

PROJECT #: 60061637

APPLICATION FOR CONCEPTUAL ENVIRONMENTAL RESOURCE PERMIT

**NORTH FORT MYERS SURFACE WATER MANAGEMENT PLAN
LEE COUNTY, FLORIDA**

PREPARED FOR:

LEE COUNTY
1500 MONROE STREET
FORT MYERS, FL 33901

PREPARED BY:

AECOM
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(561) 684-3375

OCTOBER 2010

NFMSWMP ERP Conceptual Permit Application

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FOR AGENCY USE ONLY	
ACOE Application # _____	DEP/WMD Application # _____
Date Application Received _____	Date Application Received _____
Proposed Project Lat. _____ <input type="checkbox"/> N _____ O	Fee Received _____
Proposed Project Long. _____ <input type="checkbox"/> N _____ O	\$ _____
	Fee Receipt # _____

SECTION A

Are any of the activities described in this application proposed to occur in, on, or over wetlands or other surface waters?

☒ yes ☐ no

Is this application being filed by or on behalf of a government entity or drainage district?

☒ yes ☐ no

A. Type of Environmental Resource Permit Requested (check at least one)

- ☐ Noticed General - include information requested in Section B.
- ☐ Standard General (Single Family Dwelling)-include information requested in Sections C and D.
- ☐ Standard General (all other projects) - include information requested in Sections C and E.
- ☐ Individual (Single Family Dwelling) - include information requested in Sections C and D.
- ☐ Individual (all other projects) - include information requested in Sections C and E.
- ☒ Conceptual - include information requested in Sections C and E.
- ☐ Mitigation Bank Permit (construction) - include information requested in Section C and F.
(If the proposed mitigation bank involves the construction of a surface water management system requiring another permit defined above, check the appropriate box and submit the information requested by the applicable section.)
- ☐ Mitigation Bank (conceptual) - include information requested in Section C and F.

B. Type of activity for which you are applying (check at least one)

- ☐ Construction or operation of a new system including dredging or filling in, on or over wetlands and other surface waters.
- ☒ Alteration or operation of an existing system which was not previously permitted by a WMD or DEP.
- ☐ Modification of a system previously permitted by a WMD or DEP. Provide previous permit numbers. _____
 - ☐ Alteration of a system ☐ Extension of permit duration ☐ Abandonment of a system
 - ☐ Construction of additional phases of a system ☐ Removal of a system

C. Are you requesting authorization to use State Owned Lands? ☐ yes ☒ no (If yes include the information requested in Section G.)

D. For activities in, on or over wetlands or other surface waters, check type of federal dredge and fill permit requested:

- ☐ Individual ☐ Programmatic General
- ☐ General ☐ Nationwide ☒ Not Applicable

E. Are you claiming to qualify for an exemption? ☐ yes ☒ no If yes provide rule number if known. _____

OWNER(S) OF LAND	ENTITY TO RECEIVE PERMIT (IF OTHER THAN OWNER)
NAME Lee County Board of County Commissioners	NAME
ADDRESS 1500 Monroe Street	ADDRESS
CITY, STATE, ZIP Fort Myers, FL 33901	CITY, STATE, ZIP
COMPANY AND TITLE Lee County Board of County Commissioners	COMPANY AND TITLE
TELEPHONE (239) 533-2221 FAX (239) 485-2262	TELEPHONE () FAX ()
AGENT AUTHORIZED TO SECURE PERMIT (IF AN AGENT IS USED)	CONSULTANT (IF DIFFERENT FROM AGENT)
NAME	NAME Karen Brandon, P.E.
COMPANY AND TITLE	COMPANY AND TITLE AECOM, Sr. Engineer
ADDRESS	ADDRESS 2090 Palm Beach Lakes Blvd, Suite 600
CITY, STATE, ZIP	CITY, STATE, ZIP West Palm Beach, FL 33409
TELEPHONE () FAX ()	TELEPHONE (561) 684-3375 FAX (561) 689-8531
<p>Name of project, including phase if applicable <u>Lee County - North Fort Myers Surface Water Management Plan</u></p> <p>Is this application for part of a multi-phase project? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no</p> <p>Total applicant-owned area contiguous to the project <u>N/A</u> ac</p> <p>Total project area for which a permit is sought <u>34</u> ac</p> <p>Impervious area for which a permit is sought <u>0</u> ac</p> <p>What is the total area (metric equivalent for federally funded projects) of work in, on, or over wetlands or other surface waters?</p> <p><u>3.7</u> acres square feet hectares square meters</p> <p>Number of new boat slips proposed. <u>0</u></p> <p>Project location (use additional sheets, if needed)</p> <p>County(ies) <u>Lee (see Attached Exhibit 1 for S/T/R)</u></p> <p>Section(s) Township Range </p> <p>Section(s) Township Range </p> <p>Land Grant name, if applicable <u>N/A</u></p> <p>Tax Parcel Identification Number <u>N/A</u></p> <p>Street address, road, or other location <u>N/A</u></p> <p>City, Zip Code if applicable <u>N/A</u></p>	

Describe in general terms the proposed project, system, or activity. The NFMWSMP is a Master Watershed Plan whose purpose was to map existing stormwater conveyance and control structures in 21 watersheds between US 41 and US 31 and identify the extent of roadway flooding along the main creeks of the watersheds. Flood prone areas were identified and conceptual improvement projects were proposed to reduce roadway flooding to acceptable Levels of Service as defined by the Lee Co. Comprehensive Plan.

