

Scope of Work for:  
“Hunting for History at Hillsboro Inlet” Marine Archaeology Education Program  
May and June, 2008

Prepared for the Florida Department of Historical Resources (the Department) by Dr. Kira E. Kaufmann, Marine Archaeologist, Florida Public Archaeology Network (FPAN) and Kristen Hoss MA, Ecologist, Vone Research, Inc.

Statement of Intent:

It is the goal of the FPAN and Vone Research to conduct a minimum of two dives in May and/or June 2008, south of the Hillsboro Inlet in Broward County (Figure 1) for the purpose of training and education of Sea Scouts and volunteers in Underwater Archaeological survey methods, including GPS and GIS training. If conditions permit, the research will consist of dives demonstrating documentation techniques such as mapping and measuring. This training may also include recovery, conservation, curation and display of artifacts if they are encountered. Participants will consist of divers and non-divers. Non-divers will assist topside on the research vessels.

The Exploration Contract Amendment between Division of Historical Resources Department of State of Florida and Vone Research, Inc., E-149F allows for exploration and excavation. However, according to page 2, section II, subsection 3 of the E-149F contract, written authorization from the Division must be granted before limited artifact recovery can be conducted. It is the intention of FPAN and Vone Research to obtain written authorization from the Department by satisfying the criteria listed in contract E-149F, Page 2, Section II, subsection 3, via this Scope of Work.

Previous Work:

Previous surveys of the area south of Hillsboro Inlet have been performed by Coastal Systems International Inc. (Figures 1 and 2) and by Vone Research Inc. (unpublished 2005-2007). Surveys by Vone Research Inc. included magnetometer and visual searches. Reports from the Coastal Systems International magnetometer survey submitted in 2007 state that there are no anomalies in the area (Sunderland, personal communication 2008). Vone Research reports that shipwreck debris does exist nearby to the area (Attis, personal communication 2008). However, the proposed survey area for this educational and outreach project has been determined by the Hillsboro..... (NEED TITKLE OF THE AGENCY DOING THE REEF MITIGATION HERE) to not have any submerged cultural resources that are potentially eligible for the National Register of Historic Places (DETETMINATION DATE HERE – CAN GET FROM DAN M POSSIBLY). Therefore, no potentially eligible remains will be affected by this Public Outreach and training project. If unanticipated remains that may be potentially significant are encountered, the Florida State Bureau of Archaeological Research and the State Underwater Archaeologist will be consulted and their recommendations will be followed.

### Research Questions:

Research Questions that will be addressed are: What is the value of presenting a Marine Archaeological Training experience in this area to local community members? What is the benefit to offering youth and other volunteer's real world opportunities to participate with avocational and professionals? Will such an outreach training project promote stewardship and conservation of other local area submerged cultural resources that may be potentially significant? How can Marine Archaeological training incorporate understandings of local ecology? What is the ecological health of the area/reef south of the Hillsboro Inlet? What is the ecological and educational impact of a focused field experience such as "Hunting for History at Hillsboro Inlet?" The project will also be used to assess experiential learning by using a couple different assessment tools. We also hope to learn how experiential learning can create stewards for archaeological resources and the environment as well as answer the question, "What should an archaeologically literate society learn about Marine Archaeology?"

### Project Goals:

The broad goal of this project is to develop Underwater Archaeological literacy and agency in local community members of the public. Ongoing assessment will be addressed throughout the project to qualify actual learning and understanding of Underwater Archaeological methods, and conservation for submerged cultural resources, for the participants involved. Students and the public will also receive Heritage Awareness training that addresses laws, ethics, and stewardship for submerged cultural resources in Florida.

