

**HAZARD MITIGATION TECHNICAL ASSISTANCE PROGRAM
CONTRACT NO. EMW-2000-CO-0247
TASK ORDER 272
HURRICANE ISABEL RAPID RESPONSE
COASTAL HIGH WATER MARK (CHWM) COLLECTION
FEMA 1490-DR-NC**

**FINAL REPORT
OCTOBER 31, 2003**

SUBMITTED TO:



FEMA

**FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION IV – MITIGATION DIRECTORATE
ATLANTA, GA**

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A Total Water Resource

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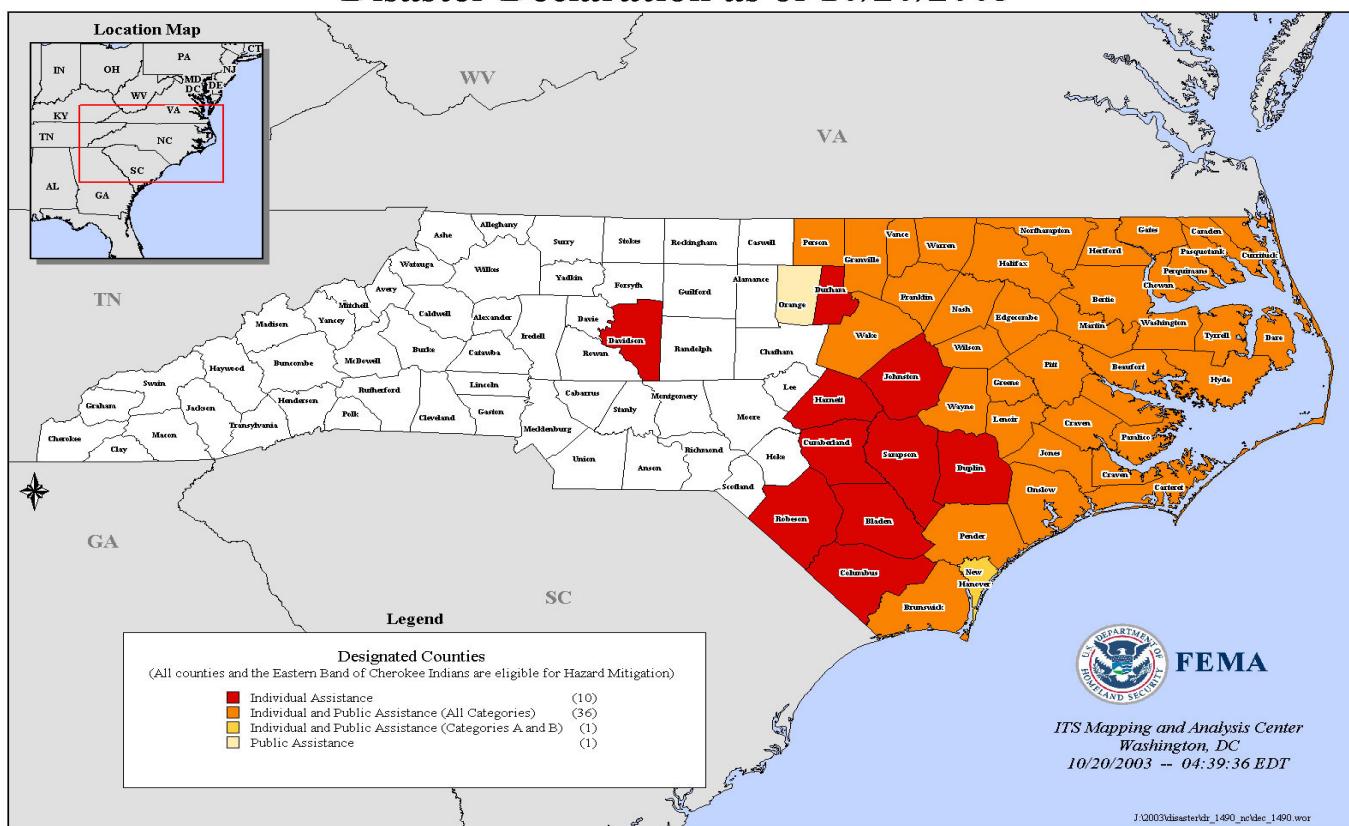
INTRODUCTION

Hurricane Isabel made landfall near Ocracoke Island, North Carolina, at approximately 1:00 p.m. Eastern Daylight Time on September 18, 2003, and moved northwest near 20 miles per hour across eastern North Carolina during the afternoon hours. The maximum sustained wind speed at the time of landfall was forecasted by the National Weather Service (NWS) National Hurricane Center (NHC) to be approximately 105 miles per hour (mph). The maximum storm surge was reported to be approximately 12 feet. The NWS classified the storm as a Category 2 hurricane on the Saffir-Simpson Scale at landfall.

An expedited declaration for North Carolina was authorized by the close of business on September 18, and covered damage to private property from Isabel. The declaration provided the necessary assistance to meet immediate needs and to help North Carolina get back on the road to recovery as fast as possible. Assistance was provided to counties as shown in Figure 1.

Figure 1: Disaster Declaration Map

**FEMA - 1490 - DR, North Carolina
Disaster Declaration as of 10/20/2003**



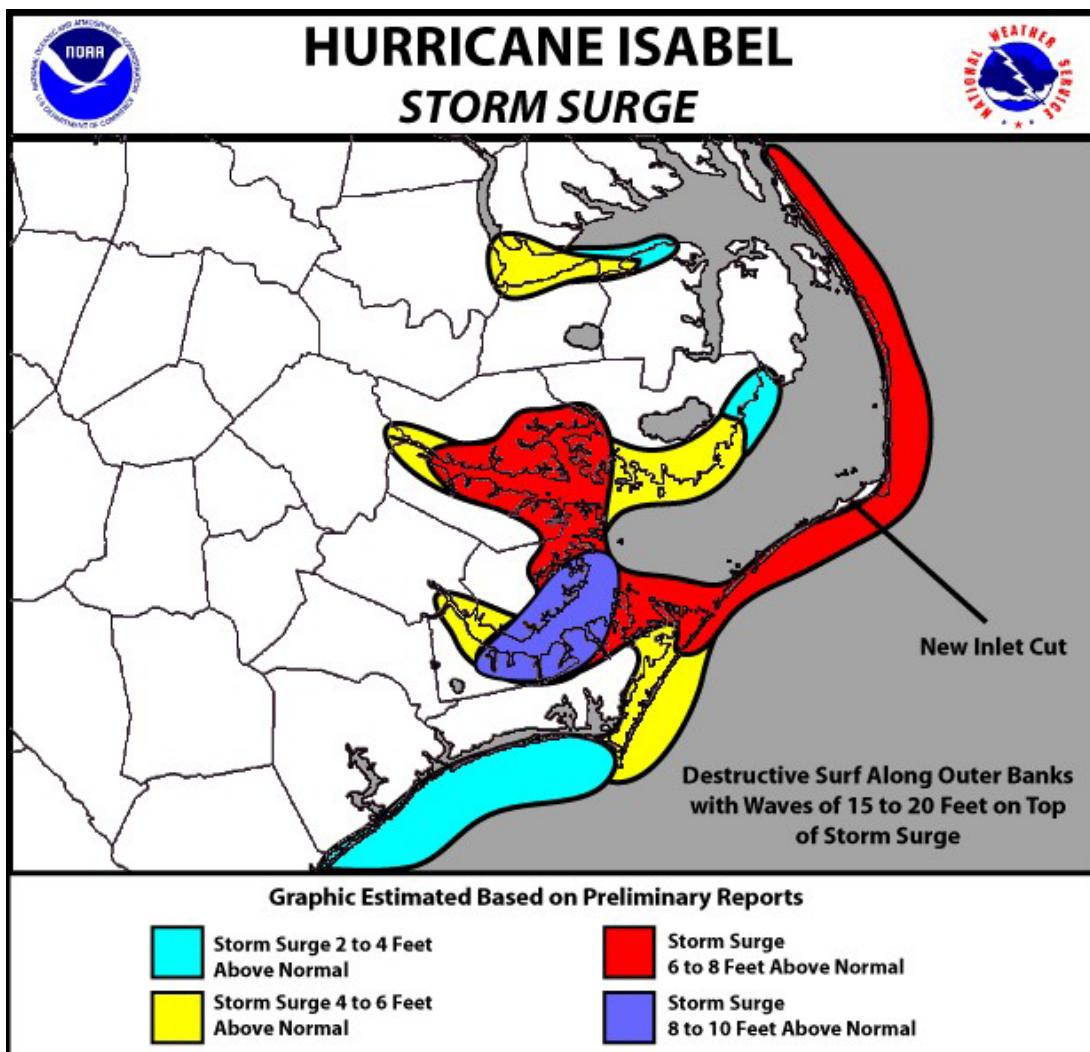
Isabel resulted in both coastal and riverine flooding, and High Water Marks (HWMs) were categorized as either Coastal (CHWMs) or Riverine (RHWMS). The categorization of HWMs was based on an evaluation of the type of flooding and surge at each location, the orientation to assumed surge and wave action, and the consideration of what type of flooding would have resulted in the greatest amount of damage.

AREA OF STUDY

An initial review of the affected counties was completed on September 22, 2003. The purpose of the review was to define the scope and location of desired Coastal High Water Marks (CHWMs).

As shown in Figure 2, according to the National Weather Service, the highest storm tides occurred across the lower reaches of the Neuse and Pamlico Rivers. On the Neuse River the highest surge was between Clubfoot Creek and Adams Creek where water rose to 10.5 feet above normal. Significant flooding was reported in the Harlowe area in Craven County, and in the Town of Oriental in Eastern Pamlico County. Water levels rose between 6 and 7 feet on the Pamlico River with flooding in the City of Washington. Storm tides of 6 to 8 feet occurred along the Outer Banks with major ocean overwash. Flooding on Ocracoke Island was significant with waist high water in many areas during the peak of the storm.

Figure 2: Hurricane Isabel Storm Surge



Further analysis, utilizing field investigations, various GIS support coverages, and local media reports, was performed to determine additional CHWM collection areas. In summary, CHWMs were recommended and surveyed in 10 counties as shown in Table 1.

Table 1: Number of CHWMs Surveyed by County

County	Number of CHWMs Surveyed
Beaufort	21
Camden	6
Carteret	13
Craven	19
Dare	23
Hyde	29
Pamlico	33
Pasquotank	13
Perquimans	8
Washington	1
TOTAL	166

MARKING AND SURVEY METHODOLOGY

Field and survey crews from Watershed Concepts and ESP Associates were deployed to conduct resident interviews, take digital photos and survey CHWMs from Hurricane Isabel.

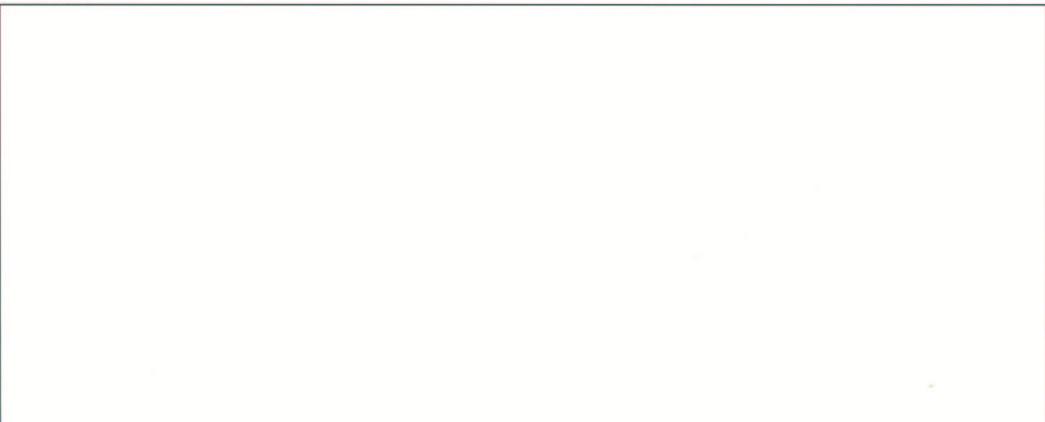
Based on a list of locations identified by FEMA and the State of North Carolina as areas of highest priority for CHWM collection, field crews were dispatched in designated sectors to perform reconnaissance of the affected areas using available information from preliminary damage assessments, coastal flood stage data, and interviews with flooded residents and witnesses. Field crews identified areas of concern and, based on general guidelines for HWM spacing (approximately 1 CHWM per mile of affected shoreline), used hand-held GPS units to document the locations of the CHWMs, completed a Historical Flooding Survey Form (Figure 3) and flagged the CHWM. In most cases, witnesses were interviewed and they pointed out the highest water surface reached by the storm surge or coastal stillwater on an object such as a building, mailbox, or telephone pole. Additionally, the locations of debris lines along the ground were inventoried as CHWMs.

Field crews classified CHWMs as either Coastal Storm Surge CHWMs or Coastal Stillwater CHWMs. The classification was based on a combination of the physical flood evidence and interviews with witnesses. Coastal Storm Surge CHWMs are associated with flooded areas where there is evidence of damage from the wave action associated with a storm surge. Typically, Coastal Stillwater CHWMs are associated with a slow rising flood that causes more water damage than structural damage. In some cases, witnesses might claim the flooding was associated with a storm surge when in fact the flooding was from coastal stillwater or riverine flooding.

GPS survey crews followed the field crews and used static GPS methods to determine an accurate elevation for each CHWM. Since static GPS requires an area with no tree cover to return an accurate result, in some cases it was necessary to perform a short level loop survey from the GPS point to the CHWM. Wherever possible, the finished floor elevation of structures adjacent to the CHWM was collected. This information may be used at a later date for possible damage assessments or Hazard Mitigation Grant Program applications. CHWM locations were surveyed horizontally in NAD 83, State Plane feet, and vertically in NAVD 88 US survey feet. CHWM locations have been surveyed to within accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. In most cases, the accuracy of the positions and elevations are well within the noted limits.

During the marking process, CHWMs from Hurricane Floyd were readily available and presented by witnesses in Camden and Pasquotank Counties. In these cases, the CHWM was marked and surveyed, and the information is included in this report in Appendix K.

Figure 3: Sample Historical Flooding Survey Form

			HWM # _____
HISTORICAL FLOODING SURVEY September 2003 – Hurricane Isabel			
Interview by: _____	Interview Date/Time: _____		
Witness: _____	Witness Address: _____		
Length of Residency: _____	_____		
County: _____	Witness Phone #: _____		
Flooding Source: _____	HWM Type: <input type="checkbox"/> Riverine <input type="checkbox"/> Coastal		
Flooding Type:	<input type="checkbox"/> Riverine <input type="checkbox"/> Coastal Storm Surge <input type="checkbox"/> Coastal Stillwater Flooding		
HWM Location:	<input type="checkbox"/> Exterior <input type="checkbox"/> Interior		
Specific HWM Location: _____			
Description of Physical Structure: _____			
Permission To Survey:	<input type="checkbox"/> Yes <input type="checkbox"/> No Photo ID: _____		
Approximate GPS Method (Garmin, Pro XRS, etc): _____			
N (Lat) (NAD 83): _____	E (Lon) (NAD 83): _____		
Elevation Surveyor Name: _____	Elevation Survey Date/Time: _____		
Final Elevation (NAVD 88 US ft): _____	1st Floor Elevation (ft) (if possible): _____		
Other Comments: _____			
Sketch:			

FINDINGS AND OBSERVATIONS

In general, Hurricane Isabel produced more extensive flooding from storm surge and coastal stillwater flooding than from riverine flooding from heavy rains as the storm moved inland. Excessive damage was witnessed in most communities located along the Pamlico and Albemarle Sounds. The damage along the Outer Banks included areas of extensive overwash. Many structures were destroyed as a result of the storm surge. Despite widespread power outages and lack of water in most coastal communities, field crews did not encounter any significant constraints to access. Field crews working on the Outer Banks in the vicinity of Cape Hatteras did require written evidence from the State of North Carolina in order to access the areas affected by the heavy damage along Highway 12 (including the cutting of a new inlet north of Buxton). Figures 4 and 5 below are photos of 2 CHWMs collected after Hurricane Isabel.



Figure 4: CHWM in Pamlico County



Figure 5: CHWM in Carteret County

Because of the level of activity following a storm of Isabel's magnitude, including the demolition of condemned structures and the cleaning of personal property, field crews had to spend more time locating CHWMs that had not been disrupted by the actions of residents or weather conditions.

In some of the communities that were identified for surveying of CHWMs, no evidence of flooding was witnessed. For these areas, field crews marked a location and noted that there was no flooding. These marks are included in the report and referenced as "NF" marks, meaning "No Flooding".

A similar effort was undertaken coincidentally to identify and survey Riverine HWMs (RHWMS). The results of the identification and survey of RHWMS are documented in a report prepared as FEMA HMTAP 271, dated October 2003. Although some of the CHWMs included in this report were identified in the file as RHWMS, further investigation of the flooding affecting geographic locations resulted in their inclusion in this report as CHWMs.

RECOMMENDATIONS

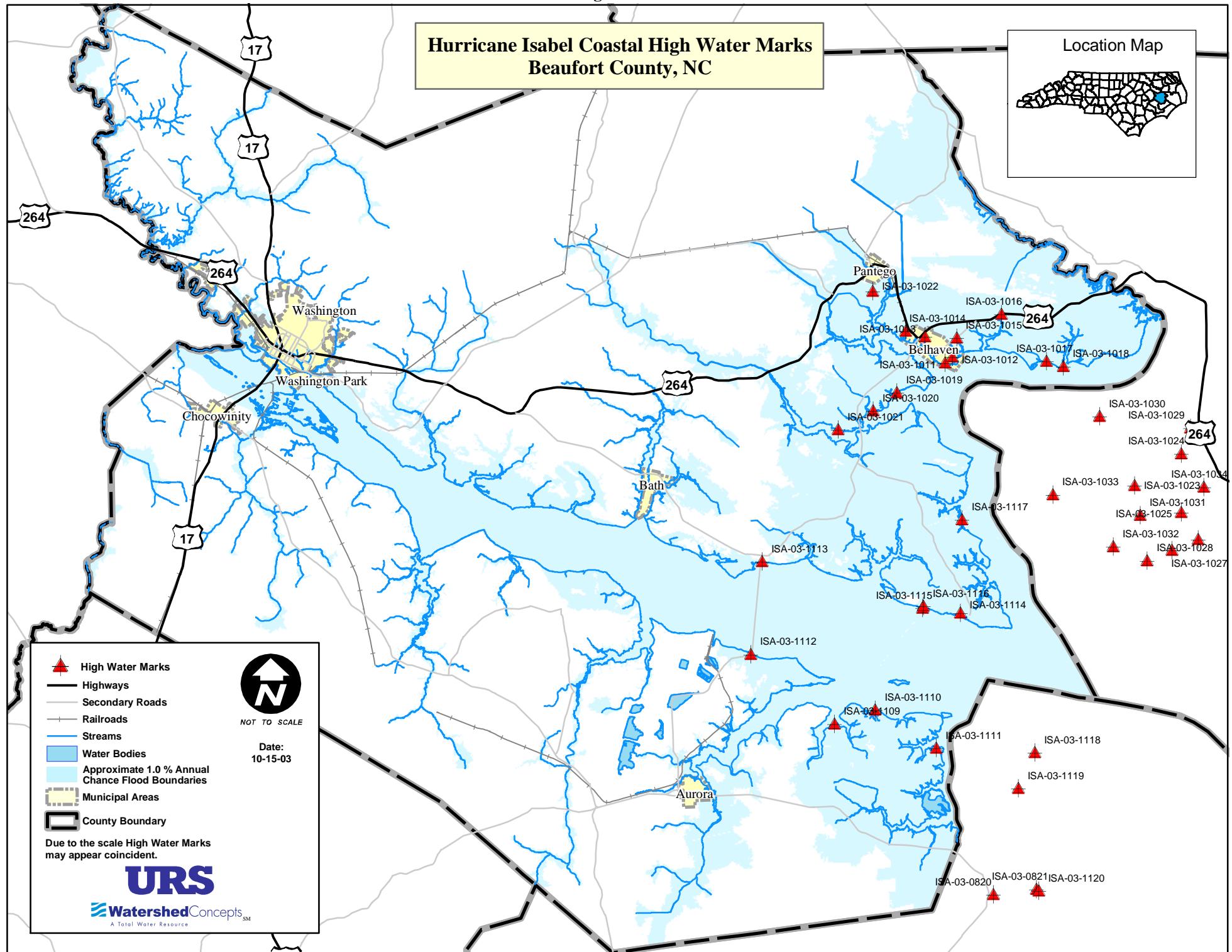
The following recommendations discuss how FEMA can utilize the HWM information to assist in the recovery effort from Hurricane Isabel:

- Compare the Isabel HWMs to the flood elevation data on the effective or preliminary Flood Insurance Rate Maps. In many of these areas, new Limited Detail Studies have been performed in the past 12 months. These comparisons can help FEMA make determinations on where the updated flood hazard data was supported by the flooding that occurred or where new detailed studies should be performed to update the maps, and can help illustrate deficiencies on the existing maps. The HWM data can also be used for event calibration
- Compare the Isabel HWMs to HWMs from other significant flood events such as Hurricane Floyd or Fran. This will identify areas of repetitive flooding and repetitive loss that can assist FEMA in determining locations that would make good buyout areas.
- Complete detail engineering analysis to determine flood elevations in the areas where deficiencies have been identified on the existing FEMA maps, or on areas where property loss occurred where no previous studies have been prepared.
- The locations and severity of the Isabel HWMs can help FEMA identify areas of concern for future mitigation projects when funding for such projects come available through programs such as the Hazard Mitigation Grant Program and the Flood Mitigation Assistance Program.
- Use these HWMs to evaluate the success of completed mitigation projects. The flood depths that occurred during Isabel can be used to estimate potential damage that could have occurred to structures that have been bought out and removed as part of mitigation projects already completed. Documentation of the “damages avoided” can be used as success stories to further support the mitigation efforts.
- The HWMs can be used to create inundation mapping for Hurricane Isabel. The mapping can be delineated using the LIDAR data collected as part of the Statewide Floodplain mapping project. The inundation maps would provide a plan view look at the extent of flooding from Hurricane Isabel and can assist in determining the accuracy of existing FEMA flood maps. The inundation mapping would be a spatially correct GIS coverage that can be provided to community officials to assist in disaster recovery. The inundation maps can also be converted a depth raster format using the LIDAR data to illustrate depth of flooding across the entire inundation area.
- Provide this report on the Internet to aid public officials and the community in general in the recovery effort.

APPENDICES

Appendix A: Survey Sheets from Beaufort County

Figure A-1.





PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1011**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.6 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 690 E. Main St., Belhaven NC 27810**Description of Mark:** 690 East Main Street white 1 story house**Type of Line:** Debris Line**Description of Physical Structure:** House**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.53434653**Easting:** 2,709,561**Longitude:** -76.61474682**Northing:** 657,929**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.9 FT**Approx. Distance to Shoreline:** 460 FT**Comments:**

Witness says that within 30 minutes water was waist deep, says that FEMA raised the house next door but said they didn't have enough funds to raise his house, he did say that FEMA funds were used.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1011.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-2

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1012**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 547 East St., Belhaven NC 27810**Description of Mark:** On stucco on house, home is standing and in good condition**Type of Line:** Debris Line**Description of Physical Structure:** House**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.53743276**Easting:** 2,711,003**Longitude:** -76.60980822**Northing:** 659,087**Approx. First Floor Elevation (Based on Measurement from Mark):** 11.2 FT**Approx. Distance to Shoreline:** 370 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1012.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-3

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1013**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** East of 695 W. Old County Rd., Belhaven NC 27810**Description of Mark:** Fence around lot to the east of 695 W. Old County Rd.**Type of Line:** Debris Line**Description of Physical Structure:** Fence**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.54885004**Easting:** 2,705,567**Longitude:** -76.62775316**Northing:** 663,113**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 60 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1013.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-4

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1014**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 174 Old County Rd, Belhaven NC 27810**Description of Mark:** Bottom of siding**Type of Line:** Water Line**Description of Physical Structure:** White 2 story house**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.5522621**Easting:** 2,701,752**Longitude:** -76.64048273**Northing:** 664,265**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.5 FT**Approx. Distance to Shoreline:** 200 FT**Comments:**

Mrs. Equils watched the storm and the HWM came to the bottom of her siding.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1014.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-5

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1015**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.3 FT**Flooding Type:** Coastal Storm Surge**Location:** Interior**Mark Address:** 31402 Hwy 264, Belhaven NC 27810**Description of Mark:** Wood paneling inside of house**Type of Line:** Water Line**Description of Physical Structure:** House**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.54764363**Easting:** 2,711,899**Longitude:** -76.60649494**Northing:** 662,826**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.1 FT**Approx. Distance to Shoreline:** 100 FT**Comments:**

Landlord says house has never had water in it.
Hurricane Floyd water came up to 3rd step.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.

