
16-510	POLK	MULBERRY	NE	14	29S	24E	27.965278000	-81.880556000	1981	9	8	81	7.00	5.00	6.00	56.00	-19.00	141.00	unk	71.00	0.00	0.00	0.32	23.75	unk	3093668.148	413391.853	Florida Section	Central Lake District	Bartow Embayment	unk
16-511	POLK	BARTOW	tbd	22	29S	25E	27.941667000	-81.798611000	1981	9	12	unk	12.00	8.00	12.00	70.00	-50.00	187.00	unk	76.00	0.00	0.00	1.38	24.00	unk	3090997.121	421434.870	Florida Section	Central Lake District	Bartow Embayment	unk
16-512	POLK	LAKELAND	tbd	20	27S	24E	28.145000000	-81.927778000	1982	6	4	unk	12.00	8.00	10.00	24.00	65.00	68.00	unk	116.00	0.00	0.00	0.03	0.09	16.76	unk	3113612.878	408898.699	Florida Section	Central Lake District	Bartow Embayment	unk
16-513	POLK	BARTOW	tbd	13	29S	24E	27.967222000	-81.873611000	1983	3	7	unk	6.00	6.00	4.00	70.00	-19.00	141.00	0.00	74.00	0.00	2.00	2.00	13.19	unk	3093878.609	414076.504	Florida Section	Central Lake District	Bartow Embayment	unk
16-514	POLK	LAKE WALES	tbd	0	30S	28E	27.900000000	-81.549444000	1983	4	16	unk	0.00	0.00	0.00	15.00	-55.00	192.00	unk	90.00	0.00	0.00	1.60	20.67	unk	3086246.266	445927.021	Florida Section	Central Lake District	Lake Wales Ridge	Iron Mountains
16-515	POLK	LAKE WALES	NW	25	29S	26E	27.932222000	-81.663333000	1983	5	20	unk	12.00	12.00	20.00	128.00	-40.00	160.00	unk	93.00	0.00	0.00	0.00	0.00	unk	3089871.259	434737.838	Florida Section	Central Lake District	Bartow Embayment	unk
16-516	POLK	WINTER HAVEN	tbd	32	27S	26E	28.093333000	-81.730000000	1983	5	28	unk	30.00	30.00	5.00	2.00	20.00	118.00	unk	115.00	0.00	0.00	0.00	11.37	unk	3107756.564	428285.408	Florida Section	Central Lake District	Winter Haven Karst	unk
16-517	POLK	ELOISE	SW	1	29S	26E	27.987778000	-81.672222000	1983	5	26	unk	50.00	50.00	60.00	134.00	-25.00	183.00	unk	103.00	0.00	0.00	0.00	0.00	unk	3096030.461	433897.127	Florida Section	Central Lake District	Winter Haven Karst	unk
16-518	POLK	ELOISE	tbd	5	30S	26E	27.903333000	-81.668611000	1983	6	7	unk	5.00	5.00	0.00	158.00	40.00	72.00	unk	92.00	0.00	0.03	2.57	0.00	unk	3086673.815	434201.062	Florida Section	Central Lake District	Bartow Embayment	unk
16-519	POLK	AUBURNDALE	SW	12	28S	25E	28.056944000	-81.771944000	1983	6	13	unk	4.00	4.00	6.00	125.00	0.00	145.00	unk	116.00	0.00	0.07	2.40	0.00	unk	3103750.753	424139.168	Florida Section	Central Lake District	Winter Haven Karst	unk
16-520	POLK	AUBURNDALE	tbd	0	28S	25E	28.071111000	-81.813333000	1983	6	14	unk	0.00	0.00	0.00	112.00	20.00	122.00	unk	116.00	0.00	0.00	2.36	0.00	unk	3105346.674	420082.099	Florida Section	Central Lake District	Winter Haven Karst	unk
16-521	POLK	ELOISE	NW	2	29S	26E	27.993056000	-81.691667000	1981	4	27	unk	200.00	200.00	35.00	89.00	45.00	100.00	unk	97.00	0.00	0.00	0.00	4.60	unk	3096625.840	431988.265	Florida Section	Central Lake District	Winter Haven Karst	unk
16-522	POLK	WINTER HAVEN	SE	29	28S	27E	28.011667000	-81.625278000	1982	12	6	unk	15.00	15.00	10.00	132.00	0.00	128.00	unk	116.00	0.00	0.00	0.00	0.00	unk	3098652.328	438527.026	Florida Section	Central Lake District	Winter Haven Karst	unk
16-523	POLK	WINTER HAVEN	SW	19	28S	27E	28.032500000	-81.655556000	1983	5	15	unk	8.00	8.00	10.00	120.00	0.00	125.00	unk	116.00	0.00	0.00	0.00	0.00	unk	3100975.818	435562.638	Florida Section	Central Lake District	Winter Haven Karst	unk
16-524	POLK	BARTOW	tbd	14	29S	24E	27.950556000	-81.875000000	1984	2	8	unk	6.00	6.00	50.00	45.00	-40.00	153.00	unk	0.00	0.00	0.00	0.02	9.86	unk	3092031.542	414172.601	Florida Section	Central Lake District	Bartow Embayment	unk
16-525	POLK	BARTOW	SE	6	30S	25E	27.896667000	-81.847500000	1954	0	unk	unk	12.00	12.00	40.00	120.00	-50.00	165.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3086044.373	416590.585	Florida Section	Central Lake District	Bartow Embayment	unk
16-526	POLK	LAKELAND	NW	15	28S	24E	28.051667000	-81.904722000	1954	4	15	unk	8.00	8.00	8.00	0.00	20.00	110.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3103255.949	411085.839	Florida Section	Central Lake District	Bartow Embayment	unk
16-527	POLK	LAKELAND	SW	2	28S	24E	28.069722000	-81.888333000	1954	9	15	unk	22.00	22.00	4.00	115.00	20.00	90.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3105244.300	412711.176	Florida Section	Central Lake District	Bartow Embayment	unk
16-528	POLK	MULBERRY	SW	14	29S	24E	27.956667000	-81.886667000	1955	5	8	unk	30.00	30.00	30.00	130.00	-25.00	175.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3092718.558	412783.850	Florida Section	Central Lake District	Bartow Embayment	unk
16-529	POLK	ELOISE	NE	7	30S	27E	27.890556000	-81.651111000	1956	4	7	unk	83.00	83.00	40.00	110.00	-45.00	155.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3085249.130	435915.779	Florida Section	Central Lake District	Bartow Embayment	unk
16-530	POLK	ALTURAS	NW	34	30S	26E	27.831667000	-81.706944000	1956	4	unk	unk	40.00	40.00	4.00	150.00	-60.00	230.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3078756.012	430382.763	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-531	POLK	BARTOW	NW	23	29S	25E	27.949444000	-81.788333000	1956	4	9	unk	30.00	30.00	1.50	110.00	-50.00	180.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3091852.099	422451.582	Florida Section	Central Lake District	Bartow Embayment	unk
16-532	POLK	WINTER HAVEN	SE	34	28S	26E	28.003333000	-81.701944000	1956	4	10	unk	75.00	75.00	10.00	170.00	-35.00	195.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3097770.090	430984.248	Florida Section	Central Lake District	Winter Haven Karst	unk
16-533	POLK	MULBERRY	NW	22	29S	24E	27.949167000	-81.903333000	1957	7	unk	unk	50.00	50.00	16.00	160.00	-30.00	180.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3091899.689	411138.295	Florida Section	Central Lake District	Lakeland Ridge	unk
16-534	POLK	BARTOW	NE	7	30S	25E	27.888333000	-81.848056000	1957	9	10	unk	8.00	8.00	10.00	130.00	-50.00	160.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3085121.508	416529.472	Florida Section	Central Lake District	Bartow Embayment	unk
16-535	POLK	BARTOW	SW	6	27S	25E	28.161389000	-81.854444000	1958	11	8	unk	60.00	60.00	40.00	110.00	-50.00	160.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3115375.694	416112.670	Florida Section	Central Lake District	Bartow Embayment	unk
16-536	POLK	LAKELAND	SW	30	27S	24E	28.102778000	-81.951667000	1959	4	17	unk	5.00	5.00	10.00	105.00	-35.00	115.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3109953.437	406516.220	Florida Section	Central Lake District	Bartow Embayment	unk
16-537	POLK	WINTER HAVEN	NE	33	28S	26E	28.007500000	-81.715278000	1959	5	5	unk	70.00	70.00	40.00	110.00	-35.00	195.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3098239.318	429675.903	Florida Section	Central Lake District	Winter Haven Karst	unk
16-538	POLK	SOCRUM	SW	17	27S	23E	28.123333000	-82.036389000	1960	5	28	unk	30.00	30.00	0.00	150.00	60.00	60.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3111298.693	398212.767	Florida Section	Ocala Uplift District	Hillsborough Valley	unk
16-539	POLK	BARTOW	NW	23	29S	25E	27.949444000	-81.788333000	1956	4	9	unk	100.00	100.00	0.50	130.00	-50.00	180.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3091852.099	422451.582	Florida Section	Central Lake District	Bartow Embayment	unk
16-540	POLK	ELOISE	tbd	9	29S	26E	27.974167000	-81.725000000	1985	1	23	unk	15.00	15.00	7.00	145.00	-25.00	155.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3094552.340	428698.107	Florida Section	Central Lake District	Winter Haven Karst	unk
16-541	POLK	ELOISE	NE	20	29S	26E	27.950000000	-81.727222000	1964	4	21	unk	6.00	6.00	15.00	160.00	-50.00	180.00	unk	100.00	0.00	0.00	0.00	0.00	unk	3091876.427	428463.639	Florida Section	Central Lake District	Bartow Embayment	unk
16-542	POLK	ELOISE	tbd	29	29S	26E	28.925000000	-81.729167000	1964	4	22	unk	0.00	0.00	0.00	120.00	-75.00	195.00	unk	100.00	0.00	0.00	0.00	0.00	unk	3199895.053	428926.950	Florida Section	Central Lake District	Central Lakes	unk
16-543	POLK	LAKE WALES	tbd	1	30S	27E	27.893611000	-81.580556000	1975	4	15	unk	10.00	10.00	15.00	12.00	-75.00	225.00	unk	90.00	0.00	1.11	1.36	4.88	unk	3085552.637	442861.752	Florida Section	Central Lake District	Lake Wales Ridge	Iron Mountains
16-544	POLK	ELOISE	tbd	15	29S	26E	27.962500000	-81.710000000	1981	7	23	unk	40.00	40.00	35.00	32.00	-75.00	220.00	unk	70.00	0.00	0.05	0.29	17.25	unk	3093251.207	430165.850	Florida Section	Central Lake District	Bartow Embayment	unk
16-545	POLK	MULBERRY	tbd	0	30S	23E	27.900000000	-81.975000000	1975	3	19	unk	150.00	150.00	50.00	9.00	-225.00	345.00	unk	30.00	0.00	0.08	0.24	3.27	unk	3086507.002	404044.565	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-546	POLK	LAKELAND	tbd	29	28S	24E	28.042222000	-81.932778000	1965	5	26	unk	35.00	35.00	55.00	105.00	-125.00	275.00	unk	90.00

Table 2. Reported New Sinkholes in the St. Johns River Water Management District

FSRI_COD	COUNTY	QUADRANGLE	Z_4_SECTIO	SECTION	TOWNSHIP	RANGE	LATITUDE	LONGITUDE	YEAR	MONTH	DATE	TIME	LENGTH	WIDTH	DEPTH	LAND_ELEV	LS_ELEV	COVER_TH	WT_ELEV	POT_SUR_E	HEAD_DIFF	Z4_HR_RAI	Z_DYS_RAI	Z0_DYS_RA	COMMENTS	NORTHING_UTM	EASTING_UTM	ISP_SECTIO	DISTRICT	SUBDISTRIC	SUBDIVISIO
16-582	POLK	AUBURNDALE	tbd	13	28S	25E	28.049444000	-81.766111000	1983	6	15	unk	5.00	5.00	8.00	20.00	-20.00	170.00	147.00	110.00	37.00	0.00	0.11	15.24	unk	3102916.275	424707.184	Florida Section	Central Lake District	Winter Haven Karst	unk
16-583	POLK	ELOISE	SW	2	29S	26E	27.985278000	-81.690278000	1985	9	1	unk	15.00	12.00	1.10	38.00	-25.00	175.00	131.00	110.00	21.00	0.00	4.52	21.23	unk	3095763.425	432119.979	Florida Section	Central Lake District	Winter Haven Karst	unk
16-585	POLK	ELOISE	tbd	9	29S	26E	27.968611000	-81.715278000	1986	4	9	1100	30.00	25.00	25.00	100.00	-25.00	165.00	131.00	105.00	26.00	0.04	0.04	6.65	unk	3093931.207	429650.662	Florida Section	Central Lake District	Winter Haven Karst	unk
16-586	POLK	LAKELAND	SW	6	28S	24E	28.069444000	-81.946111000	1986	5	18	unk	50.00	40.00	0.00	140.00	-75.00	205.00	130.00	105.00	25.00	0.00	0.00	0.00	unk	3105256.273	407033.309	Florida Section	Central Lake District	Bartow Embayment	unk
16-587	POLK	DAVENPORT	SE	34	26S	27E	28.177500000	-81.595000000	1976	6	28	unk	10.00	10.00	0.00	200.00	-295.00	400.00	114.00	110.00	4.00	0.00	0.00	0.00	unk	3117008.412	441593.654	Florida Section	Central Lake District	Lake Wales Ridge	Eastern Complex of the Central Ridge
16-588	POLK	DAVENPORT	SE	34	26S	27E	28.178056000	-81.595556000	1986	6	25	unk	115.00	115.00	0.00	142.00	0.00	110.00	114.00	100.00	14.00	0.00	0.00	0.00	unk	3117070.276	441539.378	Florida Section	Central Lake District	Lake Wales Ridge	Eastern Complex of the Central Ridge
16-589	POLK	AUBURNDALE	tbd	21	28S	25E	28.034722000	-81.850000000	1985	7	10	unk	0.00	0.00	0.00	157.00	25.00	111.00	135.00	123.00	12.00	0.00	0.46	6.57	unk	3101340.009	416450.934	Florida Section	Central Lake District	Bartow Embayment	unk
16-590	POLK	PLANT CITY EAST	SE	29	27S	23E	28.101667000	-82.023611000	1986	2	2	unk	15.00	15.00	25.00	71.00	-130.00	250.00	120.00	115.00	5.00	0.00	0.00	6.17	unk	3108887.749	399447.605	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-591	POLK	WINTER HAVEN	NE	19	28S	26E	28.038611000	-81.746389000	1986	4	15	unk	0.00	0.00	0.00	9.00	-25.00	156.00	131.00	100.00	31.00	0.00	0.64	6.26	unk	3101704.152	426638.160	Florida Section	Central Lake District	Winter Haven Karst	unk
16-593	POLK	AUBURNDALE	SW	36	28S	25E	28.000833000	-81.769444000	1986	1	unk	81	0.00	0.00	0.00	150.00	-50.00	192.00	128.00	105.00	23.00	0.00	0.00	0.00	unk	3097533.146	424345.623	Florida Section	Central Lake District	Winter Haven Karst	unk
16-594	POLK	PROVIDENCE	SW	17	27S	24E	28.132500000	-81.936667000	1986	9	3	1600	25.00	25.00	30.00	82.00	60.00	95.00	135.00	120.00	15.00	0.00	1.03	26.50	unk	3112234.758	408015.140	Florida Section	Central Lake District	Bartow Embayment	unk
16-595	POLK	LAKELAND	tbd	11	28S	23E	28.068333000	-81.974444000	1988	2	10	1500	25.00	25.00	10.00	130.00	50.00	135.00	145.00	100.00	45.00	0.00	0.00	0.00	unk	3105155.153	404248.125	Florida Section	Central Lake District	Lakeland Ridge	unk
16-596	POLK	MULBERRY	NE	8	29S	24E	27.981389000	-81.927500000	1987	4	unk	unk	0.00	0.00	0.00	9.00	-20.00	154.00	115.00	74.00	41.00	0.00	0.00	14.41	unk	3095487.142	408787.952	Florida Section	Central Lake District	Lakeland Ridge	unk
16-597	POLK	PLANT CITY EAST	NE	32	27S	23E	28.095556000	-82.025000000	1988	4	28	2000	30.00	30.00	25.00	12.00	50.00	90.00	130.00	100.00	30.00	0.00	0.00	8.09	unk	3108211.882	399305.447	Florida Section	Ocala Uplift District	Hillsborough Valley	unk
16-598	POLK	WINTER HAVEN	NW	29	28S	27E	28.018889000	-81.636111000	1988	9	7	400	5.00	5.00	6.00	22.00	0.00	125.00	121.00	121.00	0.00	1.81	6.86	35.02	unk	3099457.878	437466.149	Florida Section	Central Lake District	Winter Haven Karst	unk
16-599	POLK	ELOISE	NW	16	29S	26E	27.966667000	-81.719444000	1989	3	14	1025	60.00	60.00	24.00	5.00	55.00	80.00	131.00	108.00	23.00	0.00	0.06	4.67	unk	3093718.253	429239.647	Florida Section	Central Lake District	Winter Haven Karst	unk
16-600	POLK	ELOISE	NW	5	30S	27E	27.908889000	-81.643611000	1989	2	28	unk	60.00	60.00	6.00	120.00	40.00	85.00	123.00	95.00	28.00	0.00	0.30	3.85	unk	3087276.114	436664.643	Florida Section	Central Lake District	Bartow Embayment	unk
16-601	POLK	ELOISE	SW	9	30S	27E	27.880000000	-81.629444000	1989	2	26	unk	60.00	60.00	15.00	110.00	40.00	85.00	123.00	95.00	28.00	0.00	0.32	3.85	unk	3084068.624	438042.347	Florida Section	Central Lake District	Bartow Embayment	unk
16-602	POLK	LAKE LOUISA	NW	24	25S	26E	28.297222000	-81.666667000	1989	6	23	unk	4.00	4.00	4.00	22.00	0.00	165.00	115.00	115.00	0.00	0.13	2.58	8.28	unk	3130308.169	434631.535	Florida Section	Central Lake District	Lake Wales Ridge	No Name Ridge
16-603	POLK	BARTOW	NW	24	29S	24E	27.946667000	-81.870833000	1989	6	28	200	38.00	42.00	62.00	11.00	-50.00	160.00	97.00	80.00	17.00	0.04	3.56	9.53	unk	3091599.538	414333.520	Florida Section	Central Lake District	Bartow Embayment	unk
16-604	POLK	LAKE WALES	SE	35	29S	27E	27.910278000	-81.583333000	1978	2	23	unk	30.00	30.00	170.00	50.00	-30.00	170.00	112.00	95.00	17.00	0.00	2.32	10.61	unk	3087400.252	442597.231	Florida Section	Central Lake District	Lake Wales Ridge	Iron Mountains
16-605	POLK	ELOISE	tbd	25	29S	26E	27.933389000	-81.668611000	1988	8	13	unk	30.00	20.00	10.00	19.00	-25.00	146.00	118.00	110.00	8.00	0.72	3.26	17.92	unk	3089781.812	434218.043	Florida Section	Central Lake District	Bartow Embayment	unk
16-606	POLK	ELOISE	tbd	11	29S	26E	27.982222000	-81.688889000	1989	11	5	1415	50.00	50.00	25.00	110.00	-50.00	200.00	131.00	120.00	11.00	0.00	0.00	0.00	unk	3095424.103	432254.661	Florida Section	Central Lake District	Winter Haven Karst	unk
16-701	POLK	NICHOLS	tbd	28	29S	23E	27.930556000	-82.013889000	1982	3	12	unk	3.00	3.00	5.00	17.00	0.00	0.00	unk	58.00	0.00	0.00	0.61	2.70	9.28	unk	3089923.184	400245.095	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-702	POLK	LAKE WALES	SE	4	29S	27E	27.983611000	-81.614722000	1989	12	25	400	34.83	30.75	20.00	185.00	-25.00	145.00	119.00	95.00	24.00	0.00	0.00	0.00	unk	3095539.039	439549.187	Florida Section	Central Lake District	Winter Haven Karst	unk
16-703	POLK	LAKE WALES	SE	4	29S	27E	27.983611000	-81.614722000	1990	1	11	1500	20.00	20.00	15.00	50.00	-25.00	145.00	119.00	95.00	24.00	0.00	0.02	8.36	unk	3095539.039	439549.187	Florida Section	Central Lake District	Winter Haven Karst	unk
16-704	POLK	ELOISE	NW	32	29S	27E	27.916667000	-81.631389000	1989	12	21	900	6.00	6.00	1.00	150.00	-50.00	170.00	123.00	90.00	33.00	0.00	0.00	0.00	unk	3088131.476	437871.836	Florida Section	Central Lake District	Bartow Embayment	unk
16-705	POLK	SOCRUM	NW	17	27S	23E	28.137222000	-82.037500000	1990	5	15	unk	0.00	0.00	0.00	120.00	88.00	37.00	120.00	98.00	22.00	0.00	0.00	0.00	unk	3112838.348	398116.781	Florida Section	Ocala Uplift District	Hillsborough Valley	unk
16-706	POLK	ALTURAS	SW	2	31S	26E	27.813611000	-81.689167000	1991	6	3	unk	30.00	30.00	10.00	145.00	-75.00	225.00	140.00	75.00	65.00	0.00	1.64	17.37	unk	3076745.870	432122.197	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-707	POLK	ALTURAS	SW	2	31S	26E	27.811944000	-81.691111000	1991	6	3	unk	44.00	44.00	2.00	100.00	-75.00	225.00	140.00	75.00	65.00	0.00	1.64	17.37	unk	3076562.282	431929.681	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-708	POLK	ALTURAS	SW	2	31S	26E	27.811667000	-81.691667000	1991	6	3	unk	40.00	40.00	6.00	150.00	-75.00	225.00	140.00	75.00	65.00	0.00	1.64	17.37	unk	3076531.906	431874.745	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-709	POLK	ALTURAS	NE	2	31S	26E	27.813889000	-81.690833000	1991	6	3	unk	40.00	40.00	1.00	150.00	-75.00	225.00	140.00	75.00	65.00	0.00	1.64	17.37	unk	3076777.589	431958.276	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-710	POLK	ALTURAS	SW	2	31S	26E	27.814444000	-81.689722000	1991	6	3	unk	35.00	35.00	20.00	150.00	-75.00	225.00	140.00	75.00	65.00	0.00	1.64	17.37	unk	3076838.450	432068.049	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-711	POLK	ALTURAS	SW	2	31S	26E	27.813889000	-81.692222000	1991	6	3	unk	10.00	10.00	6.00	150.00	-75.00	225.00	140.00	75.00	65.00	0.00	1.64	17.37	unk	3076778.359	431821.466	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-712	POLK	ALTURAS	SW	2	31S	26E	27.812778000	-81.691944000	1991	6	3	unk	10.00	10.00	6.00	150.00	-75.00	225.00	140.00	75.00	65.00	0.00	1.64	17.37	unk	3076655.129	431848.155	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-713	POLK	ALTURAS	SW	2	31S	26E	27.812500000	-81.691111000	1991	6	3	unk	20.00	20.00	15.00	150.00	-75.00	225.00	140.00	75.00	65.00	0.00	1.64	17.37	unk	3076623.870	431930.028	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-714	POLK	BABSON PARK	NE	7	31S	28E	27.806111000	-81.546389000	1991	6	4	30	35.00	35.00	20.00	150.00	-95.00	270.00	120.00	82.00	38.00	0.00	1.64	17.37	unk	3075844.302	446181.339	Florida Section	Central Lake District	Lake Wales Ridge	Iron Mountains
16-715	POLK	ELOISE	NE	6	29S	26E	27.999167000	-81.745556000	1991	7	14	1430	8.00	8.00	7.00	0.00	-50.00	190.00	131.00	91.00	40.00	0.35	5.57	24.03	unk	3097334.014	426693.322	Florida Section	Central Lake District	Winter Haven Karst	unk
16-716	POLK	LAKELAND	SE	22	27S	23E	28.115278000	-81.997778000	1991	7	14	1500	18.00	18.00	16.00	25.00	57.00	95.00	128.00	105.00	23.00	0.35	5.57	24.03	unk	3110374.569	401997.777	Florida Section	Central Lake District	Lakeland Ridge	unk
16-717	POLK	ELOISE	NE	6	29S	26E	27.995000000	-81.745833000	1991	7	14	1500	6.00	6.00	10.00	140.00	-50.00	195.00	131.00	95.00	36.00	0.35	5.57	24.03	unk	3096872.552	426663.264	Florida Section	Central Lake District	Winter Haven Karst	unk
16-718	POLK	BABSON PARK	NE	25	31S	27E	27.756111000	-81.573056000	1991	7	12	500	150.00	150.00	50.00	43.00	-125.00	252.00	112.00	78.00	34.00	0.30	1.62	24.54	Pauline Bennett residi	3070317.538	443528.804	Florida Section	Southwestern Flatwoods	Carlton Ranch Ridge	unk
16-738	POLK	MULBERRY	SE	3	30S	23E	27.895278000	-81.995556000	1974	5	1	unk	50.00	27.00	1.00	113.00	85.00	30.00	unk	40.00	0.00	0.00	0.00	4.39	unk	3086000.165	402017.163	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-751	POLK	LAKELAND	tbd	18	28S	24E	28.134722000	-81.947222000	1976	5	13	unk	65.00	35.00	35.00	30.00	7.00	0.00	unk	81.00	0.00	0.00	0.12	0.63	5.93	unk	3112488.954	406980.460	Florida Section	Central Lake District	Bartow Embayment	unk
16-794	POLK	BARTOW	SW	13	29S	25E	27.957222000	-81.770000000	1981	5	1	unk	130.00	130.00	35.00	0.00	70.00	60.00	unk	60.00	0.00	0.00	0.13	0.13	3.90	unk	3092702.249	424260.494	Florida Section	Central Lake District	Bartow Embayment	unk
16-795	POLK	PROVIDENCE	SW	17	27S	24E	28.131389000	-81.937222000	1981	5	20	unk	29.00	21.00	15.00	7.00	60.00	60.00	unk	112.00	0.00	0.00	0.32	0.32	4.97	unk	3112112.099	407959.684	Florida Section	Central Lake District	Bartow Embayment	unk
16-796	POLK	BARTOW	tbd	8	30S	25E	27.977778000	-81.839722000	1974	7	9	unk	10.00	10.00	3.00	20.00	-50.00	170.00	105.00	70.00	35.00	0.07	1.84	21.43	unk	3095024.637	417417.813	Florida Section	Central Lake District	Bartow Embayment	unk
16-817	POLK	LAKE WALES	SW	1	30S	27E	27.895278000	-81.576944000	0	0	unk	unk	0.00	0.00	0.00	13.00	20.00	100.00	unk	85.00	0.00	0.00	0.00	0.00	unk	3085735.627	443218.121	Florida Section	Central Lake District	Lake Wales Ridge	Iron Mountains
16-826	POLK	AUBURNDALE	NW	34	27S	25E	28.093611000	-81.802500000	1981	5	18	unk	175.00	175.00	3.00	18.00	90.00	60.00	unk	112.00	0.00	0.00	0.03	0.03	0.07	unk	3107832.221	421163.022	Florida Section	Central Lake District	Winter Haven Karst	unk
16-827	POLK	AUBURNDALE	tbd	25	28S	25E	28.019444000	-81.768056000	1977	0	1	unk	0.00	0.00	0.00	7.00	0.00	0.00	unk	95.00	0.00	0.00	0.00	2.21	25.42	unk	3099594.039	424495.083	Florida Section	Central Lake District	Winter Haven Karst	unk
16-848	POLK	ELOISE	NE	16	29S	26E	27.963333000	-81.711389000	1981	7	22	300	30.00	30.00	35.00	8.00	67.00	75.00	131.00	100.00	31.00	0.00	3.23	13.71	unk	3093344.277	430029.761	Florida Section	Central Lake District	Winter Haven Karst	unk
16-871	POLK	MULBERRY	tbd	1	30S	23E	unk	unk	1975	3	17	unk	125.00	110.00	0.00	120.00	0.00	0.00	unk	38.00	0.00	0.00	0.10	0.10	8.37	unk	UNK	UNK	UNK	UNK	UNK	UNK
16-872	POLK	ROCK RIDGE	tbd	20	25S	24E	0.000000000	0.000000000	0	0	unk	unk	29.00	21.00	15.00	109.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	unk	UNK	UNK	UNK	UNK	UNK	UNK
16-874	POLK	unk	tbd	19	27S	23E	28.116111000	-82.047500000	1994	4	25	unk	0.60	0.80	4.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unk	3110507.934	397114.555	Florida Section	Ocala Uplift District	Hillsborough Valley	unk
16-875	POLK	unk	tbd	14	29S	26E	27.962778000	-81.683889000	1994	6	7	unk	40.00	35.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unk	3093267.355	432734.316	Florida Section	Central Lake District	Winter Haven Karst	unk
16-876	POLK	unk	tbd	19	27S	23E	28.124167000	-82.044444000	1995	6	20	unk	9.00	6.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unk	3111397.854	397422.406	Florida Section	Ocala Uplift District	Hillsborough Valley	unk
16-877	POLK	unk	tbd	4	30S	23E	27.903611000	-82.007500000	1994	5	20	unk	0.60	0.80	2.00	125.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	unk	3086932.930	400849.158	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-878	POLK	unk	tbd	34	31S	25E	27.740278000	-81.797500000	1994	9	29	unk	20.00	10.00	3.00	0.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3068686.806	421399.142	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-885	POLK	BARTOW	SE	5	30S	25E	27.900278000	-81.841389000	1996	4	18	unk	5.00	10.00	10.00	0.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3086440.244	417194.791	Florida Section	Central Lake District	Bartow Embayment	unk
16-886	POLK	unk	tbd	28	27S	27E	28.101944000	-81.613889000	1996	5	31	7:30	41.00	41.00	12.00	0.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3108647.487	439697.138	Florida Section	Central Lake District	Lake Wales Ridge	Iron Mountains
16-887	POLK	unk	tbd	17	27S	24E	28.142222000	-81.931111000	1996	6	20	unk	8.00	14.00	1.50	0.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3113307.624	408569.044	Florida Section	Central Lake District	Bartow Embayment	unk
16-888	POLK	Mulberry	NE	15	30S	23E	27.875800000	-81.993200000	1994	6	27	unk	160.00	160.00	185.00	85.00	-262.00	382.00	105.00	56.00	49.00	0.00	1.88	16.44	unk	3083840.452	402231.557	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-889	POLK	Bartow	SW	5	30S	25E	27.900140000	-81.841530000	1996	4	22	unk	0.00	0.00	30.00	95.00	-75.00	190.00	113.00	65.00	48.00	0.00	0.25	7.87	fgs 16-051	3086425.053	417180.811	Florida Section	Central Lake District	Bartow Embayment	unk
16-890	POLK	Dundee	SE	28	27S	27E	28.103696000	-81.613543000	1996	5	26	7:00	50.00	65.00	20.00	50.00	2.00	175.00	135.00	100.00	35.00	0.00	0.65	9.53	unk	3108841.408	439732.105	Florida Section	Central Lake District	Lake Wales Ridge	Iron Mountains
16-891	POLK	Davenport	NE	9	26S	27E	28.242690000	-81.612640000	1997	12	30	11:30	0.00	0.00	0.00	90.00	-33.00	162.00	125.00	105.00	20.00	1.00	1.21	19.81	fgs 16-053	3124238.910	439898.545	Florida Section	Central Lake District	Lake Wales Ridge	Eastern Complex of the Central Ridge
16-892	POLK	Providence	NW	7	27S	24E	28.153769000	-81.953340000	1997	8	23	unk	10.00	10.00	12.00	29.00	-38.00	178.00	138.00	100.00	38.00	0.42	3.31	27.55	fgs 16-054	3114603.800	406396.191	Florida Section	Ocala Uplift District	Webster Limestone Plains	Wet Plain
16-893	POLK	Lake Wales	SW	16	29S	27E	27.956286000	-81.621478000	1998	6	15	9:00	80.00	80.00	14.00	81.00	-88.00	98.00	114	101.00	13.00	0.00	0.00	4.71	Eagle Ridge Shopping	3092515.394	438869.397	Florida Section	Central Lake District	Winter Haven Karst	unk
16-894	POLK	Winter Haven	NW	32	27S	27E	28.097810000	-81.633500000	1999	6	30	unk	65.00	65.00	2.00	40.00	5.00	139.00	131.00	112.00	19.00	0.09	2.50	17.04	fgs 16-055	3108199.402	437768.304	Florida Section	Central Lake District	Winter Haven Karst	unk
16-895	POLK	Socrum	NW	17	27S	23E	28.140296000	-82.035407000	2000	4	14	unk	12.00	18.00	15.00	115.00	-45.00	170.00	121.00	0.00	0.00	0.00	0.00	2.70	fgs 16-056	3113177.156	398325.233	Florida Section	Ocala Uplift District	Hillsborough Valley	unk
16-896	POLK	Polk City	SW	26	26S	25E	28.190487000	-81.786629000	2000	7	7	unk	10.00	10.00	15.00	20.00	50.00	115.00	160.00	0.00	0.00	0.10	0.62	8.44	fgs 16-057	3118554.275	422791.735	Florida Section	Central Lake District	Green Swamp	unk
16-897	POLK	Eloise	SE	18	29S	27E	27.960320000	-81.650340000	2001	1	2	unk	30.00	30.00	25.00	0.00	-85.00	216.00	125.00	0.00	0.00	0.00	0.08	0.00	fgs 16-058	3092977.044	436032.746	Florida Section	Central Lake District	Winter Haven Karst	unk
16-898	POLK	unk	tbd	0	unk	unk	0.000000000	0.000000000	2001	1	24	unk	0.00	0.00	0.00	0.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	fgs 16-101	UNK	UNK	UNK	UNK	UNK	UNK
16-899	POLK	Lakeland	SW	20	28S	24E	28.032800000	-81.938454000	2001	6	20	unk	0.00	0.00	0.00	110.00	-135.00	279.00	140.00	0.00	0.00	0.11	0.18	8.72	fgs 16-059	3101190.862	407754.469	Florida Section	Central Lake District	Bartow Embayment	unk
16-900	POLK	Winter Haven	NE	22	28S	26E	28.035493000	-81.693854000	2001	7	18	unk	0.00	0.00	0.00	0.80	131.00	-25.00	160.00	131.00	0.00	0.00	0.00	0.00	fgs 16-060	3101328.220	431799.953	Florida Section	Central Lake District	Winter Haven Karst	unk
16-901	POLK	Homeland	SE	26	31S	25E	27.761400000	-81.780600000	2001	8	14	unk	35.00	25.00	1.00	0.00	-270.00	355.00	80.00	0.00	0.00	0.00	0.00	0.00	fgs 16-061	3071015.958	423079.691	Florida Section	Southwestern Flatwoods	Bone Valley Uplands	unk
16-902	POLK	Homeland	SE	14	30S	25E	27.869445000	-81.786111000	1970	1	30	unk	0.00	0.00	0.00	12.00	-162.00	277.00	95.00	0.00	0.00	0.00	0.27	10.62	fgs 16-062	3082988.435	422613.250	Florida Section	Central Lake District	Bartow Embayment	unk
16-903	POLK	Bartow	NW	36	29S	24E	27.921945000	-81.871945000	1970	1	30	unk	0.00	0.00	0.00	70.00	-125.00	267.00	102.00	0.00	0.00	0.00	0.27	10.62	fgs 16-063	3088861.585	414204.599	Florida Section	Central Lake District	Bartow Embayment	unk
16-904	POLK	Bartow	NW	24	29S	24E	27.951111000	-81.870333000	1970	1	30	unk	0.00	0.00	0.00	115.00	-170.00	284.00	102.00	0.00	0.00	0.00	0.27	10.62	fgs 16-064	3092091.500	414386.213	Florida Section	Central Lake District	Bartow Embayment	unk
16-905	POLK	Bowling Green	NW	32	31S	25E	27.743055000	-81.834722000	1970	1	30	unk	0.00	0.00	0.00	142.00	-281.00	403.00	105.00	0.00	0.00	0.00	0.27	10.62	fgs 16-065	3069018.762	417732.515	Florida Section	Southwestern Flatwoods	Agricola Ridge	unk
16-906	POLK	Bartow	NW	25	29S	24E	27.937778000	-81.871945000	1970	1	30	unk	0.00	0.00	0.00	114.00	-150.00	291.00	102.00	0.00	0.00	0.00	0.27	10.62	fgs 16-066	3090615.586	414217.103	Florida Section	Central Lake District	Bartow Embayment	unk
16-907	POLK	Mulberry	SW	15	29S	24E	27.958333000	-81.900000000	1970	1	30	unk	0.00	0.00	0.00	122.00	-212.00	350.00	107.00	0.00	0.00	0.00	0.27	10.62	fgs 16-067	3092912.700	411473.660	Florida Section	Central Lake District	Lakeland Ridge	unk
16-908	POLK	Alturas	NE	11	31S	26E	27.797222000	-81.681945000	1970	1	30	unk	0.00	0.00	0.00	170.00	-150.00	291.00	138.00	0.00	0.00	0.00	0.00	12.65	fgs 16-068	3074926.379	432823.448	Florida Section	Southwestern Flatwoods	Water Tank Ridge	unk
16-909	POLK	Alturas	NW	6	31S	26E	27.813056000	-81.661944000	1970	1	30	unk	0.00	0.00	0.00	56.00	-122.00	276.00	139.00	0.00	0.00	0.00	0.00	12.65	fgs 16-069	3076669.636	434803.197	Florida Section	Central Lake District	Bartow Embayment	unk
16-910	POLK	Lakeland	NW	29	28S	24E	28.106944000	-81.933333000	1975	1	1	unk	0.00	0.00	0.00	75.00	-162.00	307.00	134.00	0.00	0.00	0.00	0.00	2.06	fgs 16-070	3109401.009	408320.829	Florida Section	Central Lake District	Bartow Embayment	unk
16-911	POLK	Plant City East	NW	29	27S	23E	28.109909000	-82.032358000	1986	7	12	unk	0.00	0.00	0.00	95.00	-62.00	183.00	118.00	0.00	0.00	0.00	1.93	14.47	unk	3109808.119	398596.058	Florida Section	Ocala Uplift District	Hillsborough Valley	unk
16-912	POLK	Mulberry	NE	8	29S	24E	27.981389000	-81.927500000	1988	1	30	unk	0.00	0.00	0.00	66.00	-225.00	362.00