The proposed projects include culvert replacement and addition, raising roadway elevations at creek crossings, conveyance improvements such as re-grading and widening ditches or swales, and creation of storage facilities such as ponds.

If there have been any pre-application meetings, including at the project site, with regulatory staff, please list the date(s), location(s), and names of key staff and project representatives. Pre-application Mtg at SFWMD on April 26, 2010. Attendees included: Clyde Dabbs, Steve Sentes and Laura Layman of SFWMD; Anura Karuna-Muni and Roland Ottolini of Lee County; Karen Brandon and Robert Garland of AECOM; A copy of the meeting summary is included as Exhibit 2.

Please identify by number any MSSW/Wetland resource/ERP/ACOE Permits pending, issued or denied for projects at the location, and any related enforcement actions.

Agency	Date	No./Type of Application	Action Taken
N/A			

Note: The following information is required **only** for projects proposed to occur in, on or over wetlands that need a federal dredge and fill permit and/or authorization to use state owned submerged lands and is not necessary when applying solely for an Environmental Resource Permit. Please provide the names, addresses and zip codes of property owners whose property directly adjoins the project (excluding applicant). Please attach a plan view showing the owner's names and adjoining property lines. Attach additional sheets if necessary.

1. N/A	2.
3.	4.

By signing this application form, I am applying, or I am applying on behalf of the applicant, for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application and represent that such information is true, complete and accurate. I understand this is an application and not a permit, and that work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto, does not relieve me of any obligation for obtaining any other required federal, state, water management district or local permit prior to commencement of construction. I agree, or I agree on behalf of my corporation, to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a responsible operation entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Typed/Printed Name of Applicant (If no Agent is used) or Agent (If one is so authorized below)

Signature of Applicant/Agent

Date

(Corporate Title if applicable)

AN AGENT MAY SIGN ABOVE ONLY IF THE APPLICANT COMPLETES THE FOLLOWING:

I hereby designate and authorize the agent listed above to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above; and to furnish, on request, supplemental information in support of the application. In addition, I authorize the above-listed agent to bind me, or my corporation, to perform any requirement which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Typed/Printed Name of Applicant

Signature of Applicant/Agent

Date

(Corporate Title if applicable)

Please note: The applicant's original signature (not a copy) is required above.

PERSON AUTHORIZING ACCESS TO THE PROPERTY MUST COMPLETE THE FOLLOWING:

I either own the property described in this application or I have legal authority to allow access to the property, and I consent, after receiving prior notification, to any site visit on the property by agents or personnel from the Department of Environmental Protection, the Water Management District and the U.S. Army Corps of Engineers necessary for the review and inspection of the proposed project specified in this application. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review and inspection. Further, I agree to provide entry to the project site for such agents or personnel to monitor permitted work if a permit is granted.

Typed/Printed Name of Applicant

Signature of Applicant/Agent

Date

(Corporate Title if applicable)

SECTION C

Environmental Resource Permit Notice of Receipt of Application

This information is required in addition to that required in other sections of the application. Please submit five copies of this notice of receipt of application and all attachments with the other required information. **PLEASE SUBMIT ALL INFORMATION ON PAPER NO LARGER THAN 2' x 3'.**

Project Name:	Lee County-North Fort Myers Surface Water Management Plan
County:	Lee
Owner:	Lee County Board of County Commissioners
Applicant:	Lee County Board of County Commissioners
Applicant's Address:	1500 Monroe Street, Fort Myers, Florida 33901

1. Indicate the project boundaries on a USGS quadrangle map. Attach a location map showing the boundary of the proposed activity. The map should also contain a north arrow and a graphic scale; show Section(s), Township(s), and Range(s); and must be of sufficient detail to allow a person unfamiliar with the site to find it.
See Exhibit 4.
2. Provide the names of all wetlands, or other surface waters that would be dredged, filled, impounded, diverted, drained, or would receive discharge (either directly or indirectly), or would otherwise be impacted by the proposed activity, and specify if they are in an Outstanding Florida Water or Aquatic Preserve:
This application is for a Conceptual Permit. No construction activities are proposed at this time.
3. Attach a depiction (plan and section views), which clearly shows the works or other facilities proposed to be constructed. Use multiple sheets, if necessary. Use a scale sufficient to show the location and type of works.
See Exhibits 5-15.
4. Briefly describe the proposed project (such as "construct a deck with boatshelter", "replace two existing culverts", "construct surface water management system to serve 150 acre residential development"):
The proposed project includes culvert replacements and additions, raising roadway elevations at Creek crossings, conveyance improvements such as re-grading and widening ditches or swales, and creation of storage facilities such as ponds.
5. Specify the acreage of wetlands or other surface waters, if any, that are proposed to be disturbed, filled, excavated, or otherwise impacted by the proposed activity:
3.7 acres
6. Provide a brief statement describing any proposed mitigation for impacts to wetlands and other surface waters (attach additional sheets if necessary):
Mitigation can be provided, if necessary, in Lee County's Nalle Grade Park in the Bayshore Creek Basin, where a 30 +/- acre wetland is proposed to be re-hydrated and enhanced.