ISA-03-1015.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-6

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1016**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.4 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 33384 Hwy 264, Belhaven NC 27810**Description of Mark:** Underpinning of mobile home**Type of Line:** Debris Line**Description of Physical Structure:** Mobile home**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.56004926**Easting:** 2,720,779**Longitude:** -76.57626286**Northing:** 667,558**Approx. First Floor Elevation (Based on Measurement from Mark):** 7.0 FT**Approx. Distance to Shoreline:** 140 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1016.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-7

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1017**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.4 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 111 Shoreline Drive, Belhaven NC 27810**Description of Mark:** Exterior basement door of gray stucco house**Type of Line:** Debris Line**Description of Physical Structure:** Stucco house**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.53376778**Easting:** 2,729,718**Longitude:** -76.54699048**Northing:** 658,209**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.6 FT**Approx. Distance to Shoreline:** 170 FT**Comments:**

All homes in very new subdivision were elevated.
HWM surveyed at exterior of basement door.
Successful mitigation.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1017.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-8

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1018**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Shoreline Drive, Belhaven NC 27810**Description of Mark:** Lattice work under condominiums**Type of Line:** Debris Line**Description of Physical Structure:** Lattice**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.53077508**Easting:** 2,733,108**Longitude:** -76.53568328**Northing:** 657,204**Approx. First Floor Elevation (Based on Measurement from Mark):** 8.2 FT**Approx. Distance to Shoreline:** 55 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1018.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-9

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1019**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.3 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 117 Schooner Point, Belhaven NC 27810**Description of Mark:** On stucco outside of house**Type of Line:** Water Line**Description of Physical Structure:** House**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.51871486**Easting:** 2,699,938**Longitude:** -76.64755342**Northing:** 652,008**Approx. First Floor Elevation (Based on Measurement from Mark):** 11.9 FT**Approx. Distance to Shoreline:** 30 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1019.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-10

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1020**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.4 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 721 Smith Shore, Belhaven NC 27810**Description of Mark:** On air conditioning units outside of house at 721 Smith Shore**Type of Line:** Debris Line**Description of Physical Structure:** Air conditioning unit**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.50901283**Easting:** 2,695,239**Longitude:** -76.66363073**Northing:** 648,365**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 220 FT**Comments:**

Witness at 721 Smith Shore said this storm was almost as bad as Floyd. He has lived in the area for some time.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1020.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-11

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1021**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.0 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 811 Foreman Ln., Belhaven NC 27810**Description of Mark:** In garage attached to house**Type of Line:** Water Line**Description of Physical Structure:** Garage**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.49915628**Easting:** 2,688,314**Longitude:** -76.6871855**Northing:** 644,614**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.6 FT**Approx. Distance to Shoreline:** 140 FT**Comments:**

Witness says storm was just as bad as Floyd.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1021.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-12

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1022**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.2 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 851 Neck Rd., Belhaven NC 27810**Description of Mark:** Underpinning of mobile home**Type of Line:** Debris Line**Description of Physical Structure:** Mobile home**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/25/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/25/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.5743831**Easting:** 2,695,166**Longitude:** -76.66199179**Northing:** 672,162**Approx. First Floor Elevation (Based on Measurement from Mark):** 8.3 FT**Approx. Distance to Shoreline:** 210 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1022.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

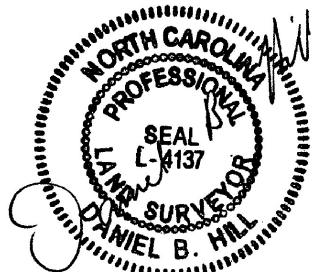
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-13

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1109**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River/ South Creek**Flood Elevation:** 6.8 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 107 Mill Rd., South Creek NC 27806**Description of Mark:** 6 inches above railing on pier to boat dock, HWM is based at railing closest to 2nd post on left if facing water**Type of Line:** Property Owner**Description of Physical Structure:** Pier to boat dock**Closest City:** Aurora**County:** Beaufort**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.33847729**Easting:** 2,687,564**Longitude:** -76.69427188**Northing:** 586,100**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 10 FT**Comments:**

Water was approximately 18-24 inches in back yard.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1109.jpg

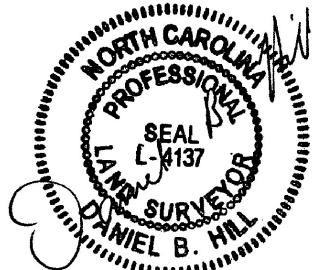


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-14

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1110**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River**Flood Elevation:** 4.4 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 544 Lewis Rd., Spring Creek NC**Description of Mark:** Top of bottom piece of vinyl siding on tan house, 18 inches above adjacent ground**Type of Line:** Property Owner**Description of Physical Structure:** House**Closest City:** Aurora**County:** Beaufort**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.34550822**Easting:** 2,695,681**Longitude:** -76.66684672**Northing:** 588,850**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 90 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1110.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

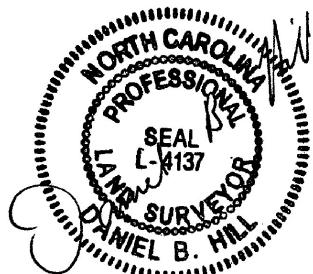
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-15

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1111**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River**Flood Elevation:** 4.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Interior**Mark Address:** 1117 Whealton Point Rd., Aurora NC 27806**Description of Mark:** 2.7 feet above concrete pad beneath house**Type of Line:** Water Line**Description of Physical Structure:** Raised house**Closest City:** Aurora**County:** Beaufort**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.32394156**Easting:** 2,707,816**Longitude:** -76.62676807**Northing:** 581,286**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 110 FT**Comments:**

Please notify property owner of HWM and first floor elevation.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1111.jpg

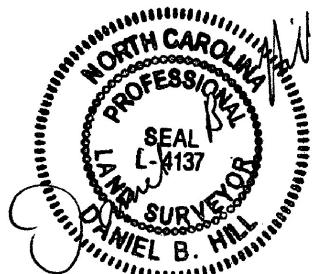


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-16

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1112**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River**Flood Elevation:** 5.0 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Route 306, South Aurora NC, Ferry loading dock**Description of Mark:** Debris line on chain link fence 1.25 feet above adajent ground, fence is by bulkhead behind restrooms**Type of Line:** Debris Line**Description of Physical Structure:** Fence**Closest City:** Aurora**County:** Beaufort**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.37734769**Easting:** 2,670,908**Longitude:** -76.74906187**Northing:** 599,869**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 30 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1112.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

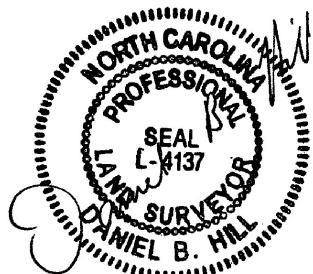
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-17

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1113**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River**Flood Elevation:** 3.8 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Route 306, South Aurora NC, Ferry loading dock**Description of Mark:** Top of chain link fence at Ferry loading area, HWM is at eastern end of bulkhead**Type of Line:** Debris Line**Description of Physical Structure:** Fence**Closest City:** Belhaven**County:** Beaufort**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.42812375**Easting:** 2,673,167**Longitude:** -76.74006817**Northing:** 618,405**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 15 FT**Comments:**

HWM is 3 feet above adjacent ground.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1113.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

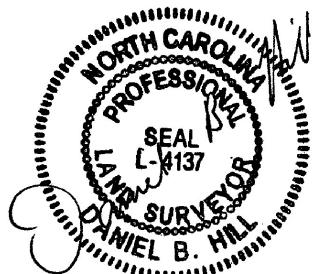
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-18

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1114**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River**Flood Elevation:** 5.5 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 305 Pamlico Beach Road, Pamlico Beach NC**Description of Mark:** Debris line on interior wall approximately 1.4 feet above first floor**Type of Line:** Debris Line**Description of Physical Structure:** Metal-sided building**Closest City:** Pamlico Beach**County:** Beaufort**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.39730549**Easting:** 2,712,576**Longitude:** -76.60864941**Northing:** 608,109**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 400 FT**Comments:**

Mark is inside Pamlico Beach Fire Dept. & Rescue Squad Bldg.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1114.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

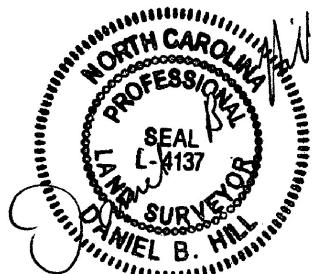
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-19

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1115**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River**Flood Elevation:** 10.0 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 1847 Old Pamlico Beach Road West, Pamlico Beach NC**Description of Mark:** Waves were cresting just over boat lift motors on top of tallest posts for boat dock**Type of Line:** Property Owner**Description of Physical Structure:** Pier**Closest City:** Pamlico Beach**County:** Beaufort**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.40057336**Easting:** 2,705,078**Longitude:** -76.63372076**Northing:** 609,119**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 20 FT**Comments:**

Please notify property owner of HWM and first floor elevation.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1115.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

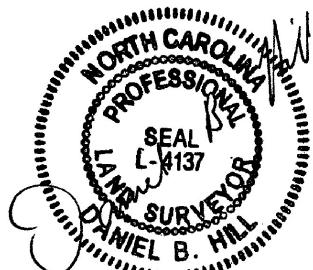
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-20

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1116**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River**Flood Elevation:** 5.4 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 1847 Old Pamlico Beach Road West, Pamlico Beach NC**Description of Mark:** 6 inches above top of road (Old Pamlico Beach Road West) at entrance to driveway to 1847**Type of Line:** Property Owner**Description of Physical Structure:** Paved road**Closest City:** Pamlico Beach**County:** Beaufort**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.40155699**Easting:** 2,705,217**Longitude:** -76.63322755**Northing:** 609,481**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 280 FT**Comments:**

GPS point is across from Sagers Property in front of
1832 Old Pamlico Beach Road West.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1116.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

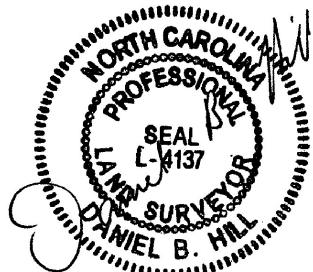
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET A-21

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1117**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River/ Pungo River**Flood Elevation:** 5.1 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 106 East Beach Road, Winsteadville NC**Description of Mark:** 2 feet above concrete pad below raised house**Type of Line:** Property Owner**Description of Physical Structure:** House**Closest City:** Winsteadville**County:** Beaufort**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.44844079**Easting:** 2,712,969**Longitude:** -76.60582346**Northing:** 626,735**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 110 FT**Comments:**

Owner stated water got into old house during Hurricane Floyd.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1117.jpg

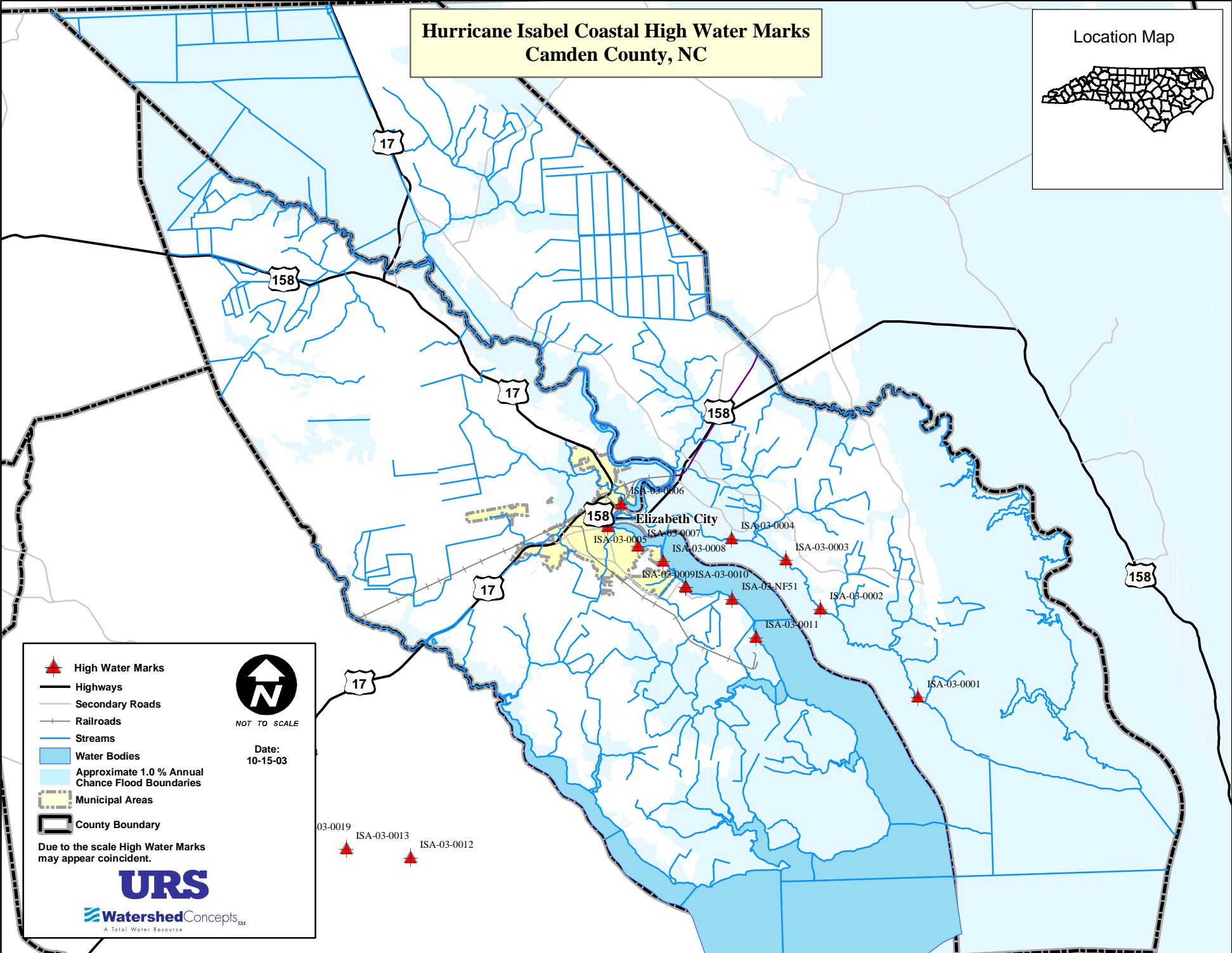
APPENDICES

Appendix B: Survey Sheets from Camden County

Figure C-1.

Hurricane Isabel Coastal High Water Marks
Camden County, NC

Location Map



URS

WatershedConceptsSM
A Total Water Resource



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

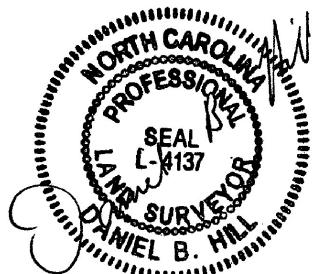
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET B-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0001**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 3.0 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 258 One Mill Road**Description of Mark:** Water mark on inside barn door/shed 0.6 feet above ground, Floyd mark from COE**Type of Line:** Water Line**Description of Physical Structure:** Wood Barn/Shed**Closest City:** Shiloh**County:** Camden**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.21148277**Easting:** 2,872,900**Longitude:** -76.04082005**Northing:** 908,898**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.6 FT**Approx. Distance to Shoreline:** 330 FT**Comments:**

Lower FF off porch.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0001.jpg

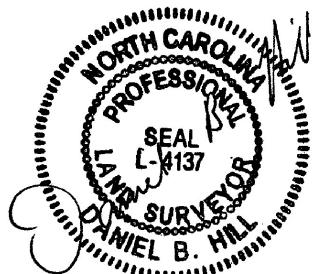


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET B-2

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0002**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 5.7 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 104 Beech Tree Drive**Description of Mark:** Debris line in back yard**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Shiloh**County:** Camden**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.25494606**Easting:** 2,856,009**Longitude:** -76.09652817**Northing:** 924,229**Approx. First Floor Elevation (Based on Measurement from Mark):** 8.0 FT**Approx. Distance to Shoreline:** 40 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0002.jpg

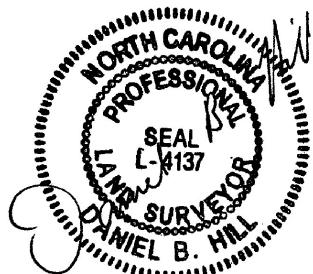


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET B-3

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0003**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 4.2 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 200 Riverview Avenue**Description of Mark:** Debris line in back yard**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Camden**County:** Camden**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.27882936**Easting:** 2,849,981**Longitude:** -76.11612425**Northing:** 932,752**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.3 FT**Approx. Distance to Shoreline:** 60 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0003.jpg

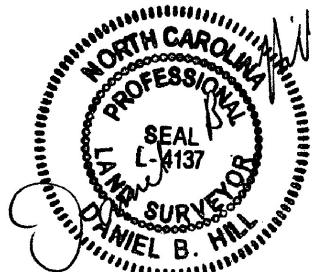


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET B-4

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0004**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 3.3 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 502 Whitehall Road**Description of Mark:** Edge of concrete drive and gravel/debris line**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Camden**County:** Camden**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.28965953**Easting:** 2,840,497**Longitude:** -76.14792539**Northing:** 936,422**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.2 FT**Approx. Distance to Shoreline:** 170 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.

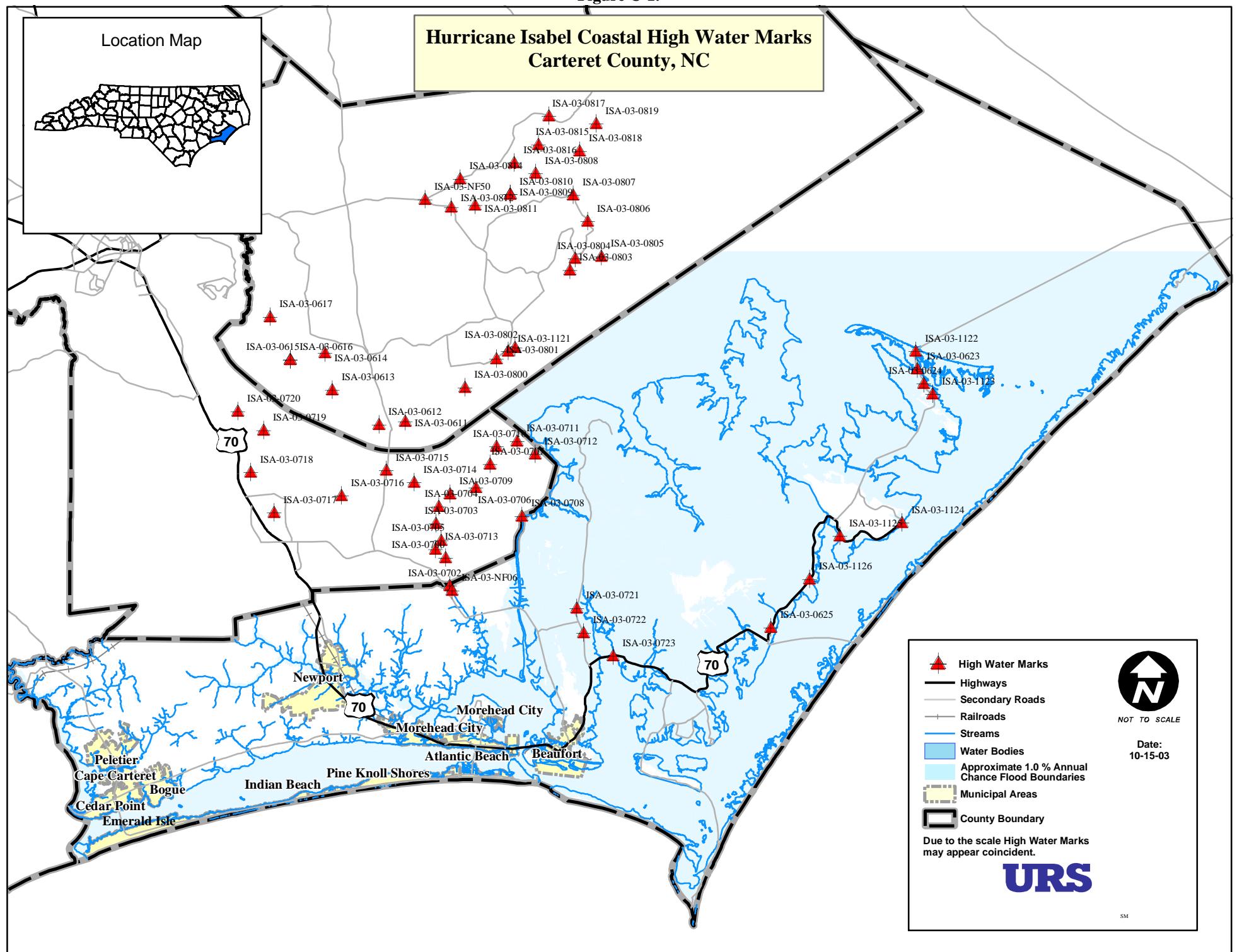


ISA-03-0004.jpg

APPENDICES

Appendix C: Survey Sheets from Carteret County

Figure C-1.





PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

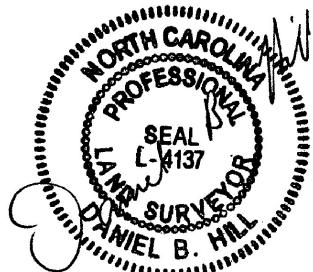
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0623**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 7.8 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 3183 Cedaris Rd.**Description of Mark:** Left side of house towards rear nail and flagging**Type of Line:** Water Line**Description of Physical Structure:** 1 story frame**Closest City:** Cedar Island**County:** Carteret**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** OPUS (see Comments)**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.00385305**Easting:** 2,804,180**Longitude:** -76.3141649**Northing:** 467,211**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.6 FT**Approx. Distance to Shoreline:** 390 FT**Comments:**

Owner would like to elevate house to a FFE of 10 feet. OPUS stands for the Online Positioning User Service provided through the National Geodetic Survey.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0623.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

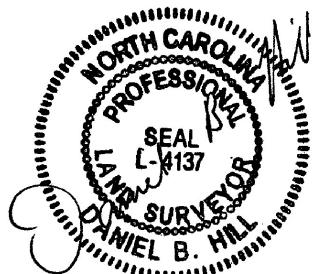
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-2

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0624**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 7.1 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 105 Landing Rd.**Description of Mark:** Right side of door jamb of front door facing Cedar Island Rd.**Type of Line:** Water Line**Description of Physical Structure:** 2 story frame dwelling**Closest City:** Cedar Island**County:** Carteret**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/27/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.99261841**Easting:** 2,805,977**Longitude:** -76.30853268**Northing:** 463,169**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.7 FT**Approx. Distance to Shoreline:** 120 FT**Comments:**

Storm of '33 came to bottom of first floor windows.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0624.jpg

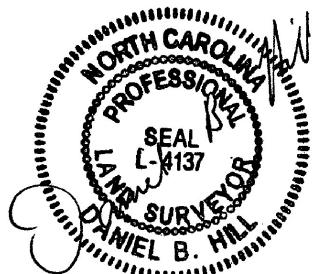


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-3

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0625**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 5.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 969 Hwy 70 E**Description of Mark:** Right door jamb on front of house**Type of Line:** Water Line**Description of Physical Structure:** 2 story frame dwelling**Closest City:** Davis**County:** Carteret**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/27/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.80823982**Easting:** 2,763,357**Longitude:** -76.45662932**Northing:** 394,921**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.9 FT**Approx. Distance to Shoreline:** 1380 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0625.jpg

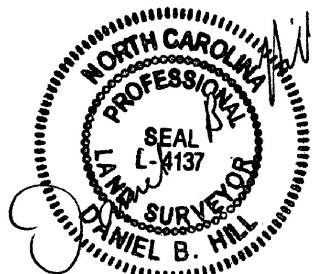


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-4

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0702**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 8.1 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 387 Ball Farm Road, Newport NC 28570**Description of Mark:** Outside door of garage across street from 498 Ball Farm Road**Type of Line:** Property Owner**Description of Physical Structure:** 3 door cinder block garage**Closest City:** Havelock**County:** Carteret**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.84636531**Easting:** 2,673,642**Longitude:** -76.75455258**Northing:** 406,635**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.1 FT**Approx. Distance to Shoreline:** 290 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0702.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

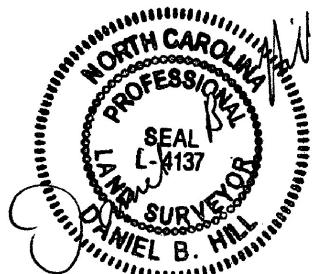
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-5

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0721**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** North River**Flood Elevation:** 3.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 1384 Merrimow Road**Description of Mark:** At fence corner post for all three storms**Type of Line:** Water Line**Description of Physical Structure:** Barn type structure**Closest City:** Beaufort**County:** Carteret**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.82700589**Easting:** 2,709,180**Longitude:** -76.63663435**Northing:** 400,413**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 6150 FT**Comments:**

No water from Dennis/Floyd, Fran, & Isabel; data from owner description.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0721.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

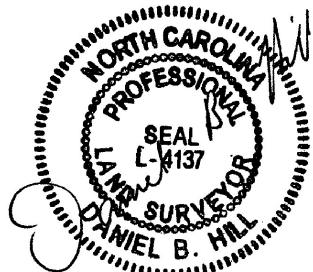
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-6

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0722**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** North River**Flood Elevation:** 2.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 119 Armenia Ln.**Description of Mark:** Set in powerpole in the residence yard**Type of Line:** Water Line**Description of Physical Structure:** Ranch block house**Closest City:** Beaufort**County:** Carteret**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.80793133**Easting:** 2,711,025**Longitude:** -76.63103644**Northing:** 393,513**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 2690 FT**Comments:**

HWM set by owners description.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0722.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

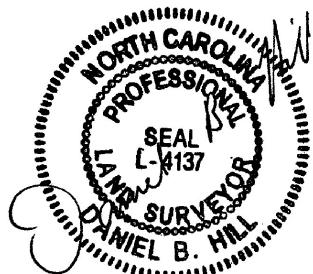
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-7

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0723**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** North River**Flood Elevation:** 3.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 192 Hwy 70, East Betie**Description of Mark:** Stake set at debris line**Type of Line:** Debris Line**Description of Physical Structure:** 2 story home**Closest City:** Beaufort**County:** Carteret**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.78984061**Easting:** 2,719,288**Longitude:** -76.60402894**Northing:** 387,126**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 170 FT**Comments:**

Flood waters did not breach house; HWM set a debris line and GPS taken.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0723.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-8

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1122**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.2 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** Cedar Island Ferry Office, Cedar Island NC**Description of Mark:** Seed line 1 foot above adjacent ground by back door of bldg., 5 inches inside of bldg.**Type of Line:** Seed Line**Description of Physical Structure:** Concrete block building**Closest City:** Cedar Island**County:** Carteret**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.01756755**Easting:** 2,803,707**Longitude:** -76.31529615**Northing:** 472,191**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 30 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1122.jpg

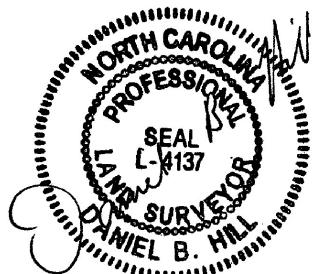


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-9

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1123**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 71 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 2478 Cedar Island Road, Cedar Island NC 28520**Description of Mark:** 5 inches above front porch of house**Type of Line:** Property Owner**Description of Physical Structure:** House**Closest City:** Cedar Island**County:** Carteret**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.9843424**Easting:** 2,808,508**Longitude:** -76.30035351**Northing:** 460,225**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 240 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1123.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

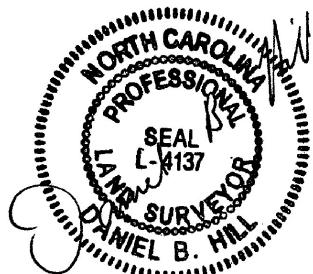
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-10

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1124**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Core Sound**Flood Elevation:** 7.7 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 108 Core Sound Loop Extension, Atlantic NC**Description of Mark:** Seed line 2.7 feet above concrete pad of carport**Type of Line:** Property Owner**Description of Physical Structure:** Brick house**Closest City:** Atlantic**County:** Carteret**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.88627243**Easting:** 2,799,970**Longitude:** -76.33207078**Northing:** 424,290**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 420 FT**Comments:**

Waves were breaking halfway up on front window.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1124.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

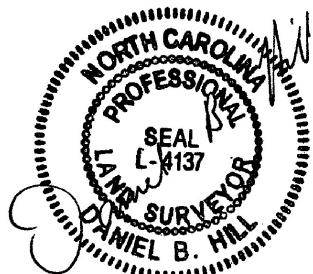
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-11

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1125**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Core Sound**Flood Elevation:** 6.8 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** Sealevel Fire Dept. Bldg., Sealevel NC**Description of Mark:** Seed line 2.9 feet above concrete pad in front of glass door at front of bldg.**Type of Line:** Seed Line**Description of Physical Structure:** Brick building**Closest City:** Sealevel**County:** Carteret**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.87720511**Easting:** 2,782,600**Longitude:** -76.39030454**Northing:** 420,527**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 240 FT**Comments:**

Beside Wachovia Bank.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1125.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-12

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1126**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Core Sound**Flood Elevation:** 6.1 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 1121 Highway 70, Stacy NC 28581**Description of Mark:** Bottom of 6th vinyl siding piece on driveway side of house, HWM is 2.75 feet above concrete pad of driveway**Type of Line:** Property Owner**Description of Physical Structure:** House**Closest City:** Stacy**County:** Carteret**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.84476675**Easting:** 2,774,127**Longitude:** -76.41958716**Northing:** 408,496**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 1050 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1126.jpg

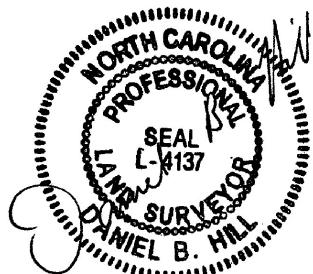


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET C-13

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-NF06**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** N/A**Flood Elevation:** N/A FT**Flooding Type:** N/A**Location:** Exterior**Mark Address:** 387 Ball Farm Road, Newport NC 28570**Description of Mark:** No evidence of flooding in vicinity of this coordinate**Type of Line:** N/A**Description of Physical Structure:** No structure affected**Closest City:** Newport**County:** Carteret**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:****Survey Type:** N/A**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.8427779**Easting:** 2,674,288**Longitude:** -76.75250011**Northing:** 405,344**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 140 FT**Comments:**

NO PICTURE AVAILABLE

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.

Photo Not Available

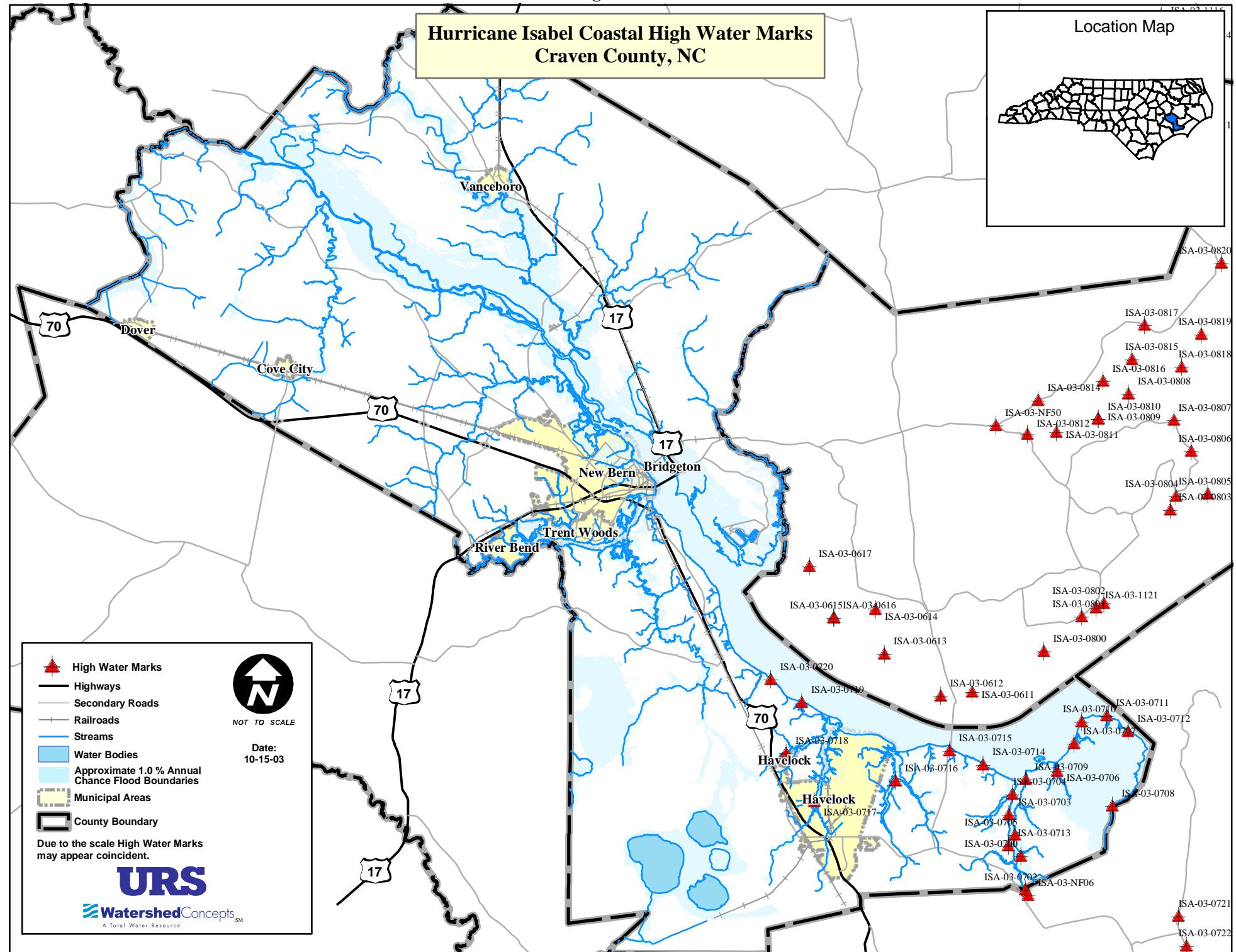
APPENDICES

Appendix D: Survey Sheets from Craven County

Figure D-1.

Hurricane Isabel Coastal High Water Marks
Craven County, NC

Location Map





PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

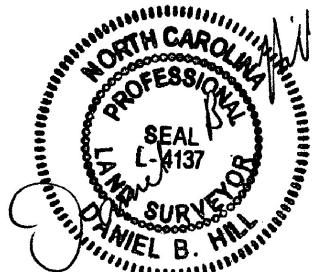
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0700**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 9.2 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior/Interior**Mark Address:** 406 Dewy Rd.**Description of Mark:** In garage (lower finished floor)**Type of Line:** Water Line**Description of Physical Structure:** 2 story brick dwelling**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.86780691**Easting:** 2,672,569**Longitude:** -76.75754253**Northing:** 414,416**Approx. First Floor Elevation (Based on Measurement from Mark):** 11.5 FT**Approx. Distance to Shoreline:** 210 FT**Comments:**

Exterior and interior HWMS are the same.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0700.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

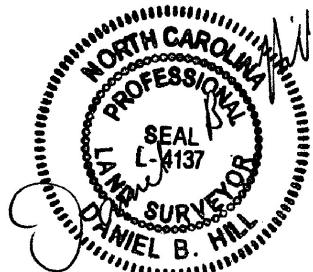
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-2

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0703**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 7.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 110 Biminy Court, Havelock NC 28532**Description of Mark:** Hub set at high water line, ref: property owner**Type of Line:** Property Owner**Description of Physical Structure:** No structure affected**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.89427028**Easting:** 2,669,789**Longitude:** -76.76609242**Northing:** 423,987**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 190 FT**Comments:**

Dock damage only; new subdivision.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0703.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

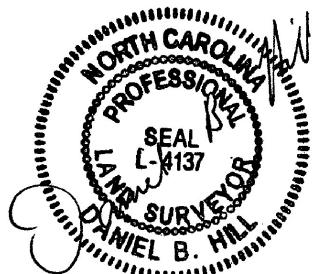
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-3

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0704**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 8.0 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 2645 Temples Point Road, Havelock NC 28532**Description of Mark:** Nail set in power pole, ref: property owner Matthews Point Marina**Type of Line:** Property Owner**Description of Physical Structure:** Power pole**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.90735234**Easting:** 2,670,615**Longitude:** -76.76297818**Northing:** 428,768**Approx. First Floor Elevation (Based on Measurement from Mark):** 14.3 FT**Approx. Distance to Shoreline:** 100 FT**Comments:**

Owner stated this is the worst flooding since he has been here.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0704.jpg

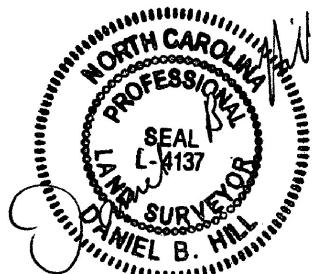


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-4

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0705**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 8.6 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 408 Vicksburg Court, Havelock NC 28532**Description of Mark:** High water line around exterior of house**Type of Line:** Debris Line**Description of Physical Structure:** 2 story frame house**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.88144898**Easting:** 2,671,225**Longitude:** -76.7616518**Northing:** 419,352**Approx. First Floor Elevation (Based on Measurement from Mark):** 12.6 FT**Approx. Distance to Shoreline:** 150 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0705.jpg

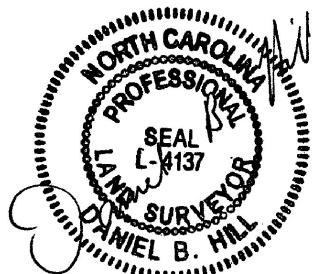


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-5

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0706**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 7.3 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 355 Taylor Road, Havelock NC 28532**Description of Mark:** Debris line/Floyd, property owners location/Dock was**Type of Line:** Debris Line**Description of Physical Structure:** 2 story frame house**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.92137115**Easting:** 2,680,969**Longitude:** -76.72804403**Northing:** 434,106**Approx. First Floor Elevation (Based on Measurement from Mark):** 11.1 FT**Approx. Distance to Shoreline:** 180 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0706.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

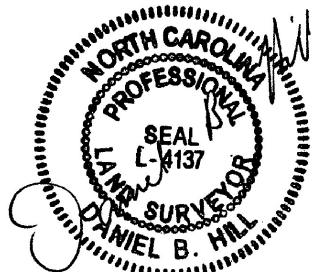
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-6

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0707**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 8.8 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 957 Becton Road, Havelock NC 28532**Description of Mark:** Nail set in pine tree**Type of Line:** Property Owner**Description of Physical Structure:** 2 story frame house**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.93886303**Easting:** 2,684,887**Longitude:** -76.71448018**Northing:** 440,564**Approx. First Floor Elevation (Based on Measurement from Mark):** 14.2 FT**Approx. Distance to Shoreline:** 190 FT**Comments:**

Lower walls of house gone. Both cars destroyed.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0707.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

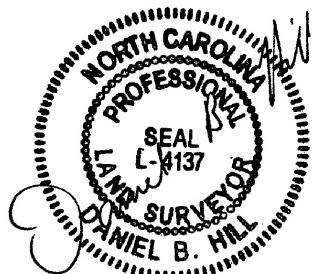
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-7

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0708**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 7.6 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 4450 Adams Creek Road, Havelock NC 28532**Description of Mark:** Debris line on outside of residence, Dennis - property owner recalls it**Type of Line:** Debris Line**Description of Physical Structure:** 1 story trim mobile home**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.89848575**Easting:** 2,693,844**Longitude:** -76.68572959**Northing:** 426,073**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.0 FT**Approx. Distance to Shoreline:** 170 FT**Comments:**

Property owner recalls only one other flooding event
(Dennis 1999).



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0708.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

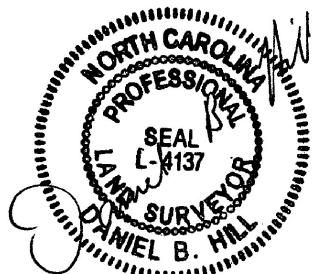
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-8

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0709**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 8.6 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 675 Smith Farm Road, Havelock NC 28532**Description of Mark:** Debris line in yard**Type of Line:** Debris Line**Description of Physical Structure:** 1 story brick dwelling**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.9167341**Easting:** 2,673,753**Longitude:** -76.75224949**Northing:** 432,254**Approx. First Floor Elevation (Based on Measurement from Mark):** 12.4 FT**Approx. Distance to Shoreline:** 230 FT**Comments:**

Water did not reach house. Historical marks by homeowner.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0709.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

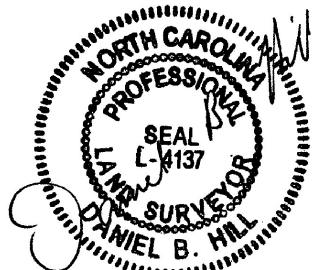
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-9

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0710**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 9.4 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 1534 Belangia Road, Havelock NC**Description of Mark:** Debris line in trees, Dennis HWM by home owner**Type of Line:** Debris Line**Description of Physical Structure:** 1 story frame house buuilt on stilts**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.95257653**Easting:** 2,686,686**Longitude:** -76.70809217**Northing:** 445,597**Approx. First Floor Elevation (Based on Measurement from Mark):** 16.5 FT**Approx. Distance to Shoreline:** 120 FT**Comments:**

Most houses not on stilts destroyed. Property owner requests copy of data. Call at given number.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0710.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

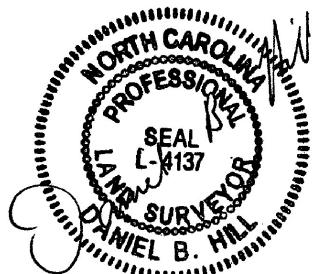
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-10

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0711**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 8.7 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 1120 Paradise Drive, Havelock NC 28532**Description of Mark:** Right at FFE on house, top of hole in garage, tag set at rear corner of house**Type of Line:** Property Owner**Description of Physical Structure:** 2 story brick and frame house**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.95600611**Easting:** 2,692,474**Longitude:** -76.68867312**Northing:** 446,980**Approx. First Floor Elevation (Based on Measurement from Mark):** 8.8 FT**Approx. Distance to Shoreline:** 110 FT**Comments:**

Neighbors dock knocked 12 foot by 4 foot hole in garage wall. Dennis elev. by homeowner.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0711.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

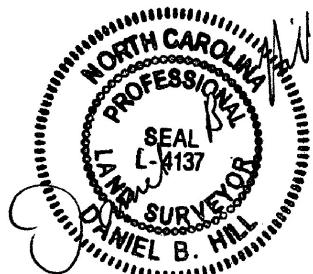
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-11

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0712**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 7.4 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 605 Litchfield Road, Havelock NC 28532**Description of Mark:** Outside back door of house (HWM nail set)**Type of Line:** Property Owner**Description of Physical Structure:** 2 story wood frame house**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.94586228**Easting:** 2,697,467**Longitude:** -76.67229382**Northing:** 443,404**Approx. First Floor Elevation (Based on Measurement from Mark):** 7.2 FT**Approx. Distance to Shoreline:** 200 FT**Comments:**

Dennis elev. by property owner. Detached garage damaged.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0712.jpg

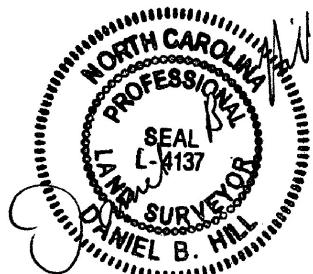


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-12

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0713**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Club Foot Creek**Flood Elevation:** 8.3 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 117 Godett Road**Description of Mark:** HWM line on the outside of building**Type of Line:** Debris Line**Description of Physical Structure:** 1 story yellow house**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.87457709**Easting:** 2,669,717**Longitude:** -76.76686903**Northing:** 416,817**Approx. First Floor Elevation (Based on Measurement from Mark):** 9.5 FT**Approx. Distance to Shoreline:** 170 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0713.jpg

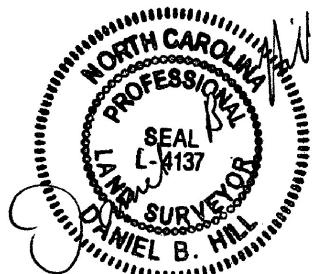


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-13

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0714**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 12.1 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 8 Shadyview Drive**Description of Mark:** Between house and road at # 8 Shadyview Drive**Type of Line:** Debris Line**Description of Physical Structure:** Yellow mobile home**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.92644886**Easting:** 2,663,775**Longitude:** -76.78528044**Northing:** 435,566**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 180 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0714.jpg

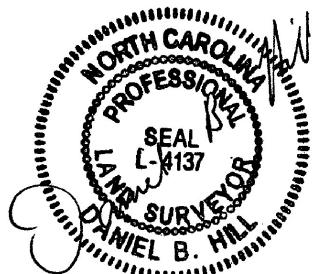


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-14

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0715**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 7.8 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 2300 Ferry Road**Description of Mark:** Stake set at debris line**Type of Line:** Debris Line**Description of Physical Structure:** Debris line**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.93602043**Easting:** 2,656,006**Longitude:** -76.81095201**Northing:** 438,878**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 40 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0715.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

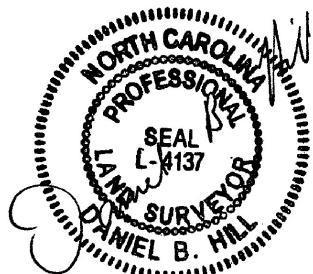
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-15

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0716**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Handcock Creek**Flood Elevation:** 3.8 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Boat ramp near Cahoogah Creek**Description of Mark:** Stake set at debris line at boat ramp**Type of Line:** Debris Line**Description of Physical Structure:** Boat Ramp**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.9174797**Easting:** 2,643,488**Longitude:** -76.85321697**Northing:** 431,855**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 20 FT**Comments:**

No damage to dock.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0716.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

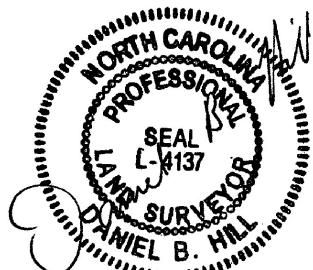
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-16

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0717**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Slocum Creek**Flood Elevation:** 6.6 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 105 Cedar Creek Ln.**Description of Mark:** Set on A/C heat pump unit in back yard**Type of Line:** Debris Line**Description of Physical Structure:** Blue ranch house**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.90556857**Easting:** 2,624,635**Longitude:** -76.91642734**Northing:** 427,118**Approx. First Floor Elevation (Based on Measurement from Mark):** 8.6 FT**Approx. Distance to Shoreline:** 35 FT**Comments:**