Methodological and training goals for the students and members of the public are:

1. To teach students and other members of the public at large about the permitting, documentation, and reporting processes involved with Underwater Archaeological research in Florida
2. To teach students and other members of the public at large about methods, both pre and post-field investigations, involved with conducting Underwater Archaeological research in Florida.
3. To document the project area by obtaining basic GPS data, measurements, picture, video, and identifying any diagnostic resources.
4. To document any identified artifacts in situ and recovers them if appropriate and/or necessary to avoid destruction from the Reef mitigation project already approved by the Hillsboro... (AGENCY NAME HERE)

### Fieldwork Strategy:

The fieldwork that will be conducted will consist of direct visual surveys with scuba diving volunteers, using magnetometers, and using hand-held underwater metal detectors. Documentation of the training project, as well as archaeological methods, will be conducted through observations, measurements taken by reel tapes, GPS coordinate taking, drawing, mapping, digital underwater photography, and digital underwater videography. Recovery methods introduced as part of this Marine Archaeological training project will be the removal of the overburden sands by hand fanning and other subsurface sampling techniques as permitted by Vone Research's DEP Archaeological Excavation permit # 06-0226846-001.

All of the activities and documentation will take place along a 300 foot length and 60 foot width of the survey area (Figure 1). The “Hunting for History” training project site is 35 feet inshore of the exposed hard bottom (Figure 1 and 2). The locations of survey sites and any possible artifacts will be documented using GPS and will be entered into a GIS database. There will be no disturbance to the nearby hard bottom as a result of training activities. If there is an area of concern regarding loose debris that may be associated from any submerged cultural resource, such as a wreck, the Department of Historic Resources, Florida Bureau of Archaeological Research Underwater Archaeology department will be notified.

#### Personnel and Equipment:

Personnel will include Dr. Kira Kaufmann (Principal Investigator and Archaeologist), Dr. Ray McAllister (Professor Emeritus FAU), Kristen Hoss MA (Vone Research Ecologist and Educator), Stephen Attis (Vone Research-President), Robert Glanville (Vone Research-Crew), Joe Mancino (Vone Research-Safety Officer), Todd Guarnieri (Vone Research-Crew), Scott Cravens (Rescue Diver), Rick Householder (Geographer and Educator). Project personnel will attempt to make sure the project goals are accomplished to the level that they have been specified in this Scope of Work.

Diving activities will be conducted in accordance with the FAU, Seatech (AAUS members) diving program regulations. Divers will supply their own personal open circuit scuba equipment that will meet current visual and hydrostatic test inspection standards. Maximum dive profile depths will be 20 feet deep and will be maintained conservatively within recreational dive table limits to a maximum bottom time of 75 minutes. An appointed Diving Safety Officer will ensure that any modifications to the dive profiles of the divers will be to a more conservative level.

All other equipment, research vessels (R/V's), and kayaks will be provided by Vone Research, Inc. Gas cost to operate the R/V's will be approximately \$300.00. Support crew for the R/V's will be provided by Vone Research, Inc. GPS and GIS expertise will be provided by Rick Householder.

#### Projected Timetable:

The fieldwork portion of this training program will be conducted from May 1 through June 30, 2008. All activities will be completed prior to the Hillsboro... (NAME OF AGENCY HERE) reef mitigation activities so that training will in no way interfere with the progress of the city's project. Report writing activities will commence July 1, 2008 and be completed by September 30, 2008.

(DO YOU WANT TO PUT A TENTATIVE SCHEDULE OF DATES HERE?)

#### Results and Report Preparation:

Results will be compiled in a final report that documents the activities conducted at the “Hunting for History at Hillsboro Inlet” project area from the observations, photography, videography, and measurements that were obtained as a result of the training dives. A report with results about educational value and archaeological findings, if any, will be submitted within 90 days of completion of the fieldwork. Viable digital data will be transcribed to a disc and submitted with the report. The final report will be submitted to the Florida Division of Historical resources, Bureau of Archaeological

Research by September 30, 2008. (IS A SITE FORM NEEDED? IF SO, “We will submit all necessary Florida Master Site File forms and documentation by September 30, 2008 as well.)

A promotional video will be created by Vone Research to be used for future FPAN projects. Additional copies of the report and digital data will be kept on file at the FPAN southeast regional office and the Department of Anthropology at Florida Atlantic University.

#### Contingency Plans:

Because factors (such as inclement weather, personnel scheduling conflicts, and equipment malfunction) are often beyond the control of individuals conducting research in the ocean environment, adjustments may be necessary to the planned activities or planned schedule to carryout the goals of this project. For this reason, the schedule of activities has been addressed to be as broad in order to accommodate changes necessitated by such circumstances as inclement weather, etc. The project activities are prioritized to occur in relation to the best benefit in training for the volunteer participants. It is also important to describe contingencies for unanticipated discovers which is outlined below.