Table 2. Reported New Sinkholes in the St. Johns River Water Management District

FSRI_COD	COUNTY	QUADRANGLE	Z_4_SECTIO	SECTION	TOWNSHIP	RANGE	LATITUDE	LONGITUDE	YEAR	MONTH	DATE	TIME	LENGTH	WIDTH	DEPTH	LAND_ELEV	LS_ELEV	COVER_THI	WT_ELEV	POT_SUR_E	HEAD_DIFF	Z4_HR_RAI	Z_DYS_RAI	Z0_DYS_RA	COMMENTS	NORTHING_UTM	EASTING_UTM	ISP_SECTIO	DISTRICT	SUBDISTRIC	SUBDIVISIO
77-003	SEMINOLE	FOREST CITY	tbd	15	21S	29E	28.662500000	-81.401389000	1974	10	2	unk	8.00	8.00	5.00	82.00	-25.00	105.00	45.00	45.00	0.00	0.00	0.14	18.40	unk	3170660.338	460778.245	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
77-005	SEMINOLE	GENEVA	tbd	23	21S	32E	28.650000000	-81.090278000	1980	4	5	unk	0.00	0.00	0.00	10.00	-30.00	63.00	41.00	25.00	16.00	0.00	0.68	6.40	unk	3169212.951	491177.470	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-006	SEMINOLE	CASSELBERRY	NE	13	20S	29E	28.750000000	-81.366389000	1982	2	23	999	15.00	15.00	8.50	70.00	0.00	0.00	43.00	0.00	0.00	0.00	0.00	0.00	unk	3180343.288	464228.075	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-007	SEMINOLE	CASSELBERRY	NE	24	20S	29E	28.740556000	-81.368889000	1994	6	5	999	40.00	40.00	1.00	85.00	0.00	0.00	44.00	0.00	0.00	0.00	0.00	0.00	shopping center parki	3179297.753	463980.749	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-018	SEMINOLE	CASSELBER	tbd	36	-20	29	28.698330000	-81.365830000	1992	8	1	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3174618.692	464265.086	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-036	SEMINOLE	SANFORD	tbd	13	-20	29	28.752780000	-81.364720000	2002	5	29	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3180650.780	464391.970	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-037	SEMINOLE	SANFORD	tbd	13	-20	29	28.758330000	-81.356110000	1994	6	6	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	unk	3181263.108	465234.418	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-500	SEMINOLE	SANFORD	NE	13	20S	29E	28.750833000	-81.364444000	1982	2	23	unk	19.70	18.70	15.00	20.00	-50.00	95.00	44.00	35.00	9.00	0.00	0.37	9.99	unk	3180434.988	464418.256	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-501	SEMINOLE	FOREST CITY	SE	22	21S	29E	28.648611000	-81.400278000	1977	9	28	1200	10.00	8.00	6.00	67.00	-50.00	131.00	77.00	41.00	36.00	0.00	1.80	22.80	unk	3169121.252	460881.652	Florida Section	Central Lake District	Orlando Promontory	unk
77-502	SEMINOLE	FOREST CITY	tbd	12	21S	29E	28.669444000	-81.368889000	1978	3	25	unk	50.00	50.00	40.00	43.00	-50.00	105.00	50.00	35.00	15.00	0.00	0.08	13.42	unk	3171441.411	463956.386	Florida Section	Central Lake District	Orlando Promontory	unk
77-503	SEMINOLE	FOREST CITY	tbd	11	21S	29E	28.678333000	-81.380000000	1981	5	14	unk	40.00	40.00	35.00	111.00	-45.00	126.00	39.00	28.00	11.00	0.00	0.00	3.29	unk	3172407.600	462873.872	Florida Section	Central Lake District	Orlando Promontory	unk
77-504	SEMINOLE	CASSELBERRY	tbd	36	20S	29E	28.704167000	-81.370556000	1983	7	3	unk	10.00	8.00	6.00	100.00	-50.00	142.00	79.00	38.00	41.00	0.00	0.03	15.77	unk	3175266.788	463805.448	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-505	SEMINOLE	CASSELBERRY	tbd	36	20S	29E	28.704444000	-81.368333000	1983	7	3	unk	0.00	0.00	0.00	130.00	-50.00	125.00	79.00	38.00	41.00	0.00	0.03	15.77	unk	3175296.810	464022.679	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-506	SEMINOLE	FOREST CITY	SW	14	21S	29E	28.663889000	-81.380278000	1972	9	15	unk	5.00	5.00	0.00	6.00	-30.00	107.00	47.00	47.00	0.00	0.00	0.07	30.01	unk	3170807.481	462841.615	Florida Section	Central Lake District	Orlando Promontory	unk
77-507	SEMINOLE	FOREST CITY	NW	1	21S	29E	28.694722000	-81.375000000	1973	7	23	unk	5.00	5.00	12.00	117.00	-35.00	128.00	82.00	48.00	34.00	0.00	1.39	18.94	unk	3174221.757	463368.082	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-508	SEMINOLE	CASSELBERRY	tbd	33	20S	30E	28.708056000	-81.316667000	1964	6	4	unk	8.00	8.00	6.00	39.00	-40.00	120.00	68.00	44.00	24.00	0.10	0.32	9.91	unk	3175682.485	469070.303	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-509	SEMINOLE	CASSELBERRY	NW	20	21S	30E	28.652778000	-81.336389000	1965	5	28	unk	10.00	10.00	12.00	74.00	0.00	95.00	86.00	44.00	42.00	0.00	0.28	4.11	unk	3169563.662	467126.736	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-511	SEMINOLE	CASSELBERRY	NE	17	21S	30E	28.659167000	-81.330000000	1970	9	21	unk	10.00	10.00	10.00	157.00	0.00	75.00	52.00	45.00	7.00	0.00	0.27	17.43	unk	3170269.738	467753.053	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-512	SEMINOLE	CASSELBERRY	NW	17	21S	30E	28.665833000	-81.345556000	1971	5	2	1200	25.00	25.00	5.00	80.00	0.00	92.00	84.00	45.00	39.00	0.00	0.00	9.93	unk	3171012.536	466235.078	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-513	SEMINOLE	CASSELBERRY	NW	1	21S	29E	28.696944000	-81.372500000	1973	4	8	unk	0.00	0.00	0.00	0.00	-40.00	126.00	86.00	40.00	46.00	0.00	0.00	11.39	unk	3174467.156	463613.065	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-514	SEMINOLE	CASSELBERRY	NW	1	21S	29E	28.696944000	-81.372500000	1973	4	15	unk	0.00	0.00	0.00	75.00	-35.00	122.00	86.00	40.00	46.00	0.00	0.00	11.55	unk	3174467.156	463613.065	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-517	SEMINOLE	FOREST CITY	NE	21	21S	29E	28.655278000	-81.418333000	1983	4	5	unk	10.00	0.00	10.00	62.00	-60.00	135.00	61.00	48.00	13.00	0.00	0.71	16.68	unk	3169865.916	459119.744	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
77-518	SEMINOLE	FOREST CITY	tbd	36	20S	29E	28.704444000	-81.375556000	1984	12	27	unk	10.00	10.00	0.00	20.00	-50.00	142.00	79.00	45.00	34.00	0.00	0.02	2.41	unk	3175329.009	463317.158	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-519	SEMINOLE	CASSELBERRY	tbd	18	21S	29E	28.654167000	-81.355278000	1965	5	21	unk	30.00	30.00	8.00	50.00	-28.00	123.00	86.00	42.00	44.00	0.00	0.00	5.25	unk	3169722.886	465281.273	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-520	SEMINOLE	FOREST CITY	tbd	5	21S	29E	28.687222000	-81.439722000	1965	2	25	unk	25.00	25.00	15.00	0.00	-25.00	117.00	48.00	48.00	0.00	0.00	0.00	0.00	Westbound shoulder a	3173412.432	457042.582	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
77-521	SEMINOLE	CASSELBERRY	tbd	19	21S	30E	28.640000000	-81.347500000	1962	5	24	unk	20.00	20.00	16.00	12.00	0.00	80.00	76.00	45.00	31.00	0.00	0.00	0.00	unk	3168151.136	466036.802	Florida Section	Central Lake District	Orlando Promontory	unk
77-522	SEMINOLE	SANFORD	tbd	4	20S	30E	28.777778000	-81.322500000	1966	12	1	unk	75.00	75.00	30.00	50.00	-50.00	100.00	40.00	25.00	15.00	0.00	0.00	0.00	unk	3183408.375	468521.483	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-523	SEMINOLE	SANFORD	tbd	4	20S	30E	28.777500000	-81.322778000	1966	12	1	unk	20.00	30.00	8.00	75.00	-50.00	100.00	40.00	25.00	15.00	0.00	0.00	0.00	unk	3183377.648	468494.265	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-524	SEMINOLE	CASSELBERRY	SE	16	21S	30E	28.658333000	-81.316389000	1966	5	15	unk	300.00	300.00	25.00	75.00	0.00	75.00	59.00	45.00	14.00	0.00	0.00	0.00	unk	3170173.740	469082.856	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-525	SEMINOLE	CASSELBERRY	SW	5	21S	30E	28.687222000	-81.337778000	1971	5	2	unk	0.00	0.00	0.00	13.00	-35.00	110.00	64.00	40.00	24.00	0.00	0.00	9.93	unk	3173379.995	467001.790	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-526	SEMINOLE	CASSELBERRY	tbd	8	21S	30E	28.681389000	-81.337778000	1970	5	13	unk	15.00	15.00	4.00	50.00	-20.00	90.00	59.00	45.00	14.00	0.00	0.00	0.00	unk	3172733.763	466999.961	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-527	SEMINOLE	CASSELBERRY	tbd	8	21S	30E	28.678889000	-81.337778000	1969	4	3	unk	0.00	0.00	0.00	50.00	-20.00	95.00	65.00	45.00	20.00	0.00	0.00	0.00	unk	3172456.799	466999.177	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-528	SEMINOLE	CASSELBERRY	tbd	18	20S	30E	28.743333000	-81.359444000	1965	10	12	unk	45.00	45.00	12.00	92.00	-50.00	100.00	45.00	45.00	0.00	0.00	0.00	0.00	unk	3179602.594	464903.917	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-529	SEMINOLE	CASSELBERRY	tbd	25	20S	29E	28.721389000	-81.368611000	1981	9	10	unk	12.00	12.00	8.00	85.00	-50.00	100.00	45.00	45.00	0.00	1.05	2.76	18.57	unk	3177174.190	464001.327	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-530	SEMINOLE	CASSELBERRY	NW	7	21S	30E	28.675000000	-81.361111000	1983	8	26	unk	30.00	20.00	3.00	100.00	-50.00	140.00	unk	45.00	0.00	0.00	0.22	19.55	unk	3172032.615	464718.230	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-531	SEMINOLE	FOREST CITY	tbd	20	21S	29E	28.650556000	-81.440833000	1982	7	8	unk	15.00	15.00	10.00	4.00	-50.00	165.00	104.00	45.00	59.00	0.02	4.07	21.60	unk	3169350.682	456919.050	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
77-533	SEMINOLE	CASSELBERRY	tbd	36	21S	31E	28.662778000	-81.259722000	1985	8	24	unk	3.00	2.00	2.00	64.00	0.00	65.00	40.00	40.00	0.00	0.00	1.47	20.71	unk	3170652.830	474621.379	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-534	SEMINOLE	SANFORD	NW	18	20S	30E	28.751944000	-81.359167000	1985	6	17	300	15.00	15.00	0.00	59.00	-50.00	100.00	40.00	33.00	7.00	2.40	2.05	8.91	unk	3180556.506	464933.840	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-535	SEMINOLE	FOREST CITY	tbd	18	21S	29E	28.664722000	-81.451111000	1985	6	unk	unk	100.00	100.00	1.00	50.00	-25.00	148.00	104.00	46.00	58.00	0.00	0.00	0.00	unk	3170923.851	455920.535	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
77-536	SEMINOLE	FOREST CITY	tbd	18	21S	29E	28.664722000	-81.451111000	1986	1	9	unk	8.00	8.00	18.00	0.00	-25.00	148.00	104.00	46.00	58.00	0.02	0.61	8.58	unk	3170923.851	455920.535	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
77-537	SEMINOLE	FOREST CITY	tbd	9	21S	29E	28.680556000	-81.419444000	1986	2	23	unk	0.67	0.63	2.00	158.00	-25.00	85.00	48.00	46.00	2.00	0.00	0.20	11.12	unk	3172666.785	459021.010	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
77-538	SEMINOLE	CASSELBERRY	tbd	25	20S	29E	28.716667000	-81.375000000	1986	4	20	unk	10.00	10.00	8.00	50.00	-50.00	110.00	59.00	39.00	20.00	0.00	0.00	5.23	Lake Grace	3176652.994	463375.725	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-539	SEMINOLE	CASSELBERRY	NE	26	21S	30E	28.635556000	-81.280000000	1986	7	3	unk	0.00	0.00	0.00	99.00	-50.00	110.00	53.00	43.00	10.00	0.00	0.77	10.31	unk	3167641.487	472632.849	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-540	SEMINOLE	CASSELBERRY	NW	17	21S	30E	28.665833000	-81.345556000	1971	5	4	1700	40.00	40.00	0.50	92.00	0.00	92.00	84.00	45.00	39.00	0.00	0.00	9.93	320 Ball Park Road	3171012.536	466235.078	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-541	SEMINOLE	FOREST CITY	NW	36	20S	29E	28.704167000	-81.375556000	1973	11	29	unk	0.00	0.00	0.00	75.00	-50.00	142.00	79.00	45.00	34.00	0.00	0.00	0.00	unk	3175268.316	463317.062	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-542	SEMINOLE	FOREST CITY	NE	2	21S	29E	28.696667000	-81.379167000	1973	7	23	unk	5.00	5.00	12.00	40.00	-50.00	133.00	51.00	40.00	11.00	0.19	0.28	11.20	unk	3174438.526	462961.710	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-543	SEMINOLE	CASSELBERRY	tbd	25	20S	29E	28.722222000	-81.368611000	1981	9	10	unk	0.00	0.00	0.00	43.00	-50.00	100.00	45.00	45.00	0.00	1.05	2.76	18.57	unk	3177266.473	464001.613	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-544	SEMINOLE	CASSELBERRY	tbd	25	20S	29E	28.720833000	-81.368611000	1983	7	25	unk	6.00	8.00	10.00	92.00	-50.00	100.00	45.00	45.00	0.00	0.00	0.00	0.00	unk	3177112.590	464001.137	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-545	SEMINOLE	CASSELBERRY	tbd	18	21S	29E	28.664444000	-81.450833000	1986	1	9	unk	0.00	0.00	0.00	0.00	-25.00	148.00	104.00	46.00	58.00	0.02	0.61	8.58	unk	3170892.949	455947.583	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
77-546	SEMINOLE	CASSELBERRY	NW	20	21S	30E	28.645833000	-81.333333000	1987	8	28	unk	1.00	1.00	2.00	8.00	0.00	92.00	76.00	47.00	29.00	0.00	0.03	12.91	unk	3168793.409	467423.236	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-547	SEMINOLE	CASSELBERRY	NE	3	21S	29E	28.695278000	-81.397222000	1986	4	21	unk	3.00	3.00	0.00	50.00	-37.00	99.00	49.00	33.00	16.00	0.00	0.00	5.23	unk	3174290.381	461197.510	Florida Section	Central Lake District	St. Johns Offset	unk
77-548	SEMINOLE	FOREST CITY	NE	3	21S	29E	28.695278000	-81.397222000	1985	10	21	unk	0.00	0.00	0.00	75.00	-37.00	99.00	49.00	35.00	14.00	0.31	0.43	24.14	unk	3174290.381	461197.510	Florida Section	Central Lake District	St. Johns Offset	unk
77-549	SEMINOLE	FOREST CITY	NE	3	21S	29E	28.695278000	-81.397222000	1986	6	6	unk	12.00	12.00	2.00	95.00	-37.00	99.00	49.00	33.00	16.00	0.00	0.07	5.27	unk	3174290.381	461197.510	Florida Section	Central Lake District	St. Johns Offset	unk
77-550	SEMINOLE	FOREST CITY	NW	2	21S	29E	28.695833000	-81.383056000	1988	4	28	unk	1.00	1.00	1.00	43.00	-55.00	135.00	66.00	43.00	23.00	0.00	0.00	8.39	unk	3174347.339	462581.519	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-551	SEMINOLE	CASSELBERRY	NE	30	20S	30E	28.718889000	-81.354722000	1988	7	3	unk	10.00	10.00	10.00	20.00	-55.00	112.00	53.00	38.00	15.00	0.00	0.16	9.01	unk	3176893.111	465356.917	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-552	SEMINOLE	CASSELBERRY	NW	13	21S	29E	28.660000000	-81.367500000	1988	7	6	55	60.00	60.00	2.00	123.00	-25.00	100.00	75.00	47.00	28.00	0.00	0.00	0.00	200 Maitland Ave., Bl	3170372.717	464088.886	Florida Section	Central Lake District	Orlando Promontory	unk
77-553	SEMINOLE	FOREST CITY	SE	2	21S	29E	28.691667000	-81.388056000	1988	6	21	200	19.30	18.30	1.00	125.00	-55.00	125.00	66.00	46.00	20.00	0.02	0.30	11.93	unk	3173887.376	462091.594	Florida Section	Central Lake District	St. Johns Offset	unk
77-554	SEMINOLE	CASSELBERRY	tbd	25	20S	29E	28.716667000	-81.375000000	1988	8	1	unk	28.00	32.00	8.00	5.00	-50.00	110.00	59.00	36.00	23.00	0.01	0.30	20.67	unk	3176652.994	463375.725	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-555	SEMINOLE	CASSELBERRY	tbd	36	20S	29E	28.708333000	-81.366667000	1987	2	19	unk	25.00	25.00	0.50	115.00	-50.00	145.00	79.00	45.00	34.00	0.00	0.60	6.82	213 Sheridan Ave.: J	3175727.156	464186.732	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-556	SEMINOLE	CASSELBERRY	tbd	36	20S	29E	28.708333000	-81.366667000	1987	2	19	unk	10.00	10.00	0.50	175.00	-50.00	145.00	79.00	45.00	34.00	0.00	0.60	6.82	WRA behind Kageff R	3175727.156	464186.732	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-557	SEMINOLE	FOREST CITY	tbd	33	21S	29E	28.708333000	-81.416667000	1987	1	22	unk	10.00	10.00	5.00	74.00	-50.00	100.00	30.00	30.00	0.00	0.45	0.90	8.08	Bldg. 4, 625 Sabal La	3175743.192	459303.065	Florida Section	Central Lake District	St. Johns Offset	unk
77-558	SEMINOLE	CASSLEBERRY	NW	30	20S	30E	28.725000000	-81.368056000	1988	8	30	unk	4.00	4.00	8.00	65.00	-50.00	115.00	50.00	50.00	0.00	0.00	0.00	0.00	unk	3177574.083	464056.763	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-559	SEMINOLE	CASSELBERRY	SE	28	20S	30E	28.713889000	-81.316111000	1987	1	15	unk	0.00	0.00	0.00	50.00	-50.00	115.00	55.00	35.00	20.00	0.00	0.00	0.00	unk	3176328.563	469126.322	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-560	SEMINOLE	CASSELBERRY	NW	28	21S	30E	28.636111000	-81.323611000	1989	8	1	unk	15.00	15.00	0.67	68.00	0.00	70.00	55.00	50.00	5.00	0.00	1.02	13.91	unk	3167713.729	468370.461	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-561	SEMINOLE	CASSELBERRY	SE	15	20S	30E	28.743056000	-81.301389000	1989	7	2	800	60.00	60.00	3.00	155.00	-50.00	100.00	40.00	36.00	4.00	0.07	1.30	10.04	unk	3179556.181	470572.356	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-562	SEMINOLE	CASSELBERRY	SE	15	20S	30E	28.743056000	-81.301389000	1989	7	2	800	7.50	8.00	1.50	55.00	-50.00	100.00	40.00	36.00	4.00	0.07	1.30	10.04	unk	3179556.181	470572.356	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-563	SEMINOLE	CASSELBERRY	SE	36	20S	29E	28.698611000	-81.366667000	1989	12	7	unk	77.50	79.00	0.10	85.00	55.00	30.00	79.00	45.00	34.00	0.00	0.00	0.00	unk	3174650.074	464183.421	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-564	SEMINOLE	CASSELBERRY	SE	36	20S	29E	28.698888900	-81.365833300	1989	10	20	unk	49.00	40.70	2.10	55.00	55.00	30.00	79.00	45.00	34.00	0.00	0.68	16.42	Bldg. west end, wall &	3174680.612	464264.954	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-565	SEMINOLE	CASSELBERRY	SE	36	20S	29E	28.698611000	-81.366667000	1989	10	20	unk	66.30	12.00	0.40	35.00	55.00	30.00	79.00	45.00	34.00	0.00	0.68	16.42	At intersection with Ha	3174650.074	464183.421	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-566	SEMINOLE	CASSELBERRY	SE	36	20S	29E	28.698611000	-81.366667000	1989	10	20	1000	32.00	16.00	3.00	85.00	55.00	30.00	79.00	45.00	34.00	0.00	0.68	16.42	unk	3174650.074	464183.421	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-567	SEMINOLE	CASSELBERRY	SE	36	20S	29E	28.698611000	-81.366667000	1989	10	20	1000	55.00	50.00	3.00	85.00	55.00	30.00	79.00	45.00	34.00	0.00	0.68	16.42	Front Yard: 1184 Aut	3174650.074	464183.421	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-568	SEMINOLE	CASSELBERRY	SE	36	20S	29E	28.698611000	-81.366667000	1989	10	20	unk	19.80	15.20	7.00	85.00	55.00	30.00	79.00	45.00	34.00	0.00	0.68	16.42	1185 Autumn Brook C	3174650.074	464183.421	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-569	SEMINOLE	CASSELBERRY	SE	36	20S	29E	28.698611000	-81.366667000	1989	10	10	unk	36.00	30.00	1.30	85.00	55.00	30.00	79.00	45.00	34.00	0.00	0.11	16.48	unk	3174650.074	464183.421	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-570	SEMINOLE	CASSELBERRY	SE	36	20S	29E	28.698611000	-81.366667000	1989	11	unk	unk	45.80	10.00	0.50	75.00	40.00	45.00	79.00	45.00	34.00	0.00	0.00	0.00	unk	3174650.074	464183.421	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-571	SEMINOLE	CASSELBERRY	SE	36	20S	29E	28.698611000	-81.366667000	1989	11	unk	unk	29.00	10.00	0.50	65.00	40.00	45.00	79.00	45.00	34.00	0.00	0.00	0.00	unk	3174650.074	464183.421	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-572	SEMINOLE	CASSELBERRY	SE	36	20S	29E	28.698611000	-81.366667000	1989	11	unk	unk	26.80	10.00	0.50	85.00	40.00	45.00	79.00	45.00	34.00	0.00	0.00	0.00	unk	3174650.074	464183.421	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-573	SEMINOLE	SANFORD	NE	13	19S	29E	28.756111000	-81.366111000	1990	5	11	2330	22.00	22.00	17.00	10.00	0.00	49.00	40.00	35.00	5.00	0.01	0.09	6.22	unk	3181020.233	464257.298	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-574	SEMINOLE	ORLANDO WEST	SW	34	21S	29E	28.611667000	-81.403056000	1990	6	27	unk	3.00	3.00	3.50	7.00	-21.00	95.00	82.00	48.00	34.00	0.00	1.26	10.21	unk	3165024.260	460596.366	Florida Section	Central Lake District	Orlando Promontory	unk
77-575	SEMINOLE	SANFORD	NE	13	20S	29E	28.754167000	-81.363889000	1991	2	14	unk	7.33	6.25	7.33	85.00	-50.00	95.00	40.00	30.00	10.00	0.00	0.00	0.00	Eastbound exit ramp	3180804.190	464473.571	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-576	SEMINOLE	SANFORD	NE	13	20S	29E	28.755000000	-81.365278000	1991	4	11	unk	1.00	1.