Dennis HWM by property owner; owner requests copy of elevations.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0717.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

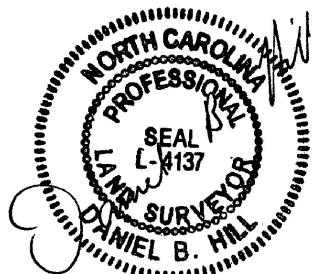
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TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-17

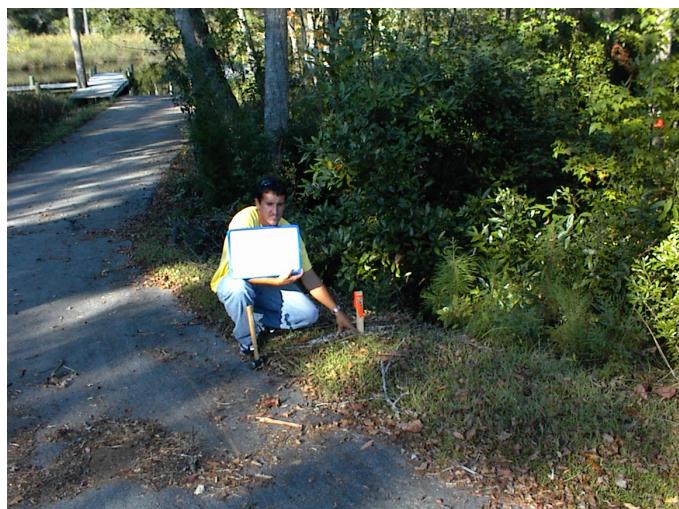
CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0718**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Tucker Creek**Flood Elevation:** 6.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Boat Ramp at Tucker Creek Subdivision**Description of Mark:** Stake set at debris line at the boat ramp**Type of Line:** Debris Line**Description of Physical Structure:** Boat Ramp**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.93677815**Easting:** 2,618,067**Longitude:** -76.93754896**Northing:** 438,341**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 90 FT**Comments:**

No damage to docks.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0718.jpg

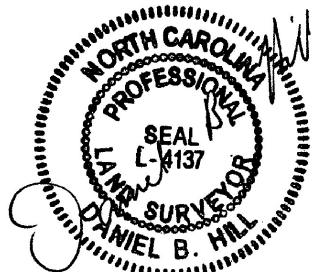


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-18

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0719**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 10.3 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Across from 219 East Palmer Street**Description of Mark:** Stake set at debris line across street from 219 E. Palmer Street on empty lot**Type of Line:** Debris Line**Description of Physical Structure:** Debris line**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.96888657**Easting:** 2,621,691**Longitude:** -76.92463889**Northing:** 450,105**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 105 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0719.jpg

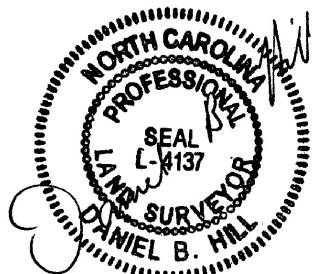


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET D-19

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0720**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 8.0 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Camping area at end of Flanner Beach Road**Description of Mark:** Stake set at debris line at the bank of the water, end of walkway to water**Type of Line:** Debris Line**Description of Physical Structure:** Debris line**Closest City:** Havelock**County:** Craven**State:** North Carolina**Flaggers:** DA & KD**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.98382817**Easting:** 2,614,509**Longitude:** -76.94824475**Northing:** 455,394**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 80 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0720.jpg

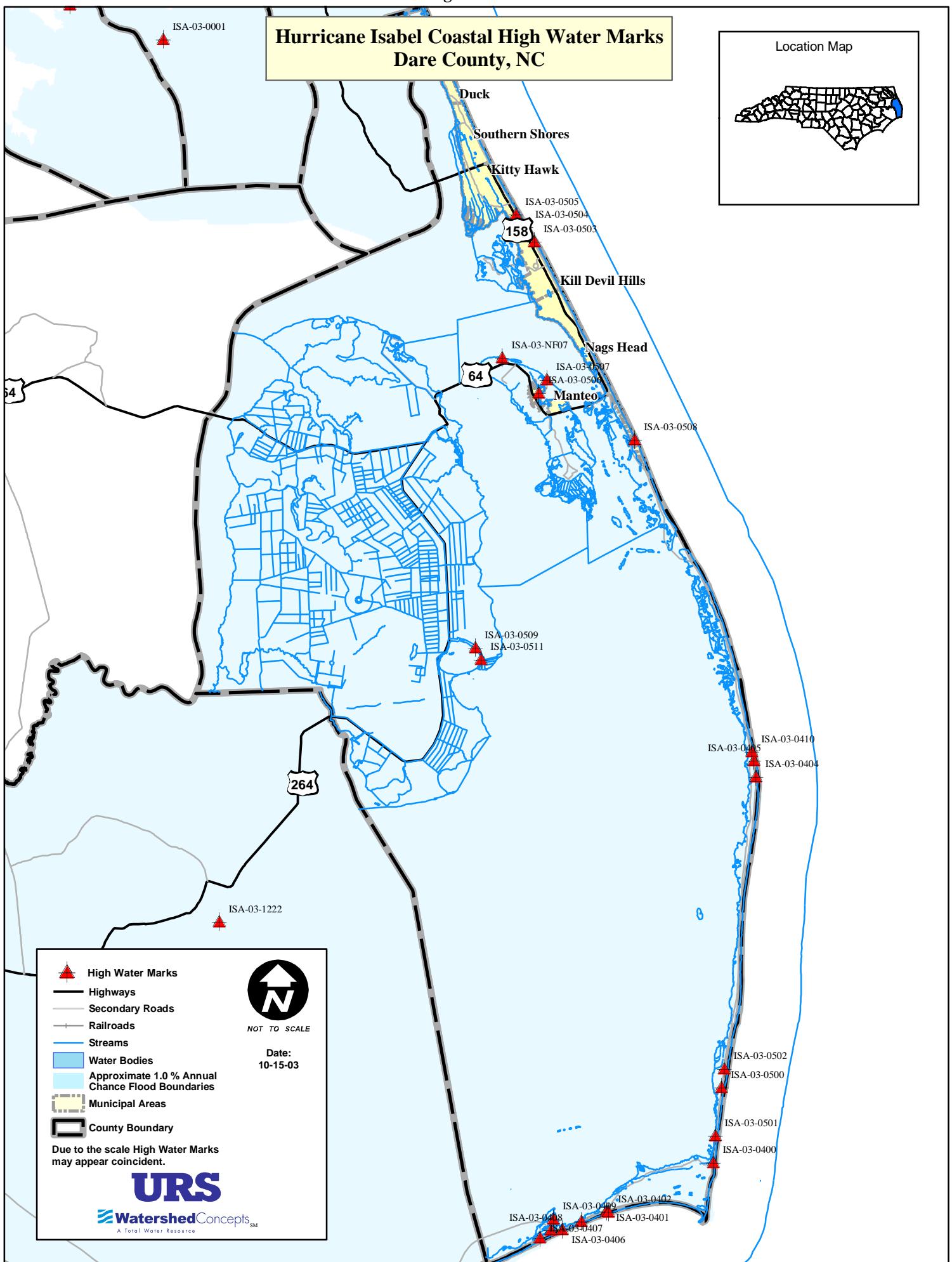
APPENDICES

Appendix E: Survey Sheets from Dare County

Figure E-1.

Hurricane Isabel Coastal High Water Marks
Dare County, NC

Location Map





PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

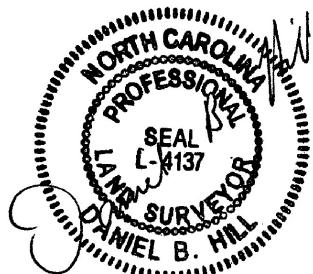
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0400**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 8.6 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** P.O. Box 428; 46577 Hwy 12**Description of Mark:** Lower corner of window**Type of Line:** Water Line**Description of Physical Structure:** 2 story block and cedar**Closest City:** Buxton**County:** Dare**State:** North Carolina**Flaggers:** JB & JH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.26666713**Easting:** 3,038,815**Longitude:** -75.51903418**Northing:** 570,195**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.6 FT**Approx. Distance to Shoreline:** 370 FT**Comments:**

Outer Banks Motel scribed crowfoot near window;
Emily = 10.0'.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0400.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

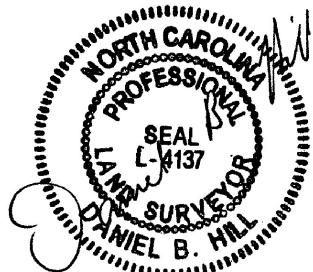
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-2

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0401**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 8.9 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 53230 Runboat Cir.**Description of Mark:** Pier beside breaker box on west side of house**Type of Line:** Water Line**Description of Physical Structure:** 3 story**Closest City:** Frisco**County:** Dare**State:** North Carolina**Flaggers:** JB & JH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.22923565**Easting:** 3,006,631**Longitude:** -75.62847178**Northing:** 555,453**Approx. First Floor Elevation (Based on Measurement from Mark):** 17.7 FT**Approx. Distance to Shoreline:** 730 FT**Comments:**

Dunes along shore gone; previously 6' high; bottom of lower storage area wet but inside dry; newer house built to newer codes. Success story.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



09/24/2003

ISA-03-0401.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

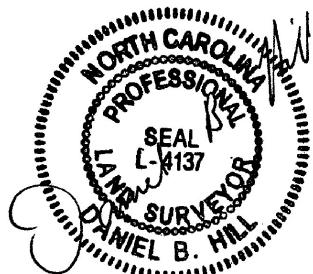
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-3

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0402**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 10.2 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 53254 Robin Ln.**Description of Mark:** HWM on south side of house**Type of Line:** Water Line**Description of Physical Structure:** house**Closest City:** Frisco**County:** Dare**State:** North Carolina**Flaggers:** JB & JH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.22870139**Easting:** 3,007,253**Longitude:** -75.6264085**Northing:** 555,279**Approx. First Floor Elevation (Based on Measurement from Mark):** 15.0 FT**Approx. Distance to Shoreline:** 370 FT**Comments:**

Witness been here 32 years; worst he's ever seen.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0402.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

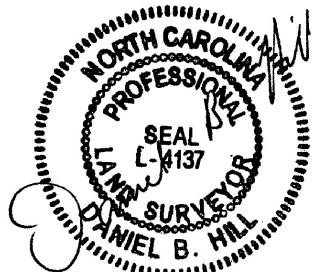
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-4

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0403**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 6.1 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** N/A**Description of Mark:** Stake in sand on north side of HWY 12 on Hatteras Island east of large breach in island**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Frisco**County:** Dare**State:** North Carolina**Flaggers:** JB & JH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.22179442**Easting:** 2,999,036**Longitude:** -75.65422396**Northing:** 552,486**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 25 FT**Comments:**

Approx. 0.9 miles from south end of Frisco.
(Sandpiper Dr.)



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0403.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

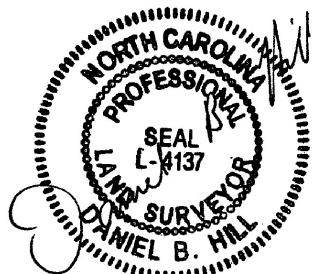
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-5

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0404**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 7.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 24251 Atlantic Dr.**Description of Mark:** SW of Rodanthe pier, SE corner of cottage #4**Type of Line:** Water Line**Description of Physical Structure:** 1 story frame**Closest City:** Rodanthe**County:** Dare**State:** North Carolina**Flaggers:** JB & JH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.58468526**Easting:** 3,051,669**Longitude:** -75.4621191**Northing:** 686,468**Approx. First Floor Elevation (Based on Measurement from Mark):** 9.2 FT**Approx. Distance to Shoreline:** 380 FT**Comments:**

Stephen stayed through event. Waves were about 10'. Dunes lasted until 10-10:30.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



09/24/2003

ISA-03-0404.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

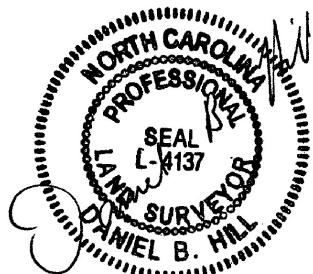
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-6

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0405**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 12.6 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 23228 East Point Rd.**Description of Mark:** Water line on inside of house on cabinet line**Type of Line:** Water Line**Description of Physical Structure:** house**Closest City:** Rodanthe**County:** Dare**State:** North Carolina**Flaggers:** JB & JH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.59849595**Easting:** 3,051,054**Longitude:** -75.46358533**Northing:** 691,476**Approx. First Floor Elevation (Based on Measurement from Mark):** 12.2 FT**Approx. Distance to Shoreline:** 220 FT**Comments:**

Last 30 years shoreline has moved 300 yards.
Dennis took out most of dunes.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0405.jpg

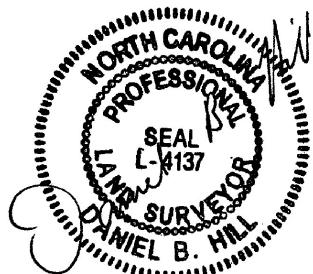


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-7

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0406**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 10.6 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 56633 NC 12**Description of Mark:** Water line on downstairs bathroom wall (1.44 ft above FFE to HWM)**Type of Line:** Water Line**Description of Physical Structure:** Bathroom**Closest City:** Hatteras**County:** Dare**State:** North Carolina**Flaggers:** JH & JRB**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.21552773**Easting:** 2,993,368**Longitude:** -75.67347226**Northing:** 550,013**Approx. First Floor Elevation (Based on Measurement from Mark):** 9.2 FT**Approx. Distance to Shoreline:** 430 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0406.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

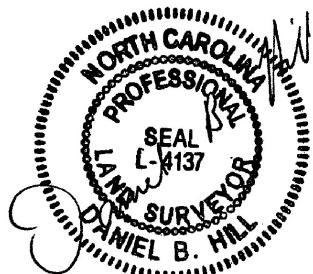
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-8

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0407**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 5.3 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 58207 Smell Wreck Ln.**Description of Mark:** Debris line on outside of trailer (HWM = FFE + 0.87 feet)**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Hatteras**County:** Dare**State:** North Carolina**Flaggers:** JH & JRB**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.20944445**Easting:** 2,986,609**Longitude:** -75.69636121**Northing:** 547,572**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.4 FT**Approx. Distance to Shoreline:** 340 FT**Comments:**

Very good stillwater mark.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0407.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

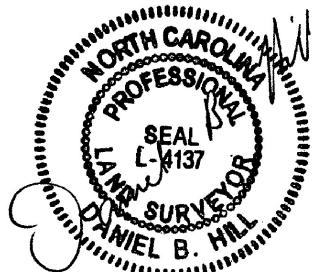
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-9

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0408**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 6.9 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** Balance Oil Co.**Description of Mark:** Dirt line on glass and walls - see picture**Type of Line:** Water Line**Description of Physical Structure:** house**Closest City:** Hatteras**County:** Dare**State:** North Carolina**Flaggers:** JH & JRB**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.215558341**Easting:** 2,989,926**Longitude:** -75.68499997**Northing:** 549,918**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.4 FT**Approx. Distance to Shoreline:** 160 FT**Comments:**

Emily HWM elev. = 6.3 feet.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0408.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

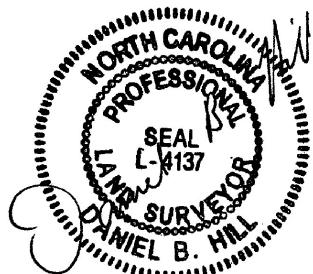
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-10

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0409**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 3.6 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 57192 Cartwright**Description of Mark:** Seed line on side of trailer underpinning - NW side of trailer**Type of Line:** Debris Line**Description of Physical Structure:** Trailer**Closest City:** Hatteras**County:** Dare**State:** North Carolina**Flaggers:** JH & JRB**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.2243334**Easting:** 2,990,590**Longitude:** -75.68241678**Northing:** 553,127**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.3 FT**Approx. Distance to Shoreline:** 90 FT**Comments:**

FFE was raised 1.5 feet after Emily hit. Emily HWM was at FFE before raising 1.5 feet.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0409.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

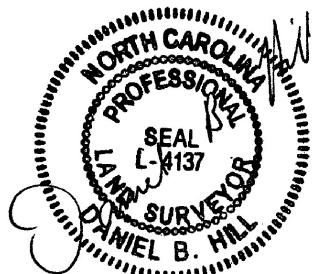
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-11

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0410**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 8.5 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 22939 Blue Sea East Rd.; HWY 12**Description of Mark:** Nail marking HWM identified by HWM on inside of storage area**Type of Line:** Mark**Description of Physical Structure:** Shed**Closest City:** Hatteras**County:** Dare**State:** North Carolina**Flaggers:** JH & JRB**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.60580993**Easting:** 3,050,540**Longitude:** -75.4649941**Northing:** 694,121**Approx. First Floor Elevation (Based on Measurement from Mark):** 17.9 FT**Approx. Distance to Shoreline:** 280 FT**Comments:**

Wave action damage 8 feet above HWM; primary dunes gone.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0410.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

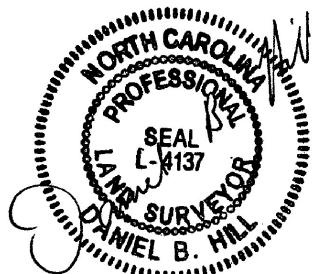
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-12

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0500**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 3.5 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** N/A**Description of Mark:** Ditch area in front of Hatteras Realty, nail with flag**Type of Line:** Water Line**Description of Physical Structure:** No structure affected**Closest City:** Avon**County:** Dare**State:** North Carolina**Flaggers:** JS**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.32865242**Easting:** 3,041,299**Longitude:** -75.50804676**Northing:** 592,856**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 370 FT**Comments:**

Debris line in ditch.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0500.jpg

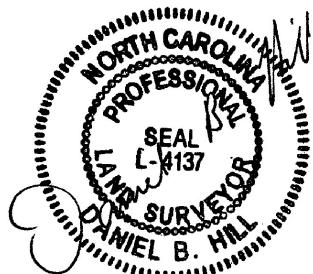


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-13

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0501**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 5.0 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** N/A**Description of Mark:** Base of a No Parking sign at a street wash out area**Type of Line:** Mark**Description of Physical Structure:** No structure affected**Closest City:** Avon**County:** Dare**State:** North Carolina**Flaggers:** EH & TJ**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.28888277**Easting:** 3,039,510**Longitude:** -75.51575389**Northing:** 578,310**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 270 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0501.jpg

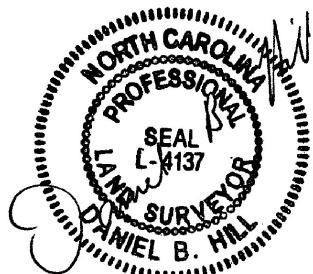


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-14

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0502**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 4.2 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** N/A**Description of Mark:** Debris line in front of Avon Post Office**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Avon**County:** Dare**State:** North Carolina**Flaggers:** JC**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.34414383**Easting:** 3,042,210**Longitude:** -75.50432422**Northing:** 598,529**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 1060 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0502.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

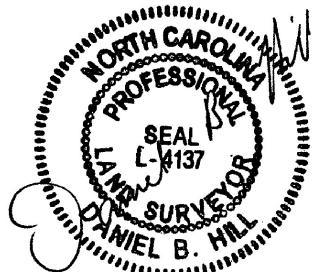
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-15

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0503**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 12.8 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 1725 N.Virginia Dare Trail**Description of Mark:** Sea Ranch & Sea Ranch II first floor elevation**Type of Line:** Water Line**Description of Physical Structure:** Hotel**Closest City:** Kill Devil Hills**County:** Dare**State:** North Carolina**Flaggers:** JC**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.03425524**Easting:** 2,984,878**Longitude:** -75.66841496**Northing:** 847,896**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 310 FT**Comments:**

No flooding, no storm surge; waves broke floors up from under slab.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0503.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

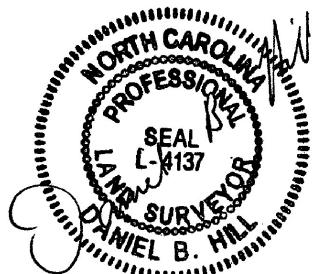
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-16

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0504**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 16.2 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 2507 Virginia Dare Trail**Description of Mark:** Top of sand wash on south side of house**Type of Line:** Water Line**Description of Physical Structure:** Older house in 2 sections**Closest City:** Avon**County:** Dare**State:** North Carolina**Flaggers:** EH & TJ**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.04673126**Easting:** 2,982,275**Longitude:** -75.67670877**Northing:** 852,353**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 140 FT**Comments:**

Wave surge overtopped the dunes.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0504.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

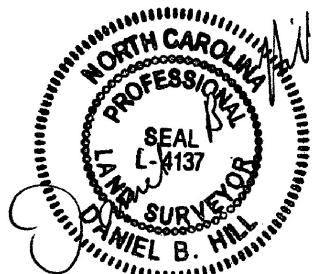
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-17

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0505**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 9.0 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 115 E. Tateway Rd.**Description of Mark:** HWM next to garage door facing north**Type of Line:** Water Line**Description of Physical Structure:** 2 story frame**Closest City:** Kitty Hawk**County:** Dare**State:** North Carolina**Flaggers:** JC**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.05728986**Easting:** 2,979,350**Longitude:** -75.68617262**Northing:** 856,101**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 880 FT**Comments:**

GPS point in edge of E.Tateway Rd.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0505.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

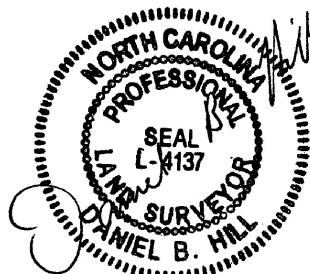
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-18

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0506**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 2.3 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** N/A**Description of Mark:** HWM at the end of Croatan Ave. in Manteo next to dock-nail**Type of Line:** Debris line**Description of Physical Structure:** Debris line**Closest City:** Manteo**County:** Dare**State:** North Carolina**Flaggers:** JC**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.90873316**Easting:** 2,986,266**Longitude:** -75.66890381**Northing:** 802,225**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 10 FT**Comments:**

Marked with stake and flag



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0506.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

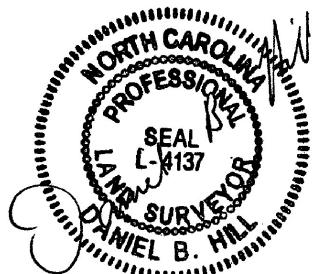
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-19

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0507**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Croatan sound**Flood Elevation:** 1.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 371 Mother Vineyard**Description of Mark:** HWM located on Mother Vineyard Rd. to the left of drive to #381**Type of Line:** Water Line**Description of Physical Structure:** No structure affected**Closest City:** Manteo**County:** Dare**State:** North Carolina**Flaggers:** JC**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.91976632**Easting:** 2,988,621**Longitude:** -75.66049111**Northing:** 806,322**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 0 FT**Comments:**

Very little flooding; only 1-2 feet above normal high tide; did not cover docks.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0507.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

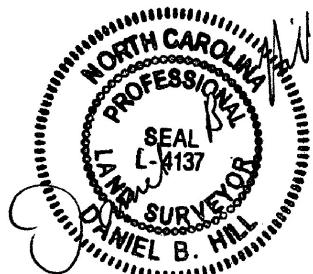
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-20

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0508**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 12.3 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 9639E Nansemond St.**Description of Mark:** HWM is water line on the 4th column in the center row of supports under the house**Type of Line:** Water Line**Description of Physical Structure:** Frame house**Closest City:** Nags Head**County:** Dare**State:** North Carolina**Flaggers:** JC**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.86728149**Easting:** 3,015,072**Longitude:** -75.57333378**Northing:** 788,108**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 330 FT**Comments:**