#### Unanticipated Discovery Plan for Artifacts if Found:

It is not assumed that there are any artifacts in the “Hunting for History at Hillsboro Inlet” project area that are of National Historic Register Significance. However, Vone Research has documented findings of timbers greater than 50 years old and other shipwreck debris nearby. Because of this, it is necessary to have a contingency plan for potentially significant cultural remains in place prior to exploration of, and conducting training activities in, the area. If artifacts are discovered, the scope of work includes first contacting the Department of Historic Resources, Florida Bureau of Archaeological Research Underwater Archaeology department for consultation and advice. Upon their recommendations, artifacts may be recovered to prevent further deterioration or destruction.

Because the goal of this training project is to educate volunteers about all aspects of Marine Archaeological research, local community members will be exposed to and trained in conservation methods as well. The unanticipated discovery plan also incorporates a conservation program that engages the participants to conserve any artifacts recovered. Once recovered, the conservation plan for any artifacts includes: being immediately placed in containers of salt water to prevent oxidation, being stored in salt water at Vone Research headquarters and Pompano Beach High School, conservation techniques applicable to the artifacts recovered, and finally placement in an appropriate curation or display facility. FPAN and Vone Research will assist Pompano Beach High School to create electrolysis tanks or other artifact conservation tanks with student groups, Sea Scouts, and volunteers. The tanks will reside at Vone Research Headquarters and Pompano Beach High School where the conservation will take place. As part of the conservation process, any artifacts recovered will be cleaned, encrustation will be removed, and oxidation will be kept to a minimum. All activities will occur under the direction and oversight of FPAN, Vone Research Inc., and the staff of Pompano Beach High School.

A primary goal of this training project is to disseminate knowledge to the community about submerged cultural resources and the methods Archaeologists use to investigate, identify, recover, document, and conserve submerged cultural resources in the region. With this in mind, conserved artifacts will ultimately be put on public display at the Maritime Museum in Ft. Lauderdale or another appropriate local public facility.

#### Detailed Methodology for Permit Requirements under Permit E-149F, Page 2, Section II, subsection 3

The following criteria must be met under contract E-149F in order recover artifacts that will be destroyed if left *in situ*: “1) The *Explorer* has established a secure artifact storage facility sufficient to reasonably protect recovered artifacts from deterioration, loss of provenience information and vandalism. 2) The *Explorer’s* archaeologist has developed written procedures for artifact tagging, handling, and storage.” Because the goal of this training project is to educate volunteers about all aspects of Marine Archaeological research, local community members will be exposed to and trained in artifact handling, conservation, curation, and display methods as well. The unanticipated discovery plan also incorporates a conservation program that engages the students to conserve any artifacts recovered.

To satisfy criteria 1), during recovery, artifacts will be placed in Tupperware containers underwater and lifted to the surface. The artifacts will remain submerged in saltwater in the containers and will also placed in a basin of saltwater upon the research vessel. In case any of the containers leak, this will help to prevent oxidation. Any artifacts will then be transported to Pompano Beach High School for short term storage prior to conservation. Conservation will occur at Pompano Beach High School and South Broward High School. Once artifacts are conserved, they will be stored primarily at the Ft. Lauderdale Maritime Museum. Contingency storage facilities include the Broward County Historical Commission and Museum, Pompano Historical Society and Pompano Beach High School. Artifacts that are not put on public display will be stored in perpetuity at the Broward County Historical Commission and Museum. Vone and FPAN would like permission to curate select artifacts for outreach programs and in-school programs, chosen under the consultation and advisement of the Department. (THIS SECTION IS REPEATED UNDER “STORAGE” DO YOU NEED IT IN 2 PLACES?)

To satisfy criteria 2), the archaeologist’s written procedures for artifact tagging, handling, and storage are outlined below.

#### Surveying

Multiple survey methods will be used to educate students about underwater archaeology, they are outlined below.