Table 2. Reported New Sinkholes in the St. Johns River Water Management District

FSRI_COD	COUNTY	QUADRANGLE	Z_4_SECTIO	SECTION	TOWNSHIP	RANGE	LATITUDE	LONGITUDE	YEAR	MONTH	DATE	TIME	LENGTH	WIDTH	DEPTH	LAND_ELEV	LS_ELEV	COVER_THI	WT_ELEV	POT_SUR_E	HEAD_DIFF	Z4_HR_RAI	Z_DYS_RAI	Z0_DYS_RA	COMMENTS	NORTHING_UTM	EASTING_UTM	ISP_SECTIO	DISTRICT	SUBDISTRIC	SUBDIVISIO
77-741	Seminole	CASSELBERRY	NE	1	21S	29E	28.696388900	-81.365000000	1989	10	-	unk	unk	unk	unk	60.00	unk	unk	79	unk	unk	unk	unk	unk	*Northeast corner of b	3174403.398	464345.505	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-742	Seminole	CASSELBERRY	NW	1	21S	29E	28.696944400	-81.366944400	1989	10	-	unk	30.00	30.00	0.00	86.00	unk	unk	79	unk	unk	unk	unk	unk	Langdon Carpet/Floor	3174465.522	464155.757	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-743	Seminole	CASSELBERRY	NW	1	21S	29E	28.697500000	-81.371388900	1977	5	10	unk	4.00	4.00	8.00	45.00	unk	unk	80	unk	unk	unk	unk	unk	SEC Palm Springs Rd	3174528.418	463721.794	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-744	Seminole	CASSELBERRY	SE	36	20S	29E	28.700000000	-81.365833300	1989	10	20	unk	10.00	10.00	1.00	55.00	unk	unk	79	unk	unk	unk	unk	unk	Sidewalk: 1192/1186	3174803.718	464265.332	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-745	Seminole	CASSELBERRY	SE	36	20S	29E	28.700000000	-81.366388900	1989	11	21	unk	10.00	10.00	5.00	50.00	unk	unk	79	unk	unk	unk	unk	unk	Lambert Ln/Harbour Is	3174803.884	464211.060	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-746	Seminole	CASSELBERRY	NE	25	20S	29E	28.725555600	-81.373333300	1984	5	19	unk	12.00	12.00	5.00	45.00	unk	unk	48	unk	unk	unk	unk	unk	Richie Green Rest Are	3177637.238	463541.588	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-747	Seminole	CASSELBERRY	SW	19	20S	30E	28.732777800	-81.356666700	1987	7	11	unk	15.00	15.00	8.00	87.00	unk	unk	44	unk	unk	unk	unk	unk	Lot 1: NEC Sloewood	3178432.387	465171.594	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
77-748	Seminole	unk	tbd	11	20S	29E	28.766944400	-81.380555600	1988	10	18	unk	6.00	6.00	6.00	163.00	unk	unk	45	unk	unk	unk	unk	unk	Markham Woods Roa	3182224.876	462850.925	Florida Section	Central Lake District	Casselberry-Oviedo-Geneva-Chuli	unk
79-001	VOLUSIA	PIERSON	tbd	35	14S	28E	29.243056000	-81.450000000	1973	12	12	unk	60.00	60.00	0.00	15.00	60.00	1.00	unk	15.00	0.00	0.00	1.70	13.60	SWC Shaw Lk. Rd. &	3234998.502	456272.723	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-003	VOLUSIA	PIERSON	tbd	26	14S	28E	29.250000000	-81.441667000	1977	1	19	unk	30.00	30.00	12.00	18.00	-65.00	115.00	unk	15.00	0.00	0.00	0.55	12.10	unk	3235764.818	457085.361	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-004	VOLUSIA	DELAND	tbd	0	16S	29E	29.063333000	-81.352778000	1979	0	unk	unk	9.00	9.00	4.00	0.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3215053.749	465660.297	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-500	VOLUSIA	LAKE WOODRUFF	NW	13	16S	29E	29.116667000	-81.450000000	1982	4	11	930	7.25	6.50	3.33	120.00	-40.00	100.00	unk	30.00	0.00	0.63	6.65	13.31	unk	3220995.101	456219.100	Florida Section	Central Lake District	St. Johns Offset	unk
79-501	VOLUSIA	LAKE HELEN	tbd	30	17S	31E	28.992778000	-81.230000000	1982	7	25	unk	4.00	3.00	3.00	134.00	-55.00	120.00	unk	35.00	0.00	0.02	2.91	24.97	unk	3207207.267	477596.426	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-502	VOLUSIA	DELAND	tbd	0	16S	29E	29.060278000	-81.352222000	1981	10	27	unk	3.00	3.00	8.00	97.00	-30.00	88.00	unk	15.00	0.00	0.50	1.15	18.88	unk	3214715.111	465713.408	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-503	VOLUSIA	ORANGE CITY	tbd	17	17S	30E	28.994722000	-81.290278000	1977	4	10	unk	70.00	70.00	50.00	83.00	-30.00	65.00	unk	17.00	0.00	0.00	0.18	5.87	unk	3207435.573	471725.442	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-504	VOLUSIA	DELAND	tbd	0	16S	29E	29.061667000	-81.353056000	1979	4	17	unk	6.00	6.00	10.00	18.00	-30.00	85.00	unk	15.00	0.00	0.00	0.52	7.81	unk	3214869.256	465632.684	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-505	VOLUSIA	PIERSON	SE	35	14S	28E	29.235833000	-81.434444000	1976	12	1	unk	15.00	15.00	0.00	75.00	-56.00	117.00	unk	20.00	0.00	0.20	0.90	9.96	unk	3234192.523	457781.378	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-506	VOLUSIA	PIERSON	tbd	35	14S	28E	29.241389000	-81.442500000	1977	1	15	unk	0.00	0.00	0.00	166.00	-60.00	120.00	unk	20.00	0.00	0.59	0.81	12.50	unk	3234811.031	457000.822	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-507	VOLUSIA	PIERSON	tbd	33	14S	28E	29.242778000	-81.476944000	1979	1	3	unk	39.00	32.00	0.00	92.00	-56.00	101.00	unk	30.00	0.00	1.80	2.40	9.75	unk	3234978.057	453654.372	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-508	VOLUSIA	PIERSON	tbd	26	14S	28E	29.245833000	-81.434167000	1979	1	9	unk	22.00	27.00	7.00	70.00	-61.00	112.00	unk	28.00	0.00	0.00	2.06	8.23	unk	3235300.398	457812.397	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-509	VOLUSIA	PIERSON	tbd	35	14S	28E	29.244444000	-81.433889000	1979	1	9	unk	19.00	16.00	3.00	111.00	-61.00	117.00	unk	28.00	0.00	0.00	2.00	8.23	unk	3235146.391	457838.842	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-510	VOLUSIA	NEW SMYRNA BEACH	tbd	37	16S	34E	29.080556000	-80.929167000	1983	5	28	unk	5.00	0.00	7.00	202.00	-75.00	82.00	unk	57.00	0.00	0.00	0.06	14.28	unk	3216912.665	506893.775	Florida Section	Eastern Flatwoods Distric	Central Atlantic Coastal Strip	St. Augustine-Edgewater Ridge
79-511	VOLUSIA	DELAND	tbd	0	16S	29E	29.108889000	-81.342778000	1983	5	18	unk	6.00	5.00	4.00	90.00	-35.00	98.00	unk	35.00	0.00	0.00	0.00	15.80	unk	3220998.214	466648.391	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-512	VOLUSIA	DELAND	tbd	12	16S	29E	29.120000000	-81.343889000	1983	4	7	unk	20.00	0.00	15.00	100.00	-38.00	103.00	unk	36.00	0.00	1.00	1.09	18.12	unk	3221329.567	466543.888	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-513	VOLUSIA	PIERSON	tbd	34	14S	28E	29.243056000	-81.450000000	1975	12	15	unk	25.00	25.00	20.00	38.00	-60.00	120.00	unk	15.00	0.00	0.00	0.00	8.19	unk	3234998.502	456272.723	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-514	VOLUSIA	PIERSON	tbd	27	14S	28E	29.248611000	-81.456944000	1983	12	26	unk	130.00	100.00	35.00	45.00	-60.00	120.00	unk	30.00	0.00	0.00	0.10	14.90	unk	3235616.599	455600.353	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-515	VOLUSIA	PIERSON	tbd	27	14S	28E	29.255556000	-81.456944000	1983	12	26	unk	50.00	50.00	35.00	43.00	-60.00	120.00	unk	30.00	0.00	0.00	0.10	14.90	unk	3236386.089	455603.352	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-516	VOLUSIA	PIERSON	tbd	27	14S	28E	29.250000000	-81.458333000	1983	12	26	unk	10.00	10.00	0.33	60.00	-60.00	120.00	unk	30.00	0.00	0.00	0.10	14.90	unk	3235771.033	455465.989	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-517	VOLUSIA	PIERSON	tbd	27	14S	28E	29.250000000	-81.458333000	1983	12	26	unk	15.00	15.00	0.60	60.00	-60.00	120.00	unk	30.00	0.00	0.00	0.10	14.90	unk	3235771.033	455465.989	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-518	VOLUSIA	PIERSON	tbd	35	14S	28E	29.243889000	-81.447778000	1973	12	17	unk	10.00	10.00	2.00	66.00	-60.00	110.00	unk	15.00	0.00	0.00	1.70	13.60	Washington Ave. acrc	3235089.977	456488.993	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-521	VOLUSIA	ORANGE CITY	tbd	3	18S	30E	28.950000000	-81.300000000	1984	4	24	unk	7.00	7.00	6.00	0.00	-40.00	90.00	unk	0.00	0.00	0.00	0.00	0.00	unk	3202483.113	470765.898	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-522	VOLUSIA	PIERSON	SE	27	14S	28E	29.248611000	-81.456944000	1983	12	26	unk	25.00	25.00	20.00	60.00	-60.00	120.00	unk	30.00	0.00	0.00	0.10	14.90	unk	3235616.599	455600.353	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-523	VOLUSIA	SEVILLE	tbd	26	14S	28E	29.254167000	-81.436389000	1985	1	21	1100	60.00	60.00	25.00	0.00	-50.00	125.00	unk	30.00	0.00	0.00	0.00	0.00	unk	3236224.573	457599.922	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-524	VOLUSIA	PIERSON	NW	35	14S	28E	29.245278000	-81.448611000	1985	1	21	unk	20.00	20.00	3.00	50.00	-50.00	110.00	unk	30.00	0.00	0.00	0.00	0.00	unk	3235244.194	456408.638	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-525	VOLUSIA	SEVILLE	tbd	25	14S	28E	29.254722000	-81.431944000	1985	1	21	unk	10.50	12.75	4.00	75.00	-50.00	100.00	unk	30.00	0.00	0.00	0.00	0.00	unk	3236284.485	458032.034	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-526	VOLUSIA	SEVILLE	tbd	25	14S	28E	29.255556000	-81.429722000	1985	1	21	unk	62.00	62.00	15.00	60.00	-50.00	110.00	unk	30.00	0.00	0.00	0.00	0.00	unk	3236376.088	458248.266	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-527	VOLUSIA	PIERSON	tbd	26	14S	28E	29.236111000	-81.436111000	1985	1	21	unk	53.00	50.00	12.00	50.00	-50.00	110.00	unk	30.00	0.00	0.00	0.00	0.00	Near Stone Rd. ~300'	3234223.939	457619.493	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-528	VOLUSIA	PIERSON	NW	35	14S	28E	29.245278000	-81.447778000	1985	1	21	unk	20.00	26.00	2.00	60.00	-50.00	100.00	unk	30.00	0.00	0.00	0.00	0.00	Owens residence	3235243.884	456489.581	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-529	VOLUSIA	PIERSON	tbd	35	14S	28E	29.242778000	-81.476944000	1973	12	13	unk	100.00	100.00	40.00	36.00	-56.00	101.00	48	5.00	0.00	0.00	0.96	12.74	unk	3234978.057	453654.372	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-530	VOLUSIA	PIERSON	tbd	33	14S	28E	29.242778000	-81.476944000	1981	12	15	unk	50.00	50.00	20.00	50.00	-50.00	95.00	unk	27.00	0.00	0.14	1.34	10.07	unk	3234978.057	453654.372	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-531	VOLUSIA	DELAND	tbd	9	17S	30E	29.033333000	-81.300000000	1981	7	16	unk	13.00	13.00	18.00	56.00	-35.00	85.00	unk	20.00	0.00	0.67	1.87	14.14	unk	3211715.752	470789.329	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-532	VOLUSIA	ORANGE CITY	tbd	34	18S	30E	28.883333000	-81.300000000	1982	1	9	unk	2.00	2.00	2.00	98.00	-35.00	110.00	unk	15.00	0.00	0.00	0.74	11.98	unk	3195097.027	470747.198	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-533	VOLUSIA	PIERSON	tbd	33	14S	28E	29.242778000	-81.476944000	1976	1	10	unk	3.00	3.00	1.00	40.00	-56.00	101.00	unk	15.00	0.00	0.00	0.27	6.28	unk	3234978.057	453654.372	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-535	VOLUSIA	ORANGE CITY	NW	23	18S	30E	28.919444000	-81.298611000	1982	10	4	unk	12.00	12.00	6.00	23.00	14.00	36.00	10.00	10.00	0.00	0.00	0.17	30.76	unk	3199097.445	470892.716	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-536	VOLUSIA	ORANGE CITY	SE	34	18S	30E	28.879722000	-81.305556000	1982	4	9	unk	20.00	20.00	15.00	100.00	-30.00	95.00	41.00	15.00	26.00	0.30	5.30	17.96	unk	3194698.342	470204.403	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-538	VOLUSIA	ORANGE CITY	tbd	14	18S	30E	28.925556000	-81.291667000	1985	10	13	unk	35.00	25.00	0.13	125.00	-38.00	93.00	15.00	14.00	1.00	0.00	3.16	35.40	unk	3199772.908	471571.257	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-539	VOLUSIA	PIERSON	tbd	34	14S	28E	29.236667000	-81.467222000	1986	1	29	700	23.20	21.70	7.00	60.00	-40.00	115.00	36.00	27.00	9.00	0.00	0.00	0.00	560 Marilea Court	3234297.185	454596.393	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-540	VOLUSIA	DELAND	NW	32	16S	30E	29.067500000	-81.320278000	1986	2	1	unk	5.00	4.00	4.50	50.00	-20.00	80.00	39.00	15.00	24.00	0.00	0.00	0.00	825 & 835 Lansdowne	3215506.404	468825.146	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-541	VOLUSIA	DAYTONA BEACH	NE	9	16S	33E	29.133889000	-81.005556000	1987	4	3	unk	10.00	10.00	1.00	75.00	-50.00	58.00	0.00	0.00	0.00	0.00	0.00	0.00	581 Sparkman Ave.	3222819.529	499459.544	Florida Section	Eastern Flatwoods Distric	Central Atlantic Coastal Strip	St. Augustine-Edgewater Ridge
79-542	VOLUSIA	PIERSON	SW	15	15S	28E	29.186944000	-81.481667000	1987	5	28	unk	48.00	28.00	10.00	60.00	0.00	39.00	34.00	25.00	9.00	0.00	0.00	0.00	unk	3228793.688	453170.039	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-543	VOLUSIA	ORANGE CITY	SE	36	18S	30E	28.877778000	-81.272222000	1987	5	19	1130	95.00	95.00	1.00	140.00	-25.00	50.00	15.00	10.00	5.00	0.00	0.32	14.01	250 Enterprise Road	3194475.046	473454.411	Florida Section	Central Lake District	St. Johns Offset	unk
79-544	VOLUSIA	Orange City	SE	29	17	30	28.994721000	-81.307222000	1991	10	31	unk	22.00	22.00	20.00	8.00	-25.00	47.00	10.00	0.00	0.00	0.00	0.00	0.00	fgs 79-013	3207439.649	470075.001	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-545	VOLUSIA	Orange City	SE	2	18	30	28.953888000	-81.288610000	1993	3	7	unk	15.00	15.00	1.00	39.00	-35.00	76.00	24.00	0.00	0.00	0.00	0.00	0.00	Daugharty Residence	3202911.120	471876.875	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-546	VOLUSIA	Orange City	SE	2	18	30	28.955700000	-81.288280000	1993	3	7	1:00	130.00	150.00	75.00	29.00	-44.00	82.00	20.00	0.00	0.00	0.00	0.00	0.00	fgs 79-018	3203111.787	471909.520	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-547	VOLUSIA	Orange City	NE	10	18	30	28.943560000	-81.307210000	1994	5	8	16:30	38.00	38.00	20.00	41.00	-37.00	95.00	20.00	13.00	7.00	0.00	0.00	0.00	fgs 79-011	3201771.417	470061.450	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-548	VOLUSIA	Orange City	SE	24	18	30	28.911210000	-81.271510000	1994	8	29	unk	5.00	5.00	1.50	38.00	-42.00	82.00	24.00	19.00	5.00	0.00	0.00	0.00	East side of Hwy. in b	3198178.838	473532.323	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-549	VOLUSIA	DeLand	NW	20	17	30	29.012190000	-81.320580000	1995	8	24	unk	10.00	8.00	5.00	58.00	-22.00	87.00	30.00	10.00	20.00	0.00	0.00	0.00	fgs 79-020	3209378.521	468779.107	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-550	VOLUSIA	Lake Dias	NW	37	16	30	29.126660000	-81.289630000	1996	1	10	unk	60.00	40.00	10.00	40.00	-37.00	88.00	47.00	38.00	9.00	0.00	0.00	0.00	* house settlement fgs	3222053.263	471824.453	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-551	VOLUSIA	Favoretta	NW	36	13	31	29.334960000	-81.131130000	1996	7	19	21:30	0.00	0.00	0.00	51.00	-82.00	118.00	32.00	10.00	22.00	0.00	0.00	0.00	fgs 79-021	3245104.371	487269.336	Florida Section	Eastern Flatwoods Distric	Volusia Ridge Sets	unk
79-552	VOLUSIA	Lake Helen	SW	11	18	31	28.936880000	-81.198240000	1996	10	12	unk	0.00	0.00	0.00	50.00	-56.00	98.00	35.00	28.00	7.00	0.00	0.00	0.00	Sta. 28+35, 5' Rt. Ber	3201008.674	480679.698	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-553	VOLUSIA	DeLand	NW	16	17	30	29.027220000	-81.303611000	1998	8	30	10:00	18.00	18.00	5.00	36.00	-22.00	68.00	26.00	10.00	16.00	0.00	0.00	0.00	South side of road fgs	3211039.372	470435.986	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-554	VOLUSIA	unk	unk	0	unk	unk	0.000000000	0.000000000	2000	4	20	unk	9.00	9.00	5.00	42.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	unk	UNK	UNK	UNK	UNK	UNK	UNK
79-555	VOLUSIA	Orange City	SE	34	18	30	28.879380000	-81.301140000	2000	5	26	unk	0.00	0.00	65.00	46.00	-33.00	77.00	38.00	0.00	0.00	0.00	0.00	0.00	fgs 79-555	3194659.334	470634.924	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-556	VOLUSIA	Lake Helen	SW	30	17	31	28.984710000	-81.233570000	2000	6	14	unk	1.00	1.00	3.00	0.00	-58.00	133.00	58.00	0.00	0.00	0.00	0.00	0.00	fgs 79-023	3206314.087	477246.917	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-557	VOLUSIA	Orange City	NW	28	17	30	28.995080000	-81.306740000	2000	7	21	unk	15.00	25.00	15.00	44.00	-22.00	58.00	30.00	0.00	0.00	0.00	0.00	0.00	fgs 79-024	3207479.280	470122.054	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-558	VOLUSIA	Sanford	SE	4	18	30	28.865833000	-81.317777000	2000	9	28	unk	5.00	5.00	3.00	75.00	-35.00	68.00	20.00	15.00	5.00	0.00	0.00	0.00	fgs 79-008	3193162.710	469008.572	Florida Section	Central Lake District	St. Johns Offset	unk
79-559	VOLUSIA	Pierson	SE	35	14	28	29.236980000	-81.436180000	2000	12	21	unk	50.00	50.00	15.00	36.00	-56.00	117.00	48.00	25.00	23.00	0.00	0.00	0.00	Heavy rai fgs 79-007	3234320.238	457613.146	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-560	VOLUSIA	Orange City	NW	27	17	30	28.997668000	-81.287288000	0	0	unk	unk	0.00	0.00	0.00	50.00	-33.00	76.00	36.00	0.00	0.00	0.00	0.00	0.00	FGS database 79-025	3207761.249	472017.477	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-561	VOLUSIA	Pierson	SW	26	14	28	29.245800000	-81.449400000	0	0	unk	unk	0.00	0.00	0.00	50.00	-62.00	131.00	55.00	0.00	0.00	0.00	0.00	0.00	unk	3235302.309	456332.191	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-562	VOLUSIA	Pierson	unk	unk	unk	unk	0.000000000	0.000000000	0	0	unk	unk	0.00	0.00	0.00	43.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	unk	UNK	UNK	UNK	UNK	UNK	UNK
79-563	VOLUSIA	Pierson	unk	unk	unk	unk	0.000000000	0.000000000	0	0	unk	unk	0.00	0.00	0.00	69.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	unk	UNK	UNK	UNK	UNK	UNK	UNK
79-564	VOLUSIA	Pierson	unk	unk	unk	unk	0.000000000	0.000000000	0	0	unk	unk	0.00	0.00	0.00	0.00	0.00	0.00	unk	0.00	0.00	0.00	0.00	0.00	unk	UNK	UNK	UNK	UNK	UNK	UNK
79-565	VOLUSIA	LAKE HELEN	SW	20	18	31	28.912150000	-81.246050000	2002	9	20	unk	250.00	20.00	15.00	33.00	0.00	0.00	68 or 55?	39.30	28.00	0.00	0.00	0.00	Daugharty Residence	3198277.562	476014.471	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-566	Volusia	DELAND	NE	16	17S	30E	29.021388900	-81.300833300	1982	4	14	unk	3.00	3.00	1.00	75.00	unk	unk	24	unk	unk	unk	unk	unk	National Guard Armor	3210392.642	470704.819	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-567	Volusia	Pierson	SE	15	15S	28E	29.186666700	-81.482222200	1987	5	29	unk	unk	unk	3.00	85.00	unk	unk	34	unk	unk	unk	unk	unk	75' West of 5/28/87 si	3228763.190	453115.934	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-568	Volusia	DELAND	SW	37	16S	30E	29.123055600	-81.285833300	1989	3	17	unk	13.00	13.00	10.00	55.00	unk	unk	42	unk	unk	unk	unk	unk	In R/W west side of hi	3221653.011	472192.833	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-569	Volusia	DELAND	NW	37	16S	30E	29.123333300	-81.287500000	1996	1	10	unk	5.00	5.00	2.00	65.00	-37.00	88.00	47.00	38.00	9.00	0.00	0.00	0.00	fgs 79-010	3221684.172	472030.763	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-570	Volusia	WELAKA SE	SE	18	13S	28E	29.363611100	-81.507777800	2001	10	15	unk	7.00	7.00	2.00	40.00	unk	unk	38	unk	unk	unk	unk	unk	SB EOP, 272' S. of Vo	3248378.789	450716.222	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-571	Volusia	Orange Ci	SE	35	18S	30E	28.877777800	-81.282222200	2003	1	15	unk	5.00	5.00	unk	55.00	unk	unk	19	unk	unk	unk	unk	unk	* 0.5 inch paveme	3194477.301	472479.243	Florida Section	Central Lake District	St. Johns Offset	unk
79-572	VOLUSIA	DAYTONA BEACH	NE	5	13S	32E	29.236400000	-81.014200000	2002	11	29	unk	3.00	3.00	4.00	45.00	unk	unk	0	unk	unk	unk	unk	unk	N GRANDVIEW AVE,	3234177.265	498620.081	Florida Section	Eastern Flatwoods Distric	Central Atlantic Coastal Strip	St. Augustine-Edgewater Ridge
79-573	VOLUSIA	ORANGE CI	SE	21	18S	30E	28.907269000	-81.320322000	2003	6	13	11:00	12.00	11.00	unk	75.00	unk	unk	38	unk	unk	unk	unk	unk	SEI visit, occurr	3197754.090	468772.766	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-574	VOLUSIA	DeLand	ne	44	16	29	29.078840000	-81.364410000	2005	7	31	unk	15.00	15.00	4.00	32.00	0.00	32.00	0	0.00	0.00	1.86	2.32	23.47	opened beneath Am	3216775.281	464533.330	Florida Section	Central Lake District	St. Johns Offset	unk
79-575	VOLUSIA	Lake Helen	sw	5	18	31	28.949850000	-81.248570000	2004	12	18	unk	225.00	215.00	50.00	48.00	0.00	48.00	0	0.00	0.00	0.00	0.40	7.23	SEI visit, county	3202454.875	475777.581	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-576	VOLUSIA	Lake Helen	sw	35	18	31

Table 3

Table 3. Reported New Sinkholes which formed between September 1, 2004 and August 30, 2005 in the St. Johns River Water Management District