South Monterey St. (formerly at the end of Nansmond St.) was destroyed by Isabel and no longer exists.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0508.jpg

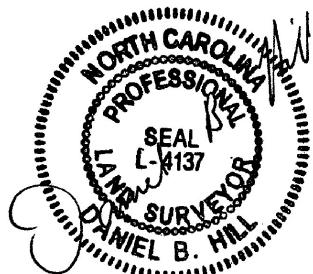


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-21

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0509**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 3.0 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 120 Bayview Dr.**Description of Mark:** HWM is located in driveway of Stumpy Point Fire and Rescue/255 Bayview Dr.**Type of Line:** Water Line**Description of Physical Structure:** Fire and rescue station #19**Closest City:** Stumpy Point**County:** Dare**State:** North Carolina**Flaggers:** JC**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.69988002**Easting:** 2,967,066**Longitude:** -75.74220554**Northing:** 725,524**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 35 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0509.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

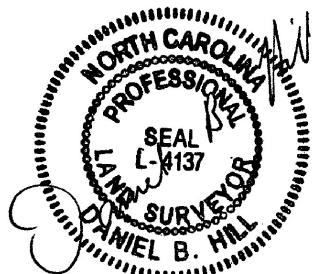
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-22

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0511**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.2 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 319 Bayview Dr.**Description of Mark:** HWM is nail in the Trading Post sign at the end of the road**Type of Line:** Water Line**Description of Physical Structure:** Stumpy Point Trading Post**Closest City:** Stumpy Point**County:** Dare**State:** North Carolina**Flaggers:** JC**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/25/2003**Survey Type:** RTK**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.68981793**Easting:** 2,968,844**Longitude:** -75.73661977**Northing:** 721,918**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 35 FT**Comments:**

Mr. Butler stated that the water was within 10 inches of his deck elevation. This matches the water marks observed.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0511.jpg

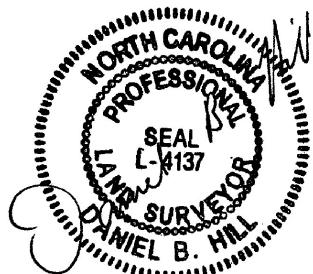


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET E-23

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-NF07**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** N/A FT**Flooding Type:** N/A**Location:** Exterior**Mark Address:** N/A**Description of Mark:** No evidence of flooding in vicinity of this coordinate**Type of Line:** N/A**Description of Physical Structure:** No structure affected**Closest City:** Mateo**County:** Dare**State:** North Carolina**Flaggers:** EH & JE**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:****Survey Type:** N/A**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.93916653**Easting:** 2,975,133**Longitude:** -75.70527782**Northing:** 812,937**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 20 FT**Comments:**

NO PICTURE AVAILABLE

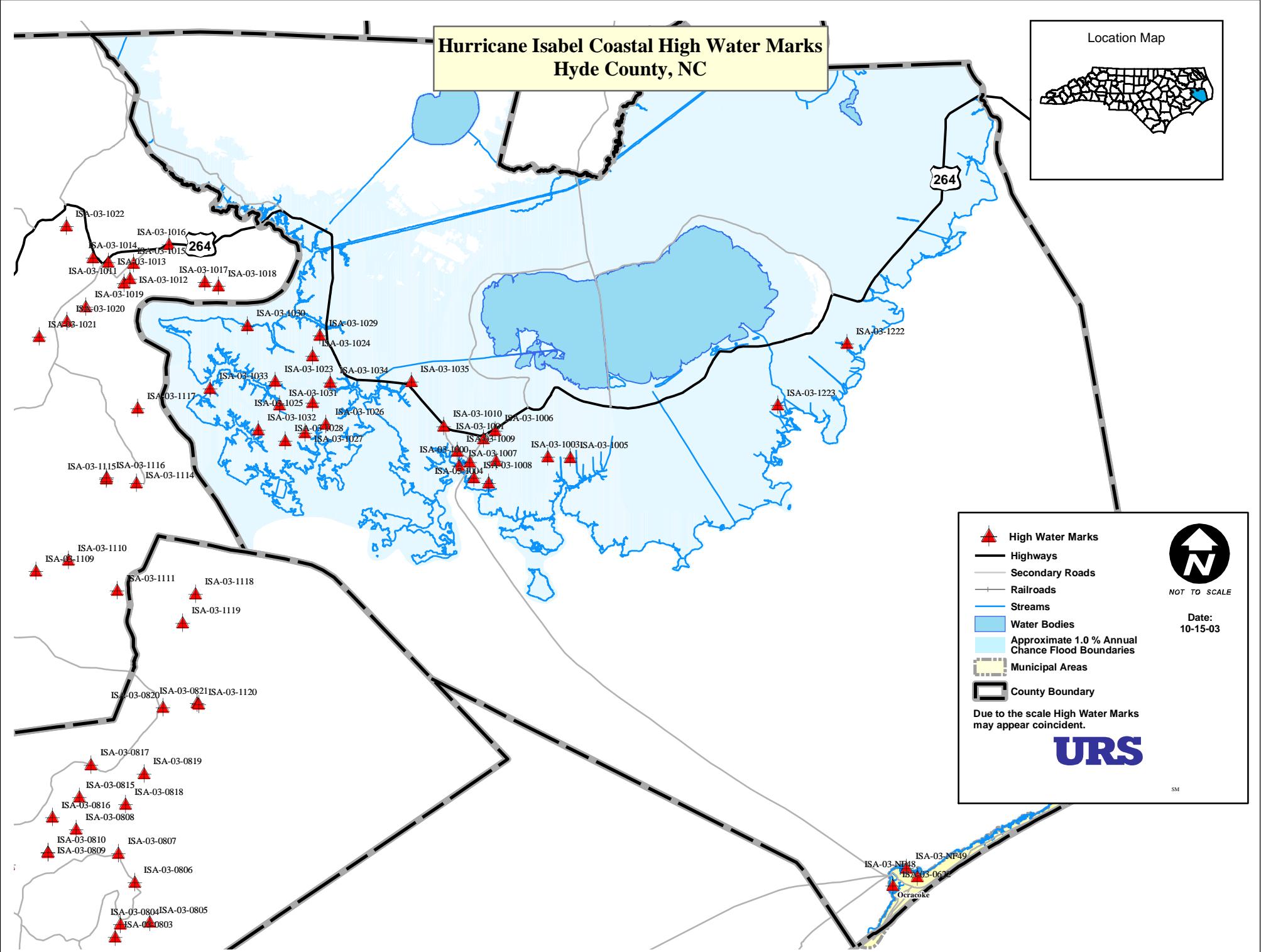
The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.

Photo Not Available

APPENDICES

Appendix F: Survey Sheets from Hyde County

Figure F-1.





PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

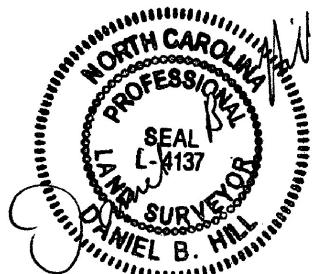
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0622**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Atlantic Ocean**Flood Elevation:** 3.1 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 30 Martha J Lane**Description of Mark:** Left door jamb of front door tack & flagging**Type of Line:** Water Line**Description of Physical Structure:** 2 story frame dwelling**Closest City:** Ocracoke**County:** Hyde**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/26/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.10724994**Easting:** 2,901,333**Longitude:** -75.98577762**Northing:** 507,646**Approx. First Floor Elevation (Based on Measurement from Mark):** 2.7 FT**Approx. Distance to Shoreline:** 590 FT**Comments:**

Some first floor flooding.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0622.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-2

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1000**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Interior**Mark Address:** 35 Second Street, Swan Quarter NC 27885**Description of Mark:** 2nd Street, Hyde County Tax Office**Type of Line:** Debris Line**Description of Physical Structure:** Brick building**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.40570963**Easting:** 2,795,784**Longitude:** -76.32906829**Northing:** 613,291**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.9 FT**Approx. Distance to Shoreline:** 180 FT**Comments:**

Raphael Farrow is church pastor, said storm came and went very quickly.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1000.jpg

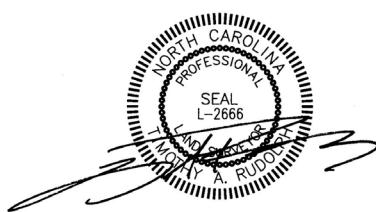


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-3

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1001**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.6 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 1271 Main Street, Swan Quarter NC 27885**Description of Mark:** Hyde Park Pharmacy**Type of Line:** Water Line**Description of Physical Structure:** Brick building**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.42144504**Easting:** 2,799,188**Longitude:** -76.31712296**Northing:** 619,112**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.9 FT**Approx. Distance to Shoreline:** 30 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1001.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-4

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1002**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.3 FT**Flooding Type:** Coastal Storm Surge**Location:** Interior**Mark Address:** 1554 Quarter Rd., Swan Quarter NC 27885**Description of Mark:** 1554 Quarter Rd.**Type of Line:** Water Line**Description of Physical Structure:** Brick ranch style home**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.40620023**Easting:** 2,802,286**Longitude:** -76.30722606**Northing:** 613,645**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.1 FT**Approx. Distance to Shoreline:** 25 FT**Comments:**

Floyd rose to second step in photo, witness says water rose quickly.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1002.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-5

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1003**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 2.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Quarter Rd., Swan Quarter NC 27885**Description of Mark:** House beside 4876 on SR 1124 on screen porch**Type of Line:** Debris Line**Description of Physical Structure:** Abandoned house**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.40776929**Easting:** 2,815,261**Longitude:** -76.26361092**Northing:** 614,571**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.0 FT**Approx. Distance to Shoreline:** 180 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1003.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-6

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1004**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 7.1 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 1378 Oyster Creek Rd., Swan Quarter NC 27885**Description of Mark:** On Oyster Creek at a blue bus**Type of Line:** Debris Line**Description of Physical Structure:** Vehicle**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.39119999**Easting:** 2,800,501**Longitude:** -76.31371356**Northing:** 608,135**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 5 FT**Comments:**

Witness says water was at least 23 inches higher than Floyd, was second only to storm of 1913.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1004.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-7

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1005**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 3.1 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Between 5909 and 5600 on south side of Quarter Rd., Swan Quarter NC 27885**Description of Mark:** On bench inside shed behind house**Type of Line:** Water Line**Description of Physical Structure:** Bench**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.40697047**Easting:** 2,820,880**Longitude:** -76.24477493**Northing:** 614,436**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.6 FT**Approx. Distance to Shoreline:** 620 FT**Comments:**

Witness says dike behind his house held the water, but the water that flooded his house was water that topped the dike. Floyd water did not top the dike.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1005.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-8

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1006**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.2 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 14166 Hwy 264, East Swan Quarter NC 27885**Description of Mark:** Sand pile behind building**Type of Line:** Debris Line**Description of Physical Structure:** Sand pile**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.42665896**Easting:** 2,802,136**Longitude:** -76.30704957**Northing:** 621,090**Approx. First Floor Elevation (Based on Measurement from Mark):** 8.3 FT**Approx. Distance to Shoreline:** 340 FT**Comments:**

Witness built above FEMA regulated height, showed nails in power poles that surveyor (Hood Richardson) used as reference when building.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1006.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-9

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1007**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 7.6 FT**Flooding Type:** Coastal Storm Surge**Location:** Interior**Mark Address:** N/A**Description of Mark:** Destroyed mobile home**Type of Line:** Water Line**Description of Physical Structure:** Abandoned mobile home**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.40344806**Easting:** 2,793,105**Longitude:** -76.33813788**Northing:** 612,396**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 90 FT**Comments:**

Talked to a few marina workers.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1007.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-10

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1008**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 7.2 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Swan Quarter Ferry Station**Description of Mark:** Swan Quarter Ferry**Type of Line:** Water Line**Description of Physical Structure:** Rain gauge**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.39499342**Easting:** 2,796,785**Longitude:** -76.32606109**Northing:** 609,416**Approx. First Floor Elevation (Based on Measurement from Mark):** 10.2 FT**Approx. Distance to Shoreline:** 1080 FT**Comments:**

C.G. Gibbs (ferry operator) said water came exactly to the pole in the photo.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1008.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-11

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1009**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 782 Hwy 45, Swan Quarter NC 27885**Description of Mark:** In kitchen of 782 Highway 45**Type of Line:** Water Line**Description of Physical Structure:** House**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.41333835**Easting:** 2,792,626**Longitude:** -76.33942107**Northing:** 615,984**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.8 FT**Approx. Distance to Shoreline:** 410 FT**Comments:**

Water came in the windows.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1009.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-12

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1010**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 2147 Hwy 45, Swan Quarter NC 27885**Description of Mark:** Underpinning of mobile home**Type of Line:** Debris Line**Description of Physical Structure:** Mobile home**Closest City:** Swan Quarter**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/24/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/24/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.4306156**Easting:** 2,789,272**Longitude:** -76.35012018**Northing:** 622,184**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.2 FT**Approx. Distance to Shoreline:** 30 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1010.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-13

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1023**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.4 FT**Flooding Type:** Coastal Storm Surge**Location:** Interior**Mark Address:** Scranton Volunteer Fire Department**Description of Mark:** On auditorium style chairs inside of fire department**Type of Line:** Water Line**Description of Physical Structure:** Chairs**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.4646013**Easting:** 2,747,273**Longitude:** -76.4901046**Northing:** 633,466**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.2 FT**Approx. Distance to Shoreline:** 180 FT**Comments:**

Chief Carowan gave a good description of the flood and gave a good idea of where to go for HWMs. Some areas worse than Floyd others not as bad as Floyd throughout Sladesville area.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1023.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-14

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1024**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 3.6 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 1595 Pudding Hill Rd., Scranton NC 27875**Description of Mark:** On threshold to garage door**Type of Line:** Water Line**Description of Physical Structure:** Brick house**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.48139528**Easting:** 2,756,514**Longitude:** -76.4585368**Northing:** 639,816**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.5 FT**Approx. Distance to Shoreline:** 230 FT**Comments:**

Witness has never had water in his yard, he pointed out the exact location of the HWM.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1024.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-15

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1025**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.2 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 725 Lynnsburg Rd., Scranton NC 27875**Description of Mark:** Crown of road on Lynnsburg Rd.**Type of Line:** Water Line**Description of Physical Structure:** Roadway**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.44928822**Easting:** 2,756,552**Longitude:** -76.45941427**Northing:** 628,127**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 70 FT**Comments:**

Father of witness says there has not been water here in the past.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1025.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-16

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1026**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.1 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** No address on home on Sladesville Credle Rd.**Description of Mark:** Underpinning of beige mobile home**Type of Line:** Water Line**Description of Physical Structure:** Mobile home**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.43436903**Easting:** 2,759,876**Longitude:** -76.4487178**Northing:** 622,781**Approx. First Floor Elevation (Based on Measurement from Mark):** 7.3 FT**Approx. Distance to Shoreline:** 45 FT**Comments:**

Repair contractor was at house and helped to identify HWM.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1026.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-17

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1027**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 449 Sladesville Credle Rd., Scranton NC 27875**Description of Mark:** Underpinning of grey mobile home**Type of Line:** Debris Line**Description of Physical Structure:** Mobile home**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.42890161**Easting:** 2,754,655**Longitude:** -76.46641964**Northing:** 620,656**Approx. First Floor Elevation (Based on Measurement from Mark):** 7.0 FT**Approx. Distance to Shoreline:** 85 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1027.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-18

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1028**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 452 Beulah Rd., Scranton NC 27875**Description of Mark:** Sand pile in front yard of white house**Type of Line:** Debris Line**Description of Physical Structure:** Sand pile**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.423545**Easting:** 2,749,759**Longitude:** -76.48302768**Northing:** 618,582**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.8 FT**Approx. Distance to Shoreline:** 25 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1028.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-19

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1029**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.2 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 500 Old Hwy 264, Scranton NC 27875**Description of Mark:** On metal building beside post office in Scranton (beige metal bldg.)**Type of Line:** Debris Line**Description of Physical Structure:** Metal building**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.49526077**Easting:** 2,758,390**Longitude:** -76.4517972**Northing:** 644,912**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.8 FT**Approx. Distance to Shoreline:** 45 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1029.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-20

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1030**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.8 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** River Shore Rd., Scranton NC 27875**Description of Mark:** 3rd step on stairs leading to blue 3 story house**Type of Line:** Water Line**Description of Physical Structure:** House**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.50297396**Easting:** 2,740,296**Longitude:** -76.51236882**Northing:** 647,261**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 140 FT**Comments:**

Resident says water came to third step. Resident did not give name, no address on house.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1030.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-21

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1031**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 3.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 6414 Sladesville Credle Rd., Scranton NC 27875**Description of Mark:** On 2 sand piles beside house @ 6414 Sladesville Credle**Type of Line:** Debris Line**Description of Physical Structure:** House**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.44829036**Easting:** 2,748,334**Longitude:** -76.48704536**Northing:** 627,555**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 120 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1031.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-22

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1032**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.8 FT**Flooding Type:** Coastal Storm Surge**Location:** Interior**Mark Address:** 4500 Loop Rd. Scranton NC 27875**Description of Mark:** On side of truck in garage**Type of Line:** Water Line**Description of Physical Structure:** Vehicle**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.43169663**Easting:** 2,742,978**Longitude:** -76.50554697**Northing:** 621,378**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.1 FT**Approx. Distance to Shoreline:** 110 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1032.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-23

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1033**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.3 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 1338 Mackleyville Rd. (SR #1146), Scranton NC 27875**Description of Mark:** On shed door**Type of Line:** Water Line**Description of Physical Structure:** Shed**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.46075811**Easting:** 2,730,982**Longitude:** -76.54495062**Northing:** 631,660**Approx. First Floor Elevation (Based on Measurement from Mark):** 1.8 FT**Approx. Distance to Shoreline:** 230 FT**Comments:**

Witness says Isabel a lot worse than Floyd.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1033.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-24

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1034**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Interior**Mark Address:** 810 Hodges Rd. (SR #1139), Scranton NC 27875**Description of Mark:** Inside door of shed**Type of Line:** Water Line**Description of Physical Structure:** Shed**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.46280154**Easting:** 2,761,017**Longitude:** -76.44398966**Northing:** 633,162**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.9 FT**Approx. Distance to Shoreline:** 20 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1034.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-25

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1035**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.7 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 7795 Turnpike Rd. (SR #1304), Swan Quarter NC 27885**Description of Mark:** On air conditioning unit beside grey/brown house**Type of Line:** Debris Line**Description of Physical Structure:** Air conditioning unit**Closest City:** Sladesville**County:** Hyde**State:** North Carolina**Flaggers:** WDL**Company / Agency:** Dewberry**Flagging Date:** 09/26/2003**Surveyors:** Timothy A. Rudolph**Company / Agency:** Dewberry**Survey Date:** 09/26/2003**Survey Type:** GPS**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.46191951**Easting:** 2,781,183**Longitude:** -76.37627153**Northing:** 633,367**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.1 FT**Approx. Distance to Shoreline:** 180 FT**Comments:**

Water did not get in house, came to floor joist.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1035.jpg

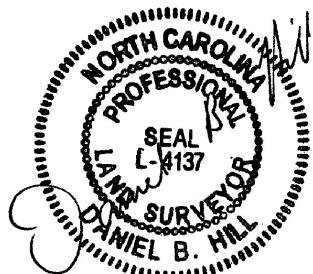


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-26

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1222**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.2 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** Off Gas Plant**Description of Mark:** Front of the church on the door, 1 foot above the first floor**Type of Line:** Seed Line**Description of Physical Structure:** Front glass door**Closest City:** Englehard**County:** Hyde**State:** North Carolina**Flaggers:** CH & WMB**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.47959106**Easting:** 2,889,830**Longitude:** -76.01061072**Northing:** 642,874**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.2 FT**Approx. Distance to Shoreline:** 50 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1222.jpg

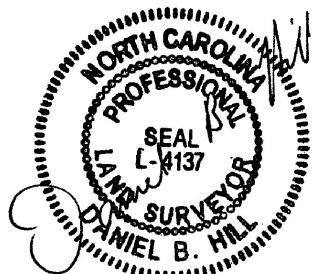


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-27

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1223**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 4.5 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 975 Gull Rock Road**Description of Mark:** Top of second concrete block of a small white seaford plant**Type of Line:** Seed Line**Description of Physical Structure:** Interior wall**Closest City:** Englehard**County:** Hyde**State:** North Carolina**Flaggers:** CH & WMB**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.43884523**Easting:** 2,872,588**Longitude:** -76.07002237**Northing:** 627,523**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.1 FT**Approx. Distance to Shoreline:** 5 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1223.jpg

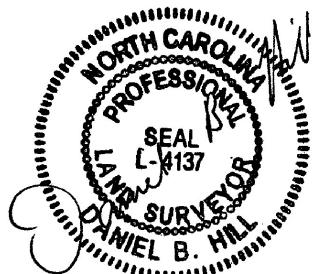


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-28

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-NF48**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** N/A**Flood Elevation:** N/A FT**Flooding Type:** N/A**Location:** Exterior**Mark Address:** N/A**Description of Mark:** No evidence of flooding in vicinity of this coordinate**Type of Line:** N/A**Description of Physical Structure:** No structure affected**Closest City:** Ocracoke**County:** Hyde**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:****Survey Type:** N/A**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.11305565**Easting:** 2,907,397**Longitude:** -75.96527783**Northing:** 509,945**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 610 FT**Comments:**

NO PICTURE AVAILABLE

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.

Photo Not Available

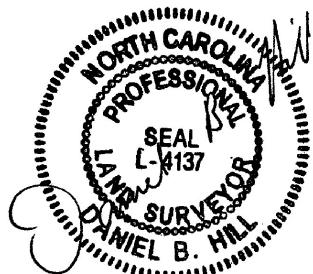


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET F-29

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-NF49**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** N/A**Flood Elevation:** N/A FT**Flooding Type:** N/A**Location:** Exterior**Mark Address:** N/A**Description of Mark:** No evidence of flooding in vicinity of this coordinate**Type of Line:** N/A**Description of Physical Structure:** No structure affected**Closest City:** Ocracoke**County:** Hyde**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:****Survey Type:** N/A**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.11888882**Easting:** 2,904,675**Longitude:** -75.97416673**Northing:** 511,986**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 140 FT**Comments:**

NO PICTURE AVAILABLE

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.