FOR AGENCY USE ONLY

Application Name:
Application Number:
Office where the application can be inspected:

SECTION E

INFORMATION FOR STANDARD GENERAL, INDIVIDUAL AND CONCEPTUAL ENVIRONMENTAL RESOURCE PERMITS FOR PROJECTS NOT RELATED TO A SINGLE FAMILY DWELLING UNIT

Please provide the information requested below if the proposed project requires either a standard general, individual, or conceptual approval environmental resource permit and is not related to an individual, single family dwelling unit, duplex or quadraplex. The information listed below represents the level of information that is usually required to evaluate an application. The level of information required for a specific project will vary depending on the nature and location of the site and the activity proposed. Conceptual approvals generally do not require the same level of detail as a construction permit. However, providing a greater level of detail will reduce the need to submit additional information at a later date. If an item does not apply to your project, proceed to the next item. **PLEASE SUBMIT ALL INFORMATION ON PAPER NO LARGER THAN 24" X 36"**.

I. Site Information

- A. Provide a map(s) of the project area and vicinity delineating USDA/SCS soil types. Appendix I of the NFMSWMP Report for the Soils Map.
- B. Provide recent aerials, legible for photointerpretation with a scale of 1" = 400 ft, or more detailed, with project boundaries delineated on the aerial. See Exhibits 5 -15.
- C. Identify the seasonal high water or mean high tide elevation and normal pool or mean low tide elevation for each on site wetland or surface water, including receiving waters into which runoff will be discharged. Include dates, datum, and methods used to determine these elevations. The SHW elevation is estimated from the soil survey to be 1.5 feet below natural ground. Detailed soil information will be collected during the detailed design and preparation of construction plans.
- D. Identify the wet season high water tables at the locations representative of the entire project site. Include dates, datum, and methods used to determine these elevations. Groundwater contour maps are provided by basin in the NFMSWMP Report. Determination of site specific SHW elevations will be determined through borings performed for detailed design purposes.

II. Environmental Considerations

- A. Provide results of any wildlife surveys that have been conducted on the site, and provide any comments pertaining to the project from the Florida Game and Fresh Water Fish Commission and the U.S. Fish and Wildlife Service. See Appendix M of NFMSWMP Report.
- B. Provide a description of how water quantity, quality, hydroperiod, and habitat will be maintained in on-site wetlands and other surface waters that will be preserved or will remain undisturbed. N/A
- C. Provide a narrative description of any proposed mitigation plans, including purpose, maintenance, monitoring, and construction sequence and techniques, and estimated costs. A detailed mitigation plan will be developed during the design of the Bayshore Creek basin improvements at Nalle Grade Park
- D. Describe how boundaries of wetlands or other surface waters were determined. If there has ever been a jurisdictional declaratory statement, a formal wetland determination, a formal determination, a validated informal determination, or a revalidated jurisdictional determination, provide the identifying number. Wetland boundary determinations will be made during the design process, prior to the preparation of construction plans for each project.

E. Impact Summary Tables:

1. For all projects, complete Table 1, 2 and 3 as applicable. A general area of impact has been estimated. However, until a formal wetland determination is made, topographic information is collected and the detailed design is completed, the actual impacts cannot be determined.
2. For docking facilities or other structures constructed over wetlands or other surface waters, provide the information requested in Table 4. N/A
3. For shoreline stabilization projects, provide the information requested in Table 5. _____

III. Plans

Provide clear, detailed plans for the system including specifications, plan (overhead) views, cross sections (with the locations of the cross sections shown on the corresponding plan view), and profile (longitudinal) views of the proposed project. The plans must be signed and sealed by an appropriate registered professional as required by law. Plans must include a scale and a north arrow. These plans should show the following:

- A. Project area boundary and total land area, including distances and orientation from roads or other land marks; See Exhibit 5-13. Individual subbasin maps are included in each subsection of the NFMSWMP Report.
- B. Existing land use and land cover (acreage and percentages), and on-site natural communities, including wetlands and other surface waters, aquatic communities, and uplands. Use the Florida Land Use Cover & Classification System (FLUCCS) (Level 3) for projects proposed in the South Florida Water Management District, the St. Johns River Water Management District, and the Suwannee River Water Management District and use the National Wetlands Inventory (NWI) for projects proposed in the Southwest Florida Water Management District. Also identify each community with a unique identification number which must be consistent in all exhibits. See Appendix G of NFMSWMP Report for Existing Conditions Land Use Map.
- C. The existing topography extending at least 100 feet off the project area, and including adjacent wetlands and other surface waters. All topography shall include the location and a description of known benchmarks, referenced to NGVD. For systems waterward of the mean high water (MHW) or seasonal high water lines, show water depths, referenced to mean low water (MLW) in tidal areas or seasonal low water in non-tidal areas, and list the range between MHW and MLW. For docking facilities, indicate the distance to, location of, and depths of the nearest navigational channel and access routes to the channel. See Appendix F of NFMSWMP Report for Survey Data and Surveyed Structures Map.
- D. If the project is in the known flood plain of a stream or other water course, identify the flood plain boundary and approximate flooding elevations; Identify the 100-year flood elevation and floodplain boundary of any lake, stream or other watercourse located on or adjacent to the site; Existing and Future Floodplain maps are provided for the 25-yr 3-day and 100-yr and 3-day storms. FIRM maps of the Studay area are provided in Exhibit 18.
- E. The boundaries of wetlands and other surface waters within the project area. Distinguish those wetlands and other surface waters that have been delineated by any binding jurisdictional determination; NWI Wetland maps are provided by subbasin in each sub-section of the report.
- F. Proposed land use, land cover and natural communities (acreage and percentages), including wetlands and other surface waters, undisturbed uplands, aquatic communities, impervious surfaces, and water management areas. Use the same classification system and community identification number used in III (B) above. A Future Conditions Land Use map is provided in Appendix H of the NFMSWMP Report.
- G. Proposed impacts to wetlands and other surface waters, and any proposed connections/outfalls to other surface waters or wetlands; Approximately 3.7 acres.

H. Proposed buffer zones; N/A

I. Pre and post-development drainage patterns and basin boundaries showing the direction of flows, including any off-site runoff being routed through or around the system; and connections between wetlands and other surface waters; In general, in each Creek subbasin flow is to the Creek and then southerly to the Caloosahatchee River.

J. Location of all water management areas with details of size, side slopes, and designed water depths; Due to the conceptual nature of this Plan, water management areas have been sized, however not specifically located, with the exception of the proposed "pond" in Nalle Grade Park.

K. Location and details of all water control structures, control elevations, any seasonal water level regulation schedules; and the location and description of benchmarks (minimum of one benchmark per structure); See typical Detail plan.

L. Location, dimensions and elevations of all proposed structures, including docks, seawalls, utility lines, roads, and buildings; N/A

M. Location, size, and design capacity of the internal water management facilities; N/A

N. Rights-of-way and easements for the system, including all on-site and off-site areas to be reserved for water management purposes, and rights-of-way and easements for the existing drainage system, if any; A section on R/W is included in each subbasin section of the report. In most areas the culvert crossings are located within public road R/W. In some cases easements will be required.

O. Receiving waters or surface water management systems into which runoff from the developed site will be discharged; All of the Creeks within the NFMSWMP Project area discharge into the Caloosahatchee River.

P. Location and details of the erosion, sediment and turbidity control measures to be implemented during each phase of construction and all permanent control measures to be implemented in post-development conditions; N/A - Conceptual Plan only.

Q. Location, grading, design water levels, and planting details of all mitigation areas; NA

R. Site grading details, including perimeter site grading; N/A

S. Disposal site for any excavated material, including temporary and permanent disposal sites; N/A

T. Dewatering plan details; N/A

U. For marina facilities, locations of any sewage pumpout facilities, fueling facilities, boat repair and maintenance facilities, and fish cleaning stations; N/A

V. Location and description of any nearby existing offsite features which might be affected by the proposed construction or development such as stormwater management ponds, buildings or other structures, wetlands or other surface waters. See Ecological Assessment Memorandum included as Exhibit 17.

W. For phased projects, provide a master development plan. N/A

IV. Construction Schedule and Techniques

Provide a construction schedule, and a description of construction techniques, sequencing and equipment. This information should specifically include the following:

A. Method for installing any pilings or seawall slabs; N/A

- B. Schedule of implementation of a temporary or permanent erosion and turbidity control measures; N/A
- C. For projects that involve dredging or excavation in wetlands or other surface waters, describe the method of excavation, and the type of material to be excavated; N/A
- D. For projects that involve fill in wetlands or other surface waters, describe the source and type of fill material to be used. For shoreline stabilization projects that involve the installation of riprap, state how these materials are to be placed, (i.e., individually or with heavy equipment) and whether the rocks will be underlain with filter cloth; N/A
- E. If dewatering is required, detail the dewatering proposal including the methods that are proposed to contain the discharge, methods of isolating dewatering areas, and indicate the period dewatering structures will be in place (**Note: a consumptive use or water use permit may be required**); N/A
- F. Methods for transporting equipment and materials to and from the work site. If barges are required for access, provide the low water depths and draft of the fully loaded barge; and N/A
- G. Demolition plan for any existing structures to be removed; N/A
- H. Identify the schedule and party responsible for completing monitoring, record drawings, and as-built certifications for the project when completed. N/A

