Appendix E-6

Documentation of Flooding on Existing Roads in SW Pasco County

DOCUMENTATION OF FLOODING ON EXISTING ROADS IN SOUTHWEST PASCO COUNTY

From June 23 through June 27, 2012, Tropical Storm Debby delivered rainfall amounts that exceeded 15-19 inches in some locations causing extensive river flooding. Pasco County called for an evacuation on June 26th. The Emergency Operations Center (EOC) issued a briefing on the 26th (Exhibit 1 of this appendix). The briefing noted that a number of roads are severely impacted by floodwater and remain impassable. Some of the roads that were of critical concern are St. Joe Road, Perrine Ranch Road, Seven Springs Blvd., Madison Ave., Plathe Road and SR 54. SR 54 was closed for several days. Due to the impact to the roads, door to door rescue operations had to be conducted.

On June 27th Eric Keaton, Public Communications Manager for Pasco County, issued an updated Recovery and Damage Assessment (Exhibit 2 of this appendix) which reported that the following roads were still impacted by the flooding:

- Mitchell Ranch Road from Seven Springs Blvd to SR 54;
- SR 54 from Mitchell Ranch Road to Madison Street;
- Old CR 54 from Little Road to CR 54;
- Thys Road to Old CR 54; and
- Trouble Creek Road from Cecelia to Old Mill Pond Road.

Due to the severity and location of the flooding, it was not possible for many residents to use or get to SR 54, a primary evacuation route. A map delineating the area of evacuation was provided by Cindy Jolly, P.E., with the Pasco County Stormwater Division and is provided in Exhibit 3 of this appendix. Ms. Jolly also provided photographs to show the extensive impact to roadway travel and structures. These are provided in Exhibit 4 of this appendix.

The flooding caused by Tropical Storm Debby is not the only event where significant flooding has occurred. Pasco County has a significant history of flooding and hurricane activity. Please see the attached letter, dated June 19, 2013, from Cindy Jolly to Michael Bishop, Office of Emergency Management in New Port Richey. This letter (Exhibit 5 of this appendix) provides a history of Pasco County rainfall and flooding events. Records have been kept since May, 1979. Note particularly May 8, 1979; August 30 to September 5, 1985; March 27 to March 31, 1987; September 5 to September 9, 1988; March 13, 1993; July 18, 1995; August 2, 1995; October 4, 1995; October 7, 1996; January 1, 1999; Spring/Summer, 2003; 2004 Tropical Storms and Hurricanes; July 13, 2008; April 4, 2011; and June 23-27, 2012.

The potential for flooding, particularly in coastal southwest Pasco County, has to be taken into consideration when evaluating roadway improvements that are intended to improve evacuation. Not only did the flooding that occurred in 2012 show that SR 54 is not a reliable evacuation route as it can become impassable approximately 2.5 miles east of US 19, it also demonstrated that any of the RRE alternatives that include Tower Road would not provide a reliable evacuation route. To reach Tower Rd., evacuees would have to take SR 54 to Starkey Blvd. and go north to Tower Road. If SR 54 is not passable then Tower Road would not be accessible from the south for a majority of residents in the southwest coastal area.

In a meeting with Terry Hensley, ITO Manager for FDOT, District 7, and Angela Allen, Emergency Operations Coordinator, to review the proposed RRE and alternatives including improvements to SR 54 and SR 52, and Tower Rd., Mr. Hensley offered the following comments: None of the proposed RRE

alternatives would do much, if anything, to improve "regional" evacuation times in the event of a multicounty evacuation order because the real constraint is the capacity on I-75. If, however, Pasco County's intent was to improve the time to get the coastal population out of the evacuation areas where flooding and high winds pose the most danger, then the RRE would be the most effective. Mr. Hensley cited the following reasons for this opinion: The RRE would provide an additional evacuation route to augment SR 52 and SR 54; the RRE is proximate to a large portion of the coastal population; and, if necessary, the RRE could be made one-way quickly as it is a county controlled facility.