Photo Not Available

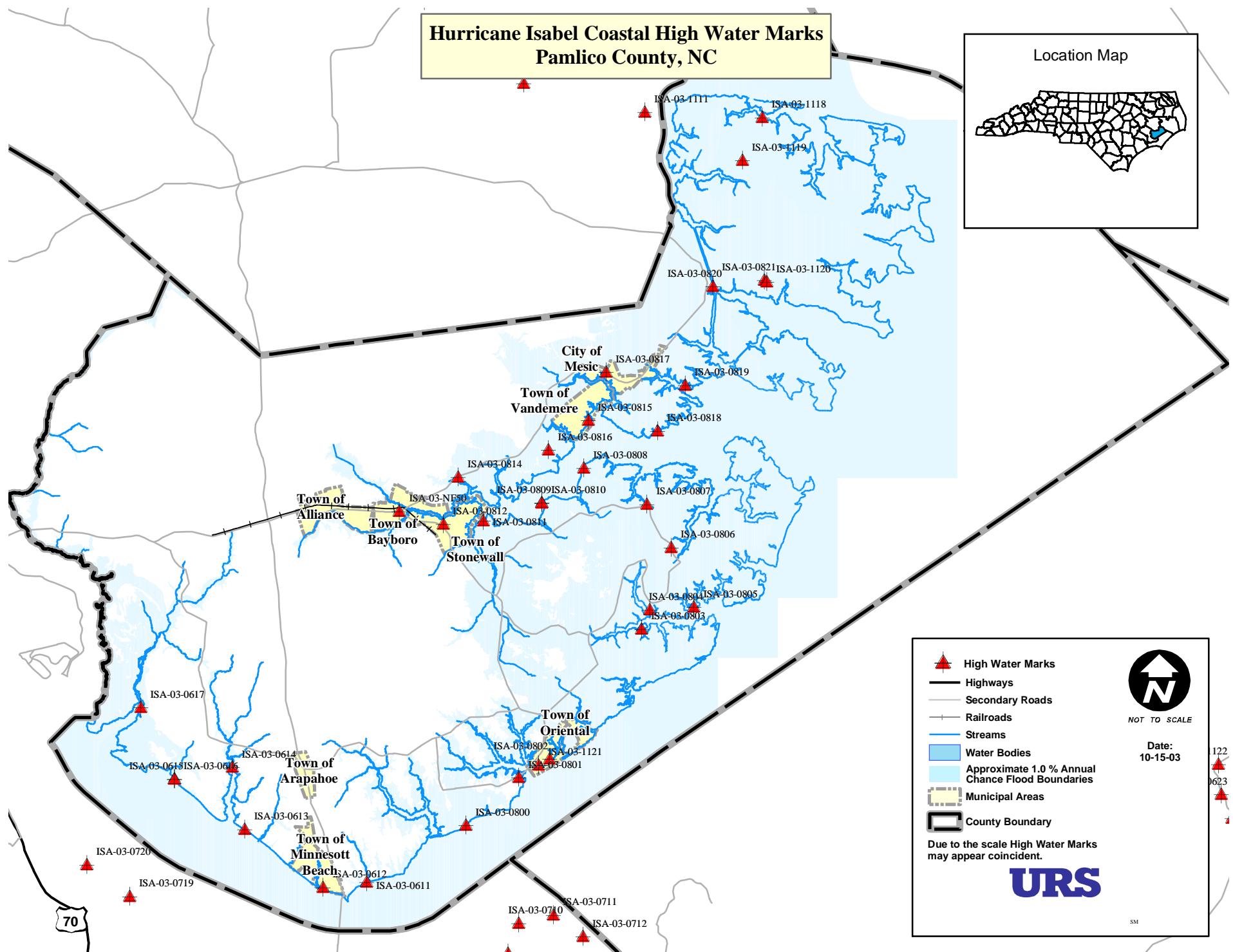
APPENDICES

Appendix G: Survey Sheets from Pamlico County

Figure G-1.

Hurricane Isabel Coastal High Water Marks
Pamlico County, NC

Location Map





PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

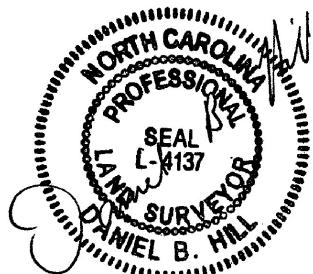
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0611**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 8.5 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 315 Camp Don Lee Rd.**Description of Mark:** Right rear corner of nature shack at Camp Don Lee tack & flagging**Type of Line:** Water Line**Description of Physical Structure:** 1 story structure**Closest City:** Arapahoe**County:** Pamlico**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.97313902**Easting:** 2,661,292**Longitude:** -76.7923055**Northing:** 452,507**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.0 FT**Approx. Distance to Shoreline:** 90 FT**Comments:**

Located on grounds of Don Lee Campground.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0611.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

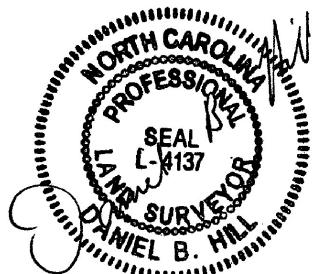
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-2

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0612**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 8.0 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 76 Beach Rd.**Description of Mark:** Right side of house in air conditioner stand**Type of Line:** Water Line**Description of Physical Structure:** 2 story frame dwelling**Closest City:** Minnesott Beach**County:** Pamlico**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.97113887**Easting:** 2,653,946**Longitude:** -76.81688889**Northing:** 451,616**Approx. First Floor Elevation (Based on Measurement from Mark):** 13.6 FT**Approx. Distance to Shoreline:** 130 FT**Comments:**

Prop. owners elevation mark in tree from elevation cert. (in level notes).



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0612.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

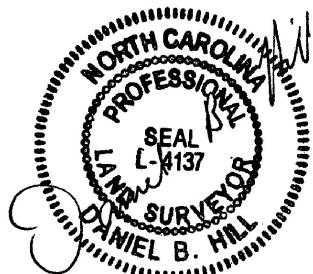
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-3

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0613**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 9.2 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 222 E. Northshore Lane**Description of Mark:** Nail at base of 12 inches pine 20 feet behind house**Type of Line:** Water Line**Description of Physical Structure:** 1 story frame with basement**Closest City:** Arapahoe**County:** Pamlico**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.99863896**Easting:** 2,640,860**Longitude:** -76.85986124**Northing:** 461,342**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.9 FT**Approx. Distance to Shoreline:** 80 FT**Comments:**

Flooding surged over sea wall; did not enter structure.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0613.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

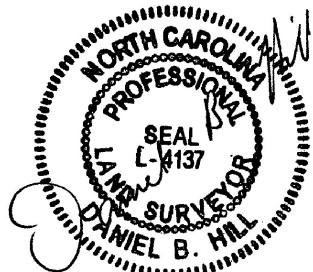
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-4

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0614**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Bairds Creek (Neuse River)**Flood Elevation:** 7.5 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 141 Parson Rd.**Description of Mark:** Right front corner of detached garage tack and flagging**Type of Line:** Water Line**Description of Physical Structure:** 2 story brick dwelling**Closest City:** Grantsboro**County:** Pamlico**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.02727771**Easting:** 2,638,823**Longitude:** -76.86591683**Northing:** 471,723**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 140 FT**Comments:**

Flooding in garage only; TBM at road to the left of mailbox.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0614.jpg

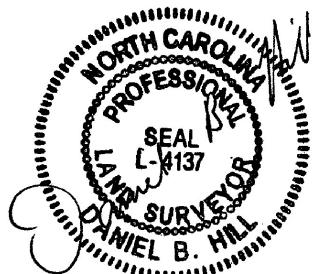


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-5

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0615**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 9.7 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 39 Live Oak Ln.**Description of Mark:** HWM 4.2 feet above FFE of condemned bldg.**Type of Line:** Water Line**Description of Physical Structure:** Condemned 1 story frame dwelling**Closest City:** Kitchens Beach**County:** Pamlico**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.02237594**Easting:** 2,629,146**Longitude:** -76.89837301**Northing:** 469,732**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.5 FT**Approx. Distance to Shoreline:** 45 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0615.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

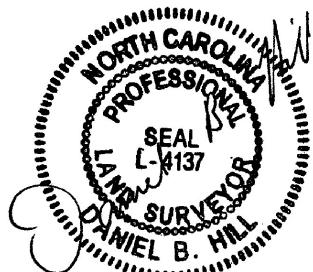
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-6

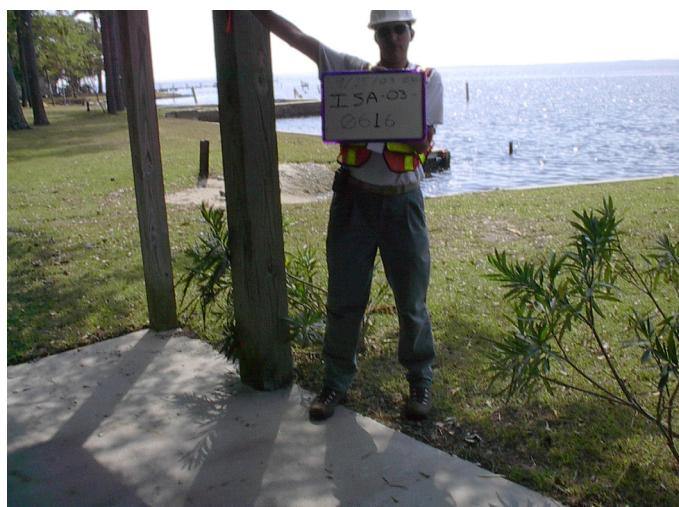
CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0616**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 9.7 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 50 Live Oak Ln.**Description of Mark:** Left rear piling inside face**Type of Line:** Water Line**Description of Physical Structure:** 1 story elevated frame dwelling**Closest City:** Kitchens Beach**County:** Pamlico**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.02243151**Easting:** 2,629,112**Longitude:** -76.89848617**Northing:** 469,752**Approx. First Floor Elevation (Based on Measurement from Mark):** 11.0 FT**Approx. Distance to Shoreline:** 35 FT**Comments:**

House was elevated in 1986. Success story.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0616.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

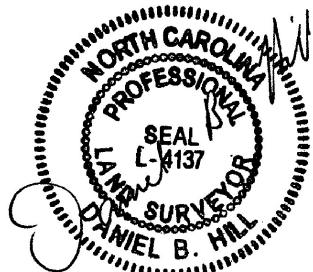
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-7

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0617**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Gouse Creek**Flood Elevation:** 7.0 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 2519 Gouse Creek**Description of Mark:** Power hole at right front corner of structure (per prop. owner request)**Type of Line:** Water Line**Description of Physical Structure:** 2 story frame dwelling**Closest City:** Arapahoe**County:** Pamlico**State:** North Carolina**Flaggers:** HL & JI**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/02/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.05572154**Easting:** 2,623,494**Longitude:** -76.91640504**Northing:** 481,752**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.5 FT**Approx. Distance to Shoreline:** 85 FT**Comments:**

Wave action.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0617.jpg

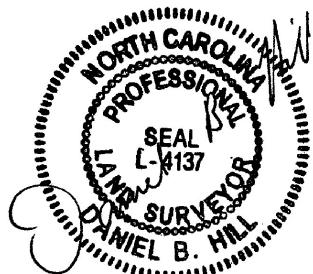


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

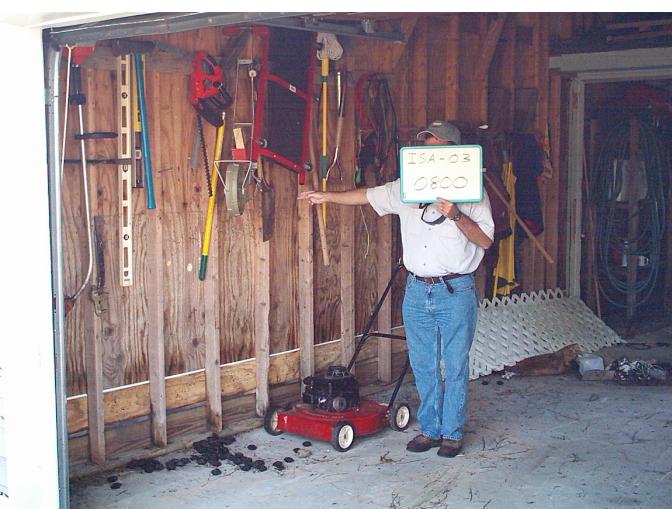
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-8

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0800**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 8.1 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 394 China Grove Road, Arapahoe NC 28510**Description of Mark:** Inside garage +/- 4.3 feet above garage floor; distinct water line**Type of Line:** Water Line**Description of Physical Structure:** Garage**Closest City:** Oriental**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 34.99826775**Easting:** 2,677,877**Longitude:** -76.7362328**Northing:** 462,028**Approx. First Floor Elevation (Based on Measurement from Mark):** 7.8 FT**Approx. Distance to Shoreline:** 150 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0800.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

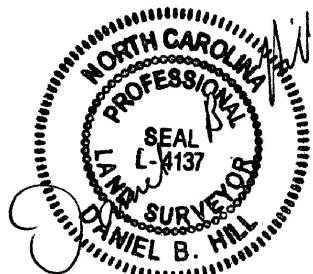
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-9

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0801**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 7.3 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 537 Oriental Road, Oriental NC**Description of Mark:** Outbuilding/shed in front of 537 Oriental Rd.; distinctive outside water marks**Type of Line:** Water Line**Description of Physical Structure:** Shed**Closest City:** Oriental**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.01964675**Easting:** 2,686,692**Longitude:** -76.70618983**Northing:** 470,013**Approx. First Floor Elevation (Based on Measurement from Mark):** 9.2 FT**Approx. Distance to Shoreline:** 230 FT**Comments:**

Main 2-story house did not get water.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0801.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

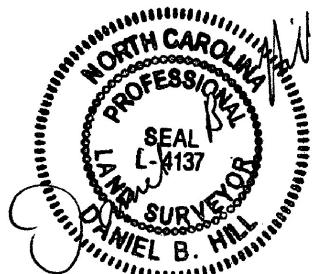
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-10

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0802**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 7.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 301 Ragan Road, Oriental NC**Description of Mark:** HWM is distinctive line on outside of wooden shed**Type of Line:** Water Line**Description of Physical Structure:** Wooden Shed**Closest City:** Oriental**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.02781613**Easting:** 2,691,859**Longitude:** -76.6886954**Northing:** 473,107**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 50 FT**Comments:**

Elevations for Hurricane Dennis by homeowner.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0802.jpg

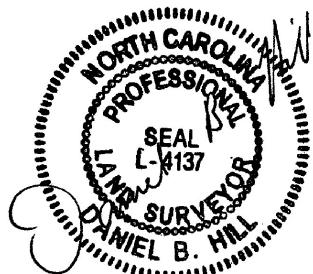


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-11

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0803**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 7.1 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 4350 Orchard Creek Road, Oriental NC**Description of Mark:** 4288 Orchard Crk Rd Pamlico United Methodist; inside front narthex, 1.25 feet above FFE**Type of Line:** Water Line**Description of Physical Structure:** Wooden Church**Closest City:** Oriental**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.08647648**Easting:** 2,707,262**Longitude:** -76.63552882**Northing:** 494,824**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.9 FT**Approx. Distance to Shoreline:** 430 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0803.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

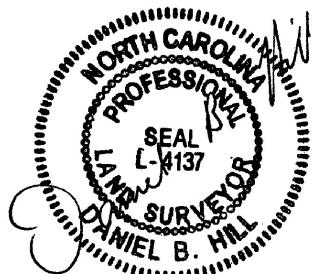
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-12

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0804**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.8 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 97 Tiller Ext., Merritt NC 28556**Description of Mark:** Inside mark in garage/L-shaped 1 story house on doorframe to inside**Type of Line:** Water Line**Description of Physical Structure:** Wooden House**Closest City:** Oriental**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.09516131**Easting:** 2,708,619**Longitude:** -76.63073878**Northing:** 498,018**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 110 FT**Comments:**

Homeowner states that house was built 1 foot over flood.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0804.jpg

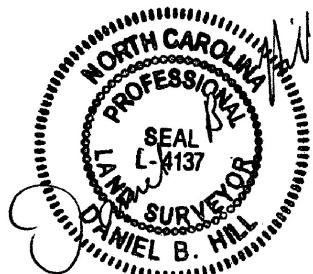


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-13

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0805**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 7.0 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** Behind 1234 Sandy Point Road**Description of Mark:** White trailer; distinct water line above molding**Type of Line:** Water Line**Description of Physical Structure:** Trailer**Closest City:** Oriental**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.09616144**Easting:** 2,715,971**Longitude:** -76.60612436**Northing:** 498,559**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.1 FT**Approx. Distance to Shoreline:** 110 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0805.jpg

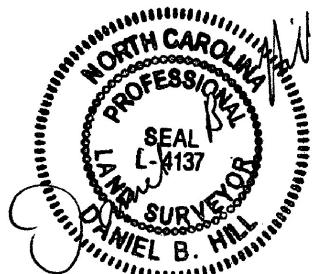


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-14

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0806**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.6 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** N/A**Description of Mark:** Inside rear portion of Zion Hill United Church of Christ**Type of Line:** Water Line**Description of Physical Structure:** Brick Church**Closest City:** Oriental**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.12359842**Easting:** 2,712,182**Longitude:** -76.6179956**Northing:** 508,456**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.6 FT**Approx. Distance to Shoreline:** 1260 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0806.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

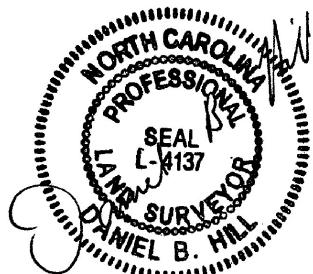
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-15

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0807**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.5 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 6444 Florence Road, Merritt NC 28556**Description of Mark:** Sign in front of "Day's Corner Grill and Grocery"**Type of Line:** Water Line**Description of Physical Structure:** Sign**Closest City:** Oriental**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.14381161**Easting:** 2,708,125**Longitude:** -76.63097923**Northing:** 515,717**Approx. First Floor Elevation (Based on Measurement from Mark):** 7.3 FT**Approx. Distance to Shoreline:** 270 FT**Comments:**

Store did not flood.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0807.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

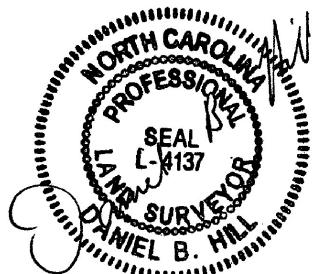
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-16

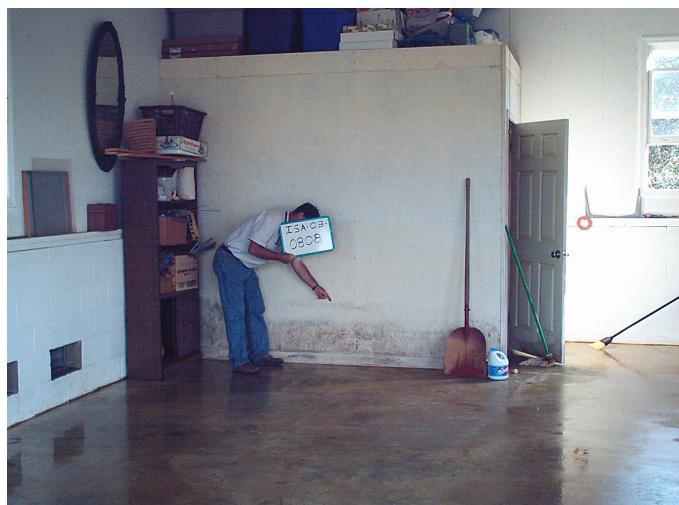
CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0808**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.7 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 1407 Beupoint Road, Merritt NC 28556**Description of Mark:** Water did not come in main house**Type of Line:** Water Line**Description of Physical Structure:** Block & Vinyl Building**Closest City:** Oriental**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.16114469**Easting:** 2,697,604**Longitude:** -76.66568798**Northing:** 521,778**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 50 FT**Comments:**

Water did not come in main house.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0808.jpg

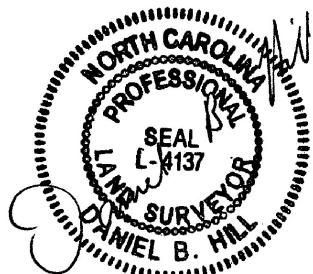


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-17

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0809**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.9 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 945 Arant Farm Road, Merritt NC 28556**Description of Mark:** Mark on doorframe on 1st floor SW side that homeowner marked for Isabel and Dennis**Type of Line:** Water Line**Description of Physical Structure:** Frame House**Closest City:** Merritt**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.14548004**Easting:** 2,690,546**Longitude:** -76.68975197**Northing:** 515,910**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.0 FT**Approx. Distance to Shoreline:** 120 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0809.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

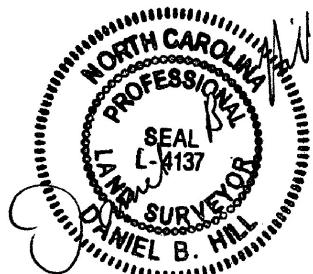
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-18

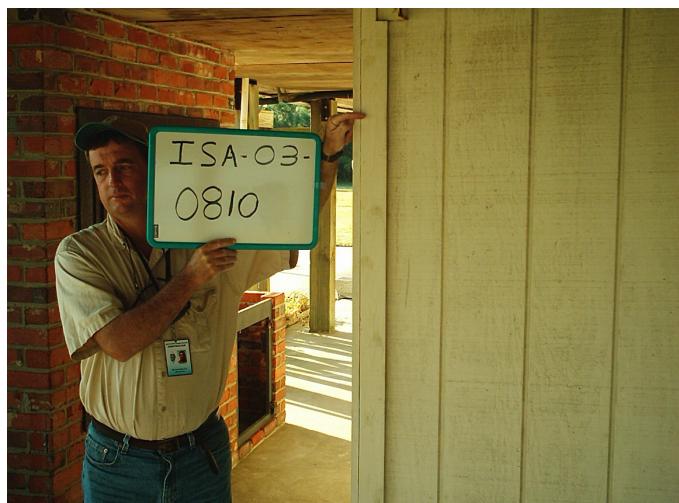
CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0810**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 9.9 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** 945 Arant Farm Road, Merritt NC 28556**Description of Mark:** Mark on wall where homeowner stated water/waves were lapping**Type of Line:** Water Line**Description of Physical Structure:** Frame House**Closest City:** Merritt**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.14571541**Easting:** 2,690,534**Longitude:** -76.68978646**Northing:** 515,996**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.0 FT**Approx. Distance to Shoreline:** 95 FT**Comments:**

Waves were over homeowner's head (6 feet).