FSRI_COD	COUNTY	QUADRANGLE	Z_4_SECTIO	SECTION	TOWNSHI	RANGE	LATITUDE	LONGITUDE	YEAR	MONTH	DATE	TIME	LENGTH	WIDTH	DEPTH	LAND_ELE	LS_ELEV	COVER_T	WT_ELEV	POT_SUR_E	HEAD_DIFF	Z4_HR_RAIN	Z_DYS_RAIN	Z0_DYS_RAI	COMMENTS	NORTHING_UTM	EASTING_UTM	ISP_SECTIO	DISTRICT	SUBDISTRIC	SUBDIVISIO
26-543	ALACHUA	Newberry	se	28	9	17	29.676000000	-82.607200000	2004	10	16	unk	0.00	0.00	6.00	82.00	tbd	tbd	tbd	40.00	unk	0.35	1.25	33.47	2 1/2 mi n newber	3283964.529	344477.745	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-545	ALACHUA	Archer	nw	16	11	18	29.536710000	-82.519120000	2004	9	7	unk	8.00	6.00	10.00	90.00	tbd	tbd	58	40.00	18.00	5.42	10.96	30.68	Hithcock foodline	3268413.027	352799.700	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-546	ALACHUA	Gainesville West	se	30	9	19	29.674900000	-82.440500000	2004	9	28	unk	50.00	40.00	50.00	135.00	tbd	tbd	100	40.00	60.00	0.16	5.09	33.12	near Sean Watson	3283630.136	360608.964	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-547	ALACHUA	Gainesville West	se	30	9	19	29.674900000	-82.440500000	2004	9	28	unk	15.00	15.00	5.00	135.00	tbd	tbd	100	40.00	60.00	0.16	5.09	33.12	near Sean Watson	3283630.136	360608.964	Florida Section	Ocala Uplift District	Northern Peninsual Slopes	San Felasco Hammock
26-548	ALACHUA	Arrendo	ne	6	11S	19E	29.566223300	-82.448073210	2005	6	4	unk	16.10	13.20	4.00	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271595.743	359725.573	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-549	ALACHUA	Arrendo	ne	6	11S	19E	29.566223300	-82.448048620	2005	6	4	unk	3.40	2.10	1.00	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271595.713	359727.962	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-550	ALACHUA	Arrendo	ne	6	11S	19E	29.566538560	-82.448080320	2005	6	4	unk	21.90	16.30	3.50	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271630.688	359725.327	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-551	ALACHUA	Arrendo	ne	6	11S	19E	29.566327470	-82.448055090	2005	6	4	unk	14.60	11.50	5.30	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271607.264	359727.475	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-552	ALACHUA	Arrendo	ne	6	11S	19E	29.566293970	-82.447984040	2005	6	4	unk	15.80	8.50	17.00	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271603.465	359734.315	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-553	ALACHUA	Arrendo	ne	6	11S	19E	29.566274640	-82.447975920	2005	6	4	unk	6.20	5.40	16.00	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271601.302	359735.074	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-554	ALACHUA	Arrendo	ne	6	11S	19E	29.566175280	-82.447971890	2005	6	4	unk	6.00	5.40	2.00	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271590.299	359735.329	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
26-555	ALACHUA	Arrendo	ne	6	11S	19E	29.566269550	-82.447918350	2005	6	4	unk	6.40	6.10	1.50	75.00	73.00	2.00	40	40.00	0.00	0.12	1.39	13.56	SEI site visit	3271600.689	359740.650	Florida Section	Ocala Uplift District	Northern Peninsual Plains	Haile Limestone Plain
11-593	LAKE	Mount Plymouth	ne	29	19S	28E	28.810880000	-81.529110000	2004	9	29	unk	15.00	15.00	20.00	80.00	tbd	tbd	65	45.00	20.00	0.00	4.71	23.64	star banner, 2583	3187147.916	448370.799	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
11-594	LAKE	Center Hill	ne	14	20	24	28.747590000	-81.879330000	2004	9	9	unk	11.00	13.00	6.00	80.00	tbd	tbd	72	72.00	0.00	0.40	5.24	23.44	on CR48, near lak	3180338.156	414144.250	Florida Section	Central Lake District	Groveland Karst	unk
11-595	Lake	Center Hill	se	35	20	24	28.700650000	-81.880630000	2005	7	6	unk	10.00	10.00	3.00	90.00	tbd	tbd	85	85.00	0.00	0.00	0.29	13.57	on Fla turnpike,	3175138.419	413978.899	Florida Section	Central Lake District	Groveland Karst	unk
11-596	Lake	Sorrento	se	31	19	28	28.793065600	-81.545958400	2005	8	18	unk	40.00	40.00	25.00	103.00	tbd	tbd	58	45.00	13.00	0.00	0.00	14.70	Orlando Sentinel	3185181.675	446717.689	Florida Section	Central Lake District	Apopka Upland	Apopka Hills
77-582	Orange	Lake Jessamine	se	10	23S	29E	28.499000000	-81.393000000	2004	10	14	early am	55.00	55.00	25.00	95.00	tbd	tbd	tbd	90.00	unk	unk	unk	unk	Orlando Sentinel	3152544.105	461538.546	Florida Section	Central Lake District	Orlando Promontory	unk
16-943	Polk	Lakeland	sw	18	28	s4	28.043816170	-81.955637340	2004	9	25	unk	100.00	100.00	20.00	217.00	tbd	tbd	207	tbd	unk	unk	unk	unk	took out Lakeland shopping cen	3102424.413	406074.913	Florida Section	Central Lake District	Lakeland Ridge	unk
79-575	VOLUSIA	Lake Helen	sw	5	18	31	28.949850000	-81.248570000	2004	12	18	unk	225.00	215.00	50.00	48.00	0.00	48.00	0	0.00	0.00	0.00	0.40	7.23	SEI visit, county	3202454.875	475777.581	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-576	VOLUSIA	Orange City	nw	10	18	30	28.948000000	-81.312000000	2005	1	9	unk	120.00	85.00	40.00	40.00	0.00	40.00	0	0.00	0.00	0.00	0.00	3.78	numerous news pap	3202264.557	469595.944	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-577	VOLUSIA	Lake Helen	sw	35	18	31	28.878000000	-81.198000000	2005	1	18	unk	0.00	0.00	0.00	42.00	0.00	42.00	18	18.00	0.00	0.01	1.87	5.27	no visible hole,	3194485.296	480692.191	Florida Section	Central Lake District	Crescent City-Deland Ridge	unk
79-574	VOLUSIA	DeLand	ne	44	16	29	29.078840000	-81.364410000	2005	7	31	unk	15.00	15.00	4.00	32.00	0.00	32.00	0	0.00	0.00	1.86	2.32	23.47	opened beneath Am	3216775.281	464533.330	Florida Section	Central Lake District	St. Johns Offset	unk

Appendix B

Alachua 26-543

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26-543
SH_NUMBER: _____

Sinkhole formation data:

Year: 2004 **Month:** 10 **Day:** 6 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: US 41, 2½ mi N of Newberry Rd

City: **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: (newspaper, district, county, or city authority, etc.)

LATITUDE: 29.6760 **Quad Name:** Newberry

LONGITUDE: -82.6072 **Section:** 28 SE ¼ **Township:** S **Range:** E

Length: ? **Width:** ? **Depth:** 6

Side Slope Angle: **Shape:** ___Cone ____Funnel ____Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 82' **ls_elev:** **cover_thic:** **wt_elev:** ?

Potentiometric surface elevation: 40 **Head differential:**

Rainfall data: **Z4_HR_RAIN:** 0.35 **Z_DYS_RAIN:** 1.25 **Z0_DYS_RAIN:** 33.47

Soil Type: **Physiographic Area of SH:**

Other information: Location approximate

FLORIDA
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GAINESVILLE SUN

GAINESVILLE

DAILY - 57,000

OCT 7, 2004

AREA ROADS

Sinkhole forces closing of road, FDOT reports

628

■ A sinkhole discovered underneath U.S. 41 north of Newberry Road in western Alachua County caused it to be closed Wednesday, according to the Florida Department of Transportation.

The stretch of roadway is about 2½ miles north of Newberry Road.

The sinkhole is about 6 feet deep and has the potential for drawing the roadbed down, according to DOT.

Traffic is being redirected to County Roads 26A, 235 and 232. The detour is expected to last for a week, according to the DOT. Detour signs have been placed to alert drivers of the new route.

In the meantime, DOT geotechnical engineers will be testing the extent of the sinkhole for subsequent repairs. The agency plans on filling the hole and raising the roadbed back to its previous level.

— Meredith Mandell

Alachua 26-545

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26-545
SH_NUMBER:

Sinkhole formation data:

Year: 2004 **Month:** 9 **Day:** 7 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: 200 Cottonwood Center, N University, S of SR24

City: Archer **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 29.53671 **Quad Name:** Archer

LONGITUDE: -82.51912 16 **Section:** 16 NW¼ **Township:** 11 S **Range:** 18 E

Length: 8 **Width:** 6 **Depth:** 10

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 90' **ls_elev:** **cover_thic:** **wt_elev:** 58'

Potentiometric surface elevation: 40 **Head differential:** 18

Rainfall data: **Z4_HR_RAIN:** **Z_DYS_RAIN:** **Z0_DYS_RAIN:**

Soil Type: **Physiographic Area of SH:**

Other information: Hitchcock Food Liner, Archer

parcel # 04909-004-000 - property appraiser database for location info, maps & streets for lat/long.

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SEPT 9, 2004



A sinkhole swallowed a Chrysler LeBaron as a man parked to get breakfast at a grocery store in Archer. More than two dozen sinkholes were found in Levy County, including 12 in Chiefland.

628

THE GAINESVILLE SUN / JIM MATTHEWS

Sinkholes open up after Frances' visit

THE ASSOCIATED PRESS

ARCHER — Dozens of sinkholes have opened up in north-central Florida after three days of heavy rain from Hurricane Frances, including one that swallowed a Chrysler LeBaron as a man parked to get breakfast at a grocery store.

Lawrence Means, 43, had stopped for a cup of coffee and a couple of biscuits Tuesday when he felt the earth move beneath him. A sinkhole opened under his car and nearly swallowed the entire vehicle, which was left standing on its nose in the hole with only its trunk above ground.

The ground around the sinkhole sagged and a nearby power pole shifted occasionally.

More than two dozen sinkholes were found in Levy County, including 12 in Chiefland. Others were found in Gilchrist and Alachua counties.

A 60-foot section along State Road 26 near Newberry collapsed Tuesday, leaving a 20-foot hole. In Gainesville, a 15-by-6-foot section of a city street was washed out by fast moving water.

Sinkholes occur when sand or soil beneath the surface begins to erode and falls into underlying limestone cavities, causing the surface to collapse. Several factors may contribute to the collapse, including drought, excessive water pumping, construction or heavy rain.

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NAPLES DAILY
NEWS

NAPLES

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SEPT 8, 2004

Basement-bound

628



A sinkhole, about 10-feet deep, swallowed this automobile in the parking lot of Hitchcocks Foodliner in Archer after Hurricane Frances. *Associated Press*

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DAILY
SEPT 9, 2004

Frances' passing spawns sinkholes

■ Dozens open in north central Florida, and one partially swallows a car.

Associated Press

678

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"I felt something drop and I tried to back up but it didn't work," Means said. "I almost panicked but something just told me to get out."

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More than two dozen sinkholes were found in Levy County, including 12 in Chiefland. Others were found in Gilchrist and Alachua counties.

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SEPT 9, 2004



THE GAINESVILLE SUN / JIM MATTHEWS

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628

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SEPT 8, 2004

The one Means fell into wasn't even the biggest.

Fast-moving water also led to the wash-out of NW 23rd Avenue at NW 83rd Street, south of Santa Fe Community College.

Sinkholes form when surface sands collapse into fissures or holes in the limerock layer.

The western side of Alachua County and nearby counties to the west are prone to sinkholes because of their geology. The land sits atop limestone and carbonate rock that can naturally be dissolved by groundwater — in these cases, the Floridan Aquifer.

A 60-foot section along State Road 26 just west of the city of Newberry collapsed Tuesday as well, leaving a 20-foot deep cavern.

Rushing water from the stormwater ditch likely contributed to the collapse, said Andrew Schmid, an engineer with Universal Engineering, contracted by the state Department of Transportation to evaluate several of the holes, including a small opening behind Hitchcock's Foodway in Newberry on Tuesday.

"Stormwater is a great instigator," Schmid said. "It lubricates the soil."

In Gainesville, fast-moving water flowing south under NW 23rd Avenue near NW 83rd Street washed out a 15-by-6-foot section on the south side, forcing the road's closure Tuesday morning.

Motorists heading east on NW 23rd Avenue were rerouted along NW 83rd Street past Santa Fe Community College. Those heading west had to do a U-turn.

Means would have liked to have had the choice.

As of Tuesday afternoon, his Chrysler LeBaron stood on end with only its trunk showing. The ground from the edge of the parking lot to U.S. 41/27 sagged as if it were falling into a hole. A nearby power pole shifted occasionally.

Bill Whitehurst of Whitehurst Construction, the company contracted to repave U.S. 41/27, who turned up to survey the situation, said he was asked to provide sand and other material to fill the hole in Archer and the one on SR 26 west of

Rainfall causing sinkholes in region

■ Twenty-five sinkholes have been identified in Levy County alone.

By JANINE YOUNG SIKES
Sun staff writer

ARCHER — Lawrence Means, a maintenance worker heading to work in Gainesville, got a jolt he wasn't expecting when he stopped at the Hitchcock's Foodway here for a cup of coffee and a couple of biscuits Tuesday.

Like many North Central Florida residents left without electrical power recently, Means hadn't been able to cook so he pulled into the grocery store parking lot for a bite to eat about 9 a.m.

That's when he felt the earth move.

Unbeknownst to him or anyone else, a sinkhole had formed beneath the pavement and gave way enveloping Means and his car.

"I felt something drop and I tried to back up but it didn't work," Means, 43, said. "I almost panicked but something just told me to get out."

Three days worth of heavy rains bucketing the area and the subsequent runoff have caused dozens of sinkholes to open up in the area, becoming a danger to people and potentially threatening nearby buildings and roads.

Twenty-five sinkholes have been identified in Levy County, 12 in Chiefland alone. Most of them are within a couple blocks

Alachua 26-546

26-547

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26-546
SH_NUMBER: _____

Sinkhole formation data:

Year: 2004 **Month:** 9 **Day:** 28 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: near Sean Watson home backyard 9512 NW 26th Ave

City: Gainesville **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: Gainesville Sun **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 29.6749 **Quad Name:** Gainesville West

LONGITUDE: -82.4405 **Section:** 30 **¼ Township:** 9S **Range:** 19E

Length: 50 **Width:** 40 **Depth:** 30 to water 50 deep

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 130 **ls_elev:** **cover_thic:** **wt_elev:** 100

Potentiometric surface elevation: 40 **Head differential:** 60

Rainfall data: **Z4_HR_RAIN:** 0.16 **Z_DYS_RAIN:** 5.09 **Z0_DYS_RAIN:** 5

Soil Type: **Physiographic Area of SH:** 33.12

Other information:

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26-547
SH_NUMBER: _____

Sinkhole formation data:

Year: 2004 **Month:** 9 **Day:** 28 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: near 9512 NW 26th ave

City: Gainesville **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: Gainesville Sun **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 29.675 **Quad Name:** Gainesville West

LONGITUDE: -82.440 **Section:** 30 **¼ Township:** 9 *S* **Range:** 19 *E*

Length: 15 **Width:** 15 **Depth:** 4-5

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 130 **ls_elev:** **cover_thic:** **wt_elev:** 100

Potentiometric surface elevation: 40 **Head differential:** 60

Rainfall data: **Z4_HR_RAIN:** 0.16 **Z_DYS_RAIN:** 5.09 **Z0_DYS_RAIN:** 33.12

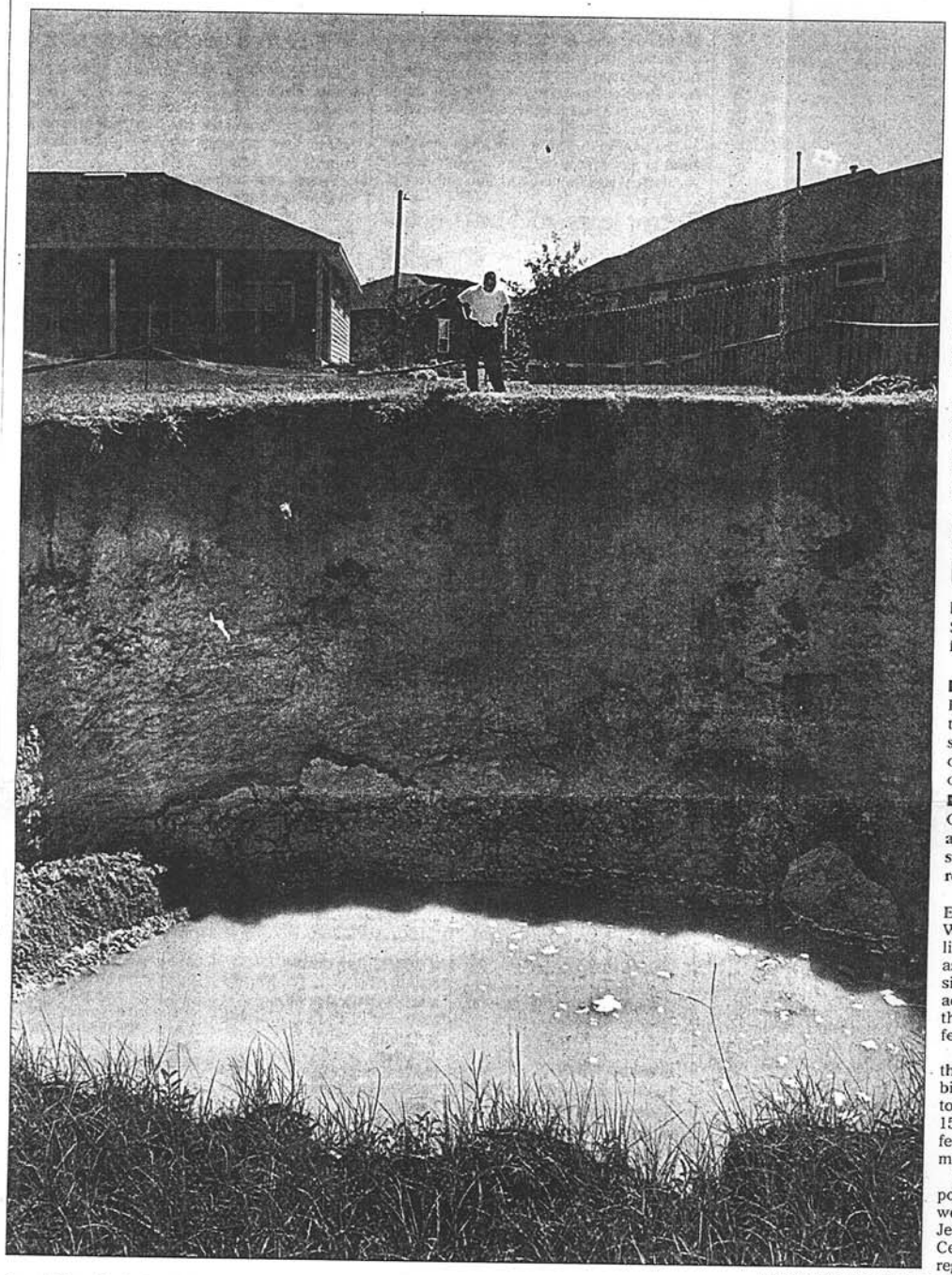
Soil Type: **Physiographic Area of SH:**

Other information: near Sean Watson backyard

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SEPT 29, 2004

Subsiding aftermath



LEE FERINDEN/Special to The Sun

Sean Watson looks down into a massive sinkhole that opened up at the Brookfield subdivision across the street from Fort Clarke Middle School.

■ County has 21,000 in dark

■ A huge sinkhole opens up in area

By BOB ARNDORFER
Sun staff writer

As Hurricane Jeanne approached Gainesville, Sean and Erica Watson felt pretty good about their prospects for weathering the storm.

Living in a fairly new section of Brookfield subdivision across from Fort Clarke Middle School, they have almost no trees around their house. Falling trees weren't a problem during Hurricane Frances, nor would they be for Jeanne, the Watsons thought.

And they were right.

"But little did we know a sinkhole would open up near our back yard," Sean Watson said.

The view from their back yard is every bit as dramatic as the images of fallen trees in other neighborhoods. Even Alachua County Public Works staff, who did some preliminary measurements, were astonished at the size of the sinkhole — about 50 by 40 feet across and 30 feet deep just to the water line, then another 20 feet below the water line.

"The public works guy said that's what they usually call a big one," Watson said, referring to a smaller sinkhole — about 15 feet in diameter and 4 to 5 feet deep — next to the giant maw.

Sinkholes, downed trees, power outages, flooding — all were part of the legacy of Jeanne, which visited North Central Florida just as the region was in the midst of recovering from Hurricane Frances three weeks earlier.

JEANNE *on Page 6A*

STORM COVERAGE

■ **STORM STRESS:** Stress grows for Floridians. **PAGE 5A**

■ **MORE TO COME?:** Forecasters say the hurricane season is not over until it's over. **PAGE 7A**

■ **SCHOOLS:** Checking on area schools as students return. **PAGE 1B**

THINGS YOU NEED TO KNOW

PORTABLE GENERATOR SAFETY TIPS

Portable generators are useful when temporary or remote electric power is needed, but they also can be hazardous. The primary hazards to avoid when using a generator are carbon monoxide (CO) poisoning from the toxic engine exhaust, electric shock or electrocution, and fire. Every year, people die in incidents related to portable generator use. Incidents associated with portable generators reported to the Consumer Product Safety Commission most often involve CO poisoning from generators used indoors or in partially enclosed spaces.

■■■

CARBON MONOXIDE HAZARD

Never use a generator in enclosed or partially enclosed spaces. Generators can produce high levels of CO very quickly. When you use a portable generator, remember that you cannot smell or see CO. If you start to feel sick, dizzy or weak while using a generator, get to fresh air right away. The CO from generators can rapidly lead to full incapacitation and death.

If you experience serious symptoms, get medical attention immediately. Inform medical staff that CO poisoning is suspected. If you experienced symptoms while indoors, have someone call the fire department to determine when it is safe to re-enter the building.

Follow these safety tips to protect against CO poisoning:

- Never use a generator indoors, including in homes, garages, basements, crawl spaces and other enclosed or partially enclosed areas, even with ventilation. Opening doors and windows or using fans will not prevent CO buildup in the home.
- Follow the instructions that come with your generator. Locate the unit outdoors and away from doors, windows and vents that could allow CO to come indoors.
- Install battery-operated CO alarms or plug-in CO alarms with battery back-up in your home, according to the manufacturer's installation instructions. The CO alarms should be certified to the requirements of the latest safety standards for CO alarms.
- Test your CO alarms frequently and replace dead batteries.

■■■

ELECTRICAL HAZARDS

Follow these tips to protect against electrical hazards:

- Keep the generator dry and do not use in rain or wet conditions. To protect from moisture, operate it on a dry surface under an open, canopy-like structure. Dry your hands if wet before touching the generator.
- Plug appliances directly into the generator. Or, use a heavy duty, outdoor-rated extension cord that is rated (in watts or amps) at least equal to the sum of the connected appliance loads. Check that the entire cord is free of cuts or tears and that the plug has all three prongs, especially a grounding pin.
- Never try to power the house wiring by plugging the generator into a wall outlet, a practice known as "backfeeding." This is an extremely dangerous practice that presents an electrocution risk to utility workers and neighbors served by the same utility transformer. It also bypasses some of the built-in household circuit protection devices.
- If you must connect the generator to the house wiring to power appliances, have a qualified electrician install the appropriate equipment in accordance with local electrical codes. Or, check with your utility company to see if it can install an appropriate power transfer switch.
- For power outages, permanently installed stationary generators are better suited for providing backup power to

Continued on Right



Photos by DAVID MASSEY/The Gainesville Sun

A large tree that crushed a pickup truck and shattered the rear windshield of a passenger car on NW 25th Street on Monday is shown on Tuesday.

JEANNE: GRU is restoring power service

Continued from 1A

Some storm aftermath efforts were winding down Tuesday, including the shelter operation in Alachua County. By early evening, only 34 people remained in the county's lone shelter, the Martin Luther King Jr. Multipurpose Center in Gainesville. The peak shelter population for Jeanne was 843.

Progress was being made in restoring electrical service, but thousands across the region remained without power.

By Tuesday night, more than 21,000 people in Alachua County still had no electricity, including 12,000 Gainesville Regional Utilities customers.

Jeanne destroyed at least two structures in Alachua County, a mobile home and a small business. By 4 p.m. Tuesday, the county's damage assessment hot line had received a total of 123 reports of damage, including about 80 structures within unincorporated parts of Alachua County and more than 40 in Gainesville. Officials said about 74 percent of the confirmed damage was considered major.

Alachua County planned to continue distribution of water and ice today at several locations. On Tuesday it gave away 40 pallets of water and 31 pallets of ice to people without utility service. But emergency officials said the need for water and ice will be reassessed today to see if the distribution will continue.

"Overall, we're slowly coming back to life," Hawthorne Mayor John Martin said late Tuesday afternoon.

Several traffic signals on major streets and roads remained out, including the intersection of U.S. 301 and State Road 20 in Hawthorne. In Gainesville, traffic was backed up throughout the day and night at several W. 13th Street intersections that became four-way stops because the signals were not working, and motorists cautiously maneuvered through them.



Workers from Excavation & Landscaping Services of Florida Inc. remove a tree from a house on the corner of NW 27th Terrace and W. University Avenue on Tuesday.

Emergency officials said they were trying to get electrical generators at all those intersections, including Hawthorne, to power the signals.

Fallen trees remained a problem in some areas Tuesday.

After Jeanne, Gainesville crews responded to 300 incidents of trees on public rights of way, said Teresa Scott, the city's public works director. Some of them included multiple trees down in the same area, she said.

The number of incidents after Hurricane Frances was estimated to be about 500, Scott said.

Monday's daylong gusts, though pale in comparison to Sunday's, managed to knock over a few trees whose roots systems had been mortally loosened by all the water from the two storms.

The stress of the ill winds is reflected in other areas.

Marshall Knudson, director of the Alachua County Crisis Center, said that the center's rumor control hot line had received more than 9,000 calls in 100 hours during and after Hurricane Jeanne blew through our area. In the 11 days following Hurricane Frances, the center took 30,000 calls.

Knudson said that not all of the calls are directly related to the stress of dealing with a second hurricane in a matter of weeks. However, he said he does feel the call load reflects a general need to talk about what has happened and begin to regain some control over our lives.

One topic many people are talking about is restoration of electrical power.

Some utilities are giving estimated times of restoration. Progress Energy, which still had about 1,100 Alachua County customers out of power Tuesday, said all of those outages would be restored by midnight Thursday. Florida Power & Light said its 200 remaining customers in Alachua County will have their lights back on by Oct. 7.

Gainesville Regional Utilities, however, was making no projections on restoration. Nor does it have a predetermined pattern of restoring service after a storm event, said Geoff Warnock, GRU's energy delivery, safety and training coordinator.

"Immediately after a storm we don't say we'll start in neighborhood A, B and C," Warnock said Tuesday as he manned GRU's desk at the Alachua County Emergency Operations Center. "We go out and see what it is we're dealing with, then we start with the mainline backbone circuits. It's like anatomy, there's no sense working on loose ribs if the spine is broken."

He said assessment teams fan out across the system and once the main circuits are up, they provide information on the "lateral" grid — the ribs — that is used in daily scheduling of repairs.

"We don't do storm-to-storm comparisons and we don't look to see who is out and who is not out," Warnock said. "The restoration is evaluated on the entire service area. Then we look at all the assessments from the different service areas and the amount of damage and the amount of effort needed to bring on the most number of customers.

"All those priorities are evaluated on a daily basis at planning meetings the night before the work begins," he said. "It's a very dynamically based process that can change hourly."

For the Watsons, loss of power hasn't been a problem. But since Monday, when Erica Watson looked out their back yard and saw that the water from the retention pond had disappeared into a massive sinkhole 40 feet from their house, loss of sleep has been the problem.

"We had a tough time sleeping last night," Sean Watson said Tuesday. "With two kids and a baby on the way, you get a little nervous."

He was relieved to learn that help was coming.

Alachua County Assistant Public Works Director Michael Fay said his office is working to schedule repair work at the sinkhole. He said as large as it is, the sinkhole didn't appear to pose any imminent danger to any of the houses nearby.

"That's good to know," Watson said.

Bob Arndorfer can be reached at 374-5042 or arndorb@gvillesun.com. Sun staff writer Diane Chun contributed to this report.

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STAR BANNER
OCALA
DAILY - 59,600
SEPT 29, 2004

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LEE FERINDEN/THE GAINESVILLE SUN

Jeanne leaves sinking feeling

Sean Watson looks into a massive sinkhole that opened up during Hurricane Jeanne in Gainesville on Tuesday. Initial estimates put the sinkhole at 40 by 50 feet across, and about 30 feet down to the water. Watson said that Alachua

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MELBOURNE
DAILY - 115,000
SEPT. 29, 2004

Losses far surpass Andrew

Insurance claims should reach 2 million; 700,000 filed after '92 storm

ASSOCIATED PRESS

MIAMI — The slew of four hurricanes hitting Florida this season combined beat the record set by Hurricane Andrew for insured losses in what may be the nation's costliest hurricane season ever, government and industry officials agreed Tuesday.

More than one in every five Florida homes has been damaged. The number of insurance claims this season is expected to hit 2 million, far surpassing the 700,000 claims filed after Andrew 12 years ago. The state planned to seek a court order Tuesday placing a troubled insurer into receivership.

All of these developments raised the specter of higher rates.

"These four storms are a much larger problem than Andrew was for the state," said Tom Gallagher, the state's top insurance regulator.

Gallagher thinks Hurricane Jeanne added $6 billion in insured losses to nearly $12 billion estimated from hurricanes Charley, Frances and Ivan. Standard & Poor's Ratings Services estimated Jeanne caused $7 billion in losses.

Including insured damage in other states, Bob Hartwig, chief economist for the industry's Insurance Information Institute, estimates the four storms cost $21.7 billion.

That beat the $20 billion toll from Andrew, the world's costliest natural disaster at the time, in real dollars.

Insured damage is approaching the $22 billion record, in today's dollars, set in 1992 by Andrew and Hurricane Iniki in Hawaii for the most expensive U.S. hurricane season on record, according to Hartwig and Fitch Ratings, a British rating agency. Assessments of Jeanne's dash up the state Sunday and Monday still are underway, and Hartwig believes this year's storms have tied or beaten the 1992 record.

"There's going to be pressure on rates in Florida," Hartwig said. "The industry's resources need to be bolstered."

Not so quick, said Gallagher, who served as Florida's insurance commissioner during Andrew and now is the state's chief financial officer.

"Storms themselves are not justification for rate increases," he said. "Rates gone up just for rates' sake because of storms? That is not going to happen."■



Gainesville. Sean Watson looks Tuesday into a massive sinkhole that opened up during Hurricane Jeanne. Initial estimates put the sinkhole at 40-by-50 feet across and about 30 feet to the water. Watson said Alachua County Public Works told him the water depth was estimated at another 20 feet. Hurricane Jeanne, the fourth storm to hammer the state in six weeks, left behind a trail of death, frustration and record-setting destruction.