V. Drainage Information

- A. Provide pre-development and post-development drainage calculations, signed and sealed by an appropriate registered professional, as follows:
 - 1. Runoff characteristics, including area, runoff curve number or runoff coefficient, and time of concentration for each drainage basin; See tables in each subbasin section on Curve Numbers and Tc. See Appendix D for travel times.
 - 2. Water table elevations (normal and seasonal high) including aerial extent and magnitude of any proposed water table drawdown; See Groundwater Contour maps included in each basin section of the Report.
 - 3. Receiving water elevations (normal, wet season, design storm); See NFMSWMP report.
 - 4. Design storms used including rainfall depth, duration, frequency, and distribution; See Calculations.
 - 5. Runoff hydrograph(s) for each drainage basin, for all required design storm event(s); See Appendix Q and R for AdICPR files.
 - 6. Stage-storage computations for any area such as a reservoir, close basin, detention area, or channel, used in storage routing; See Appendix P of NFMSWMP report.
 - 7. Stage-discharge computations for any storage areas at a selected control point, such as control structure or natural restriction; See Appendix Q and R for model input.
 - 8. Flood routings through on-site conveyance and storage areas; See NFMSWMP report. Appendix Q - Existing Conditions, Appendix R - Proposed Conditions.
 - 9. Water surface profiles in the primary drainage system for each required design storm event(s); See Appendix S of NFMSWMP report for stages by subbasin.

10. Runoff peak rates and volumes discharged from the system for each required design storm event(s); and Summary Tables are provided in Report by basin.
 11. Tail water history and justification (time and elevation); See Appendix Q and R of NFMSWMP report for AdICPR model input.
 12. Pump specifications and operating curves for range of possible operating conditions (if used in system). N/A
- B. Provide the results of any percolation tests, where appropriate, and soil borings that are representative of the actual site conditions; N/A
- C. Provide the acreage, and percentages of the total project, of the following:
1. impervious surfaces, excluding wetlands, N/A
 2. pervious surfaces (green areas, not including wetlands), 30 ac
 3. lakes, canals, retention areas, other open water areas, 30 ac
 4. wetlands; 3.7
- D. Provide an engineering analysis of floodplain storage and conveyance (if applicable), including:
1. Hydraulic calculations for all proposed traversing works; See Appendix Q and R of NFMSWMP report for AdICPR model input.
 2. Backwater water surface profiles showing upstream impact of traversing works; See Appendix Q and R of NFMSWMP report for AdICPR model input.
 3. Location and volume of encroachment within regulated floodplain(s); and N/A
 4. Plan for compensating floodplain storage, if necessary, and calculations required for determining minimum building and road flood elevations. N/A
- E. Provide an analysis of the water quality treatment system including:
1. A description of the proposed stormwater treatment methodology that addresses the type of treatment, pollution abatement volumes, and recovery analysis; and A section on Water Quality projects are included in each subbasin section.
 2. Construction plans and calculations that address stage-storage and design elevations, which demonstrate compliance with the appropriate water quality treatment criteria. N/A
- F. Provide a description of the engineering methodology, assumptions and references for the parameters listed above, and a copy of all such computations, engineering plans, and specifications used to analyze the system. If a computer program is used for the analysis, provide the name of the program, a description of the program, input and output data, two diskette copies, if available, and justification for model selection. A water quality model for each subbasin is included in each subbasin section.

VI. Operation and Maintenance and Legal Documentation

- A. Describe the overall maintenance and operation schedule for the proposed system. The system will be Operated and Maintained by Lee County.

- B. Identify the entity that will be responsible for operating and maintaining the system in perpetuity if different than the permittee, a draft document enumerating the enforceable affirmative obligations on the entity to properly operate and maintain the system for its expected life, and documentation of the entity's financial responsibility for long term maintenance. If the proposed operation and maintenance entity is not a property owner's association, provide proof of the existence of an entity, or the future acceptance of the system by an entity which will operate and maintain the system. If a property owner's association is the proposed operation and maintenance entity, provide copies of the articles of incorporation for the association and copies of the declaration, restrictive covenants, deed restrictions, or other operational documents that assign responsibility for the operation and maintenance of the system. Provide information ensuring the continued adequate access to the system for maintenance purposes. Before transfer of the system to the operating entity will be approved, the permittee must document that the transferee will be bound by all terms and conditions of the permit. N/A
- C. Provide copies of all proposed conservation easements, storm water management system easements, property owner's association documents, and plats for the property containing the proposed system. N/A
- D. Provide indication of how water and waste water service will be supplied. Letters of commitment from off-site suppliers must be included. N/A
- E. Provide a copy of the boundary survey and/or legal description and acreage of the total land area of contiguous property owned/controlled the applicant. N/A