- 1) The survey plot (HID Mitigation Area) will be divided into a grid that measures 1000 feet by 200 feet (Figure 3). The grid will be subdivided into 20- 100’x100’ units (Figure 3). The grid will be marked underwater on the sand using flags and transect tapes.
- 2) A magnetometer survey will be performed, running 2 parallel transects which are spaced 100’ apart (Figure 3).
- 3) Four divers will be deployed to pinpoint anomalies using handheld metal detectors.

- 4) While pinpointing is occurring, other divers/snorklers will be deployed to perform visual surveys along 20-200 foot long fixed transects (Figure 3), assuming visibility is at least 25 feet.
- 5) 2 divers will also be using underwater video cameras to record benthos along the transects.
- 6) Pinpointed anomalies will be excavated, identified, tagged, and photographed *in situ*. Artifacts found through the visual survey will also be tagged, photographed *in situ*. Those artifacts found within the project area will also be recovered to prevent their destruction from Hillsboro (NAME OF AGENCY) reef mitigation activities.
- 7) Benthic subsurface sampling within the survey grid will be performed. Sampling will occur at the corners and in the center of each grid unit for a total of 44 sampling sites (Figure 3). Focus of sampling efforts will be around areas which are directly within the project area. No sampling will occur within grid units or locations which fall on hardbottom, reef, or within the 35 foot buffer zone proposed by HID (Figure 1).

### Tagging

Artifacts shall be tagged *in situ*. Any diver responsible for tagging/ handling artifacts will wear gloves to protect the integrity of the artifacts. Divers will be in possession of pre-printed artifact tags. Each tag will have the grid unit ID and artifact number printed on it. If an artifact is found, a tag will be placed adjacent to the artifact and a photograph will be taken with the artifact *in situ*. A second matching tag will be placed in an appropriate sized Tupperware container in which the artifact will be temporarily stored. The artifact will then be placed into the Tupperware container and a lid will be secured on top.

If there are multiple artifacts in the area, the benthic tag will remain *in situ* until photos are taken of all artifact tags in the area, thus creating a context photo for a photo mosaic map. Moreover, these photos will be used in conjunction with GIS maps. Once the photographs are taken, tags will be collected. Tags will remain with artifacts throughout the handling, conservation, and curation phases.

### Handling

Artifacts will be handled using gloves so that they are not contaminated. They will remain in Tupperware containers before conservation and during curation if more suitable storage is not available.

Artifacts will be conserved according to the most updated, available conservation techniques including using electrolysis tanks for metal objects and PEG for wooden objects. Methods for conservation and storage will be finalized if artifacts are found, and the Department of Historic Resources, Florida Bureau of Archaeological Research Underwater Archaeology department will be consulted regarding conservation techniques and references most appropriate for recovered artifacts. Moreover, students will be involved with researching artifact conservation techniques and determining which techniques are most appropriate and feasible for the artifacts.

### Storage

Artifacts will be stored at a secure artifact storage facility sufficient to reasonably protect recovered artifacts from deterioration, loss of provenience information, and vandalism. Storage during recovery: artifacts will be placed in Tupperware containers, submerged in water, and lifted to the surface. The artifacts will remain submerged in saltwater in the containers and will also be placed in a basin of saltwater up on the Research vessel. In case any of the containers leak, this will help to prevent oxidation.

Post recovery: artifacts will be transported to Pompano Beach High School for short term storage of artifacts prior to conservation. Conservation will occur at Pompano Beach High School and South Broward High School. Once artifacts are conserved, they will be stored primarily at the Ft. Lauderdale Maritime Museum (INCLUDE A LETTER THAT STAYTES MUSERM WILL DO THIS). Contingency storage facilities include the Broward County Historical Commission and Museum, the Pompano Historical Society, and the Pompano Beach High School. Artifacts that are not put on public display will be stored in perpetuity at the Broward County Historical Commission and Museum. Moreover, if deemed acceptable by the Florida Division of Historical Resources, Vone Research Inc. will curate select artifacts for outreach programs and in-school programs at their headquarters.