AP

Alachua 26-548 through 26-555

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26-548
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 6 **Day:** **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Retention Pond, SW 95th Place

City: Gainesville **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: ~~SJRWMD~~ SJRWMD, SEI Site visit *(newspaper, district, county, or city authority, etc.)*

LATITUDE: 29.566223304 **Quad Name:** Arredo

LONGITUDE: -82.448073206 **Section:** NE6¼ **Township:** 11 S **Range:** 19 E

Length: 16.1 **Width:** 13.2 **Depth:** 4

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):** na

Elevation information:

land_elev: 75 **ls_elev:** 73 **cover_thic:** 2. **wt_elev:** 40

Potentiometric surface elevation: **Head differential:**

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0.12 **Z0_DYS_RAIN:** 13.56

Soil Type: **Physiographic Area of SH:**

Other information:

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26 - 549
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 6 **Day:** 4? **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Retention Pond, SW 95th Place

City: Gainesville **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: SEI Site Visit **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 29.566223304 **Quad Name:** Arredondo

LONGITUDE: -82.448048624 **Section:** NE 6 ¼ **Township:** 11 S **Range:** 19 E

Length: 3.4 **Width:** 2.1 **Depth:** 1.0

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 75 **ls_elev:** 73' **cover_thic:** 2. **wt_elev:** 40

Potentiometric surface elevation: 40 **Head differential:** 0

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0.12 **Z0_DYS_RAIN:** 13.56

Soil Type: **Physiographic Area of SH:**

Other information:

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26-550
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 6 **Day:** **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Retention Pond, SW 95th Place

City: Gainesville **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: SFI Site Visit **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 29.566538560 **Quad Name:** Archer
LONGITUDE: -82.448080318 **Section:** NE ¼ ¼ **Township:** 11 S **Range:** 19 E
Length: 21.9 **Width:** 16.3 **Depth:** 3.5
Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder
Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 75' **ls_elev:** 73' **cover_thic:** 2 **wt_elev:** 40

Potentiometric surface elevation: 40 **Head differential:** 0

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0.12 **Z0_DYS_RAIN:** 13.56

Soil Type: **Physiographic Area of SH:**

Other information:

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26-551
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 6 **Day:** **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Retention Pond, SW 95th Place

City: Gainesville **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: SFI Site Visit (newspaper, district, county, or city authority, etc.)

LATITUDE: 29.566327470 **Quad Name:** Arredo

LONGITUDE: -82.448055089 **Section:** NE 6 ¼ **Township:** 11 S **Range:** 19 E

Length: 14.6 **Width:** 11.5 **Depth:** 5.3

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 75' **ls_elev:** 73' **cover_thic:** 2'. **wt_elev:** 40

Potentiometric surface elevation: 40 **Head differential:** 0

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0.12 **Z0_DYS_RAIN:** 13.56

Soil Type: **Physiographic Area of SH:**

Other information:

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26-552
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 6 **Day:** ~~4~~? **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Retention Pond, SW 95th Place

City: Gainesville **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: SEI Site Visit **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 29.566293970 **Quad Name:** Arredondo

LONGITUDE: -82.447984039 **Section:** NE6 ¼ **Township:** 11 S **Range:** 19 E

Length: 15.8 **Width:** 8.5 **Depth:** 17.0

Side Slope Angle: 90° **Shape:** ___Cone ___Funnel ↘ Cylinder

Volume: **Depth To Water (if present):** na

Elevation information:

land_elev: 75' **ls_elev:** 73 **cover_thic:** 2 **wt_elev:** 40

Potentiometric surface elevation: 40 **Head differential:** 0

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0.12 **Z0_DYS_RAIN:** 13.56

Soil Type: **Physiographic Area of SH:**

Other information: hole dry, tape dry to bottom

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26-553
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 6 **Day:** 4? **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Retention Pond, SW 95th Place

City: Gainesville **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: SEI Site Visit **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 29.566274635 **Quad Name:** Arredo

LONGITUDE: -82.447975922 **Section:** NE 6 ¼ **Township:** 11 S **Range:** 19 E

Length: 6.2 **Width:** 5.4 **Depth:** 14.0

Side Slope Angle: 90° **Shape:** ___Cone ___Funnel ↘Cylinder

Volume: **Depth To Water (if present):** na

Elevation information:

land_elev: 75' **ls_elev:** 73 **cover_thic:** 2. **wt_elev:** 40

Potentiometric surface elevation: 40 **Head differential:** 0

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0.12 **Z0_DYS_RAIN:** 13.56

Soil Type: **Physiographic Area of SH:**

Other information:

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26 - 554
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 6 **Day:** 4? **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Retention Pond, SW 95th Place

City: Gainesville **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: SEI Site Visit (newspaper, district, county, or city authority, etc.)

LATITUDE: 29.566175280 **Quad Name:** Arredo

LONGITUDE: -82.447971890 **Section:** NE 6¼ **Township:** 11 S **Range:** 19 E

Length: 6.0 **Width:** 5.4 **Depth:** 2.0

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):** ____

Elevation information:

land_elev: 75' **ls_elev:** 73 **cover_thic:** 2 **wt_elev:** 40

Potentiometric surface elevation: **Head differential:**

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0.12 **Z0_DYS_RAIN:** 13.56

Soil Type: **Physiographic Area of SH:**

Other information:

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Alachua **FSRI_CODE:** 26-555
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 6 **Day:** 4? **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Retention Pond, SW 95th Place

City: Gainesville **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: SEI Site Visit **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 29.56626955 **Quad Name:** Arredo

LONGITUDE: -82.44791846 **Section:** NE¼ **Township:** 11 S **Range:** 19 E

Length: 6.4 **Width:** 6.1 **Depth:** 1.5

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):** ———

Elevation information:

land_elev: 75 **ls_elev:** 73 **cover_thic:** 2 **wt_elev:** 40

Potentiometric surface elevation: 40 **Head differential:** 0

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0.12 **Z0_DYS_RAIN:** 13.56

Soil Type: **Physiographic Area of SH:**

Other information:

SUBSURFACE EVALUATIONS, INC.
Engineering Geology & Geophysics

13617 North Florida Avenue
Tampa, FL 33613 USA
Voice: (813) 353-9083
Fax (813) 353-9653

www.sei-tampa.com
kathy@sei-tampa.com

June 22, 2005

Jeffery B. Davis, P.G.
St. Johns River Water Management District
P.O. Box 1429
Palatka, FL 32178-1429

Subject: New Sinkhole Investigation Report
Property: **Gainesville Sinkholes**, Retention Basin, SW95th Place, Gainesville, FL

Dear Mr. Davis:

As per your authorization, Subsurface Evaluations, Inc. (SEI) performed a site investigation at the above named property on June 9, 2005. The purpose of the investigation was to document 8 sinkholes which had formed on the property. The objective of the investigation was to evaluate whether the surface depressions had formed as the result of karst erosion activity. This report is subject to the limitations on Attachment A.

Introduction

The sinkholes were initially reported to the SJRWMD on June 4, 2005. SEI received a written request from you to document the sinkholes.

Methods

Kathleen McDonald, P.G., Project Manager, SEI, and Phi Tran, Operations Supervisor, Certified GPR Operator, SEI, performed the site investigation. A Trimble ProXR GPS unit was used to record the coordinates and perimeter of the sinkhole locations. The location map for the sinkhole is shown on Figure 1 (attached). Ground Penetrating Radar (GPR) was performed along 17 transects within the retention basin as depicted on Figure 2. Fourteen geologic features of interest were identified by review of the GPR transects. There locations are shown on Figure 3. These represent possible buried depressions or solution shafts.

The perimeter of the sinkholes were recorded with the Trimble global positioning system utilizing real-time data correction. A weighted tape was used to measure the depth of each sinkhole. The dimensions and location information are included in Table 1.

Table 1. Location and size information of Sinkholes in Retention Basin, SW95th Place

Gainesville, Florida.

Sink No.	Latitude	Longitude	LENGTH	WIDTH	DEPTH
1	29.566223304	-82.448073206	16.1	13.2	4.0
2	29.566240710	-82.448048624	3.4	2.1	1.0
3	29.566538560	-82.448080318	21.9	16.3	3.5
4	29.566327470	-82.448055089	14.6	11.5	5.5
5	29.566293970	-82.447984039	15.8	8.5	17.0
6	29.566274635	-82.447975922	6.2	5.4	16.0
7	29.566175280	-82.447971890	6.0	5.4	2.0
8	29.566269551	-82.447918346	6.4	6.1	1.5

The topographic map for this location was downloaded from topozone.com and is included in Appendix 1. The sinkholes appear to have formed in a paleosinkhole (or sinkhole which formed in the geologic past). They occur within the northeast quarter of section 6, Township 11S and Range 19E of the Arrendo Quadrangle. Sinkholes 5 and 6 appear to contain solution shafts, with limestone visible within the walls approximately 1 foot below the land surface. No water was encountered in any of the sinkholes.

Pictures of the sinkholes are included in Appendix 1.Digital copies of the GPR profiles and a viewing program are included on the enclosed CD-ROM. Instructions for using the viewing program Radprint are included in Attachment B. The most important equipment settings are recorded on the profiles.

Many geotechnical engineers fill solution shafts with large rock, then gravel and then grout the top, to seal the shafts. The sinkholes where a shaft is not visible are usually filled with clays or clayey sands. Please obtain advice from a geotechnical engineer familiar with sinkholes for the proper repair of these sinkholes. Sinkholes 5 and 6 definitely have solution shafts present.

Closing Comments

Please call if I might answer questions about this investigation. Thank you for this opportunity to be of service.

Sincerely,

Kathleen M. McDonald, P.G.
Licensed Professional Geologist, No. 2142 (Florida)
Project Manager
Subsurface Evaluations, Inc.
June 22, 2005

Attachments: Attachment A – Limitations, Attachment B, Appendix 1, CD
File: E:\ \Reports-Misc\SJRWMD\Gainesville Sinkholes Rpt.doc



Figure 1. Location of sinkholes and retention basin investigated bySubsurface Evaluations, Inc. on June 10, 2005. The locations were measured using a Trimble Pro-XR GPS unit utilizing real-time data correction.

N
W
E
S

Grid in UTM 17N Coordinate System (meters)

0 250 500 1,000 1,500 2,000 Feet

Retention Basin Boundary

Aerial obtained from SJRWMD.com
2004 orthophoto quad dq4520

SUBSURFACE EVALUATIONS, INC.
Engineering Geology & Geophysics

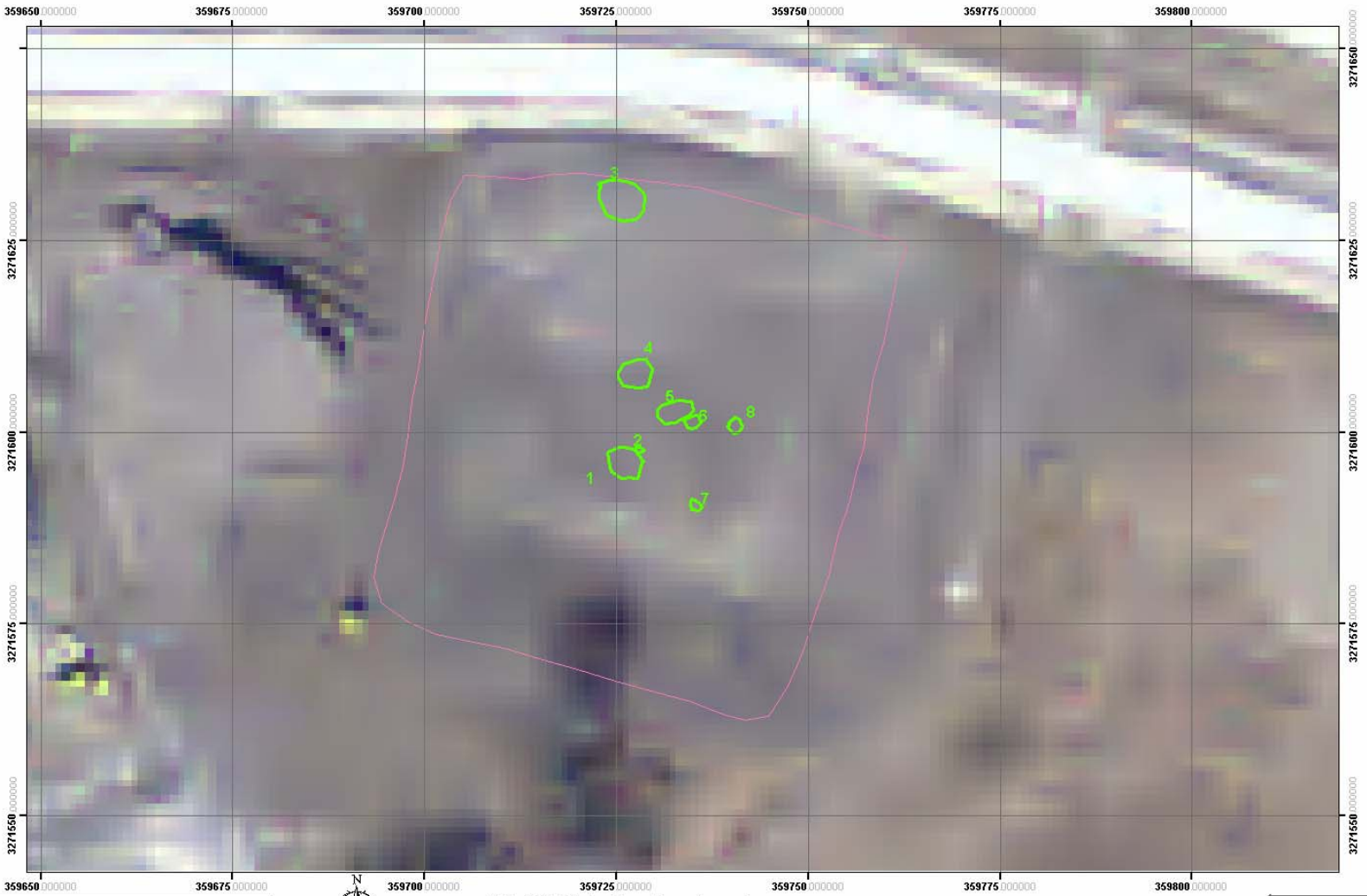


Figure 2. Location of sinkholes and ground penetrating radar transects at the Retention basin on SW95th Place, Gainesville, Florida. A ground penetrating radar survey was performed by Subsurface Evaluations, Inc. on June 10, 2005 using a SIR-2 control unit and a 400-MHz antenna.

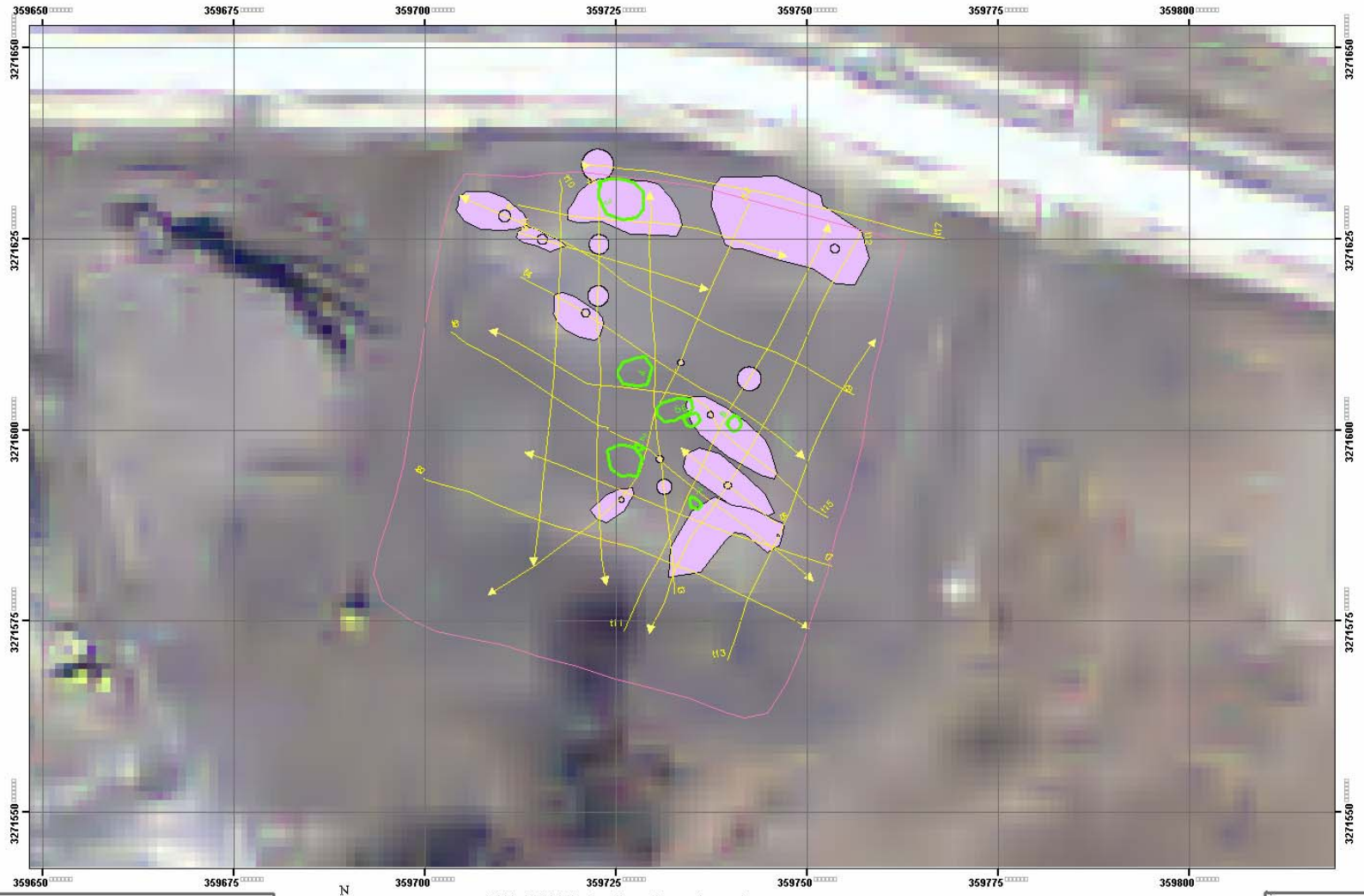


Figure 3. Location of geologic features identified by GPR survey at the Retention basin on SW95th Place, Gainesville, Florida. A ground penetrating radar survey was performed by Subsurface Evaluations, Inc. on June 10, 2005 using a SIR-2 control unit and a 400-MHz antenna.

Appendix 1



View of the retention basin (Sinks are in the orange taped areas)



View or retention basin and sink no. 5



Additional views of sink no. 5



Views of sink no. 3.



Views of sink no. 1.



View of sink no. 2.



Additional views of sink no. 1.



Views of sink no. 6.



Additional view of sink no.5



Additional views of sink no. 6



Sink no. 5.

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USGS Topo Maps

- (•) 1:24K/25K Series
- ( ) 1:100K Series
- ( ) 1:250K Series

Map Size

- ( ) Small
- ( ) Medium
- (•) Large

View Scale

1 : 50,000

Update Map

Coordinate Format

DD.DDD

Coordinate Datum

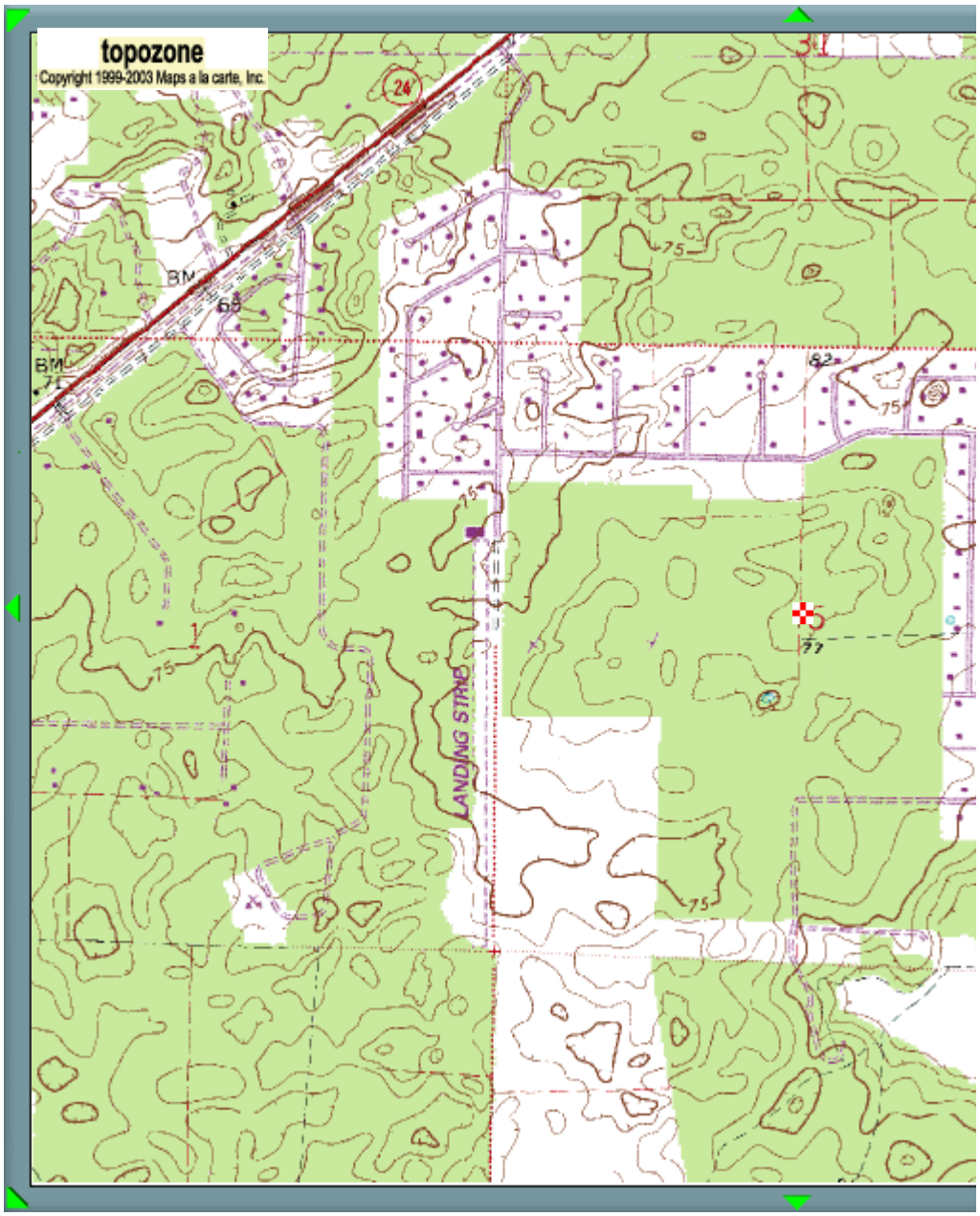
WGS84/NAD83

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29.5663°N, 82.4480°W (WGS84/N
USGS **Arredondo** Quad
Elevation 77.1 ft / 23.5 m (USGS



0 0.7 1.4 2.1
0 0.4 0.8 1.2

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Lake 11-593

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Lake Co. **FSRI_CODE:** 11-593
SH_NUMBER: _____

Sinkhole formation data:

Year: 2004 **Month:** 9 **Day:** 29 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: 25833 SR 46

City: Sorrento **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: Star Banner *(newspaper, district, county, or city authority, etc.)*

LATITUDE: 28.81088 **Quad Name:** Mount Plymouth

LONGITUDE: -81.52911 **Section:** NE 29 ¼ **Township:** 19 S **Range:** 28 E

Length: 15 **Width:** 15 **Depth:** 20

Side Slope Angle: **Shape:** ___Cone ____Funnel ____Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 80 **ls_elev:** **cover_thic:** **wt_elev:** 65

Potentiometric surface elevation: **Head differential:**

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 4.71 **Z0_DYS_RAIN:** 23.64

Soil Type: **Physiographic Area of SH:**

Other information:

FLORIDA
PRESS SEARCH
800-442-0332

STAR BANNER

OCALA

DAILY - 59,600

OCT 1, 2004

SORRENTO

628

Fifteen-foot sinkhole opens up around SR 46

A 15-foot wide sinkhole opened up at 25833 State Road 46 in Sorrento Wednesday, according to the Lake County Sheriff's Office. The hole, about 20 feet deep, is not threatening a home or road, the sheriff's office said.

It is not clear if the sinkhole opened as a result of the hurricane.

Lake 11-594

Lake 11-595

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Lake

FSRI_CODE: 11-595
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 7 **Day:** 6 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Fla Turnpike mile marker 290

City: Leesburg **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: Orlando Sentinel **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 28.70065 **Quad Name:** Center Hill

LONGITUDE: -81.88063 **Section:** SE 35¼ **Township:** 20 S **Range:** 24 E

Length: ~~5~~ 10 **Width:** ~~X~~ 10 **Depth:** 3

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: ~90' **ls_elev:** **cover_thic:** **wt_elev:** 85'

Potentiometric surface elevation: 85 **Head differential:** 0

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0.29 **Z0_DYS_RAIN:** 13.57

Soil Type: **Physiographic Area of SH:**

Other information:

Florida Newsclips
Newsclipsonweb.com
800-442-0332

Orlando Sentinel
Orange County
Daily
Circulation: 390,851

July 7, 2005

Small sinkhole opens on turnpike near Leesburg

By SCOTT POWERS
SENTINEL STAFF WRITER

A small sinkhole opened up Wednesday afternoon in the northbound lanes of Florida's Turnpike near Leesburg, forcing cars and other small vehicles onto the shoulder lane and big trucks onto a detour.

The sinkhole is about 5 feet across and appears stable, turnpike officials said. It affects both travel lanes heading north, near mile marker 290, said Christa Deason, spokeswoman for Florida's Turnpike Enterprise.

Deason said the turnpike's immediate goal is to fill the hole and get traffic back into the lanes in a day or two.

Turnpike officials want a quick fix because of concerns that the highway might be needed as an evacuation route if Hurricane Dennis threatens Florida later this week.

A Florida Highway Patrol trooper is monitoring traffic, and an engineering team is evaluating the sinkhole.

"Because of the off-chance we might have to do some type of evacuation, our main concern is to get those lanes open," Deason said.

Large trucks, vehicles towing trailers and others with more than two axles heading north are being detoured off the turnpike onto U.S. Highway 27, at mile marker 285. The detour heads north on U.S. 27, then east on County Road 470, where it re-enters the turnpike.

Two-axle vehicles are being allowed to proceed north but are being diverted onto the shoulder lane to get around the hole, she said.

A similar sinkhole opened up early this spring a few miles north of the current hole. Deason said that hole was filled and traffic was restored in a couple of days.

Scott Powers can be reached at 407-420-5441 or spowers@orlandosentinel.com.

Florida Newsclips
Newsclipsonweb.com
800-442-0332
Daily Commercial
Lake County
Circulation: 34,391
July 7, 2005

Sinkhole closes lanes of Turnpike

SARA BOTT
Staff Writer

LEESBURG — A 3-foot by 10-ot sinkhole developed Wednes-y on Florida's Turnpike near S. Highway 27 approximately o miles from Leesburg.

Lt. Pat Santangelo of the Flori- Highway Patrol said the sink-le started off as a depression e size of a footprint. He said the pression was noticed around 7 n. and traffic was restricted to o-axle vehicles in the left lane ly. Santangelo said the High-y Patrol is trying to keep as uch weight off the area as pos-ble.

"We are prepared to shut it wn if necessary," Santangelo id. "We don't know at the time if e other lane needs to be shut wn."

He said the depression is locat- at mile marker 288 on Flori-'s Turnpike and traffic is being rected onto the shoulder off the ht lane of the turnpike.

Alexis Galeote, duty officer at e Turnpike Highway Patrol of oop K, said no injuries or acci-nts occurred due to the sink-le. She said a Road Ranger first ticed the depression and saw it s going to be a bigger problem.

Galeote said there were five opers at the scene and a crew s trying to repair the sinkhole.

"We have no idea how long it ll take," she said. "A Road



Lake 11-596

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Lake **FSRI_CODE:** 11-596
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 8 **Day:** 18 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Dionne Residence 3042 Tubilee Way

City: Sorrento **Zip:** 32776 **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: Orlando Sentinel *(newspaper, district, county, or city authority, etc.)*

LATITUDE: 28.79 30656 **Quad Name:** Sorrento

LONGITUDE: 81.545985 4 **Section:** SE 31 ¼ **Township:** 19 *S* **Range:** 28 *E*

Length: 40 **Width:** 40 **Depth:** 25

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: ~103' **ls_elev:** **cover_thic:** **wt_elev:** 58'

Potentiometric surface elevation: 45 **Head differential:** 13.0

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0. **Z0_DYS_RAIN:** 14.7

Soil Type: **Physiographic Area of SH:**

Other information:

State plane FL East 481288.4
1621448.15
Coordinates of home – Lake Co. property appraiser database/GIS

Florida Newsclips
Newsclipsonweb.com
800-442-0332
Orlando Sentinel
Orange County
Daily
Circulation: 390,851
August 9, 2005



STEPHEN M. DOWELL/ORLANDO SENTINEL

Earth moved

A sinkhole swallowed part of the lawn and driveway outside the Sorrento house of Jeff and Pam Dionne. Jeff Dionne (left) and Josh Adams, builder of the home, inspect the damage Friday.

Florida Newsclips
Newsclipsonweb.com
800-442-0332
Orlando Sentinel
Orange County
Daily
Circulation: 390,851

August 19, 2005

MOUNT PLYMOUTH

Sinkhole opens near home

A sinkhole up to 40 feet wide and 25 to 35 feet deep and still growing prompted the evacuation of a family from their home on Jubilee Way in Lake County shortly before 11 p.m. Thursday, officials said.