VII. Water Use

- A. Will the surface water system be used for water supply, including landscape irrigation, or recreation. N/A
- B. If a Consumptive Use or Water Use permit has been issued for the project, state the permit number. N/A
- C. If no Consumptive Use or Water Use permit has been issued for the project, indicate if such a permit will be required and when the application for a permit will be submitted. N/A
- D. Indicate how any existing wells located within the project site will be utilized or abandoned. N/A

Exhibit 1

List of Section/Township/Range for NFMSWMP in Lee County

Refer to Exhibit 3 - Project Location Map

S14-36/T41S/R25E

S23-38, 33-36/T41S/R24E

S1-4, 9-12, 13-17, 20-24, 25-28, 33-36/T42S/R24E

S1-36/T42S/R25E

S1-2, 9-12, 13-16, 22-24, 25-27, 34-36/T43S/R24E

S1-29/T43S/R25E

S6-7, 18-19,30/T43S/R26E

S1-3, 10-11/T44S/R24E

Exhibit 2

Pre-application Meeting Summary

Meeting Summary

To: Meeting Attendees
From: Karen D. Brandon, P. E.
Subject: NFMSWMP Pre-application Meeting
Date: April 26, 2010

A meeting was held on April 26, 2010 at South Florida Water Management District's Ft. Myers office. The following were in attendance:

Clyde Dabbs	SFWMD	cdabbsjr@sfwmd.gov	239-338-2929
Steve Sentes	SFWMD	ssentes@sfwmd.gov	239-338-2929 x7754
Laura Layman	SFWMD	llayman@sfwmd.gov	239-338-2929 x7725
Robert Garland	AECOM	Robert.garland@aecom.com	239-278-7996
Anura Karuna-Muni	Lee County	Akaruna-muni@leegov.com	239-533-8131
Roland Ottolini	Lee County	ottolini@leegov.com	239-533-8127
Karen Brandon	AECOM	Karen.brandon@aecom.com	561-684-3375

After a brief introduction by Anura and an overview by Karen Brandon, the following items were discussed:

- Anura stated that the County's goal is to obtain a conceptual permit for all recommended projects and to eventually obtain construction permits for each individual project.
- SFWMD staff asked whether Lee County would be taking the NFMSWMP Study to the BOCC for approval/adoption. SFWMD strongly recommends that the BOCC adopt the plan. Roland will look into what type of action the BOCC has taken in the past for master plans such as this.
- Field work will be required if there are wetlands in the area of the proposed projects. Direct and secondary wetland impacts will have to be addressed.

- Aerials
 - Can provide an overall aerial of the off-site basin area in Charlotte Co.
 - Aerials of the specific project areas should be provided at a larger scale.
- 100 year flood FEMA maps – Anura has the latest FEMA maps for Lee County and he can provide them to AECOM. Laura thinks SFWMD will want to see the FEMA maps for the entire NFMSWMP basin area. Laura will confirm with Bill Foley.
- Topography – The Study used 1 ft. contours along with surveyed cross sections at 1,000 ft intervals in the creeks as well as at structures, and construction plans of roadways. The latest Lee County LIDAR data was not available until late in the study.
- With the exception of the pond sited at the Park at Nalle Grade, the ponds have not been sited per Lee County's request. Therefore, the other ponds will not be included in the conceptual ERP application at this time.
- Laura requested that a prioritization or phasing of projects be provided.
- A description of how the projects are prioritized should be provided, such as from downstream to upstream. If projects are phased, we may need to demonstrate that there will be no interim adverse downstream impacts.
- WSWT information will be required.
- Per SFWMD, enough field information to determine the potential for direct and secondary impacts to wetlands from an environmental staff person will be required for the proposed project sites.
- May need a listed species survey, more so at the time of application for a construction permit.
- Existing Lee County projects that have already been permitted can be used as mitigation. Or, if we can show a proposed project will improve wetland hydroperiod, this can be credited toward mitigation.
- Ownership Information will have to be included in the application, as well as whether additional right-of-way or easements will be required.
- SFWMD will most likely request a title determination from the State for Sovereign Submerged Lands in the creeks.