EXHIBIT 1

EMERGENCY OPERATIONS CENTER (EOC) BRIEFING, JUNE 26, 2012

Weather Summary (as of 1800 hrs 6/26/2012)

- At 5pm Tuesday, Tropical Storm Debby made landfall near Steinhatchee, which is also about 35 miles north-northwest of Cedar Key, Florida.
- Maximum sustained winds remain at 40 mph, but Debby is expected to become a tropical depression within the next 6-12 hours. However, Debby could once again strengthen to a tropical storm after exiting Florida later this week.
- Tropical storm force winds extend 175 miles on the eastern side of Debby. Pasco is still under a Tropical Storm Warning and Flood Watch.
- Debby is moving toward the east-northeast at 6 mph and this general motion with an increase in forward speed is expected over the next couple of days before turning northeast on Thursday or Friday.
- The official forecast from the National Hurricane takes Debby further inland over Northeast Florida tonight through Wednesday morning before exiting the coast between St. Augustine and Palm Coast tomorrow afternoon.
- Any additional rainfall may exacerbate flooding conditions, especially in areas that have already seen heavy rainfall. These storm total rainfall accumulations could push rivers well into flood category for an extended period of time.
- Increased swells and wave action in the Gulf of Mexico will continue through tonight and Wednesday.

Local State of Emergency

- The Governor signed the Executive Order 12-140 yesterday (June 25 2012).
- Pasco County has initiated an evacuation order on 6/26/2012 at 10:30am for communities located near Anclote River area.

Situation Summary:

Tropical Storm Debby has made landfall around 35 miles north-northwest of Cedar Key, Florida. An evacuation order was issued today and Pasco County continues to address issues related to flooding.

A number of roads are severely impacted by flood water and remain impassable. Rescue and evacuation efforts, door to door rescue and sandbag operations are underway in several communities that are flooded.

Some of the roads that are of critical concern are St. Joe Road, Perrine Ranch Road, Seven Springs Blvd, Madison, Plathe Rd. and State Road 54.

Two of the County's evacuation shelters are operational and are currently occupied by around 80 residents.

Call volumes received by the Resident Information Center continue to increase. Regular county calls were stopped today afternoon to attend to the emergency calls received from impacted residents. A total of 3,200 calls were received today. Although staff attending these calls has been augmented, there still remains additional need for enhancing telephoning capacity to meet increase in call volumes.

Damage assessment related to impacted roads, infrastructure and houses, and costal erosion is currently being conducted by different agencies. So far the overall estimate of damage costs stands at 6.5 million dollars. Efforts are underway to capture all costs related to this event including damage, supplies and labor.

Emergency Management responded to five calls for sinkholes.

Damage Assessments

Ongoing Damage assessments are being performed by several agencies. Preliminary date has damage costs as of today estimated as 6.5 million dollars.

Operations Status

Pasco County Law Enforcement

- Evacuation areas were identified in the early afternoon
- Conducted door to door rescue operations
- Rescued 30 people, 2 people sent to special needs shelter
- Law Enforcement, Fire Rescue and Emergency Services, Animal Services, Red Cross and Florida Fish and Wildlife Services, and Florida Patrol have been coordinating evacuation effort
- Coast guard is helping get aerial photography of flooded areas
- Increased staffing to meet needs
- Three quarters of the evacuation area has been evacuated and contact with residents made
- Law Enforcement is in full A/B mode and will be on 18 hour shifts
- Squads will be placed in the evacuation areas to monitor for looting, reentry, gather film intelligence, and securing perimeters
- FWC, FDLE, Tarpon Springs PD, and Dade City PD have sent aide to help in operation areas
- A Dialogic reverse call out was made to areas that would be affected from flood waters.
- New Port Richey PD is operating on 12hr shift