Pam Dionne had been out shopping when she arrived home Thursday evening and "almost drove into it," said her husband, Jeff Dionne.

The sinkhole was not directly threatening the home, but the family was moved as a precaution, said Sgt. Christie Mysinger of the Lake County Sheriff's Office.

Officials planned to monitor the hole through the night. Its cause was unknown late Thursday.

Orange 77-582

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Orange

FSRI_CODE: _____

SH_NUMBER: _____

Sinkhole formation data:

Year: 2004 **Month:** 10 **Day:** 14 **Time:** Early Am?

Descriptive location of new SINKHOLE:

Street name/location: 1023 Honey Girl Lane 10-23-29

City: Orlando **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: Orlando Sentinel (newspaper, district, county, or city authority, etc.)

LATITUDE: 28.499 **Quad Name:** Lake Jessamine

LONGITUDE: -81.393 **Section:** 10 SE ¼ **Township:** 23 S **Range:** 29 E

Length: 55 **Width:** 55 **Depth:** 25'

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 95 **ls_elev:** **cover_thic:** **wt_elev:** 290'

Potentiometric surface elevation: **Head differential:**

Rainfall data: **Z4_HR_RAIN:** **Z_DYS_RAIN:** **Z0_DYS_RAIN:**

Soil Type: **Physiographic Area of SH:**

Other information: Homeowner woke up to sink at Lake edge + by Kitchen

FLORIDA
PRESS SEARCH
800-442-0332

ORLANDO
SENTINEL
ORLANDO
DAILY - 401,100
OCT 15, 2004



RED HUBER/ORLANDO SENTINEL

A 55-foot-wide, 25-foot-deep sinkhole has developed in the back yard of a lakefront home on Lake Holden, south of Orlando. The sinkhole swallowed 2 large oak trees. The owners of the home, Thomas Fisher and his wife, Kathi, were evacuated.

Sinkhole threatens couple's lakefront home of 30 years

By SANDRA MATHERS
SENTINEL STAFF WRITER

The new kitchen Kathi and Thomas Fisher were adding to their home on Lake Holden was designed to give them a spectacular view of the 266-acre lake south of Orlando.

On Thursday, Kathi Fisher awakened to a spectacular view she didn't expect:

A large, water-filled sinkhole that developed at the lake's shoreline overnight had swallowed four trees — two of them 40-foot-tall oaks — and came to rest just a few yards from her new kitchen addition.

"We went to bed at 11 p.m. and everything was fine," she said. "I awoke at 6 a.m. and looked out and said, 'Uh-oh ... where are the trees?' "

By day's end, the 55-foot-wide sinkhole was 25 feet deep and had stabilized about 15 feet from the house. But tests showed the hole extends to just beneath a corner of the kitchen.

"We don't know when it's going to stop growing," said Orange County Fire Chief Carl Plaugher.

County officials said the pressure of heavy rains from the three hurricanes that recently swept through Central Florida likely created the sinkhole by causing the lake to break through its limestone bed.

"Sinkholes occur when water levels are high or low by putting pressure on geological formations under the lake," said Rod Lynn, chief engineer for the Orange County Stormwater Management Division.

Within hours of the sinkhole's discovery, the Fishers' home of 30 years was condemned and the power was disconnected. Lines of orange spray paint ringed the grass at the shoreline.

Orange County Chairman Rich Crotty stopped by to take a look at the balloon-shaped hole that had breached the lakefront sea wall.

Later, geological tests using ground-penetrating radar were completed, and drilling for core samples also is scheduled, said Thomas Fisher, a retired psychologist.

Thursday's tests showed another underground hole behind the house that presents no current danger to the property, said Jim Rothrock, president of Windermere Properties and Engineering Services, the company hired to do the work by the Fishers' insurance company.

But the lakeside hole could enlarge in the next few days or weeks, Rothrock said.

"It's being regarded as an active sinkhole until we know better," he said.

The Fishers are distraught. County officials told the couple the cost of repairing the sinkhole was their problem because it was on their property, Thomas Fisher said. But he contends the lake is county property and said he will ask his lawyer to study the issue.

"It's terrible," Thomas Fisher said. "We're disenchanted with the house and we don't want to live here anymore.

"We may be stuck with a house that was worth $450,000 yesterday and today [Thursday] is worth $50,000."

Sandra Mathers can be reached at smathers@orlandosentinel.com or 407-420-5507.

Polk 16-943

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Polk

FSRI_CODE: 16-943
SH_NUMBER: _____

Sinkhole formation data:

Year: 2004 **Month:** 9 **Day:** 25 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: 125 & 135 Kentucky Ave

City: **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 28.04381617 **Quad Name:** Lakeland

LONGITUDE: -81.95563734 **Section:** SW ¼ **Township:** 28 S **Range:** 24 E

Length: ~100' **Width:** 100 **Depth:** ~20

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 217 **ls_elev:** **cover_thic:** **wt_elev:** ~~210~~ 207'

Potentiometric surface elevation: **Head differential:**

Rainfall data: **Z4_HR_RAIN:** **Z_DYS_RAIN:** **Z0_DYS_RAIN:**

Soil Type: **Physiographic Area of SH:**

Other information: Took out Lakeland South Shopping Center at least 100' long
Formed near retention pond after Hurricane Jean

WFLA-TV photo by PAUL LAMISON

Several businesses at Lakeland South Center fell victim to a hole Sunday. Susan Grieger, owner of Jannabelle's Bridal Salon, said she was called about a burglar alarm. "We never anticipated this."

3rd Round Of Damage Pushes Polk To Persevere

RESIDENTS FACING WEEKS OF MESS, DAYS OF OUTAGES

By CHERYL N. SCHMIDT
and DAVE NICHOLSON
The Tampa Tribune

LAKELAND — Tears flowed Monday behind the first Beef O'Brady's to open outside Hillsborough County as owner Linda Bosko greeted a corporate manager and friend, Christine Corsini.

After 14 years and plenty of chicken wings, the sports pub and several other businesses at a Lakeland shopping center were ruined by Hurricane Jeanne.

A huge hole spawned by the storm's rain swallowed a service road behind the shopping center on South Florida Avenue and all or parts of Beef O'Brady's, a sushi bar, bridal salon, pool supply store, window blinds business and cigar bar. An Outback Steakhouse and Quizno's Sub had minor damage.

Panicked brides can rest easy — their dresses were saved — but plenty of damage followed Jeanne as the storm swept through Polk County.

Southern Polk has been the crossroads of three hurricanes this season: Charley, Frances and Jeanne. Bartow, Lake Wales and Fort Meade got hammered again. Lakeland took its stiffest punch yet.

County Public Safety Director Larry Alexander said the biggest issues will be getting power restored and coping with flooding. No deaths in Polk have been officially attributed to the storm.

"We're hearing from Lakeland that it may be a couple of weeks before power is restored and from TECO the same thing," Alexander said.

"Convoys are spread around the state fixing things that are still broke," he said. "And I know they'll come to help us, but it just won't be quite as fast as before."

'Major Transmission Issues'

As of Monday afternoon, 48,000 Lakeland Electric customers were without power, but the city utility expected to cut that number to 40,000 by 9 p.m. The utility is working to bring customers back on quickly, but some could be without power for two weeks.

"We have a lot of trees in lines. We have major transmission issues," said Kevin Cook, Lakeland's spokesman.

The city had about 320 reports of roads blocked with trees or other debris, but all major roads have been reopened, Cook said.

Progress Energy had 33,696 customers still without power, a county spokeswoman said. Peace River Electric Cooperative reported nearly 4,700 without power.

Lack of electricity was the major reason schools will remain closed today, and possibly longer. Fred Murphy, assistant superintendent for support service, said 73 of 122 schools were without power early Monday.

At least six schools also had roof damage. Repairs were under way while damage assessments at all schools continued.

Many traffic lights along U.S. 27 south of Haines City were out Monday morning, and in many communities few businesses were open.

Roof Whipped Again

In Frostproof, in southern Polk, Chuck Thiers was without power as he worked to cover his roof with a tarp.

Hurricane Charley took out most of the shingles over half of his home. Hurricane Jeanne's winds took the shingles from the other half.

During the storm, Thiers watched an electric line put on a show of flashes of blue. "It kept blowing fire out of it," he said, pausing from his roof repairs to describe the scene.

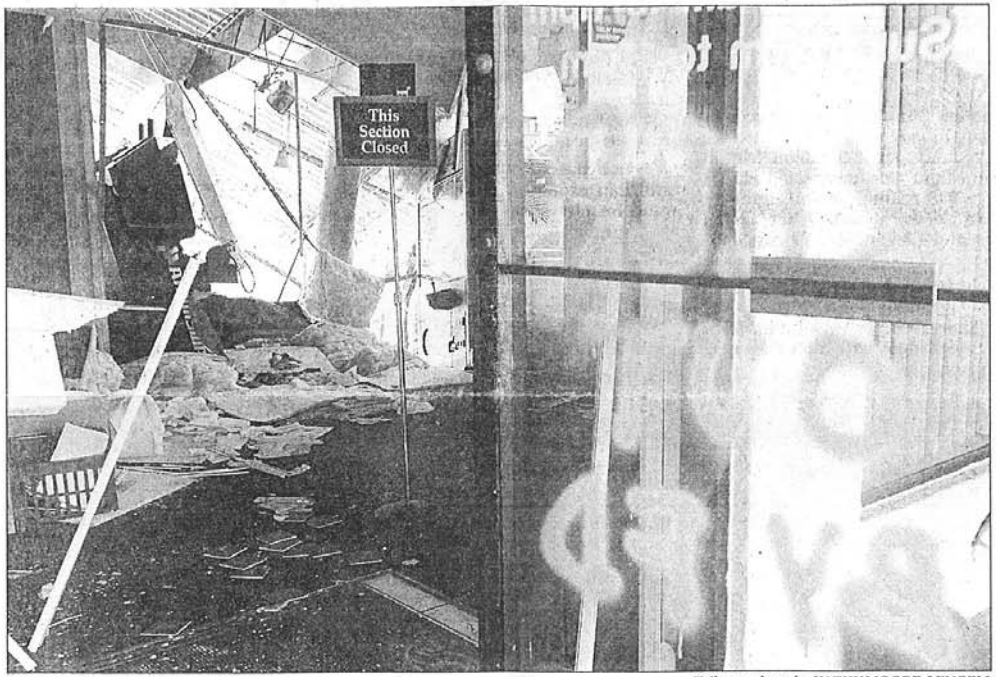
Lake Wales City Manager Tony Otte said the city suffered less damage than from Hurricane Charley, when 1,000 homes were damaged. But "we have a lot of roofs being redamaged."

Jeff Holden, owner of the Lakeland South Center, where the sports pub and businesses were damaged, said engineers told him the sunken earth can be repaired. The hole seems to have begun forming near a retention pond.

"The hurricane caused it. What acted in concert with the hurricane is too early to be determined," Holden said.

Couples were relieved to find Jannabelle's Bridal Salon salvaged all its dresses, owner Susan Grieger said. The business will relocate to a shopping center on South Florida Avenue.

She was notified about 5 a.m. Sunday that the salon's burglar alarm had gone off. She thought a window might have blown out, but "we never anticipated this," she said as she stood in front of a missing back wall.



Tribune photo by KATHY MOORE-LENGELL

Beef O'Brady's at Lakeland South Center was heavily damaged. Jeff Holden, owner of Lakeland South Center, said it was too early to say anything more specific about the hole than "the hurricane caused it."

Watery Roads East Of Lake Wales

Flooded roads also pose problems in the county, with the area east of Lake Wales the hardest hit, said Bill Abernathy, county operations center coordinator. The ground was already saturated, and the naturally low area could ill afford to take the 6 to 9 inches of rain that Jeanne brought to 40 percent of Polk, he said.

Cresting rivers and creeks will be the next big challenge, Abernathy said.

At Peace River Estates, northeast of Bartow, where homes were flooded after Hurricane Frances, Peace Creek is expected to rise to more than its historic high mark of 11 feet.

To help residents without power, the county set up water and ice distribution sites at:

- Ben Hill Griffin Packing House, 700 S. Scenic Highway, Frostproof; Lake Eva Park, 219 Ledwith Ave., Haines City; and Government Center, 201 W. Central Ave., Lake Wales.

The following water and ice sites are expected to open by 2 p.m. today:

- Dundee, Dundee Baptist Church, 1111 Scenic Highway.
- Lake Wales, Eagle Ridge Mall, 451 Eagle Ridge Drive.
- Lake Alfred, First Baptist Church, 380 E. Pierce St.
- Lakeland, First Baptist Church at the Mall, 1010 E. Memorial Highway.
- Mulberry, Mulberry Civic Center, 901 Fifth St.
- Polk City, Women's Club, 203 Lakeshore Drive.
- Winter Haven, Hope Presbyterian Church, 2110 Cypress Gardens Blvd.
- Winter Haven, First Presbyterian Church, 637 Sixth St. N.W.
- Auburndale, Auburndale Recreation/Civic Center, 119 W. Park St.

Reporter Cheryl N. Schmidt can be reached at (863) 683-6531.

FLORIDA
PRESS SEARCH
800-442-0332

LEDGER

LAKELAND
DAILY - 96,000
SEPT 27, 2004

Shopping Center Businesses Damaged as Sinkhole Opens

By AMY L. EDWARDS
The Ledger

628

LAKELAND — When a security company called Don Bosko, owner of South Lakeland's Beef O' Brady's early Sunday and said his back door alarm was going off, Bosko thought it was simply hurricane winds rattling the door.

But when he went to check on his South Florida Avenue business at about 10 a.m., he realized what really caused his alarm to go off: Part of the business had collapsed more than 20 feet into a monstrous hole.

Sometime early Sunday, the parking lot and a one-lane road behind the Lakeland South Center shopping center tumbled into a small lake.

When the road gave way, the backs of four businesses — Beef O' Brady's, GOSH! Pan-Asian Bistro & Sushi Bar, The Blind Factory and Leslie's Swimming Pool Supply — went with it.

Bosko lost several video and arcade games, tables, a cooler, an air conditioning unit and a trash bin.

In addition to part of the building collapsing, a portion of the roof caved in on the north part of the restaurant.

Instead of opening Beef's at 4 p.m. Sunday in time for the football game as he planned, Bosko, friends and relatives salvaged sports memorabilia and other items from inside the restaurant.

PLEASE SEE HOLE, PAGE B3



MICHAEL WILSON/The Ledger

The parking lot and a road behind a shopping center on South Florida Avenue collapsed into a lake early Sunday. The resulting sinkhole damaged four businesses and prompted county officials to order the entire strip mall closed.

Hole

CONTINUED FROM B1

"It looks like a earthquake, not a hurricane," Bosko said.

"It's mind-boggling."

"It was just a little retention pond. I never thought anything like this would happen," he said.

Even though only a handful of stores had substantial damage from the hole, county officials Sunday ordered the entire strip mall closed.

Outback employees loaded food into a van. Brad Hall, the president of The Blind Factory, tried to salvage what he could from his store.

Hall said his office, restroom and storage space fell into the massive hole.

"It's just incredible . . . to see something this big wash away," Hall said.

The building was in need of repairs, Hall said, but he never imagined a portion of it would collapse into a hole.

"It's unbelievable . . . to have it all wash away," he said.

Hall was able to salvage a computer, but filing cabinets, paper work, signs and items he was going to take a future home show are gone.

"I've got nothing left — it's gone now," Hall said.

There's also a sense of helplessness at nearby Beef O' Brady's, where September is one of the busiest times of the year.

"I was in disbelief," Bosko said. "What can I do to bring it back? It's been such a good business."

Amy L. Edwards can be reached at amy.edwards@theledger.com or 863-802-7550.

Volusia 79-574

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

COUNTY: Volusia **FSRI_CODE:** 79-574
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 7 **Day:** 31 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Amtrack train track

City: Deland **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: numerous **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 29.07884 **Quad Name:** DeLand

LONGITUDE: 81.36441 **Section:** 44 ¼ **Township:** 16 S **Range:** 29 E

Length: 15 **Width:** 15 **Depth:** 4

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 32 **ls_elev:** 0 **cover_thic:** 32 **wt_elev:** 0

Potentiometric surface elevation: 0 **Head differential:** 0

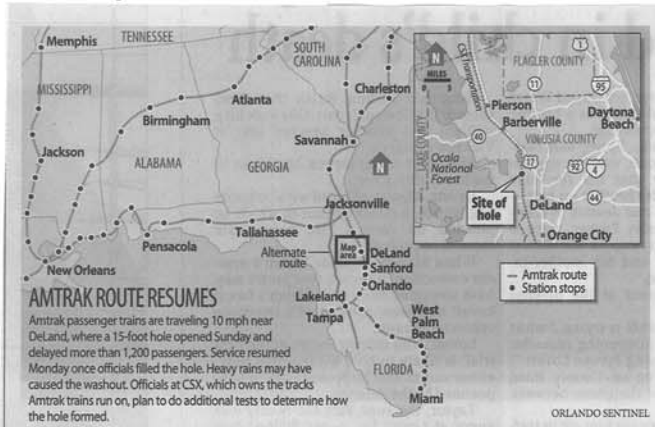
Rainfall data: **Z4_HR_RAIN:** 1.86 **Z_DYS_RAIN:** 2.32 **Z0_DYS_RAIN:** 23.47

Soil Type: **Physiographic Area of SH:**

Other information: opened beneath train track

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August 2, 2005



Fix to Volusia hole lets trains resume, but schedules off-track

By JEFF LIBBY
SENTINEL STAFF WRITER

DELAND — Amtrak trains that normally slip through the woods of Central Florida at nearly 80 mph slowed to a chug on Monday as they rolled over a soft patch of earth north of DeLand that a day earlier closed miles of tracks and stalled hundreds of rail passengers across Florida.

Crews working through the night repaired a 15-foot-wide, roughly 4-foot deep hole with a culvert and fresh gravel. The railway reopened at 7:25 a.m., about 21 hours after freight crews discovered the hole on a section of track that passes through low-lying forest near the Norris Dead River.

But the backup of scheduled runs through Central Florida forced Amtrak to cancel two trips of the Auto Train on Monday and to bus about 195 passengers from Miami to catch a northbound train from the Sanford depot. That train was delayed, adding to the passengers' grumbles.

"I didn't pay to get on a bus, I paid to get on a train," said Alyse Medina, who boarded a bus in Miami at 6:50 a.m., spent three hours at the Orlando depot, then boarded another bus to Sanford before arriving at the train that would take her home to Charleston, S.C.

Officials of CSX Transportation, which owns the tracks, said the hole that opened below the tracks may have been caused by a washout from heavy rains draining through the forest.

But CSX officials and soil scientists who traveled to the low-lying, heavily wooded site have not ruled out the possibility that the erosion of soil was caused by a sinkhole. Geotechnical engineers are scheduled to test the stability of the soil in the surrounding area today, they said. They also plan to make more repairs to improve drainage.

"It is operable track now. Fortunately we were able to discover the problem and resolve it," said Meg Scheu, a CSX spokeswoman. "It's extremely important for anyone using our lines that our passengers and crews are safe and that they reach their destinations."

But after the delays Monday and a wait of more than an hour in the sweltering heat outside the now-closed Sanford depot, some passengers had had enough of train travel when boarding finally began around 4:25 p.m.

"I'll never do it again," said Patricia Knoff of Green Cove Springs.

Dozens of passengers, like Knoff, had showed up earlier at other train stations in South and Central Florida, only to be loaded on buses for the first part of their trip.

Vickie Belin of Tampa, who was traveling to Florence, S.C., said she called Amtrak about 8 a.m. to check on her 9:40 a.m. departure. "They told me the train would be on time," she for passengers once they arrived at the Orlando depot.

"They didn't announce it," Knoff said, and many passengers, already disgruntled, didn't hear about the pizza until after they left the depot.

In Volusia County, David Griffis, a soil scientist and county extension manager, went to examine the hole Monday. But it had been filled by the time he arrived.

"If it was a sinkhole, I wanted to make sure where it was and document it so we know," Griffis said. "I can't call it a washout. . . [but] is it something other than a sinkhole? Very possibly."

Volusia County residents have been plagued with sinkhole worries since two behemoth voids opened in December and January, swallowing part of a large road in Deltona and damaging several homes.

Though there has been no major reported sinkhole activity since, the recent rains make an occurrence more likely, experts said.

Sinkholes open when the limestone bedrock gets worn down and collapses. This can happen when the water table drops or when the soil becomes waterlogged, leaving certain areas in the bedrock unsupported or weighed down and likely to crumble.

"If the limestone hole was present and if there was a lot of rain recently dumped on the area, that could have caused it [a sinkhole]," said Richard Green, a geologist with the Florida Geological Survey.

Despite what appears to have been a close brush with a potential rail accident, David Johnson, assistant director of the National Association of Railroad Passengers, said the quick action of CSX officials showed the system works.

Crews discovered a breach in the rail bed that had been inspected within the past 48 hours, according to CSX, and within a day they installed a culvert and gravel to improve drainage and restore service.

"This is no different than a bad line of thunderstorms coming through Orlando airport — or hurricanes, for that matter," Johnson said. "This falls into the category of natural weather impediments, and you wouldn't blame that on an airline."

Eddie Martinausky, a 17-year-old from Hilliard, a small town north of Jacksonville, waited through most of Sunday afternoon on a southbound Amtrak Silver Meteor that was halted just a few miles north of the hole. But he wasn't assigning blame and he wasn't worried about his trip back on Wednesday, which will take him over the repaired section of track.

"I'm going to get back on the train just like every other time," Eddied said. "I can't let the small stuff bother me."

Gary Taylor and Erin Ailworth of the Sentinel staff

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Fla. group unveils ads for Sen. Clinton

CONCORD, N.H. — Hillary Clinton isn't running for president, but her campaign already has started in New Hampshire.



Hillary Clinton

A group, Hillary Now!, this week will run TV ads in Manchester, Concord, Portsmouth, Salem and Nashua, pushing the New York senator for president in 2008. The group has no official ties to Clinton's office, but its president, Bob Kunst, of Miami Fla., said he is laying the foundation for her possible bid for the presidency.

Clinton has not openly declared ambitions for the presidency, though she is perennially mentioned as a contender. Press Secretary Phillipe Reines said Clinton is flattered by Kunst's efforts, but is concentrating on getting re-elected to the Senate next year.

Five trains affected by DeLand sinkhole

DELAND — Amtrak service resumed Monday on a stretch of railroad track that was closed after a sinkhole opened under it, causing delays for five trains and hundreds of passengers.

Work crews filled up the sinkhole that opened up just north of DeLand and planned to install a larger pipe to improve drainage in the area, said Gary Sease, a spokesman for Jacksonville-based CSX Transportation, which operates the track.

Trains will be limited to 10 mph over the area until the area is better drained. The stretch of track was closed for more than 16 hours, forcing delays, the rerouting of trains and the busing of some passengers to their final destinations Sunday.

ID's of plane crash victims released



MIKE HENTZ The Associated Press

Ensign Roxanne Jensen, right, of the Coast Guard Group Key West, looks at parts of a plane Monday that crashed in the waters off Key West.

KEY WEST — The Coast Guard released the names Monday of four people aboard a small plane that crashed into the waters off the Florida Keys as the search continued for the two who remain missing. The bodies of the other two have been found.

The Cessna 172, rented from a Melbourne leasing company, was piloted by Crystal Cook, said Coast Guard spokesman Dana Warr. The passengers were identified as Igan Sussman, Bruno Assman and Pierce Littleford.

No ages or other details about the group were immediately available, although the plane was headed from the Keys to New Smryna Beach when it crashed Saturday night, according to a flight plan filed with the Federal Aviation Administration.

The bodies of Sussman and one other male passenger have been recovered, Warr said. The Coast Guard and other agencies continued looking Monday for the other two.

The plane crashed shortly after takeoff Saturday night from Key West International Airport. Rescue efforts, however, did not begin until Sunday morning because initial reports from local witnesses that a plane might have crashed were attributed to a lightning storm.

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STATE NEWS

5 Amtrak Trains Are Held Up By Sinkhole

PASSENGERS HAVE TO BE BUSED TO DESTINATIONS

The Associated Press

DELAND — A sinkhole that opened under railroad tracks in central Florida caused delays for five Amtrak trains Sunday, affecting travel plans for hundreds of people, officials said.

The sinkhole opened up just north of DeLand under CSX Transportation tracks used by Amtrak, officials said.

Amtrak spokeswoman Tracy Connell said 130 people aboard the Sunset Limited train from Orlando to New Orleans were being taken from Florida to their final destination by bus.

A southbound train carrying 267 people from New York to Miami was stopped just north of DeLand. Those passengers were being bused to their destination.

Three trains were being detoured between Lakeland and Jacksonville. They were the Auto Train carrying 365 passengers from Sanford to Lorton, Va.; the Silver Star carrying 235 people to New York; and the Silver Meteor carrying 215 people to New York.

An after-hours answering machine for CSX Transportation was full and didn't accept messages Sunday night.

Sinkholes happen when sand or soil beneath the surface begins to erode and falls into underlying limestone cavities, causing the surface to collapse.

Several factors can contribute to the formation and collapse of sinkholes, including drought, excessive water pumping, construction or heavy rain.

DeLand is about 35 miles north of Orlando.

Sinkholes happen when sand or soil beneath the surface begins to erode and falls into underlying limestone cavities, causing the surface to collapse.

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DELAND

Sinkhole slows Amtrak; service resumes

A sinkhole that halted trains in North Florida on Sunday was filled in quickly, and Amtrak passengers were back on track by Monday.

DELAND — (AP) — Amtrak service resumed Monday on a stretch of railroad track that was closed after a sinkhole opened under it, causing delays for five trains and hundreds of passengers.

Work crews filled up the sinkhole just north of DeLand and planned to install a larger pipe to improve drainage in the area, said Gary Sease, a spokesman for Jacksonville-based CSX Transportation, which runs the track.

"We were able to repair the washed out section to the extent that we can operate trains again going slowly over that area," Sease said. "Our crews worked very hard through the night to get the line restored."

Trains will be limited to 10 mph over the area until drainage is improved.

The stretch of track was closed for more than 16 hours, forcing delays, rerouting of trains and busing of some passengers Sunday.

'Our crews worked very hard through the night to get the line restored.'

— GARY SEASE, CSX Transportation

All trains were expected to resume operations Monday, except for two auto trains, Nos. 52 and 53, which will resume service today, said Tracy Connell, an Amtrak spokeswoman.

The two trains, located in Sanford and Lorton, Va., together had about 200 passengers.

In addition, 195 passengers on Train 98, which travels a northbound route from Miami to New York, were bused Monday to Sanford where another train was ready to make up for lost time caused by the delay, Connell said.

Sinkholes occur when sand or soil beneath the surface begins to erode and falls into underlying limestone cavities, causing the surface to collapse.

Several factors may contribute to collapse, including drought, excessive water pumping, construction or heavy rain.

DeLand is about 35 miles north of Orlando.

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The Area | *In Brief*

DELAND

Hole stalls 1,200 train passengers

More than 1,200 Amtrak passengers across Florida were stuck on trains or stranded in stations Sunday after a 15-foot hole opened beneath a railroad track just north of DeLand.

An Amtrak Silver Meteor with 267 people on board bound for Miami was stalled on the tracks for at least six hours near Barberville as engineers used loose soil and rocks to try to shore up the hole beneath tracks operated by CSX Transportation.

Late Sunday, passengers boarded six buses to Miami — their final destination — after officials said the track would not be repaired before tonight at the earliest.

Nine other trains, four of them carrying passengers, were also delayed, stopped or rerouted Sunday evening, affecting 1,212 people.

Three trains were detoured to Lakeland before moving on to Jacksonville, including the Silver Star carrying 235 people stuck in Tampa and bound for New York; and the Silver Meteor carrying 215 people stuck in Orlando and bound for New York.

Also, in Sanford, 365 people were delayed for hours when the AutoTrain could not leave the station. It was to be rerouted south to Lakeland and north to Wildwood before picking up its usual route in Jacksonville, headed to Lorton, Va.

Late Sunday, 130 passengers in Sanford bound for Los Angeles aboard the Sunset Limited were to board buses to New Orleans instead.

Another 25 trains scheduled to use the tracks today will need to be rerouted, said Gary Sease, spokesman for Jacksonville-based CSX, the freight company that owns the rails.

Engineers thought the tracks could be repaired a few hours after a conductor spotted the hole Sunday afternoon. But rushing water from thunderstorms spilled into the hole, thwarting efforts to temporarily rebuild the rail bed.

Amtrak spokeswoman Tracy Connell expects at least another four Amtrak trains to be delayed today but said the company was not sure how many people would be inconvenienced.

CSX engineers could not determine whether the 15-by-5-foot hole was a sinkhole or caused by erosion from recent storms.

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STATE

Sinkhole throws Florida's Amtrak service off track

The Associated Press

DELAND — A sinkhole that opened under railroad tracks in Central Florida caused delays for five Amtrak trains Sunday, affecting hundreds of people, officials said.

The sinkhole opened up just north of DeLand under CSX Transportation tracks used by Amtrak, officials said.

Amtrak spokeswoman Tracy Connell said 130 people aboard the Sunset Limited train from Orlando to New Orleans were being taken from Florida to their final destination by bus.

A southbound train carrying 267 people from New York to Miami was stopped just north of DeLand. Those passengers were being bused to Miami.

Three trains were being detoured between Lakeland and Jacksonville.

They were the Auto Train carrying 365 passengers from Sanford to Lorton, Va.; the Silver Star carrying 235 people to New York; and the Silver Meteor carrying 215 people to New York.

Sinkholes occur when sand or soil beneath the surface begins to erode and falls into underlying limestone cavities, causing the surface to collapse. Several factors may contribute to the collapse, including drought, excessive water pumping, construction or heavy rain.

DeLand is about 35 miles north of Orlando.