- May need to update the AdICPR model for new Lee Co. projects that have been issued SFWMD permits and been constructed.
- Photographs at the specific project locations would be helpful for the SFWMD reviewers also.
- It will be important to show that there are no upstream or downstream impacts in locations where we are proposing to add or upsize culverts.
- Any further questions can be brought up at the next Lee Co./SFWMD monthly meeting held on the 2nd Wednesday of the month. The next meeting is scheduled for May 12th.

cc: Mark Abbott
Amy Eason
Pradeep Nagarajan

SIGN-IN SHEET

NFMSWMP Pre-Application Meeting

April 26, 2010

at SFWMD - Ft. Myers

Name:	Firm:	Phone No.:
1. <u>Clyde Dabbs</u>	<u>SFWMD</u>	<u>(239) 338-2929</u>
Email Address: <u>cdabbsjr@sfwmd.gov</u>		
2. <u>Steve Sentes</u>	<u>SFWMD</u>	<u>(239) 338-2929 x 7754</u>
Email Address: <u>ssentes@sfwmd.gov</u>		
3. <u>Laura Hayman</u>	<u>SFWMD</u>	<u>(239) 338-2929 x 7725</u>
Email Address: <u>lhayman@sfwmd.gov</u>		
4. <u>Robert Garland</u>	<u>AECOM</u>	<u>(239) 270-7996</u>
Email Address: <u>robert.garland@aecom.com</u>		
5. _____	_____	_____
Email Address: <u>akaruna-muni@leegov.com</u>		
6. <u>Amur Karuna-Muni</u>	_____	<u>(239) 533-8131</u>
Email Address: <u>otto.lire@leegov.com</u>		
7. <u>ROLAND OTTOLINI</u>	_____	<u>(239) 533-3127</u>
Email Address: _____		
8. <u>Karen Brandon</u>	_____	<u>(561) 684-3375</u>
Email Address: <u>Karen.brandon@aecom.com</u>		
9. _____	_____	_____
Email Address: _____		
10. _____	_____	_____
Email Address: _____		
11. _____	_____	_____
Email Address: _____		
12. _____	_____	_____
Email Address: _____		