Shelters

- Continue to staff two shelters at Chasco Elementary School and Mike Fasano Hurricane Shelter.
- 9 animals in Mike Fasano shelter and 7 in Land O' Lakes Facility
- Need to ask residents evacuating with pets to carry a pet carrier
- The number of people have jumped to 48 (general) and 5 (special needs) in Mike Fasano hurricane shelter
- Eleven special needs and one with oxygen needs and electrically dependant at Mike Fasano Hurricane Shelter.
- Chasco Elementary School 27 people sheltered
- Safe and Well People can go on www.redcross.org to list themselves to report their wellness and to check on a loved one.

Road and Bridge

- Two crews are on standby for night-time operations
- Still many roads are impacted by floods
- Received 300 barricades additional from FDOT
- Maintenance on roads going on
- Roads with specific concern St. Joe road, Perrine Ranch Road, Seven Springs Blvd, Madison, Plathe Rd. and State Road 54
- State Road 54 is likely to be closed for several days
- Calculation of cost estimate for damages is underway
- Anticipate millions of dollars in damage

Public Transportation

- Buses are at staging areas
- Both County and School Board assets are being used
- Two school buses evacuated 127 children from Kids Country Daycare to Anclote
 Elementary. One additional school bus is now staged at Wal-Mart as a holding area for
 persons evacuated by fire rescue/law enforcement.
- No estimated staffing level
- Transit and paratransit service is on regular schedule

Utilities

- 12 pump stations are in alarm state and are being addressed along with 2 force main breaks in Forest Hills and Tall Pines Road.
- Lot of waste water inflow 8 million gallons yesterday and 3 million gallons today
- 1900 customers are out of power
- Power at some areas such as Harbor View Mobile Home Park has been turned off
- Need to ask residents to turn off their breakers before evacuating
- Things are improving

Communications

- Have requested for 10 Radios for Fire Rescue and only able to get 8
- School Board needs 5 radios
- Have 11 spare radios but need additional batteries and antennas
- All departments with unused radios are requested to provide them to IT department

PIO/Resident Information Center (RIC)

- RIC has increased staffing
- Call volume has shown significant increase from 60 calls/half hour to 200/half hour
- Evening call rates have decreased to 100-150 calls/half hour
- Over 3,200 calls were received
- Regular calls have been turned off since 1:00 pm and only accepting emergency calls
- Trend of calls are concerning evacuations
- Press releases available on the Pasco County website and facebook.
- Have released 8 releases since EOC activation.
- Phone calls are being received from CNN, Radio and National Players

- Additional staffing from the Health Department is helping with answering questions
- A Pubic Information Center is being set up at the Wal-Mart Staging area in New Port Richey

ESF-7

- Please contact ESF-7 with questions related to needed resources and food
- They are trying to utilize local contracts for resources before requesting resources from outside

Policy Group

Need to document all costs which includes damage to parks, roads etc.

ESF-5

• Everyone is requested to continue to update the Position Log in the WebEOC

EXHIBIT 2

E-MAIL FROM ERIC KEATON, PUBLIC COMMUNICATIONS MANAGER FOR PASCO COUNTY, JUNE 27, 2012

From: Eric Keaton

Sent: Wednesday, June 27, 2012 10:53 AM

To: Eric Keaton; Ed Caum; 10 Connects; 970 WFLA News; Alex Tiegen (alex.tiegen@patch.com); Ann MacKinnon; Bay 9 News; Bridget Grumet, Pasco Times; Carl Orth, Suncoast News; Carole Dickey, In the Loop; Drew Harwell; Gary Sprott (gsprott@tampatrib.com); Greg First (gregfirstconsult@aol.com); K Johnson; Klowry@suncoastnews.com; Lee Logan; Lisa Buie (lbuie@sptimes.com); Patricia Osborne (pOSBORN2@tampabay.rr.com); Peter Linton-Smith, Fox News; Sherri Lonon;

sue quigley; WFLA News; WFTS News; Wilson, Susan; WTVT News; WXJB-FM (onair99fm@aol.com)