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0810.jpg

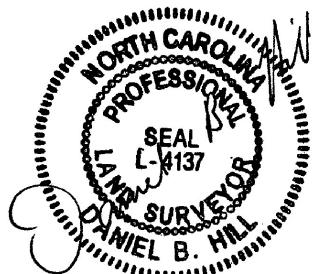


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-19

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0811**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.7 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** N/A**Description of Mark:** 4-bay open-sided shed with distinct water line on walls**Type of Line:** Water Line**Description of Physical Structure:** Wooden Shed**Closest City:** Merritt**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.13786169**Easting:** 2,680,779**Longitude:** -76.72264844**Northing:** 512,911**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 190 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0811.jpg

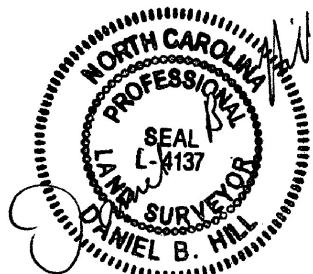


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-20

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0812**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.8 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** PO Box 6, Union Street, Stonewall NC 28583**Description of Mark:** Tape on door jamb; inside screened porch**Type of Line:** Water Line**Description of Physical Structure:** Frame House**Closest City:** Stonewall**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.13688798**Easting:** 2,674,089**Longitude:** -76.74505706**Northing:** 512,404**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.6 FT**Approx. Distance to Shoreline:** 270 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0812.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

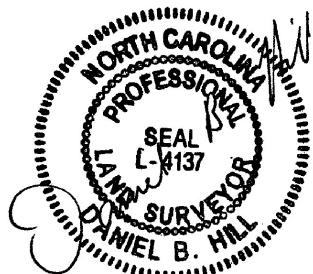
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-21

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0814**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.7 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 2262 NC HWY 304, Bayboro NC**Description of Mark:** Distinct line on above-ground pool wall**Type of Line:** Water Line**Description of Physical Structure:** Above-ground Pool**Closest City:** Bayboro**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.15832536**Easting:** 2,676,569**Longitude:** -76.73616571**Northing:** 520,264**Approx. First Floor Elevation (Based on Measurement from Mark):** 8.1 FT**Approx. Distance to Shoreline:** 360 FT**Comments:**

Purported 'flood elevation' nail benchmark shot.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0814.jpg

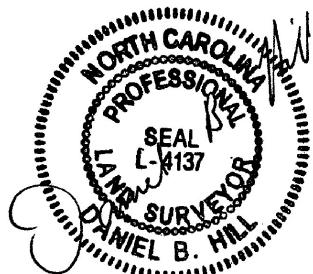


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-22

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0815**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.6 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** N/A**Description of Mark:** Vandmere Volunteer Fire Department; water line on wall**Type of Line:** Water Line**Description of Physical Structure:** Block Building**Closest City:** Vandemere**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.18305042**Easting:** 2,698,381**Longitude:** -76.66245995**Northing:** 529,771**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.3 FT**Approx. Distance to Shoreline:** 240 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible to measure horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0815.jpg

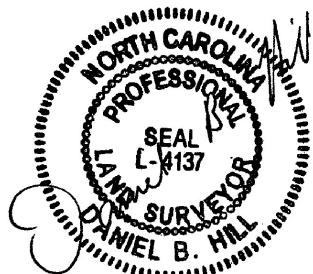


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-23

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0816**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 8.7 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 1407 HWY 1217**Description of Mark:** Wooden deck for single-wide mobile home**Type of Line:** Water Line**Description of Physical Structure:** Mobile Home**Closest City:** Bayboro**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.16976454**Easting:** 2,691,657**Longitude:** -76.68534692**Northing:** 524,777**Approx. First Floor Elevation (Based on Measurement from Mark):** 8.9 FT**Approx. Distance to Shoreline:** 260 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0816.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

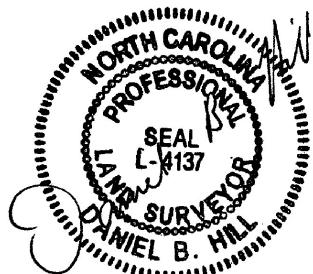
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-24

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0817**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.5 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 9009 NC HWY 304, Bayboro NC 28515**Description of Mark:** Water line in carport**Type of Line:** Water Line**Description of Physical Structure:** Brick House**Closest City:** Bayboro**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.20485956**Easting:** 2,701,329**Longitude:** -76.65195978**Northing:** 537,780**Approx. First Floor Elevation (Based on Measurement from Mark):** 7.6 FT**Approx. Distance to Shoreline:** 210 FT**Comments:**

Did not get in house.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0817.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

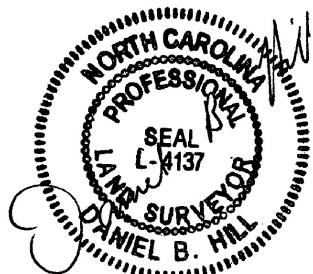
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-25

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0818**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.8 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 290 Windy Point, Bayboro NC 28515**Description of Mark:** Rear of 2 bay shed; distinct waterline on inside; +/- 24 inches up wall**Type of Line:** Water Line**Description of Physical Structure:** Shed**Closest City:** Bayboro**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.17736537**Easting:** 2,709,908**Longitude:** -76.6240362**Northing:** 527,975**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 240 FT**Comments:**

Shed is not property of witness.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0818.jpg

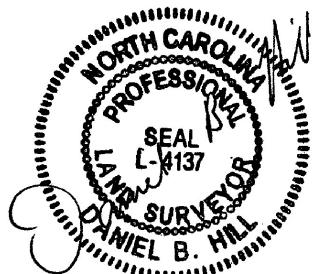


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-26

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0819**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 6.7 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 921 Airstrip Road, Bayboro NC 28515**Description of Mark:** Water mark on refrigerator in wooden outbuilding**Type of Line:** Water Line**Description of Physical Structure:** Wooden Outbuilding**Closest City:** Bayboro**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.19805128**Easting:** 2,714,526**Longitude:** -76.60796752**Northing:** 535,617**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 80 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0819.jpg

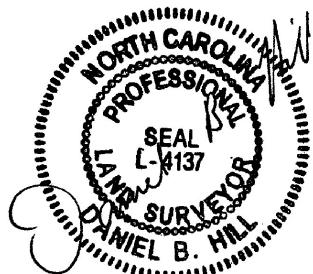


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-27

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0820**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.5 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** PO Box 100, Hobucken NC 28537**Description of Mark:** Marked door jamb inside R.E. Mayo Co., Inc., office**Type of Line:** Water Line**Description of Physical Structure:** Block Building**Closest City:** Hobucken**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.24304681**Easting:** 2,719,196**Longitude:** -76.59100213**Northing:** 552,110**Approx. First Floor Elevation (Based on Measurement from Mark):** 2.8 FT**Approx. Distance to Shoreline:** 90 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0820.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

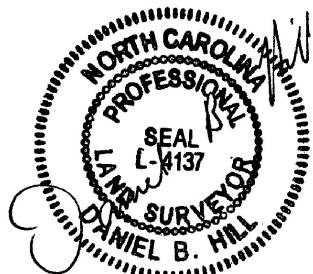
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-28

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0821**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.8 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 15837 HWY 304, Hobucken NC 28537**Description of Mark:** Water mark on sliding glass door in rear of home**Type of Line:** Water Line**Description of Physical Structure:** Brick House**Closest City:** Hobucken**County:** Pamlico**State:** North Carolina**Flaggers:** PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.2454214**Easting:** 2,727,744**Longitude:** -76.56229218**Northing:** 553,183**Approx. First Floor Elevation (Based on Measurement from Mark):** 5.1 FT**Approx. Distance to Shoreline:** 1060 FT**Comments:**

House has been condemned.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0821.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

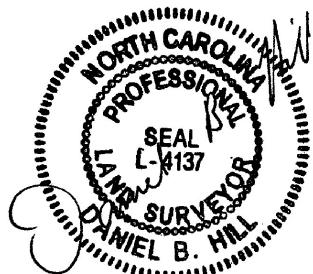
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-29

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1118**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River/ Oyster Creek**Flood Elevation:** 4.5 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 1235 Oyster Creek Road, Lowland NC**Description of Mark:** Debris line approximately 1 foot above loading dock to coolers and dock area**Type of Line:** Debris Line**Description of Physical Structure:** Concrete block building**Closest City:** Lowland**County:** Pamlico**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.32015298**Easting:** 2,727,409**Longitude:** -76.56117674**Northing:** 580,382**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.7 FT**Approx. Distance to Shoreline:** 50 FT**Comments:**

At the end of Oyster Creek Road.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1118.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-30

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1119**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico River/ Oyster Creek**Flood Elevation:** 4.2 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 4751 Lowland Road, Lowland NC**Description of Mark:** 5.5 inches above first floor inside of house, 2.5 feet above adjacent ground at front side of house**Type of Line:** Property Owner**Description of Physical Structure:** House**Closest City:** Lowland**County:** Pamlico**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.30073548**Easting:** 2,724,151**Longitude:** -76.57268295**Northing:** 573,233**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.3 FT**Approx. Distance to Shoreline:** 340 FT**Comments:**

Bottom of 5th vinyl siding piece.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1119.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

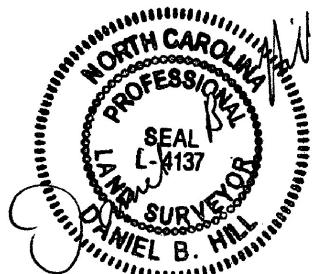
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-31

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1120**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** 5.9 FT**Flooding Type:** Coastal Stillwater**Location:** Interior**Mark Address:** 15946 Hwy 304/33, Hobucken NC 28537**Description of Mark:** 42 inches above concrete pad of blue sided workshop beside 15946**Type of Line:** Property Owner**Description of Physical Structure:** Metal-sided building**Closest City:** Hobucken**County:** Pamlico**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.24462574**Easting:** 2,728,211**Longitude:** -76.56075274**Northing:** 552,905**Approx. First Floor Elevation (Based on Measurement from Mark):** 2.4 FT**Approx. Distance to Shoreline:** 840 FT**Comments:**

5 inches inside of house. Floyd was 9 inches below
Isabel.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1120.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

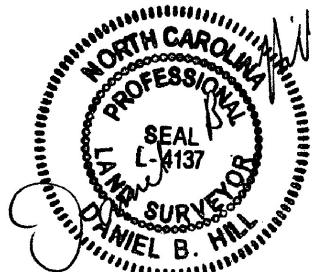
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-32

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1121**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Neuse River**Flood Elevation:** 7.7 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 300 Hodges Street, Oriental NC**Description of Mark:** Debris line 2.75 feet above 1st floor of single story bldg. behind 300 Hodges Street**Type of Line:** Debris Line**Description of Physical Structure:** Vinyl-sided building**Closest City:** Oriental**County:** Pamlico**State:** North Carolina**Flaggers:** AED & CSL**Company / Agency:** Watershed Concepts**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 10/01/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.02516733**Easting:** 2,690,030**Longitude:** -76.6948828**Northing:** 472,100**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.8 FT**Approx. Distance to Shoreline:** 120 FT**Comments:**

Red awning above door.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1121.jpg

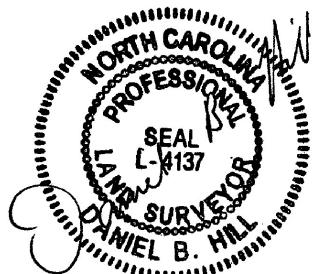


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET G-33

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-NF50**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pamlico Sound**Flood Elevation:** N/A FT**Flooding Type:** N/A**Location:** Exterior**Mark Address:** 116 Main Street, Bayboro NC 28515**Description of Mark:** No evidence of flooding in vicinity of this coordinate**Type of Line:** N/A**Description of Physical Structure:** No structure affected**Closest City:** Bayboro**County:** Pamlico**State:** North Carolina**Flaggers:** JJ & PF**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:****Survey Type:** N/A**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.14305567**Easting:** 2,666,750**Longitude:** -76.76944436**Northing:** 514,483**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 560 FT**Comments:**

NO PICTURE AVAILABLE

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.

Photo Not Available

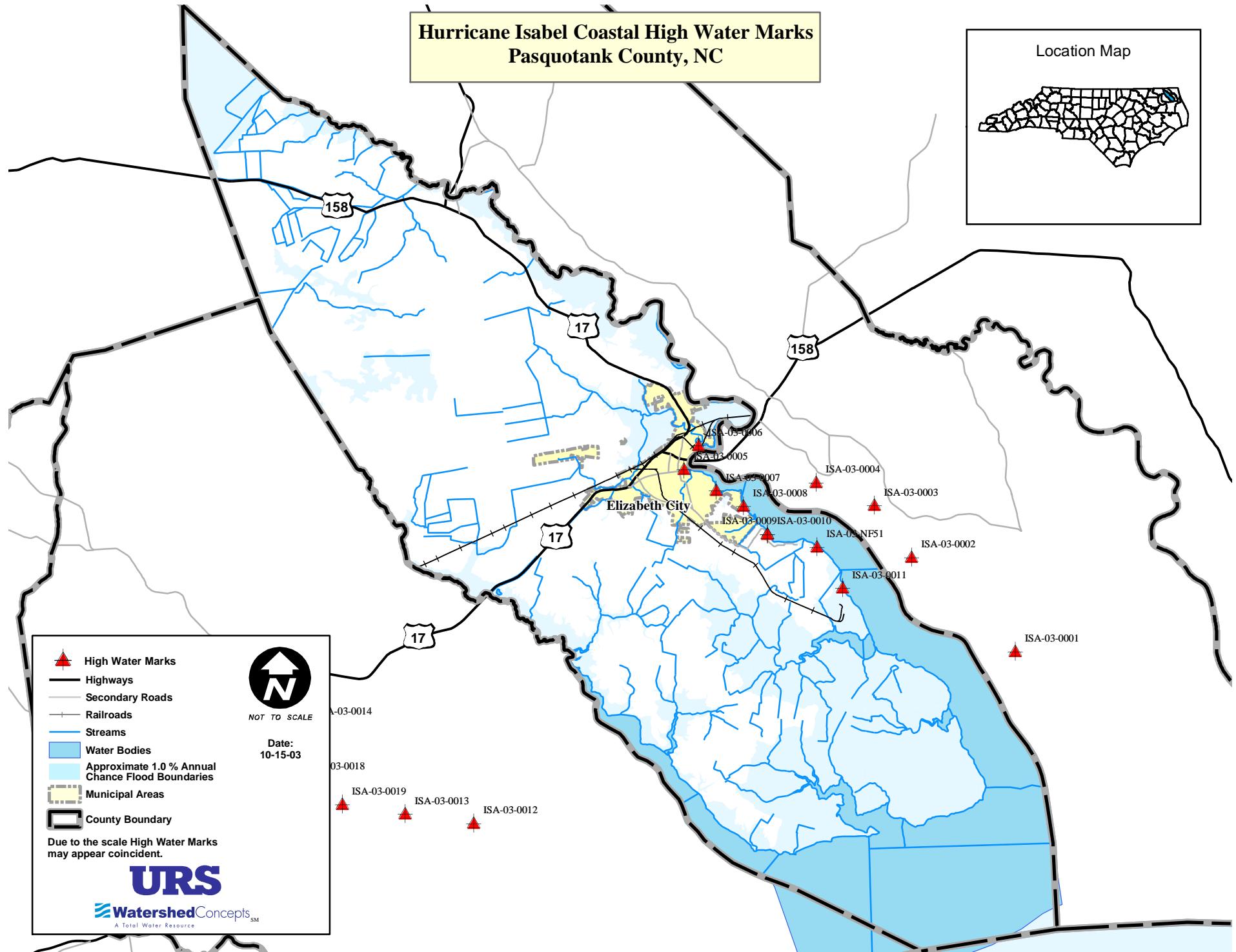
APPENDICES

Appendix H: Survey Sheets from Pasquotank County

Figure H-1.

Hurricane Isabel Coastal High Water Marks
Pasquotank County, NC

Location Map





PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

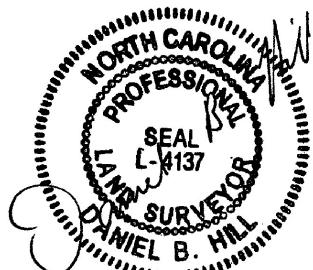
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET H-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0005**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 4.1 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior/Interior**Mark Address:** 502 E. Ehringhouse**Description of Mark:** At door of Commerce Building 1.0 feet above slate slab on lift door sill/marked w/perm. marker**Type of Line:** Water Line**Description of Physical Structure:** Elizabeth City Chamber of Commerce Building**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.29723768**Easting:** 2,818,973**Longitude:** -76.22072242**Northing:** 938,572**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.6 FT**Approx. Distance to Shoreline:** 250 FT**Comments:**

Floyd '99 at base of wood hutch/cabinet (stain mark)
(0.84 feet from floor) (Floyd 0003).



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0005.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

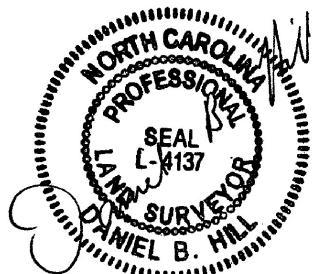
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET H-2

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0006**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 3.2 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 1105 N. Poindexter**Description of Mark:** Debris line in front of office for J.W. Jones Chip Mill**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.30774972**Easting:** 2,821,328**Longitude:** -76.21236189**Northing:** 942,466**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 60 FT**Comments:**

Can - GPS both HWM's ISA-03-0006 and Floyd-0004.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0006.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

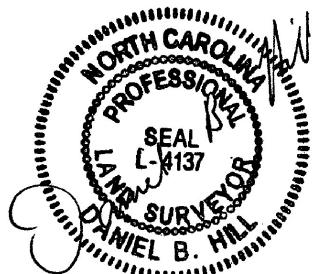
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET H-3

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0007**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 4.9 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 1515 Rivershore Road**Description of Mark:** 1 foot behind existing 15 inch pine near front of house (will be cut down) * (12 foot perpendicular to right edge of 1st front left window)***Type of Line:** Water Line**Description of Physical Structure:** No structure affected**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.28734616**Easting:** 2,824,217**Longitude:** -76.20326561**Northing:** 935,116**Approx. First Floor Elevation (Based on Measurement from Mark):** 7.5 FT**Approx. Distance to Shoreline:** 150 FT**Comments:**

Trees will be removed from front yard.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0007.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

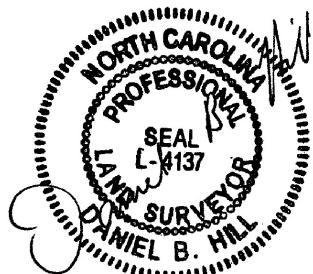
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET H-4

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0008**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 4.3 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 300 Breezewood Drive**Description of Mark:** Debris line in back yard**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.2799846**Easting:** 2,828,619**Longitude:** -76.18858234**Northing:** 932,559**Approx. First Floor Elevation (Based on Measurement from Mark):** 10.0 FT**Approx. Distance to Shoreline:** 40 FT**Comments:**

Floyd at top 1st step to deck.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0008.jpg

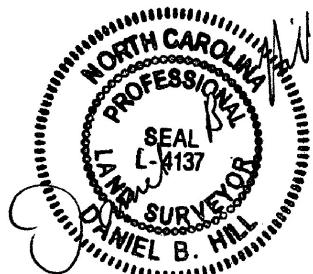


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET H-5

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0009**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 4.1 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** Bldg. 35 (Support Center)**Description of Mark:** Debris line at coast**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.26722967**Easting:** 2,832,560**Longitude:** -76.17565429**Northing:** 928,026**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 65 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0009.jpg

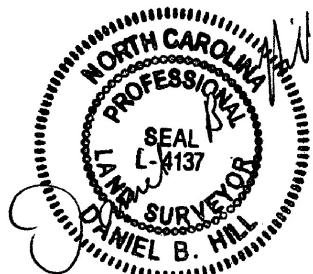


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET H-6

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0010**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 5.1 FT**Flooding Type:** Coastal Storm Surge**Location:** Exterior**Mark Address:** Bldg. 35 (Support Center)**Description of Mark:** Debris line btwn guard rail and rip rap**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.26722967**Easting:** 2,832,560**Longitude:** -76.17565429**Northing:** 928,026**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 65 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0010.jpg

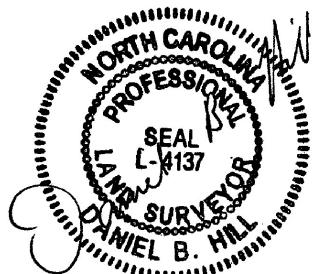


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

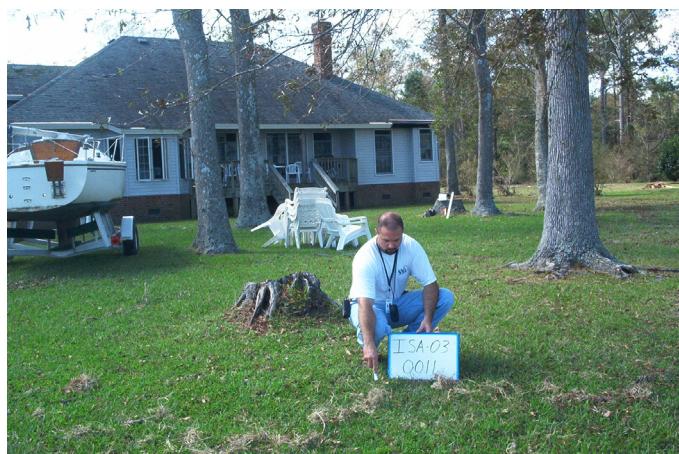
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET H-7

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0011**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 5.3 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 102 Small Drive, Elizabeth City NC 27909**Description of Mark:** Debris line (Wave Action)**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.2422129**Easting:** 2,844,764**Longitude:** -76.13513255**Northing:** 919,264**Approx. First Floor Elevation (Based on Measurement from Mark):** 9.5 FT**Approx. Distance to Shoreline:** 65 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0011.jpg

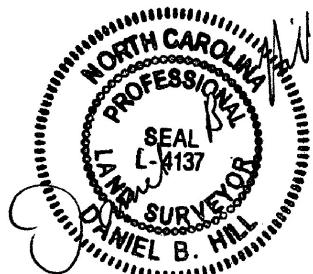


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET H-8

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-NF51**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** N/A**Flood Elevation:** N/A FT**Location:** Exterior**Flooding Type:** N/A**Description of Mark:** No evidence of flooding in vicinity of this coordinate**Type of Line:** N/A**Description of Physical Structure:** No structure affected**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:****Survey Type:** N/A**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.26083341**Easting:** 2,840,596**Longitude:** -76.14861104**Northing:** 925,926**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 60 FT**Comments:**

NO PICTURE AVAILABLE

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.

Photo Not Available

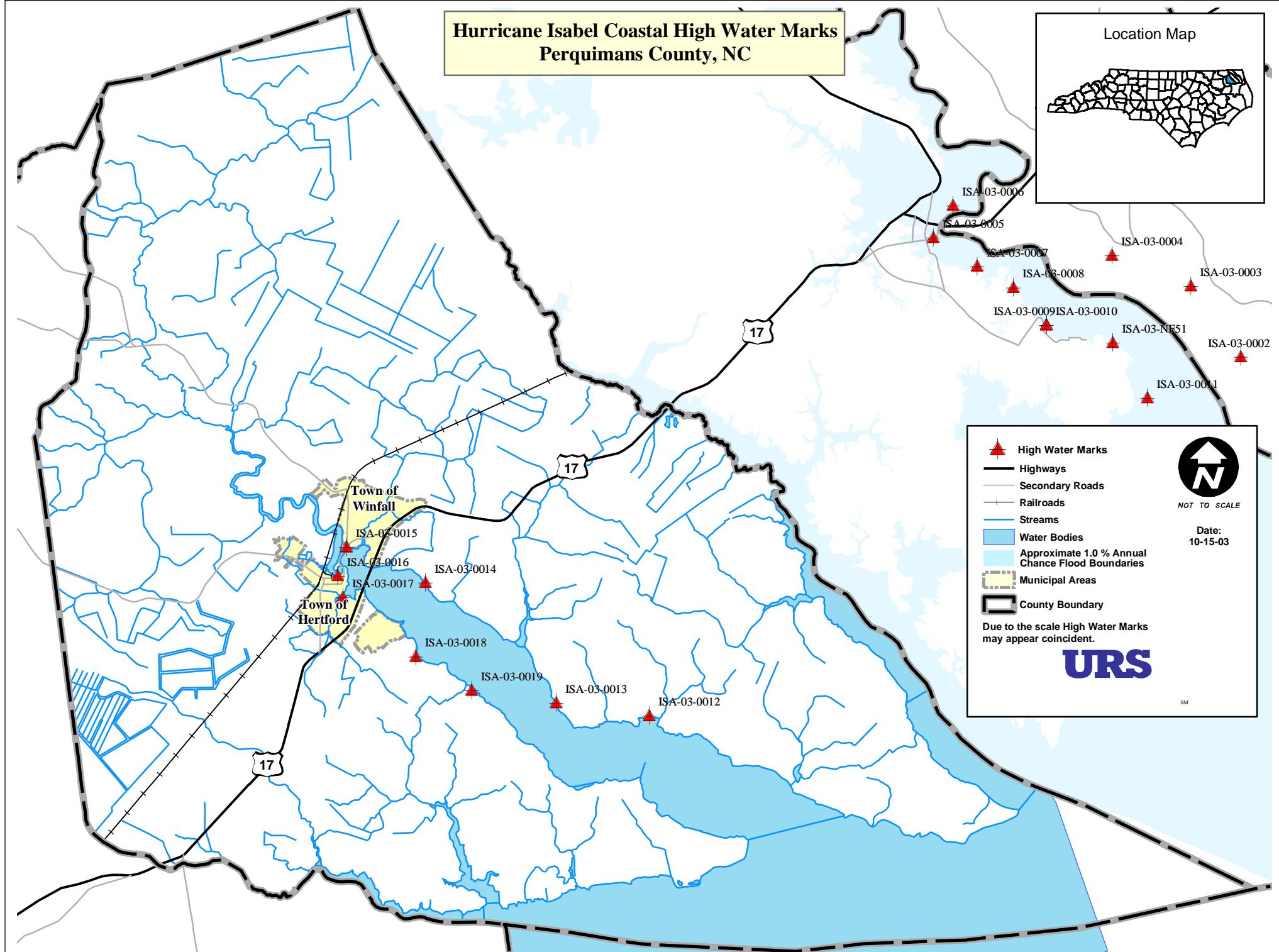
APPENDICES

Appendix I: Survey Sheets from Perquimans County

Figure I-1.