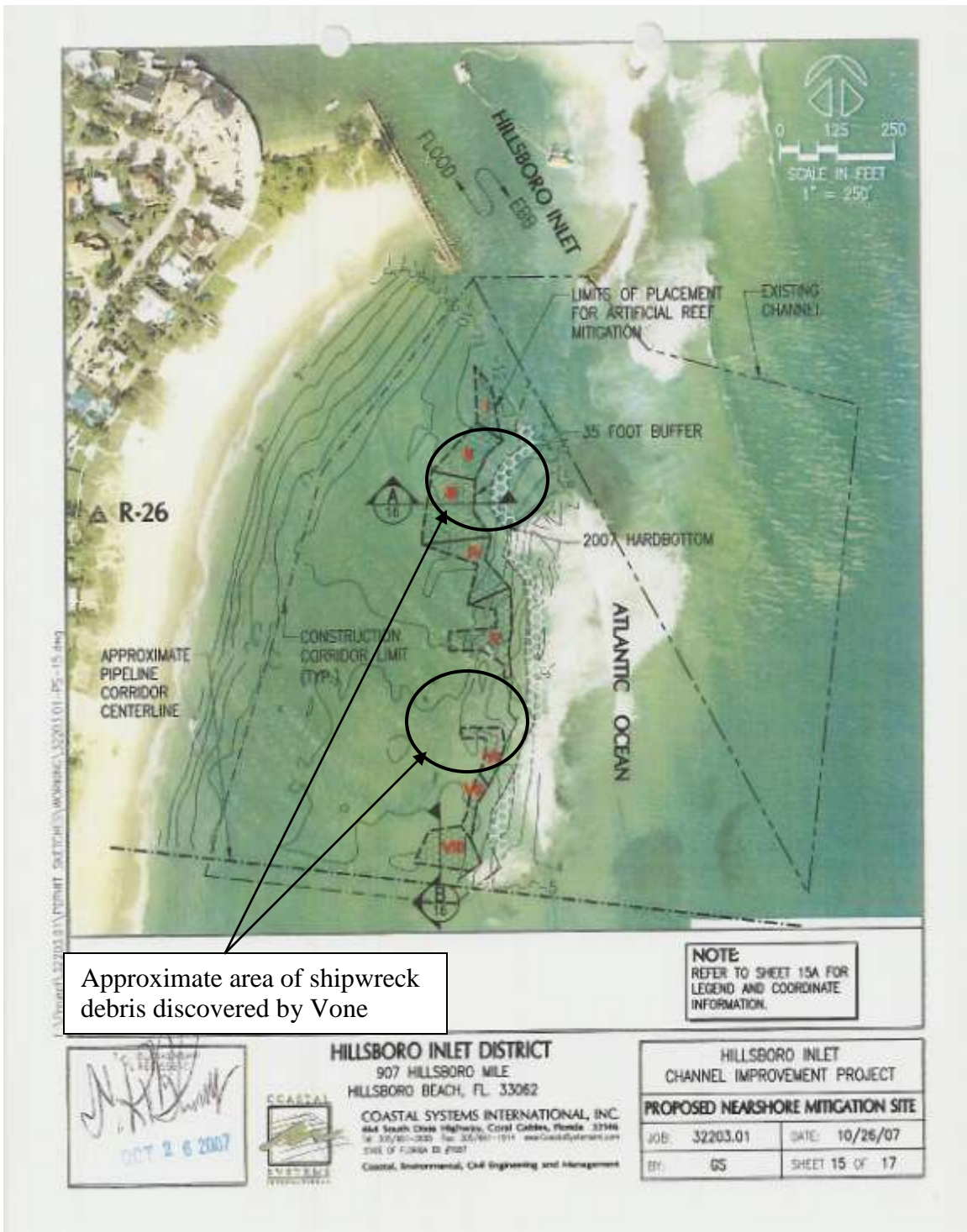


Figure 1. “Hunting for History at Hillsboro Inlet” location is the same as mitigation site referenced above. (Coastal Systems 2007)