Cc: kdoll@pascosheriff.org; poneil@pascoclerk.com; jmann@pasco.k12.fl.us; Summer Romagnoli; bgrumet@tampabay.com; Web Updates; Patrick R. Broz; Heather Grimes; Lisa Hale; Scott Cassin;

Michele Baker: Pasco County BOCC

Subject: Pasco County Update: Recovery and Damage Assessment (Map Attached)

Pasco County Begins Recovery - Damage Assessment

New Port Richey, FL— Pasco County emergency responders continue to maintain traffic control and assist residents in the evacuation area (see attached map) at risk due to flooding between the Anclote and Pithlachascotee Rivers. In addition, County officials have started to gather information on damages caused by Tropical Storm Debby and they are assisting residents in shelters who are returning to their home.

The evacuation area still has the following impacted roads:

- Mitchell Ranch Road from Seven Springs Blvd to SR 54
- SR 54 from Mitchell Ranch Rd to Madison Street
- Old County Road 54 from Little Road to County Road 54
- Thys Road to Old County Road 54
- Trouble Creek Road from Cecelia to Old Mill Pond Road

More than 7,000 residential and commercial addresses were impacted by the flooding waters. Overnight two County shelters housed 73 residents and 15 pets.

Progress Energy shut off the power to approximately 1,800 homes. According to Progress Energy the power will remain off until the water begins to recede which may be up to two more days. When Progress Energy begins to cycle on the power residents are urged to <u>inspect their main breaker before turning it on</u>. Power officials advise not to turn on the breaker if water remains in the electrical equipment.

Pasco County has asked the State of Florida to assist in a Joint Damage Assessment after declaring a Local State of Emergency Monday morning. Working together the two entities can determine if Pasco County is eligible for Federal Damage Assistance. Qualifying for this assistance will enable residents to seek Federal assistance during the clean-up and rebuilding efforts. Residents are reminded before they enter into contracts for repairs they should work with a licensed contractor.

Residents who still need assistance should call the Resident Information Center at (727) 847-8959. If water is entering your home and life-saving assistance is needed call 9-1-1.

Sand and Sandbags are still available at:

- West Pasco Government Center, 7536 State St., New Port Richey
- 7918 Rhodes Rd., Hudson, Fire Station #10,
- 2952 Seven Springs Blvd., New Port Richey, Fire Station #17
- Mitchell Field Park located at 4711 Little Rd, New Port Richey
- 6907 Dairy Rd., Zephyrhills, Fire Station #1

Residents who self-evacuated and are returning to their property will be asked for proper identification before emergency responders will allow residents back into the impacted area. Residents are strongly encouraged to not venture out or into any flood waters. The Pasco County Health Department is reminding residents that flood waters may contain fecal material, associated bacteria, viruses, and other pollutants as lift stations are overflowing in the flooded areas. For more information, please contact (727) 861-5250 or visit www.doh.state.fl.us or www.FloridaDisaster.org.

For more information visit our website at <u>www.pascocountyfl.net</u> or contact the Resident Information Center at 727-847-8959.