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August 1, 2005

Sinkhole delays Central Fla. trains

By PATRICIO G. BALONA
STAFF WRITER

Neil Bolton boarded an Amtrak Auto Train at 4 p.m. Sunday in Sanford headed for New Jersey.

By 10 p.m., Bolton, a textile businessman from Naples, and more than 200 other passengers were still sitting at the train station with no clue when they were going to get to their destinations.

"We were told there is a sinkhole on the tracks north of DeLand, and we are waiting to be diverted to Lakeland," said an upset Bolton. "Everybody is stuck here, and we all feel like prisoners."

The sinkhole formed Sunday around 4 p.m. under the CSX main tracks north of DeLand and brought a southbound train from New York to a halt, forcing 267 passengers to be bused to their destinations along their way to Miami and sent scheduled runs on detours, said Amtrak spokeswoman Tracy Connell.

CSX officials could not be reached late Sunday night to learn more about the size of the sinkhole or how long it will be before the tracks are reopened. An answering machine for CSX Transportation was full and did not accept messages.

The sinkhole, which is believed to be near Palatka, halted the train from New York and forced Amtrak officials to divert trains headed west and north, like the one Bolton boarded.

"Train 97, which left New York for Miami is stopped just north of DeLand near the sinkhole," Connell said Sunday night. "The passengers on that train are now being bused to their destinations along the way to Miami."

The sudden sinkhole affected five scheduled train runs, including the train from New York, Connell said.

A Sunset Limited train leaving Orlando bound for Los Angeles with 130 passengers did not run, and its passengers were bused from Orlando to New Orleans where they will board another train for Los Angeles.

Bolton's Auto Train, carrying 365 people from Sanford to Lorton, Va., the Silver Star with 235 people to NewYork and the Silver Meteor taking 215 people to New York, had to be rerouted via Lakeland on their way north, Connell said.

"We are doing our best to accommodate our passengers as best we can," Connell said. "We are sorry about the delay, but hopefully we can get everyone to where they are going."

But for Bolton and his fellow passengers, the inconvenience hurt more than just their patience.

"We are going to miss business appointments," said Bolton. "If I am lucky, I will get there (New Jersey) by tomorrow night."

patricio.balona@news-jrnl.com

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Daily
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Sinkhole interrupts train service

DELAND — Amtrak service resumed Monday on a stretch of railroad track that was closed after a sinkhole opened under it, causing delays for five trains and hundreds of passengers.

Work crews filled up the sinkhole that opened up just north of DeLand and planned to install a larger pipe to improve drainage in the area, said Gary Sease, a spokesman for Jacksonville-based CSX Transportation, which operates the track.

"We were able to repair the washed out section to the extent that we can operate trains again going slowly over that area," Sease said. "Our crews worked very hard through the night to get the line restored."

Trains will be limite to 10 mph over the area until thearea is better drained. The stretch o track was closed for more than 16 hours, forcing delays, the rerouting of trains and the busing of sone passengers to their final destinations Sunday.

All trains planned to be operating normally Monday, except for two auto trains, Nos. 52 and 53, which were canceled and will resume service Tuesday because of the operational delays, said Tracy Connell, an Amtrak spokeswoman.

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Lakeland Ledger
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Amtrak Service Resumes After Delay

A sinkhole that opened up on tracks north of DeLand is temporarily fixed.

Staff and Wire Reports

DELAND — Amtrak service resumed Monday on a stretch of railroad track that was closed after a sinkhole opened under it, causing delays for five trains and hundreds of passengers.

Amtrak trains through Polk County were not delayed because of the sinkhole.

Instead, Amtrak spokeswoman Tracey Connell said, the number of passenger trains going through the area increased during the 16-hour outage.

The Silver Star on its Miami to New York run, the Silver Meteor from Miami to New York and the Auto Train from Sanford were routed through Lakeland to Jacksonville to avoid the damaged tracks.

Work crews filled up the sinkhole that opened up just north of DeLand and planned to install a larger pipe to improve drainage in the area, said Gary Sease, a spokesman for Jacksonville-based CSX Transportation, which operates the track.

"We were able to repair the washed-out section to the extent that we can operate trains again going slowly over that area," Sease said. "Our crews worked very hard through the night to get the line restored."

Trains will be limited to 10 mph over the area until the area is better drained. The stretch of track was closed for more than 16 hours, forcing delays, the rerouting of trains and the busing of some passengers to their final destinations Sunday.

All trains planned to be operating normally Monday, except for two auto trains, which were canceled and will resume service today because of the operational delays, Connell said.

The two trains, in Sanford and Lorton, Va., together had about 200 passengers.

In addition, 195 passengers on Train 98, the Silver Meteor, which covers a northboun from Miami to New York bused Monday from Mia Sanford to board the tr make up for lost time caus the delay, Connell said. D is northeast of Sanford.

Sinkholes occur when sa soil beneath the surface beg erode and falls into under limestone cavities, causing surface to collapse. Several tors may contribute to the lapse, including drought, ex sive water pumping, construc or heavy rain.

DeLand is about 35 miles n of Orlando.

Ledger staff writer Bill Rufty co tributed to this Associated Pres report.

Florida Newsclips
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St. Petersburg Times

Pinellas County
Daily
Circulation: 438,000

Aug. 1, 2005

5 Amtrak trains delayed by sinkhole near DeLand

DELAND — A sinkhole that opened under railroad tracks in central Florida caused delays for five Amtrak trains Sunday, affecting hundreds of people, officials said.

The sinkhole opened up just north of DeLand under CSX Transportation tracks used by Amtrak, officials said.

Amtrak spokeswoman Tracy Connell said 130 people aboard the Sunset Limited train from Orlando to New Orleans were being taken from Florida to their final destination by bus.

A southbound train carrying 267 people from New York to Miami was stopped just north of DeLand. Those passengers were being bused to Miami. Three trains were being detoured between Lakeland and Jacksonville. They were the Auto Train carrying 365 passengers from Sanford to Lorton, Va.; the Silver Star carrying 235 people to New York; and the Silver Meteor carrying 215 people to New York.

An after-hours answering machine for CSX Transportation was full and didn't accept messages Sunday night.

Sinkholes occur when sand or soil beneath the surface begins to erode and falls into underlying limestone cavities, causing the surface to collapse. Several factors may contribute to the collapse, including drought, construction or heavy rain.

— Staff, wire reports

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St. Lucie County
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August 2, 2005

Five trains affected by DeLand sinkhole

DELAND — Amtrak service resumed Monday on a stretch of railroad track that was closed after a sinkhole opened under it, causing delays for five trains and hundreds of passengers.

Work crews filled up the sinkhole that opened up just north of DeLand and planned to install a larger pipe to improve drainage in the area, said Gary Sease, a spokesman for Jacksonville-based CSX Transportation, which operates the track.

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Polk County
Daily
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August 1, 2005

LAKELAND

Track Sinkhole Delays Trains

A sinkhole that opened under CSX Transportation railroad tracks just north of DeLand caused delays for five Amtrak trains Sunday, including three trains that were being detoured between Lakeland and Jacksonville, officials said.

Amtrak spokeswoman Tracy Connell said 130 people aboard the Sunset Limited train from Orlando to New Orleans were being taken from Florida to their final destination by bus.

A southbound train carrying 267 people from New York to Miami was stopped just north of DeLand. Those passengers were being bused to Miami.

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August 3, 2005

Sinkhole causes little trouble for area Amtrak passengers

By LAURA COURSON-SNELLGROVE
News-Sun

SEBRING — A 15-by-5-feet sinkhole near Deland delayed five trains and left hundreds waiting for a ride on Sunday as it collapsed a portion of the CSX Transportation tracks used by Amtrak.

The sinkhole caused three trains to be detoured between Lakeland and Jacksonville. The Auto Train carrying 365 passengers from Sanford to Lorton, Va.; the Silver Star carrying 235 people to New York; and the Silver Meteor carrying 215 people to New York, were all sent on different routes.

According to Amtrak spokeswoman Tracy Connell, 130 passengers aboard the Sunset Limited train from Orlando to New Orleans, along with 267 passengers aboard a train traveling from New York to Miami, were bused to their final destinations.

At Sebring's Amtrak station Train 97's normal Sunday run was terminated in Deland.

Sinkholes can be caused by a number of factors; the erosion of the soil due to excessive water pumping, construction in the area or heavy rain. Even drought can help create a sinkhole.

In the case of the Deland sinkhole, the heavy rain that may have contributed to its formation also temporarily sinkhole making repairs difficult.

"The water is flowing so rapidly that we can't get it to hold," Gary Sease, spokesman for Jacksonville-based CSX, said on Sunday.

CSX crews worked through the night Sunday to ensure it was business as usual on the track by 7:30 a.m. Monday.

According to CSX Representative Meg Scheu, the work crews got around the rainwater saturating the area by using a pipe to drain the water away.

"Our primary objective was to get this busy line up and running again, while insuring the safety of the passengers," Scheu said. "We also apologize for the inconvenience this curveball of Mother Nature caused passengers."

As a safety precaution there is a temporary speed limit of 10 mph on the track in the sinkhole area.

Sinkholes are a natural part of the Florida landscape that appear as depressions in the ground. They can be shallow and barley noticeable or they can be vast, causing major damage to the property around them.

Since sinkholes are such a common occurrence in Florida that water management facilities often track new sinkholes using radar of the ground St. John's Water Management, believes tracking these sink holes is important for historical reference. "We usually send a report to a contractor for location and tracking,"

In the future the tracking of these geologic hazards may serve to warn or help others deal with the damage sinkholes cause.

Volusia 79-575
Deltona Sinkhole

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

575

COUNTY: Volusia

FSRI_CODE: 79-[redacted]

SH_NUMBER: _____

Sinkhole formation data:

Year: 2004 **Month:** 12 **Day:** 18 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Howland Blvd + Bokelden St.

City: Deltona **Zip:** 32725 **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: (newspaper, district, county, or city authority, etc.)

LATITUDE: 28.94859 > Check w/ GPS **Quad Name:** Lake Helen

LONGITUDE: 81.24857 **Section:** NW 8¼ **Township:** 18 S **Range:** 31 E

Length: 225 **Width:** 215 **Depth:** 50 - 60 to water

Side Slope Angle: ~90° **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):** ~50'

Elevation information:

land_elev: 48' **ls_elev:** 0 **cover_thic:** 48'. **wt_elev:** 0'

Potentiometric surface elevation: 0 **Head differential:** 0

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 0.4 **Z0_DYS_RAIN:** 7.23

Soil Type: **Physiographic Area of SH:**

Other information:

FLORIDA NEWSCLIPS
800-442-0332

NAPLES DAILY NEWS
NAPLES
DAILY - 63,000
DEC 23, 2004

State briefs

628

Teenager dies after dirt embankment collapses

NICEVILLE (AP) — One teenager was killed and another injured when a dirt embankment collapsed on them, an official said Wednesday.

Preliminary indications suggested the boys had been digging a tunnel or hole into the side of the embankment behind a fast-food restaurant Tuesday night, according to a release issued by the Niceville police office.

The 13-year-old was airlifted to Sacred Heart Hospital in Pensacola.

"He was talking to rescue personnel," said Niceville Police Sgt. Tim Homer.

The 15-year-old was taken by ambulance to another hospital by ambulance but was pronounced dead on arrival. Emergency Medical Service shift Capt. Cindy Forte said the boy was in cardiac arrest and was pronounced dead at the hospital.

Niceville Police Chief Brian Cruttenden said the boys were from the neighboring town of Valparaiso but that their identities were not being released.

Two homes near the hole have been declared unsafe for occupancy.

Deltona sinkhole could be filled in two months

DELTONA (AP) — The gaping sinkhole that opened under a major road could be filled in and paved over within two months, officials said.

Repairs set to begin Monday would restore a vital connector to Interstate 4 for this bedroom community of about 80,000 — nearly a third of whom used Howland Boulevard every day until the hole opened Saturday morning.

The crater has not grown significantly since Sunday, when it swelled to 225 feet wide, 175 feet across and 50 feet deep. Two private engineering firms declared the sinkhole stable about 5 p.m. Tuesday.

Fixing the hole will require roughly 1,700 truckloads of fill — a mix that could also include dirt, cement or a combination, depending on which substance settles best.

Volusia County may get federal help with the bill, said county spokesman Dave Byron.

"Our goal is to get this hurricane-connected so we can get the 95 percent FEMA reimbursement," Byron said. "The consultants support that conclusion."

Fla. court decides against opinion on parental notice

TALLAHASSEE (AP) — Nearly four months after making a key decision that preserved the parental notice ballot measure, the state Supreme Court has decided it doesn't need to explain why it took that step.

In early September, Florida's high court said the proposed constitutional amendment, which opens the doors to parents being told when their minor daughters seek abortions, could go on the ballot.

Planned Parenthood and the American Civil Liberties Union had gone to court in an effort to get the measure stricken from the ballot. They argued that the ballot summary was inaccurate and deceptive because it said the privacy rights of teens would be protected when those rights will instead be restricted.

In its September order, the Supreme Court never said if it agreed with Planned Parenthood and the ACLU, but it said the ballot summary couldn't go on the ballots.

However, the court directed the state to put the entire text of the proposed change before voters. That kept the issue alive.

The court also said it would issue an opinion later to supplement the order. But in Wednesday's order, the court said "no opinion shall be issued in this case."

Nearly 65 percent of voters approved the amendment.

FLORIDA NEWSCLIPS
800-442-0332
CITRUS COUNTY CHRONICLE
CRYSTAL RIVER
DAILY - 26,000
DEC 20, 2004

Deltona sinkhole eats road, clears houses

Associated Press 638

DELTONA — A sinkhole ate a 160-foot chunk of a four-lane road and cracked walls at a nearby home as emergency crews waited Sunday for it to stabilize — by growing wider.

Three of 20 houses evacuated as a precaution Saturday stayed empty. One of them was especially vulnerable where deep gouges in the earth aimed for a backyard pool deck that tore away from the house. Neighbors pitched in to quickly empty the houses.

"What if insurance doesn't cover it? What if they say it's salvageable?" asked Asher Sherkow, who faced losing the home he and his wife bought shortly after their wedding two years ago. "The difficult thing is not knowing one way or another."

Major cracks in the road pavement on the edge of his side yard were 20 feet back from the steep edge of the hole.

"It could be every bit of 300 to 350 feet in diameter before it's all said and done," said Deputy Fire Chief Robert Rogers. "In our area we haven't had anything like this before."

He expects the size to rival a Winter Park sinkhole that opened up 23 miles away in neighboring Orange County in 1981.

Rogers believes the recently widened feeder road to Interstate 4 less than two miles away will stay closed for two to three weeks and possibly longer.

Experts estimate it would take 1 million cubic yards of dirt to fill the hole, the equivalent of 100,000 dump truck loads. As it stands, trucks are not allowed to approach the unstable edge.



Associated Press

On Saturday, a sinkhole in Deltona swallowed all four lanes of Howland Boulevard, and forced the evacuation of 20 homes, officials said.

Utility workers labored to reroute power around a major electrical line through the area, and survey crews drove in pins to check for fresh signs of shifting ground.

"Until those sides start to level off some, they're not going to be able to get close to it," Rogers said. "They're just waiting until it stabilizes and the ground finishes swallowing up whatever it's going to swallow."

Sinkholes are a common geologic phenomenon in central Florida. They develop when erosion forms underground caverns that collapse when the dome cracks opens. About 500, mostly small, sinkholes open up each year in Florida.

"Three hurricanes and now this," said neighbor Jimmy Hernandez. "What's next? Is it going to snow?"

The Volusia County forecast called for freezing temperatures but no precipitation.

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NEWS CHIEF

WINTER HAVEN
DAILY - 12,500
DEC 20, 2004

Sinkhole in Deltona eats road, clears 3 houses

Associated Press 628

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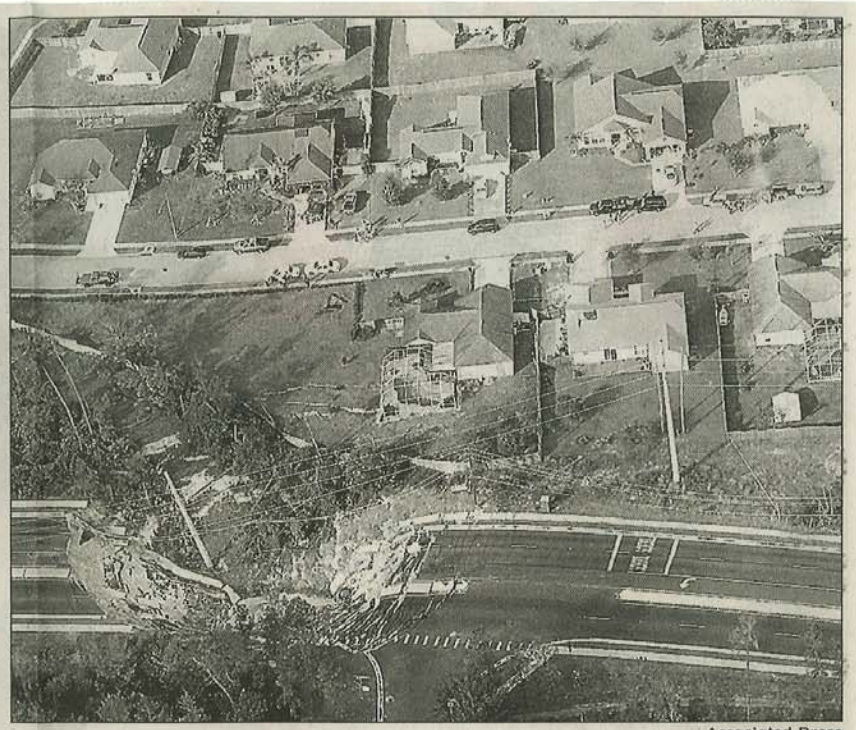
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"Three hurricanes and now this," said neighbor Jimmy Hernandez. "What's next? Is it going to snow?"

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Associated Press

A large sinkhole destroyed the roadway along Howland Boulevard in Deltona, causing power line poles to tilt and threatening homes in a nearby community.

FLORIDA NEWSCLIPS
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ORLANDO SENTINEL
ORLANDO
DAILY - 401,100
DEC 19, 2004

Storms' soaking may have led to sinkhole

628

Hurricanes' rains leave layers of soil so waterlogged that they crumble, experts say.

By KEVIN SPEAR
SENTINEL STAFF WRITER

The Deltona sinkhole may have been a parting shot from this year's hurricanes.

Conventional wisdom about Florida's fright from the deep is that they occur more often during extreme weather — very dry or very wet.

The deluges in August and September from hurricanes Charley, Frances and Jeanne dumped two-dozen to three-dozen inches of rain in the Deltona area.

It has been nearly bone-dry in the three months since then. But the area's top layers of soil were left more than soggy enough to crumble and plunge into a huge, subterranean cavern.

"We know that heavy rains can trigger sinkholes," said Anthony Randazzo, a recently retired 36-year geology professor at the University of Florida. "What people don't realize is that there can be a lag time as well."

Forceful enough to swallow a divided, five-lane stretch of Howland Boulevard, Deltona's newest landscape feature qualifies for the major league of sinkholes.

However, at 160 feet and still growing, it has a lot of real estate to swallow to rival the infamous, car-hungry Winter Park sinkhole of 1981. That one, among the biggest in Florida's recorded history, took five Porsches at a repair shop. In exchange for the luxury cars, the sinkhole created a 320-foot-wide lake. It also inflicted several million dollars in damage.

The Deltona sinkhole probably will exceed the hole that opened with a thunderous roar in west Orange County two years ago, threatening to wreck 48 apartments in two buildings.

Floridians know that sinkholes can get much larger. One such ancient opening near Gainesville, a 10,000-year-old feature called the Devil's Millhopper, is 500 feet from rim to rim and is about 120 feet deep. Visitors often find weather at the rim to be quite different from that at the bottom, where it's cooler.

Sinkholes aren't very common in areas where rainwater doesn't seep into the ground very readily, such as wetlands or along rivers.

But the geology under Deltona and nearby parts of Volusia County is of a type that produces the highest frequency of sinkholes, according to mapping by the Florida Geological Survey.

Most sinkholes in Florida are less than 10 feet across and form far more slowly, bedeviling homeowners with cracked foundations or jammed doors and windows.



ORLANDO SENTINEL FILE

An aerial view shows the 1981 Winter Park sinkhole, among the biggest in Florida's recorded history. It ate 5 Porsches at a repair shop and left a 320-foot-wide lake.

However, sinkholes like the one in Deltona can come to life with gunshotlike sounds of tree roots snapping and movement of a vertical avalanche.

Both types are the result of one of Florida's primary forms of erosion.

Formation of all sinkholes began millions of years ago when the state's limestone bedrock was created. From then on, slightly acidic rainwater seeped down into the limestone, etching out telltale Swiss-cheese-like holes.

In some areas, the holes turned into veins, which enlarged for thousands of years into caverns.

In the last act of formation, the slow-opening sinkholes are those in which the overhead layers of clay and sand — a few dozen to a few hundred feet thick — trickled gently into the caverns. Gradually, sometimes during hundreds of years, the surface of the land can sag into a deep depression.

The sinkholes that open dramatically, though, are likely to have been the handiwork of a drought or deluge.

Jolted by weather changes, either dried out or supersaturated, the layers of sand and clay loosen their grip and fall into the cavern.

The size of the new opening in Deltona may be the same size as the freshly filled cavern below.

Forget about retrieving booty taken by sinkholes. In 1974, less than 10 minutes after collapsing, a sinkhole near Brooksville dragged down a drilling rig, truck and a trailer. Tests using radar found the items had come to rest 100 feet underground and 250 feet from where they first sank.

"There's a large number of sinkholes every year," said Douglas Smith, a 31-year UF professor of geology who retired last year.

"The so-called catastrophic sinkholes, those that occur in 24 hours or 36 hours probably amount to two or three a year or even just once a year," Smith said.

For nearly two decades, Smith and Randazzo have run the small consulting company Geohazards Inc., responding each year to a few hundred reports of homes damaged by sinkhole activity.

"Very few have visual evidence of sinkholes at the surface," said Smith, adding that a sinkhole the size of the one in Deltona is "very rare."

Kevin Spear can be reached at 407-420-5062 or kspear@orlandosentinel.com.

FLORIDA NEWSCLIPS
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NEWS PRESS

FT. MYERS
DAILY - 112,000
DEC 20, 2004

NATURAL DISASTERS

Emergency crews wait for huge Deltona sinkhole to stabilize

The Associated Press 628

DELTONA — A sinkhole ate a 160-foot chunk of a four-lane road and cracked walls at a nearby home as emergency crews waited Sunday for it to stabilize — by growing wider.

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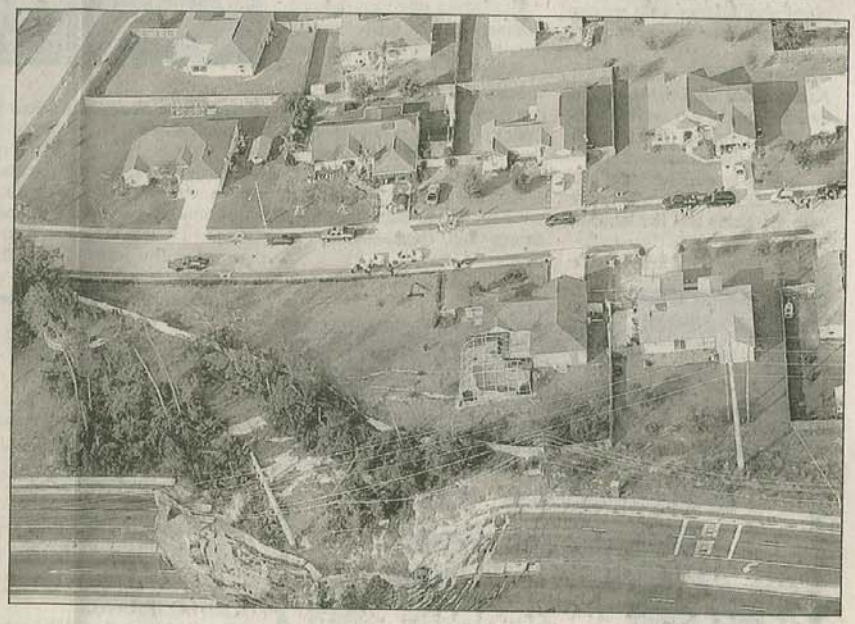
Sinkholes are a common geologic phenomenon in central Florida. They form when erosion forms underground caverns that collapse when the dome cracks opens.

About 500 mostly small sinkholes open up each year in Florida.

"Three hurricanes and now this," said neighbor Jimmy Hernandez. "What's next? Is it going to snow?"

The Volusia County forecast called for freezing temperatures but no precipitation.

THE ASSOCIATED PRESS



■ A massive sinkhole opened Saturday along Howland Boulevard in Deltona.

FLORIDA NEWSCLIPS
800-442-0332
ORLANDO SENTINEL
ORLANDO
DAILY - 401,100
DEC 19, 2004

Sinkhole threatens homes

Cavernous hole forces families to flee 20 houses in Deltona.

Engineers say it could be days before the pit stops growing.



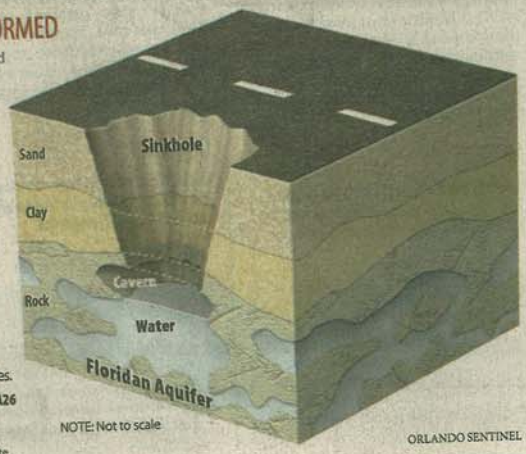
JULIE FLETCHER/ORLANDO SENTINEL ABOARD WESH-NEWSCHANNEL 2 HELICOPTER

A 160-foot by 150-foot sinkhole swallows 5 lanes of Howland Boulevard in Deltona on Saturday. Cracks in the ground are visible near the swimming pool enclosure of a home.

HOW A SINKHOLE IS FORMED

A sinkhole forms when layers of sand and clay collapse into a cavern in underlying limestone bedrock. Such caverns are created through eons as a result of groundwater dissolving the limestone.

- Heavy rain may trigger sinkhole creation by weakening layers of clay and sand, causing them to plunge into the cavity.
- Low underground-water levels during a drought may result in gravity's triggering a collapse.
- Excessive pumping of water and outside stresses such as heavy traffic or increased building also may result in sinkholes.
- The science of sinkholes. **Story, A26**



NOTE: Not to scale

SOURCES: Florida Almanac, The World of Science, Florida Sinkhole Research Institute

ORLANDO SENTINEL

By ALICIA A. CALDWELL, TANIA deLUZURIAGA and WES SMITH
SENTINEL STAFF WRITERS

DELTONA — A pothole that appeared in one of this city's main roadways six days ago collapsed into a major sinkhole Saturday, swallowing up five lanes of new pavement, temporarily forcing families from 20 homes, and briefly knocking out power to 2,000 customers.

Volusia County highway workers were pumping a cement mixture under a 12-foot-wide pothole on Howland Boulevard near the entrance to Deltona High School at 9:30 a.m. "when suddenly the earth began to shift," sending the crew scrambling, County Engineer Jerry Brinton said.

Within five minutes, the pothole grew into a 160-foot by 150-foot sinkhole estimated to be 50 feet deep. An electronic traffic-message board fell into the pit as it blinked its last words. Most of the repair crew's other equipment was spared. No one was injured.

Neighbors in the Timbercrest subdivision, which backs up to Howland Boulevard, rushed to the aid of those living in the two most-endangered homes on Boxelder Street. For hours they scurried to clear out appliances, furniture, clothing, light fixtures and holiday

PLEASE SEE **HOLE, A26**

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BARBARA V. PEREZ/ORLANDO SENTINEL

The sinkhole dislodged a power pole Saturday, causing temporary outages. The view above is looking west on Howland Boulevard in Deltona. The hole may grow for days.

into the pit, knocking down transmission lines and interrupting electric service in the area. Power was restored later in the day, and officials said crews working with a helicopter would do more substantial repairs today.

The five-lane section of roadway that collapsed was part of a recently completed $5 million expansion of Howland Boulevard, one of only two thoroughfares that provide access to Interstate 4 from the city of Deltona.

The sinkhole sits less than two miles west of I-4 on a road that carries 25,000 cars a day through the city of about 80,000 residents. Traffic exiting the interstate at Howland was being rerouted onto Normandy Boulevard.

Byron said the collapse of the road could have been much worse, even deadly, if it had occurred while Deltona High School's 2,500 students were arriving at or leaving the school. The school is closed for the holidays.

Engineers will begin boring around the sinkhole's perimeter today to try to determine whether it will expand. Byron estimated that at its current size it would take up to a million cubic yards of sand to fill.

Neighbors rally

Residents of the Timbercrest subdivision are among the many in Deltona still recovering from damage inflicted by the three hurricanes — Charley, Frances and Jeanne — that slammed the area this fall. By late Saturday, many were feeling shell-shocked but united in their efforts to help their neighbors cope with another natural disaster.

Jeanette Roselli and her sister Laura Coburn, who was visiting from Massachusetts, were among the dozens of neighbors and Deltona Fire Rescue workers who pitched in to clear out the Sherkows' damaged home.

"I don't even know them," Roselli said. "But they're losing their house."

Within an hour, she and others emptied the young couple's home of its contents, carrying out even the refrigerator and dining-room chandelier and putting them across the street in the garage of Jimmy Hernandez.

Once that space was full, another neighbor, Carlos Bandeira, offered his garage for storage. Soon it, too, was stacked with furniture, paintings, boxes of holiday cards, photos and exercise equipment.