Hurricane Isabel Coastal High Water Marks
Perquimans County, NC

Location Map





PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

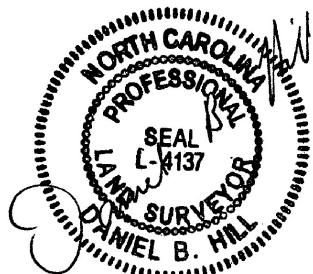
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET I-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0012**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 4.5 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 562 Cove Road, Hertford NC**Description of Mark:** Debris line near shore**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Hertford**County:** Perquimans**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.14155674**Easting:** 2,784,710**Longitude:** -76.34217417**Northing:** 880,935**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 110 FT**Comments:**

Property owner seemed nervous, may be son of owner.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0012.jpg

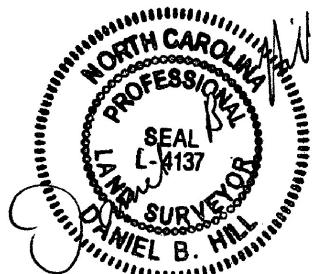


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET I-2

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0013**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 6.7 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** Near 672 Whitehat Drive**Description of Mark:** Debris line - open lot**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Hertford**County:** Perquimans**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.14659469**Easting:** 2,773,515**Longitude:** -76.37993841**Northing:** 882,472**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 35 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0013.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

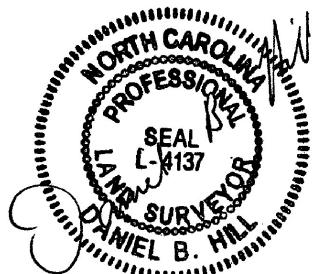
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET I-3

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0014**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Pasquotank River**Flood Elevation:** 8.8 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 431 Old Net Road, Hertford, NC 27944**Description of Mark:** Debris line - mark from memory**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Hertford**County:** Perquimans**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.18754917**Easting:** 2,757,744**Longitude:** -76.43206303**Northing:** 896,974**Approx. First Floor Elevation (Based on Measurement from Mark):** 13.1 FT**Approx. Distance to Shoreline:** 25 FT**Comments:**

Home address on Ainsley Road.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0014.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

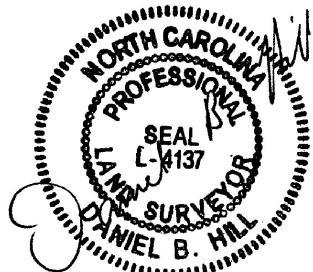
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET I-4

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0015**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Perquimans River**Flood Elevation:** 6.7 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 100 Creek Drive, Hertford NC 27944**Description of Mark:** 3.68 feet above ground on external front wall next to door of "Larry's Drive In"**Type of Line:** Water Line**Description of Physical Structure:** 1 story Brick Restaurant**Closest City:** Hertford**County:** Perquimans**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.20000442**Easting:** 2,748,252**Longitude:** -76.4638441**Northing:** 901,266**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.1 FT**Approx. Distance to Shoreline:** 70 FT**Comments:**

Water came up fast and left fast.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0015.jpg

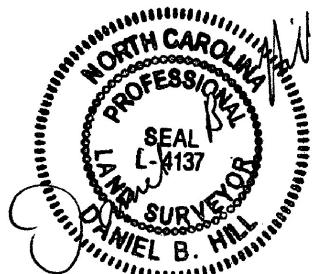


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

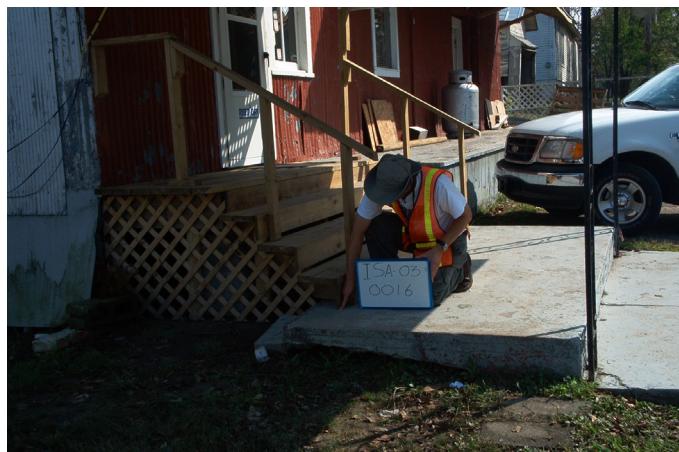
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET I-5

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0016**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Perquimans River**Flood Elevation:** 5.5 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 206 N. Covent Garden St. Hertford NC 27944**Description of Mark:** Top of concrete platform at intersection of concrete and wooden steps to building (Reed Gas Co.)**Type of Line:** Property Owner**Description of Physical Structure:** 2 story metal building**Closest City:** Hertford**County:** Perquimans**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.19061122**Easting:** 2,747,157**Longitude:** -76.4678527**Northing:** 897,818**Approx. First Floor Elevation (Based on Measurement from Mark):** 8.0 FT**Approx. Distance to Shoreline:** 160 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0016.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

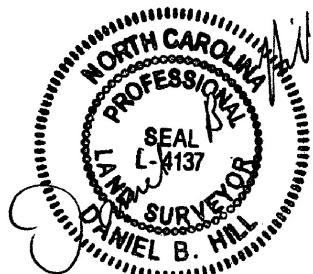
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET I-6

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0017**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Perquimans River**Flood Elevation:** 6.8 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** Church Street, Hertford NC 27944**Description of Mark:** Debris line on ground in southwest quadrant of Perquimans River and Church Street**Type of Line:** Debris Line**Description of Physical Structure:** no structure affected**Closest City:** Hertford**County:** Perquimans**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.18338151**Easting:** 2,747,813**Longitude:** -76.46585674**Northing:** 895,201**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 110 FT**Comments:**

GPS = HWM.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0017.jpg

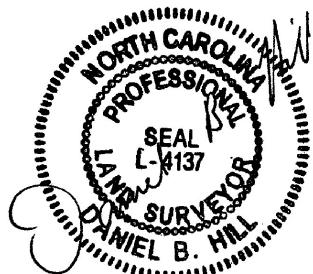


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET I-7

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0018**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Perquimans River**Flood Elevation:** 7.0 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** Drive off Harvey Point Road, Hertford NC 27944**Description of Mark:** Debris line on ground at river side of house**Type of Line:** Debris Line**Description of Physical Structure:** no structure affected**Closest City:** Hertford**County:** Perquimans**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.16323018**Easting:** 2,756,559**Longitude:** -76.43685355**Northing:** 888,088**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 85 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-0018.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

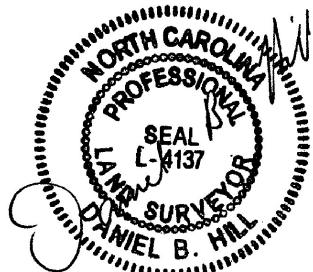
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET I-8

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-0019**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Perquimans River**Flood Elevation:** 7.2 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** Hertford Beach Road, Hertford NC 27944**Description of Mark:** Debris line near boat launch at river side of fence**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Hertford**County:** Perquimans**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/26/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.15154807**Easting:** 2,763,339**Longitude:** -76.41425477**Northing:** 884,009**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 60 FT**Comments:**

Herford Beach.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



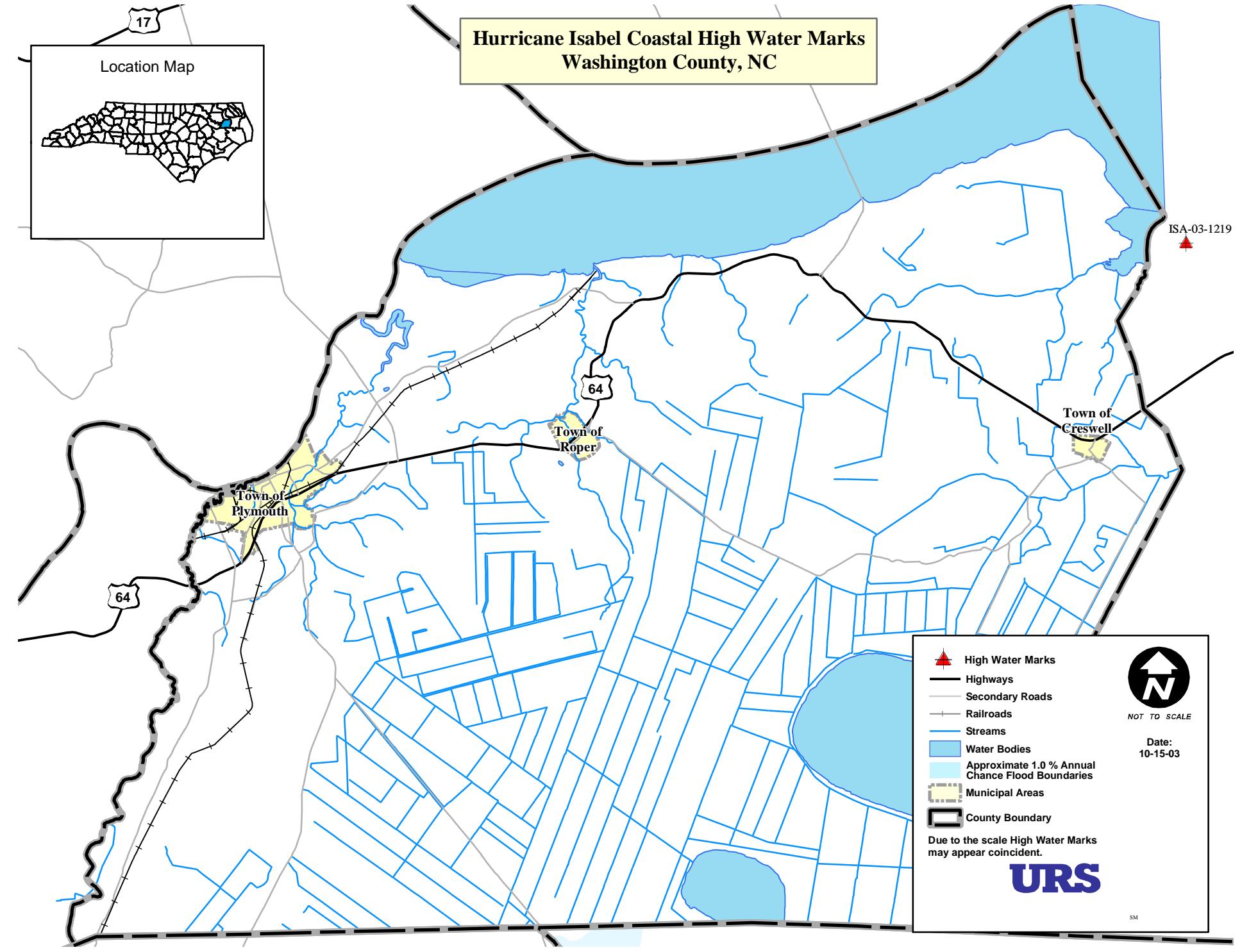
ISA-03-0019.jpg

APPENDICES

Appendix J: Survey Sheets from Washington County

Figure J-1.

Hurricane Isabel Coastal High Water Marks
Washington County, NC



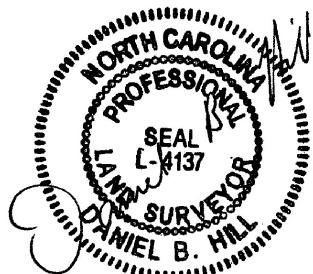


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET J-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: ISA-03-1219**Mark Type:** Coastal**Flood Event:** Hurricane Isabel**Date of Flood:** 09/18/2003**Flooding Source:** Albemarle Sound**Flood Elevation:** 4.2 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 1107 Bulls Bay Road**Description of Mark:** Under the house is a seed line, line is 1/2 inch below the opening of the crawl space below the house**Type of Line:** Seed Line**Description of Physical Structure:** Concrete block**Closest City:** Columbia**County:** Washington**State:** North Carolina**Flaggers:** CH & WMB**Company / Agency:** Watershed Concepts**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/29/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 35.94166672**Easting:** 2,784,589**Longitude:** -76.3491668**Northing:** 808,140**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.1 FT**Approx. Distance to Shoreline:** 15 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



ISA-03-1219.jpg

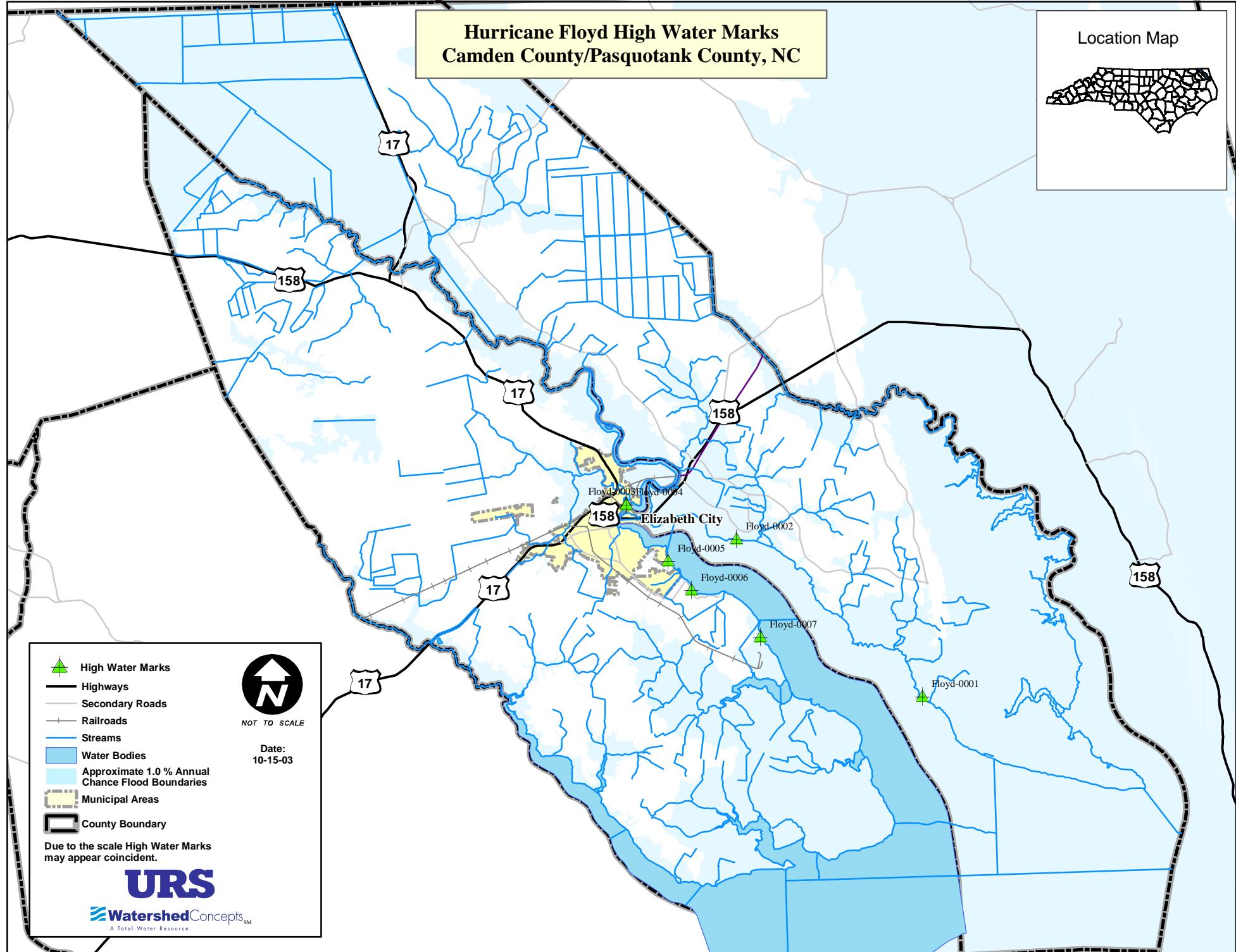
APPENDICES

Appendix K: Survey Sheets from Hurricane Floyd

Figure K-1.

Hurricane Floyd High Water Marks
Camden County/Pasquotank County, NC

Location Map





PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

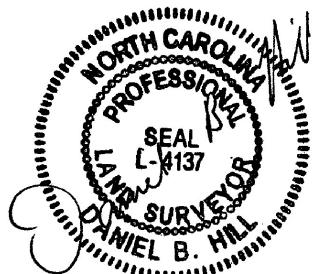
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET K-1

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: Floyd-0001**Mark Type:** Coastal**Flood Event:** Hurricane Floyd**Date of Flood:** 09/20/1999**Flooding Source:** Pasquotank River**Flood Elevation:** 4.4 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 258 One Mill Road, Shiloh NC 27974**Description of Mark:** Inside of door for shed**Type of Line:** Mark**Description of Physical Structure:** Wood Barn/Shed**Closest City:** Elizabeth City**County:** Camden**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.21149337**Easting:** 2,872,898**Longitude:** -76.04082644**Northing:** 908,901**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.6 FT**Approx. Distance to Shoreline:** 340 FT**Comments:**

HWM was a COE mark. Lower FF off porch.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



Floyd-0001.jpg

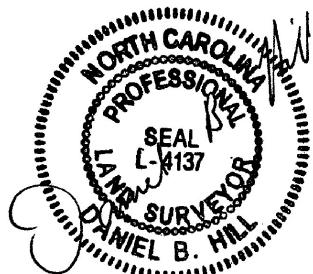


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET K-2

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: Floyd-0002**Mark Type:** Coastal**Flood Event:** Hurricane Floyd**Date of Flood:** 09/20/1999**Flooding Source:** Pasquotank River**Flood Elevation:** 5.5 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 502 Whitehall Road, Camden NC 27921**Description of Mark:** Top of air vent for crawl space**Type of Line:** Property Owner**Description of Physical Structure:** 2 story brick house**Closest City:** Elizabeth City**County:** Camden**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.28952092**Easting:** 2,840,511**Longitude:** -76.14788483**Northing:** 936,372**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.2 FT**Approx. Distance to Shoreline:** 120 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



Floyd-0002.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

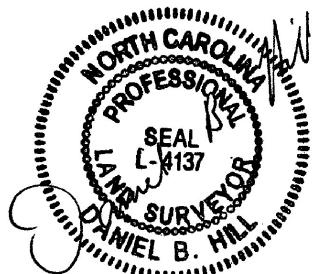
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET K-3

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: Floyd-0003**Mark Type:** Coastal**Flood Event:** Hurricane Floyd**Date of Flood:** 09/20/1999**Flooding Source:** Pasquotank River**Flood Elevation:** 4.4 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 502 E. Ehringhouse, Elizabeth City NC 27909**Description of Mark:** At base of wood hutch/cabinet (stain mark), 0.8 feet up from floor at commerce bldg.**Type of Line:** Water Line**Description of Physical Structure:** Wood hutch/cabinet**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.30761525**Easting:** 2,821,266**Longitude:** -76.21257535**Northing:** 942,416**Approx. First Floor Elevation (Based on Measurement from Mark):** 3.6 FT**Approx. Distance to Shoreline:** 140 FT**Comments:**

Elizabeth City Chamber of Commerce Building.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



Floyd-0003.jpg

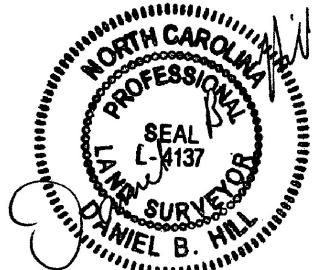


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET K-4

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: Floyd-0004**Mark Type:** Coastal**Flood Event:** Hurricane Floyd**Date of Flood:** 09/20/1999**Flooding Source:** Pasquotank River**Flood Elevation:** 4.7 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 1105 N. Poindexter, Elizabeth City NC 27909**Description of Mark:** Top corner of railroad ties at entrance to J.W. Jones chip mill**Type of Line:** Property Owner**Description of Physical Structure:** No structure affected**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/24/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.30750006**Easting:** 2,821,290**Longitude:** -76.21249991**Northing:** 942,374**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 160 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



Floyd-0004.jpg

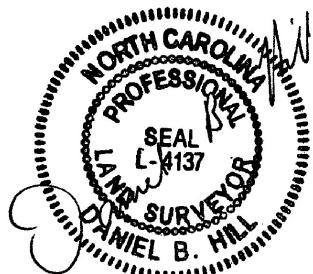


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET K-5

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: Floyd-0005**Mark Type:** Coastal**Flood Event:** Hurricane Floyd**Date of Flood:** 09/20/1999**Flooding Source:** Pasquotank River**Flood Elevation:** 5.8 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** 300 Breezewood Dr, Elizabeth City NC 27909**Description of Mark:** Top of 1st step to back deck**Type of Line:** Property Owner**Description of Physical Structure:** Wood deck**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.2800001**Easting:** 2,828,610**Longitude:** -76.18861098**Northing:** 932,565**Approx. First Floor Elevation (Based on Measurement from Mark):** 10.0 FT**Approx. Distance to Shoreline:** 45 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



Floyd-0005.jpg



PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

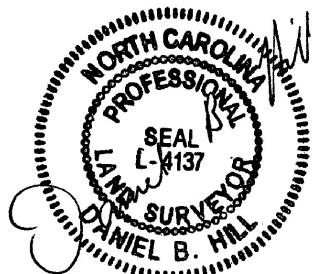
COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET K-6

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: Floyd-0006**Mark Type:** Coastal**Flood Event:** Hurricane Floyd**Date of Flood:** 09/20/1999**Flooding Source:** Pasquotank River**Flood Elevation:** 6.2 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** Bldg. 35 (Support Center)**Description of Mark:** Ground at corner of propellor base in front of Bldg. #35**Type of Line:** Debris Line**Description of Physical Structure:** No structure affected**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.26555551**Easting:** 2,832,688**Longitude:** -76.17527777**Northing:** 927,420**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A FT**Approx. Distance to Shoreline:** 160 FT**Comments:**

Elizabeth City Coast Guard Air Station.



The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



Floyd-0006.jpg

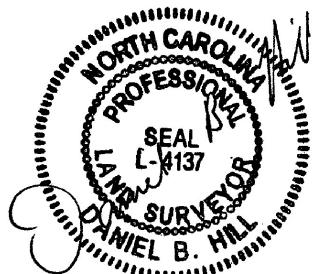


PROJECT FEMA-1490-DR-NC High Water Mark Survey Project

COMM. NO. 60428 DATE 10/30/2003 PREP BY AHH CHK BY DMK

TYPE High Water Mark Survey PREL. 10/13/2003 FINAL 10/30/2003 SHEET K-7

CONTENTS Individual Historical High Water Mark Survey Report

Historical Mark: Floyd-0007**Mark Type:** Coastal**Flood Event:** Hurricane Floyd**Date of Flood:** 09/20/1999**Flooding Source:** Pasquotank River**Flood Elevation:** 5.5 FT**Flooding Type:** Coastal Stillwater**Location:** Exterior**Mark Address:** Bldg. 35 (Support Center)**Description of Mark:** NE corner of house at ground level**Type of Line:** Property Owner**Description of Physical Structure:** 1 story frame house**Closest City:** Elizabeth City**County:** Pasquotank**State:** North Carolina**Flaggers:** BM & DH**Company / Agency:** ESP Associates**Flagging Date:** 09/25/2003**Surveyors:** Daniel B. Hill**Company / Agency:** ESP Associates**Survey Date:** 09/28/2003**Survey Type:** STATIC**Projection:** North Carolina**Vertical Datum:** NAVD 88**Horizontal Datum:** NAD 83**Latitude:** 36.24231446**Easting:** 2,844,671**Longitude:** -76.13544509**Northing:** 919,299**Approx. First Floor Elevation (Based on Measurement from Mark):** 9.5 FT**Approx. Distance to Shoreline:** 130 FT**Comments:**

The surveyor certifies that the established HWM locations have been surveyed to within the specified accuracies of 0.25 feet vertically and 10 feet horizontally with a 95% confidence level. If it was not feasible for the HWM location to be measured horizontally within 10 feet, an explanation is provided in the Comments section.



Floyd-0007.jpg