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EXHIBIT 3

MAP OF JUNE 2012 FLOODING IMPACT AREA

Provided by Stormwater Management Division, Pasco County

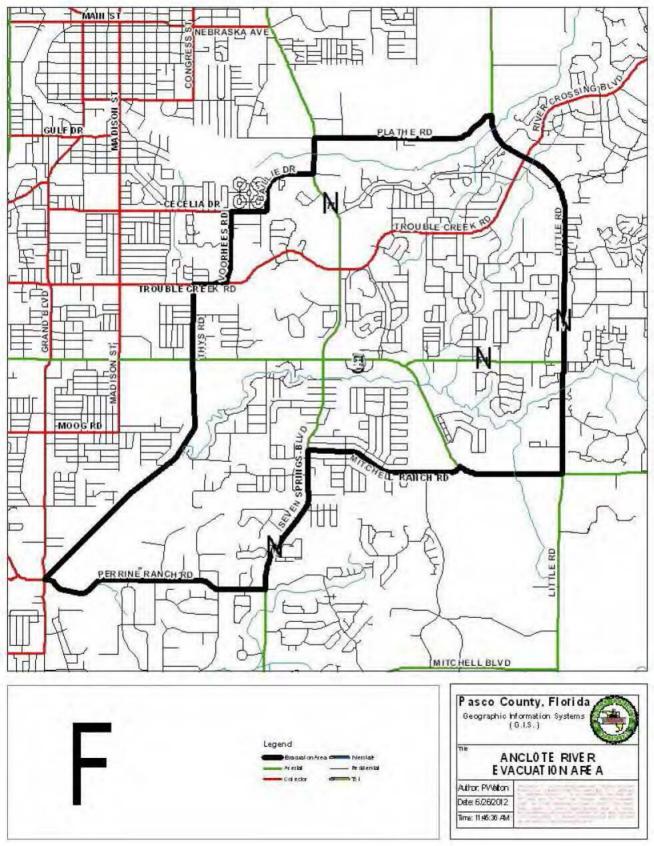


EXHIBIT 4

PHOTOGRAPHS SHOWING EXTENT OF JUNE 2012 FLOODING IMPACTS ON ROADS AND STRUCTURES



On SR 54, East of Rowan Road Intersection Looking South



East of SR 54 and Rowan Road Intersection Looking North into Sweetbay Parking Lot



Intersection of Seven Springs Blvd. and Mitchell Ranch Road Approximately 0.8 Miles South of SR 54

EXHIBIT 5

LETTER FROM CINDY JOLLY, P.E., PASCO COUNTY
STORMWATER DIVISION PROVIDING
HISTORIC RAINFALL AND FLOODING INFORMATION



PASCO COUNTY, FLORIDA

"Bringing Opportunities Home"

DADE CITY LAND O' LAKES NEW PORT RICHEY FAX (352) 523-2411 (813) 996-2411 (727) 834-3611

(727) 834-3620

STORMWATER MANAGEMENT DIVISION 4454 GRAND BOULEVARD NEW PORT RICHEY, FL 34652-5402

PASCO COUNTY PUBLIC WORKS

June 19, 2013

Michael S. Bishop Office of Emergency Management 8744 Government Drive, Bldg A New Port Richey, FL 34654-5598

RE:

Pasco County Historic Rainfall

Dear Mr. Bishop:

The following is the historic rain events that have impacted Pasco County:

- May 8, 1979: 11.09 inches of rainfall measured in Tarpon Springs.
- 2. August 11, 1979: 1.5 inches of rainfall measured at Tampa International Airport (TIA).
- August 22, 1979: 0.25 inch of rainfall measured at TIA.
- June 26, 1981: 3.67 inches of rainfall measured in St. Leo over a two-day period.
- June 18, 1982: 6.32 inches of rainfall measured in Tarpon Springs and five inches of rainfall measured in Brooksville.
- 6. June 23, 1982: No significant amount of rainfall attributed to this day.
- October 6, 1982: 3.7 inches of rainfall measured in St. Leo.
- 8. March 24, 1983: No significant amount of rainfall attributed to this day.
- September 18 and 19, 1983: 5.67 inches of rainfall measured in Tarpon Springs.
- 10. July 31, 1984: No significant amount of rainfall attributed to this day.
- 11. August 30 to September 5, 1985: Hurricane Elena was a Category 3 Hurricane, which stalled off the west coast of Florida, causing saltwater and freshwater flooding.
- 12. January 10, 1986: 4.21 inches of rainfall measured in Tarpon Springs.