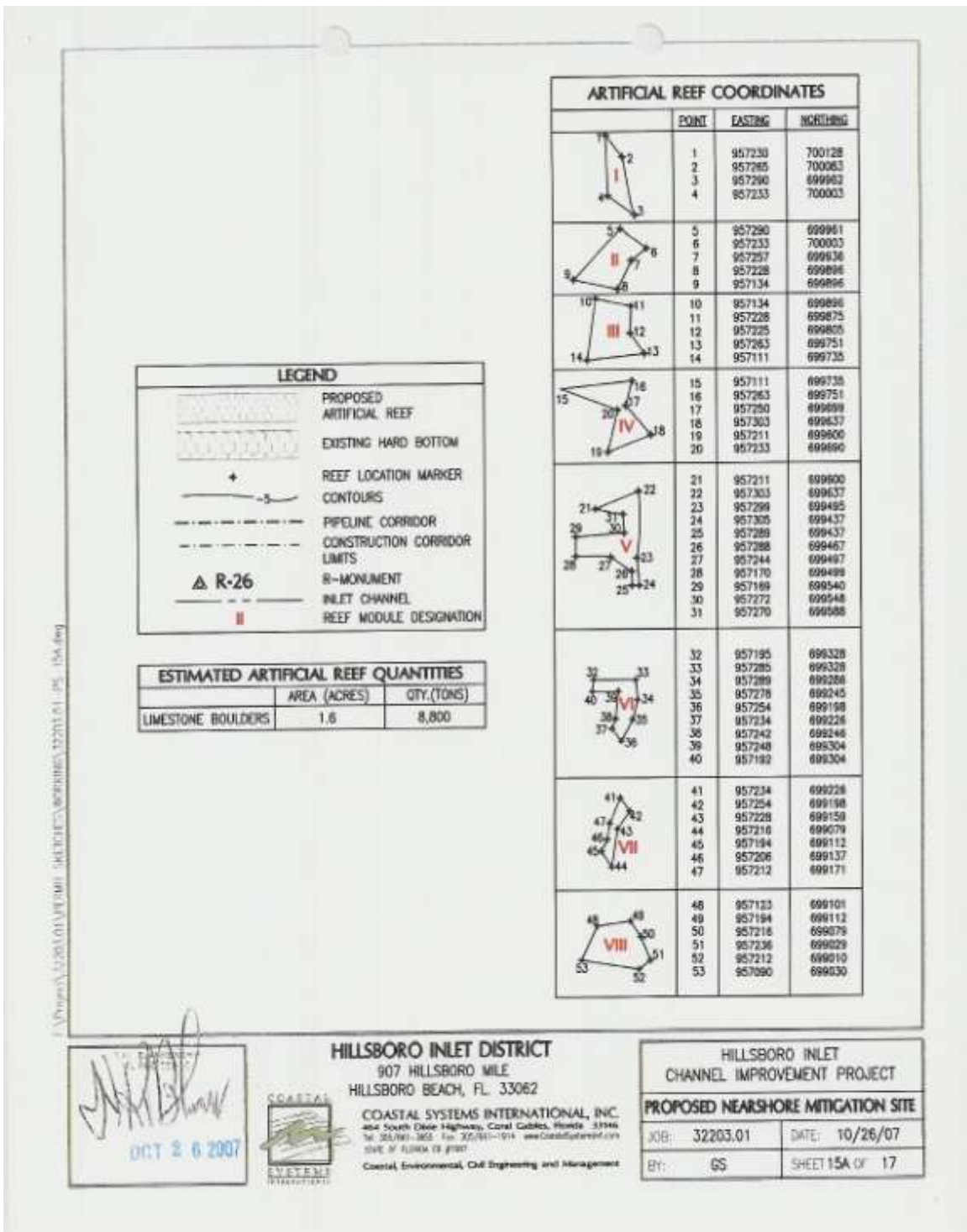


Figure 2. Coordinates of “Hunting for History at Hillsboro Inlet” (Coastal Systems 2007)



Key: Sites and Grid are not to scale, locations and sizes are approximate

- Benthic SubSurface Sampling Sites
- Survey / Sampling Grid boundaries
- Survey transects – spaced 50’ apart
- ⋮ Magnetometer Survey Track - Spaced

Figure 3. Survey and Sampling Grid showing approximate location of survey grid, transects and sampling sites.