"If they need it, I have a room for them here, too," Bandeira said of his neighbors. "I have a nice big bed for them, no problem."

Neighbors also assisted Emmett McGee; his wife, Xiomara; and their daughters Sasha, 10, and Ashley, 9, in cleaning out their threatened home.

"We were just going to get the papers, computers and sentimental things," Emmett McGee said. "But then the neighbors came and said, 'Get everything.' We're real close. Everyone around here is real close."

By late afternoon, all that was left in the McGee home was heavy bedroom furniture, a TV, a hutch emptied of its drawers and the Christmas tree. He wasn't willing to think about where the family would go.

"We'll spend the next few nights in a hotel," he said. "Then we'll see. I don't want to leave. I don't want my house to go, but what are you going to do?"

After the McGees finished moving out most of their valuables, they went to help the Sherkows. Police later cordoned off their homes.

By sunset, an impromptu sinkhole party had replaced the neighborhood's earlier sinkhole panic.

Nora Sutton fired up her barbecue grill. Other neighbors brought hamburgers and chicken.

Tommy and Deborah Heusner were among those flipping burgers and deep-frying chicken wings, even though their home next to the McGees' also is endangered. The couple decided to stay in the house instead of evacuating because they have four large dogs. They sent their 1-year-old daughter to stay with friends.

"If it gets crazy, we'll leave," Deborah Heusner said.

With the cavernous threat next door, being home for Christmas was no longer a priority, but being together was.

"As long as everyone's there, that's what matters," Tommy Heusner said. "You can always find some place to stay, and you can always buy new things."

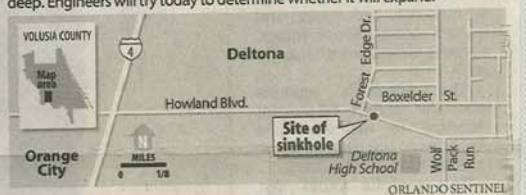


BARBARA V. PEREZ/ORLANDO SENTINEL

Emmett and Xiomara McGee move items out of their home on Boxelder Street in Deltona on Saturday. Several homes in the Timbercrest subdivision are threatened by a major sinkhole.

SINKHOLE IN DELTONA

A pothole grew into a 160-foot by 150-foot sinkhole estimated to be 50 feet deep. Engineers will try today to determine whether it will expand.



ORLANDO SENTINEL

Amy C. Rippel of the Sentinel staff contributed to this report. Wes Smith can be reached at 407-420-5672 or dwsmith@orlandosentinel.com. Alicia A. Caldwell can be reached at acaldwell@orlandosentinel.com or 386-851-7924. Tania deLuzuriaga can be reached at 407-931-5934 or tdeluzuriaga@orlandosentinel.com.

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Voice: (813) 353-9083 Fax (813) 353-9653
www.SubsurfaceEvaluations.com

December 29, 2004

Jeffery B. Davis, P.G.
St. Johns River Water Management District
P.O. Box 1429
Palatka, FL 32178-1429

Subject: New Sinkhole Investigation Report
Property: **Deltona Sinkhole**, Howland Boulevard and Boxelder St., Deltona, FL

Dear Mr. Davis:

As per your authorization, Subsurface Evaluations, Inc. (SEI) performed a site investigation at the above named property on December 21, 2004. The purpose of the investigation was to document a sinkhole which had formed on the property. The objective of the investigation was to evaluate whether the surface depression had formed as the result of karst erosion activity. This report is subject to the limitations on Attachment A.

Introduction

The sinkhole was initially reported in the Orlando Sentinel on December 19, 2004. SEI received a written request from you to document the sinkhole. Permission was obtained from Gerald Britton, Director, Volusia County Construction Engineering Department, to enter the site for documentation purposes. Personnel from Volusia County Engineering, Surveying, Fire, and Sheriff's Departments were present at the site. Universal Engineering Sciences, Inc. personnel were also on site performing geotechnical investigations. Mr. Britton stated that Jim Jammal from Nodarse and Associates would be providing recommendations for the repair of the sinkhole.

Methods

Kathleen McDonald, P.G., Project Manager, SEI, and Kent McElheny, Operations Supervisor, Geologist, SEI, performed the site investigation. A Trimble ProXR GPS unit was used to record the coordinates and perimeter of the sinkhole location. The location map for the sinkhole is shown on Figure 1 (attached). Ground Penetrating Radar (GPR) was performed along 6 transects on the west side of the sinkhole. Very little interpretable data was obtained from the first 5 transects run along the asphalt pavement. The sub-grade for the roadway may have absorbed the gpr signal. The profile

along transect number six, which was run along a grass covered area, showed a down warped reflective layer starting approximately 90 feet west of the edge of the sinkhole.

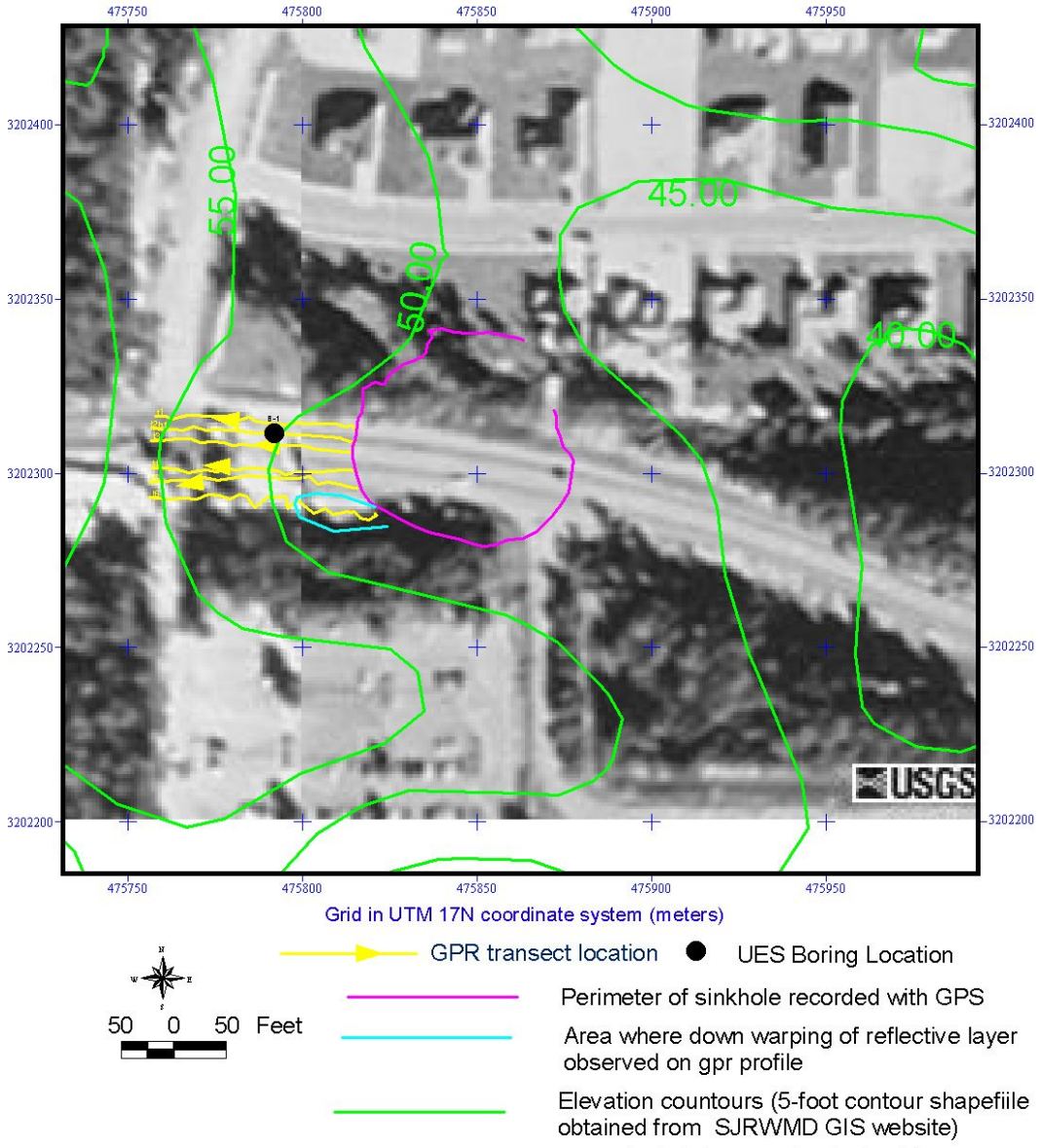


Figure 1. Location Map of Deltona Sinkhole, Howland Boulevard, Deltona, Florida. The sinkhole information was documented by Subsurface Evaluations, Inc. (SEI) on December 21, 2004. The sinkhole perimeter (where accessible) was determined with a Trimble Pro-XR GPS unit.

SUBSURFACE EVALUATIONS, INC.
Engineering Geology & Geophysics
8010 Woodland Center Blvd., Suite 100 Tampa, FL 33614
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www.SubsurfaceEvaluations.com

The perimeter of the sinkhole was recorded with the Trimble global positioning system. The dimensions of the sinkhole were determined to be approximately 225 feet long and 175 feet wide. The sinkhole is increasing in size due to erosion of the side slopes. The sinkhole was being surveyed every day by a Volusia County surveying crew. The crew measured the bottom (water) of the sinkhole to be approximately 50 feet. The sides of the sinkhole were composed of sand. Water was present at the bottom therefore it's actual depth is not determinable. The sinkhole is located in northwest quarter of Section 8, Township 18S, Range 31E. The center of the sink was determined to be at Latitude 28.948528935 and Longitude –81.247851352 based upon the perimeter determined from the GPS data. The sinkhole's land surface elevation was determined to be approximately 48 feet above sea level. The 5-foot contour elevation shapefiles were obtained from St. John's River Water Management District's website and the elevations have been displayed in figure 1. It appears that the sinkhole formed on the side of an older geologic depression. Based upon preliminary boring information from Universal Engineering Sciences, the depth to the water table appears to be 30 feet below the land surface at boring number 1 or 20 feet above sea level. The water in the sinkhole appears to be at the elevation of sea level. No confining units or clay layers were observed in the boring. The Floridan Aquifer is unconfined at this location.

Pictures of the sinkhole are included in Appendix 1.Digital copies of the GPR profiles and a viewing program are included on the enclosed CD-ROM. Instructions for using the viewing program Radprint are included in Attachment B. The most important equipment settings are recorded on the profiles.

As of today, Volusia County has finished filling the sinkhole. It was filled over a period of 3 days. It required 25,640 cubic yards of sand to fill the area. The County plans additional testing and will send a copy of their final report on the repair of the sinkhole to you when it is available.

Closing Comments

Please call if I might answer questions about this investigation. Thank you for this opportunity to be of service.

Sincerely,

Kathleen M. McDonald, P.G.
Licensed Professional Geologist, No. 2142 (Florida)
Project Manager
Subsurface Evaluations, Inc.
December 29, 2004

Attachments: Attachment A – Limitations, Attachment B, Appendix 1, CD
File: E:\ \Reports-Misc\SJRWMD\Deltona Sinkhole Rpt.doc

APPENDIX 1



Deltona Sinkhole (facing Eastern rim)



Deltona Sinkhole (facing northeastern edge)



Deltona Sinkhole (looking at south side from an angle)



Deltona Sinkhole (facing Northern rim) showing the Sherkow Residence which was damaged by sinkhole.



Deltona Sinkhole (western edge)



Deltona sinkhole (eastern edge)



Deltona Sinkhole (looking from southeast to northwest)



Deltona sinkhole (looking at western edge)



Ground Cracks on Eastern side of Deltona Sinkhole



Deltona Sinkhole (facing western edge)



Deltona Sinkhole (facing southeastern edge and entrance to High School)



Sherkow Residence on northern edge of sinkhole (arrows pointing at ground cracks or terracing of yard from sink)



Prominent crack observable on side of Sherkow residence.



Backyard and fence of Sherkow residence sloping into sinkhole.



Western edge of sinkhole observed from Sherkow residence on the northern side of sinkhole.

Volusia 79-576

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

76

COUNTY: Volusia **FSRI_CODE:** 79-S[redacted]
SH_NUMBER: _____

Sinkhole formation data:

Year: 2005 **Month:** 1 **Day:** 9 **Time:** unk

Descriptive location of new SINKHOLE:

Street name/location: Springbank [redacted] St

City: Orange City **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: Orlando Sentinel **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 28.948 **Quad Name:** Orange City

LONGITUDE: -81.312 **Section:** 10NW¼ **Township:** 18 S **Range:** 30 E

Length: 120 **Width:** 85 **Depth:** 40

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: [redacted]40 **ls_elev:** 0 **cover_thic:** 40. **wt_elev:** 0

Potentiometric surface elevation: 0 **Head differential:** 0

Rainfall data: **Z4_HR_RAIN:** **Z_DYS_RAIN:** **Z0_DYS_RAIN:**

Soil Type: **Physiographic Area of SH:**

Other information: on side of paleosinkhole

Orlando Sentinel
http://www.orlandosentinel.com/news/local/volusia/orl-asecsinkhole011505jan15,1,6695231.story

Sinkhole swallowed homes, dreams

By Jean Patteson
Sentinel Staff Writer

January 15, 2005

ORANGE CITY -- Bill Stroud's house is cracked in two.

One half tilts toward the 40-foot-deep sinkhole that opened under its foundation Sunday. The other half, though level, is riddled with stress fractures.

"It's a beautiful home," Stroud, 46, said. "Was," he reminded himself. It *was* a beautiful home.

The roof, replaced after last year's hurricanes, is warped and shedding brown shingles.

"It was only put on last week," said Stroud, a big guy with a graying goatee. He is chain-smoking Marlboros amid the chaos of tools, spare tires and donated packing boxes that litter the slab outside his garage.

"Over there is a guy from Hopton Roofing," he said. "He's just delivered the bill: $6,580."

Stroud gives a rueful smile. "When he saw the house, he knocked $800 off the total."

The three-bedroom home on Springbank Avenue, where Bill and Marilyn Stroud have lived since 1996, is a total loss. So is the home of their neighbor, Rebecca Swainston, whose small, yellow house tilts at a dizzying angle toward the bottom of the sinkhole. The end wall has tumbled in, revealing the contents of her 9-week-old son's nursery: baby clothes, stuffed Tigger, crib.

"I worked five years to make that a home for me," said Swainston, 34. "Now it's gone."

She and the Strouds have lost more than their homes and possessions to the sinkhole. They've lost their familiar routines and their independence. They've lost their sense of security and peace of mind. They've lost all certainty about their future.

"I don't know what we're going to do," Bill Stroud said. "You can't prepare for something like this."

Popping, cracking sounds

At dawn on Sunday morning, Marilyn Stroud awoke to loud popping sounds. She thought it was the roofers firing off their nail guns.

"I was on my way out to yell at them. Then I saw the bricks separating from the roof," she said. "I screamed at my husband. He looked at me like I was stupid. Then he thought I was joking."

But when the bedroom floor started dropping out from under them, they yanked on jeans and T-shirts.

He grabbed his blood-pressure medication and -- for reasons he still can't fathom -- a jar of Vicks VapoRub. She grabbed the phone.

"I was in the dining room talking to 911 with the ceiling falling in," Marilyn Stroud, 42, recalled.

Then, with their two Rottweilers and her bird, a conure, she headed outside.

The Fire Department arrived, turned off the power and cut the lines to the house. The police followed, helped move the couple's motorcycles and Chevy pickup out of the danger zone, and wrapped the property in yellow crime-scene tape.

"Then we stood around in the hot sun for hours and hours," said Bill Stroud, a metal fabricator at Pall Corp. in DeLand.

Finally, sick with shock, heat and hunger, they took refuge in the nearby home of Marilyn's mother.

"We were supposed to be having a birthday party at our house for her brother from Ohio. All the food's still inside," Stroud said -- as is 150 pounds of flounder from his last fishing trip.

On the other side of a twisted chain-link fence, Swainston stares with dark eyes at all she has lost. Her house, appraised at $62,000 five years ago, is worthless. Her dream of raising her son, Allen, in a home of their own is crushed.

All she remembers of Sunday morning is the baby fretting, a cracking sound, a jammed front door -- and the sure, sick feeling that something was wrong.

"I've lived in Florida all my life," she said. "I know when something's not right with your house, you'd better haul butt out of there."

She fled, barefoot, to her sister's house with her baby, three Rottweilers and two cats.

"Fifteen minutes after I got out, the house started to go," Swainston, a single mother, recalled. "I sat across the street on my neighbor's lawn, bawling my eyes out, watching the whole thing."

Total losses

Swainston is on a land line talking to her cell-phone provider: "Your bill is at the bottom of a sinkhole," she said, "and so is my checkbook."

Also gone is the deed to her house -- and everything in it.

She had considered rounding up some friends to rescue a few possessions. Then a county engineer warned that her house is so unstable, she would be taking her life in her hands if she tries to salvage anything.

"I'm not going in there," she said. "Everything's replaceable."

Well, almost everything. She does regret the loss of her cedar hope chest, hand-carved by her grandfather and inherited from her mother.

"I've lost everything but my memories," she said.

The Strouds, meanwhile, have been joined by their daughter, Melissa, 19, and their sons, Scott, 24, and Steven, 23.

They pace outside the garage and smoke. They watch as dump trucks begin tipping dirt onto the ruptured street. They eye the TV helicopter throbbing overhead. They tell, and retell, their story to friends, strangers, news reporters.

Melissa wonders whether her wrestling and softball trophies have survived. Scott is worried about his military-discharge papers, Bill about his gun collection. Marilyn just wants her eyeglasses; she's lost without them.

"And I miss my bed," she said. "It's the 21st-anniversary present we gave each other." The beds at the local Days Inn, their temporary home, are nowhere near as comfortable, she said.

A claims adjuster and an engineer from the Strouds' insurance company stop by to make preliminary reports. The engineer thinks the house is damaged beyond repair -- but the contents are probably salvageable.

On Tuesday, a county engineer gives the OK to explore the house.

"It's such a load lifted off me," Bill Stroud said.

Cautiously, he and son Scott enter the dark interior. Damage appears minor in the kitchen, dining and living rooms -- cracked walls, collapsed ceilings. But the interior hallway dips alarmingly. Fiberglas insulation, orange and prickly, blankets the master bedroom. The walls of the two other bedrooms are busted out, and blue sky is visible through the roof.

The damage leaves no doubt: The house is a total loss. Insurance will pay off the mortgage and the cost of demolition. Any remaining equity will be available for a down payment on a new home.

The couple paid $107,000 for the house nine years ago. Its value has nearly doubled since then. However, the couple didn't keep their insurance policy updated with the home's increasing value. So, instead of having almost $100,000 equity, they may have as little as $10,000.

"All of a sudden, here we are," Marilyn Stroud said, "worse off than when we were younger."

A change of plans

On Friday, Swainston returns again to the hole that has consumed her home and her week. She hoists an orange-and-blue Florida Gators umbrella, and arm in arm with a family friend, picks her way around her sunken house and peers inside the leaking wreck.

"That was my brand-new sofa," she said. "I was still paying money on it."

Before the sinkhole stole her home, Swainston had started remodeling.

"Maybe this is God's way of telling me I'd never have enough money to remodel, that I'm better off starting over," she said.

"I think God has a plan for everything. We're not supposed to know why, just that there's a good reason.

He's not punishing me. He's not a vicious guy. He's a good guy."

Unemployed since July, she had planned to spend this week job hunting. Instead, she has dealt with the sinkhole's aftermath: meeting with insurance agents and social workers, canceling utility services, advising the post office of her change of address, begging creditors for a grace period and sorting through mountains of donated baby clothes.

"Maybe I'll rebuild once the hole is filled," she mused. "People say it'll be the safest property in Orange City once it's all compacted down."

But for a while, she and her baby will live with her mother.

Meanwhile, Marilyn Stroud keeps her mind off the loss of her home by working at her job as office manager at Abell's Floor Covering in Orange City.

"Every time she comes here to the house," her husband said, "she gets sick to her stomach."

Bill Stroud also needs to get back to work. But first he's in a race against the weather. He's desperate to get all their belongings moved into the garage end of the house, where the roof is still sound. He makes it just in time, beating the rain that starts pouring down Friday morning.

"It's a good thing we're both hard workers," he said. "We started out with nothing 22 years ago. We'll just have to start out with nothing all over again."

He leans against a stack of packing boxes, takes a deep drag on his cigarette and sighs.

"I just feel kind of lost," he said.

Jean Patteson can be reached at jpatteson@orlandosentinel.com or 407-420-5158.

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Volusia 79-577

FLORIDA SINKHOLE DATABASE
NEW SINKHOLE ENTRY

77

COUNTY: Volusia **FSRI_CODE:** 79-S
SH_NUMBER:

Sinkhole formation data:

Year: 2005 **Month:** 1 **Day:** 18 **Time:**

Descriptive location of new SINKHOLE:

Street name/location: Tamburro home, across St from 585 Eldon Ave
Fort Smith Boulevard

City: Deltona **Zip:** **Phone:**

Other Descriptive (contact name, or other to assist with sinkhole's exact location):

SOURCE: Orlando Sentinel **(newspaper, district, county, or city authority, etc.)**

LATITUDE: 28.878 **Quad Name:** Lake Helen

LONGITUDE: -81.198 **Section:** SW 35¼ **Township:** 18 S **Range:** 31 E

Length: — **Width:** — **Depth:** —

Side Slope Angle: **Shape:** ___Cone ___Funnel ___Cylinder

Volume: **Depth To Water (if present):**

Elevation information:

land_elev: 42 **ls_elev:** 0 **cover_thic:** 42 **wt_elev:** 18

Potentiometric surface elevation: 18 **Head differential:** 0

Rainfall data: **Z4_HR_RAIN:** 0 **Z_DYS_RAIN:** 1.87 **Z0_DYS_RAIN:** 5.27

Soil Type: **Physiographic Area of SH:**

Other information: house cracked, no visible hole

Officials could not unearth cause of rumbling

ANXIETY FROM B1

hopes a third pit isn't about to open beneath her home, it's too soon to tell. After the county's soil expert investigated the house Tuesday, it wasn't clear what caused the home to shake, rattle and roll.

Volusia County extension manager David Griffis said he saw no definite signs of a sinkhole, and the home was in no immediate danger. But he advised Tamburro and her husband, Joseph, to have further testing done.

That was little comfort to Stephanie Tamburro, who, after hours of thinking about it, decided not to stay in her house Tuesday night despite assurances from officials that it was safe.

In addition to the larger pits — which are about 7 to 11 miles from Tamburro's house — two smaller sinkholes also have been verified in the county since the area was soaked by three hurricanes, Griffis said.

Because one of the sinkholes swallowed one house and cracked another less than two weeks ago near Orange City, Griffis said his office has been fielding about 10 calls a week to report possible sinkholes — twice the normal number. When the Deltona sinkhole gulped a section of Howland Boulevard in mid-December, the office received about 25 calls a week.

At least 98 percent of calls turn out to be false alarms, he said.

"It's getting a little old," Griffis said. "We are being a little bit more cautious right now, and we are going out a little bit more frequently than we normally would."

According to experts, the underground makeup of southwestern Volusia County may make the region more prone to sinkholes than neighboring areas of Central Florida. Southwestern Volusia has a thinner layer of solid clay separating its sandy topsoil from the cavity-riddled limestone bedrock, which is closer to the surface than the bedrock in other areas, said Frank Rupert of the Florida Geological Survey.



PHOTOS BY BARBARA V. PEREZ/ORLANDO SENTINEL

Stephanie Tamburro, 23, of Deltona left her house on Fort Smith Boulevard Tuesday with her puppy, Zeus, and her pet bird (not shown).



Deltona building official Cyrus Butts examines Stephanie Tamburro's home Tuesday after she reported that the house shook for about 10 minutes. Volusia County officials saw no definite signs of a sinkhole and said the home was in no immediate danger.

ANOTHER ONE?

Ten minutes of shaking knocked pictures from the wall and cracked a Deltona home Tuesday, but the cause has not been determined.



ORLANDO SENTINEL

This makes it easier for groundwater to cut holes through the thinner clay layer, weakening it.

Like sand in an hourglass, loose grains tumble through these holes, widening them until larger chunks of land plummet into the existing bedrock cavities, said Frank Kujawa, a geology professor at the University of Central Florida.

Nonetheless, both sinkhole experts said residents shouldn't panic. Sinkholes that swallow homes are rare.Sheriff's offices in Volusia and Lake received no other noise or quaking complaints, dispatchers said. Officials on site at Tamburro's Fort Smith house found no one else in the area who also experienced the shaking.

Neighbors were distressed.

"[I'm] just a tad bit nervous," said Karen Remmy, 46 who lives across the street from the Tamburros.Remmy and her husband, Brian, said they planned to pack up their valuables — guns, jewelry and family mementos — and load their motorcycles into a trailer in anticipation of a sinkhole.

"We've got to get the Harleys out of harm's way," Karen Remmy said. "If there are no rumblings in a week, then I'll feel safe."

The idea of one area being rocked by three sinkholes in such a short time seemed a long shot at first, Remmy said. "Everybody is so nervous about those things [sinkholes]," she said. "You see a little pothole and you say, 'That wasn't there yesterday.' "Many things could have made the house shake and crack, including cold weather or a large truck rolling by, said Robert Rogers, Deltona deputy fire chief. Rogers also suggested a scheduled Navy bombing run could have been the culprit.

Navy S-3 Viking jets were dropping 500-pound bombs on targets in the Pinecastle Electronic Warfare Range in the Ocala National Forest until noon — about 30 minutes before Tamburro reported her quaking house to police.

"If that's what shook the lady's home, I can't say," said Rick Crews, a civilian spokesman for the Naval Air Station in Jacksonville, where the jets are based. "But I haven't heard of an incidence of that, where one house rattled and shook, and the ones next door didn't."

Erin Ailworth can be reached at eailworth@orlandosentinel.com or 386-851-7925. Stephen Hudak can be reached at 386-851-7915 or shudak@orlandosentinel.com.

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Report makes sinkhole official

By BOB KOSLOW
Staff Writer

Last update: January 28, 2005

DELTONA -- A third sinkhole in southwest Volusia County -- just confirmed Thursday after 10 days of uncertainty -- is forcing the Tamburro family from their Fort Smith Boulevard home here for the second time.

"It's real now," Stephanie Tamburro said Thursday afternoon while reading an engineer's report. "They call it a sinkhole. I am really, really scared. The house is still standing, but something is going on underneath. I knew something was going on. At least it's a comfort knowing I'm not crazy."

The report from Andreyev Engineering says a developing underground sinkhole caused the house to shake Jan. 18 and open hairline cracks in the home's exterior stucco at the southeast corner. Early on, city and county officials speculated the home's shifting could have been caused by cold weather and heavy rain or possibly U.S. Navy planes using the Pinecastle Bombing Range in Lake County.

Stephanie, Joe Tamburro and their 5-year-old daughter spent one night with Stephanie's parents in Deltona before checking into a hotel for four nights. They've spent the past four nights at home.

The sinkhole has not opened and caused the kind of destruction of the Dec. 13 sinkhole that ate four lanes of Howland Boulevard and damaged one home or the Orange City sinkhole that opened Jan. 9 and destroyed two homes.

While city building officials say the home is structurally sound, the Tamburros' insurance company told them Thursday to pack and move out. They and other relatives were boxing possessions Thursday night to move today into another Deltona home the insurance company is renting.

Ground penetrating radar was run over the Tamburros' yard last week. Crews also pulled four soil core samples from depths of 55 to 80 feet where they hit limestone under the clay subsurface.

The report pinpoints where sand is collapsing through the clay into a limestone cavity eaten away over time by water seeping through the sand to the aquifer. The process is slow, wrote Andreyev engineers. Like an hourglass, when the sand in the top section empties into the bottom, a sinkhole opens.

Engineers recommend that grout be pumped into 25 points around the home to depths of 55 to 80 feet. The process compacts the sand and stabilizes the soil under and around the home. The insurance company is reviewing the recommendation.

"This is my first home. I hate to leave it," Stephanie Tamburro said. "It's still hitting me now that we're packing. I am not sure what we are going to do down the road."

ADVE

At least the Tamburros have time to pack and flee. Beki Swainston was sleeping in her Orange City home when it nearly collapsed on top of her after a sinkhole opened a couple weeks ago along Springbank Avenue. She escaped with her 3-month-old son and a few items.

"It's totally devastating having to leave your home," said Swainston, now living with her mother. "We had our own lives and now we are trying so hard not to trip over each other."

Swainston's insurance company is paying her the value of the home, contents and loss of use. However, it is not paying for the demolition and removal of the debris or needed fill on which to rebuild the home.

The good news is the community has donated enough money to about cover the cost, she said.

Springbank Avenue has been repaired and opened to traffic. Some minor holes still need to be patched, Volusia County Engineer Gerald Brinton said.

Meanwhile on Howland Boulevard in Deltona, crews are injecting grout around a large sand-filled sinkhole. The process should be completed next week when repairs to the road, drainage and water lines begin.

Brinton said the repairs are still on track to open the road by March 7. The county has no repairs planned at the newest sinkhole because it's on private property.

Meanwhile, county fire officials were called out to yet another sinkhole in DeBary. Volusia County fire spokesman Walter Nettles said a man checking on his property noticed the 8-foot-deep hole in a field behind his house on Wentwood Drive.

"It used to be a retention pond but the water dried up and now it's a sinkhole," Nettles said Thursday night. "It's not endangering any homes or roads, though; it's out in a field."

The dried-up retention pond is about 45 feet wide; the hole in the center is about 10 feet wide.

bob.koslow@news-jrnl.com







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Originally appeared on News-Journal Online at
http://www.news-journalonline.com/special/sinkhole/03NewsHEAD01012805.htm

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