- December 31, 1986: No significant amount of rainfall attributed to this day.
- 14. March 27 to March 31, 1987: 10.69 inches of rainfall in six days was measured in St. Leo.
- September 5 to September 9, 1988: 15.38 inches of rainfall in five days was measured in Tarpon Springs. A front had stalled over Central Florida and a series of tropical waves moved along the front, causing widespread freshwater flooding.
- 16. November 11, 1988: No significant amount of rainfall attributed to this day.
- 17. June 28, 1989: 0.2 inch of rainfall measured at TIA.
- 18. July 15, 1990: 3.0 inches of rainfall measured at TIA.
- August 23, 1991: 1.5 inches of rainfall measured at TIA.
- 20. August 12, 1992: No significant amount of rainfall attributed to this day.
- 21. August 27, 1992: 2.3 inches of rainfall measured at TIA.
- 22. October 3, 1992: 2.0 inches of rainfall measured at TIA.
- 23. March 13, 1993: No Name Storm. 5.0 inches of rainfall measured at TIA. Due to astronomically high tides, extremely heavy rainfall, wind of near tropical storm strength, and a storm surge of six to eight feet, the coastal areas of Aripeka, Hudson, Port Richey, and New Port Richey experienced severe flooding. Flooding in homes and businesses ranged from several inches to more than four feet of water. Several thousand homes were impacted. The Pasco County Emergency Operations Center (EOC) was fully activated in response to the event. Recovery operations commenced within 24 hours of the storm. The County received a Presidential Disaster Declaration for public assistance and individual assistance.
- April 6, 1993: 0.4 inch of rainfall measured at TIA.
- 25. June 7, 1994: 1.4 inches of rainfall measured at TIA.
- 26. July 7, 1995: 0.4 inch of rainfall measured at TIA.
- 27. July 18, 1995: 5.1 inches of rainfall measured at TIA. Pasco County experienced localized flooding due to extremely heavy rainfall of more than five inches falling within a few hours on already saturated ground. The flooding was concentrated mainly in the Port Richey area. Homes and businesses received one to two feet of water. The County responded with a partial activation of EOC. A Small Business Administration disaster declaration was awarded to assist in the recovery effort.
- 28. August 2, 1995: Hurricane Erin. 5.0 to 6.0 inches of rainfall measured at TIA. Hurricane Erin passed over Pasco County with the eye of the storm passing near Dade City. EOC was fully activated as Pasco County was in the direct path of the storm. Damage was minimal, confined mostly to electric power and tree damage. One apartment building housing the elderly received roof damage and the residents evacuated to a local shelter. Rainfall associated with Hurricane Erin caused minor street flooding; however, storm surge was not a problem. Hurricane Erin exited to the north of Pasco County during a low tide period. Pasco County was included in the Presidential Disaster Declaration for Hurricane Erin.
- 29. October 4, 1995: Hurricane Opal. 1.6 inches of rainfall measured at TIA. Pasco County fully activated EOC in expectation of receiving an impact from Hurricane Opal. Though no direct impact was felt,

Hurricane Opal, a gulf storm, was responsible for prolonged high tides. Pasco County did not receive a disaster declaration.

- October 13, 1995: No significant amount of rainfall attributed to this day.
- 31. October 7, 1996: Tropical Storm Josephine. 2.0 inches of rainfall measured at TIA. Pasco County fully activated EOC in response to the threat of Tropical Storm Josephine. Tropical Storm Josephine impacted Aripeka, Hudson, Port Richey, and New Port Richey. The City of Port Richey received the greatest impact from the storm, consisting mainly of flooding in homes. The impact of Tropical Storm Josephine was not as severe as the March 13, 1993, No Name Storm, as residents received generally less than one foot of water in their homes. Pasco County received a Presidential Disaster Declaration for individual assistance due to the damage received from Tropical Storm Josephine.
- 32. December 1997 through March 1998: El Niño.
- January 1, 1999: Pasco County experienced localized flooding due to extremely heavy rainfall within a few hours coinciding with high tide.
- Spring/Summer 2003 Floods (Incident #03-06118): Impacts in this area began in June 2003 when Pasco County experienced between 20 and 30 inches of rain.
- 35. 2004 Tropical Storms and Hurricanes:



The 2004 Hurricane Season was a very active season with a total of fifteen named storms. Eight of the storms grew to become hurricanes and the State of Florida saw four of those storms make landfall as major (Category 3 or higher) hurricanes. The names of the four major hurricanes were Charley, Frances, Ivan and Jeanne. Pasco County was involved in preparation actions for Hurricanes Charley, Frances and Jeanne, as well as response and recovery operations for Frances and Jeanne. Fortunately, when Hurricane Ivan arrived in mid September, it moved from south to north through the Gulf of Mexico towards landfall in the Panhandle some 300 miles offshore from Pasco County. Therefore, the County was not impacted by this storm.



The State of Florida has experienced several Labor Day/Labor Day weekend storms during its history. Hurricane Frances proved to be the latest in this string of storms, tracking through southwest Pasco County around 11 p.m. on September 5 as it exited the state.

Hurricane Frances made landfall in Martin County on Florida's east coast early in the morning of September 5 as a Category 3. It tracked towards the northwest through Polk and Hillsborough Counties, eventually exiting the State into the Gulf of Mexico through the southwest portion of Pasco County on September 5.

Unlike Hurricane Charley where only preparation actions were necessary on the part of Pasco County, response

and recovery actions were needed following Hurricane Francis, since it passed through Pasco County with sustained gale force winds (55+ mph) that caused significant damage as it exited the state. Primary response and recovery operations conducted were flood response/pumping operations and debris removal. Damage assessment reports issued after the storm reflected 782 buildings (primarily mobile homes) in the County with minor damage and 114 with major damage resulting from the storm winds. In addition, 459 flooding reports were received by the County as a result of rains that accompanied the storm. Repetitive Loss Area No. 2, Bass Lake experienced flooding.



The third and final weekend storm of the 2004 Hurricane Season to impact Pasco County was Hurricane Jeanne. Jeanne proved to be a special challenge for Pasco County in that recovery operations that was well underway for Hurricane Frances had to be suspended in order to retrench and initiate preparation (protective) actions for Jeanne. Likewise, after the storm passed, the concurrent efforts of resuming recovery operations for Frances and initiating recovery operations for Jeanne had to be undertaken.

Similar to Hurricane Frances, Jeanne made landfall in Martin County on Florida's east coast early in the morning of September 26 as a Category 3. It followed a track similar to Frances as it generally moved to the north-northwest through Polk, the northeastern part of

Hillsborough and into Pasco County with the track taking the center of the storm very close to Zephyrhills and Dade City prior to it exiting the County into Hernando County late in the evening of September 26.

Hurricane Jeanne passed through Pasco County with sustained gale force winds (55+ mph) that once again caused significant damage. Primary response and recovery operations conducted were flood response/pumping operations and debris removal. Damage assessment reports issued after the storm reflected 2,805 buildings (primarily homes) in the County with minor damage, and 558 with major damage resulting from the storm winds. As of the end of September 2004, 462 flooding complaints were received and tasked to field investigators. Unfortunately, Pasco County had one fatality attributable to Hurricane Jeanne.

- 36. July 13, 2008: Flash floods were experienced in western Pasco County in the early morning hours. The locations were all west of Little Road.
- 37. April 4, 2011: Flooding along Anclote River.
- 38. June 23-27 2012: Tropical Storm Debby that lashed the Gulf Coast on June 23-27, 2012. The storm delivered total rainfall amounts that exceeded 15-19 inches in some locations as it slowly moved through the area and caused extensive river flooding.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Cynthia M. Jolly, R.E., CFM, LEED Green Associate

Project Manager

SML13-077