Exhibit 3

Project Location Map Including S/T/R

Exhibit 4

USGS Quadrangle Map of NFMSWMP Area

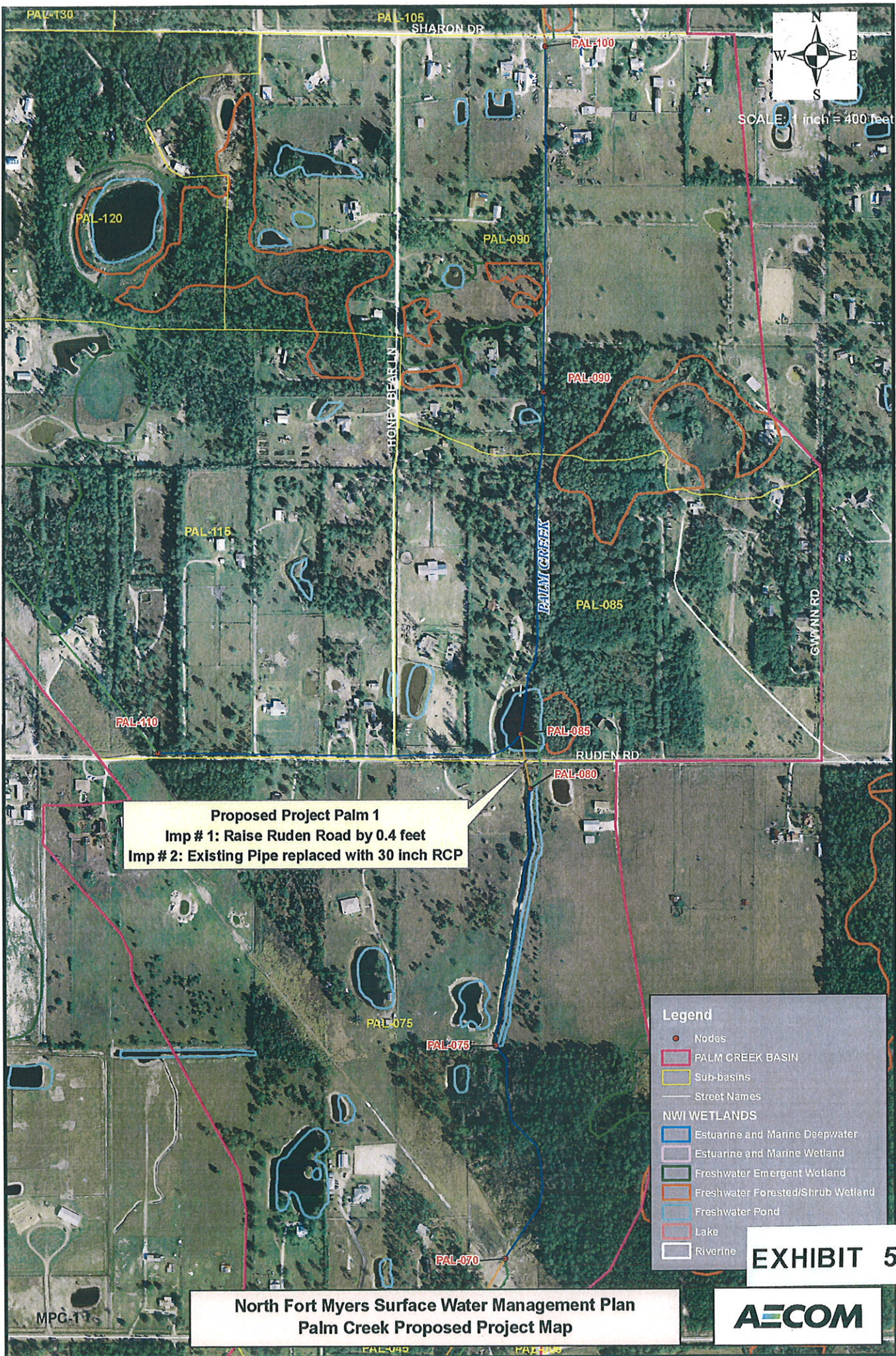
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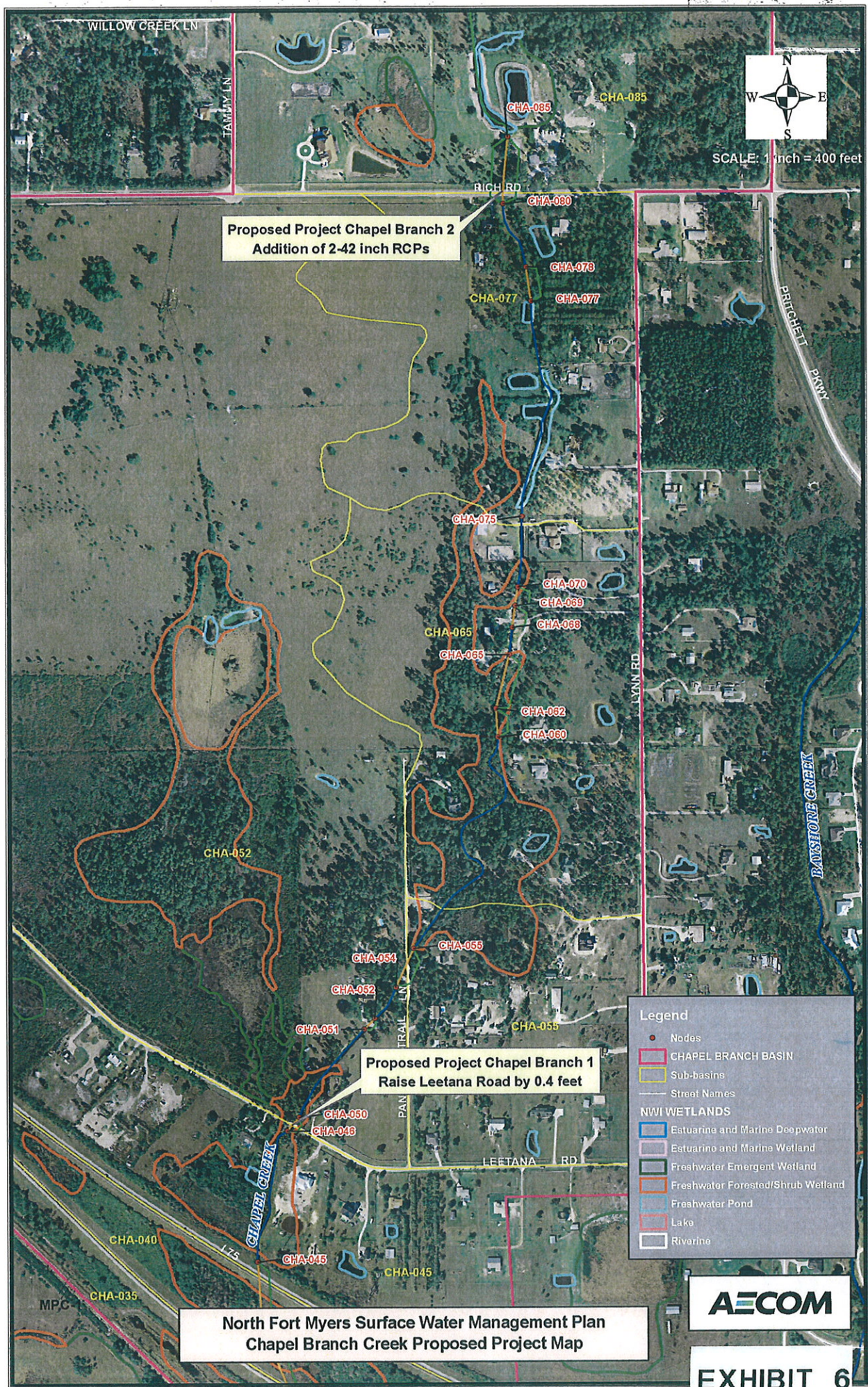
The hard copy can be obtained by contacting the Surface Water Unit with the Lee County Division of Natural Resources.

Phone: 239-533-8109.

Exhibits 5 through 11

Proposed Project Maps

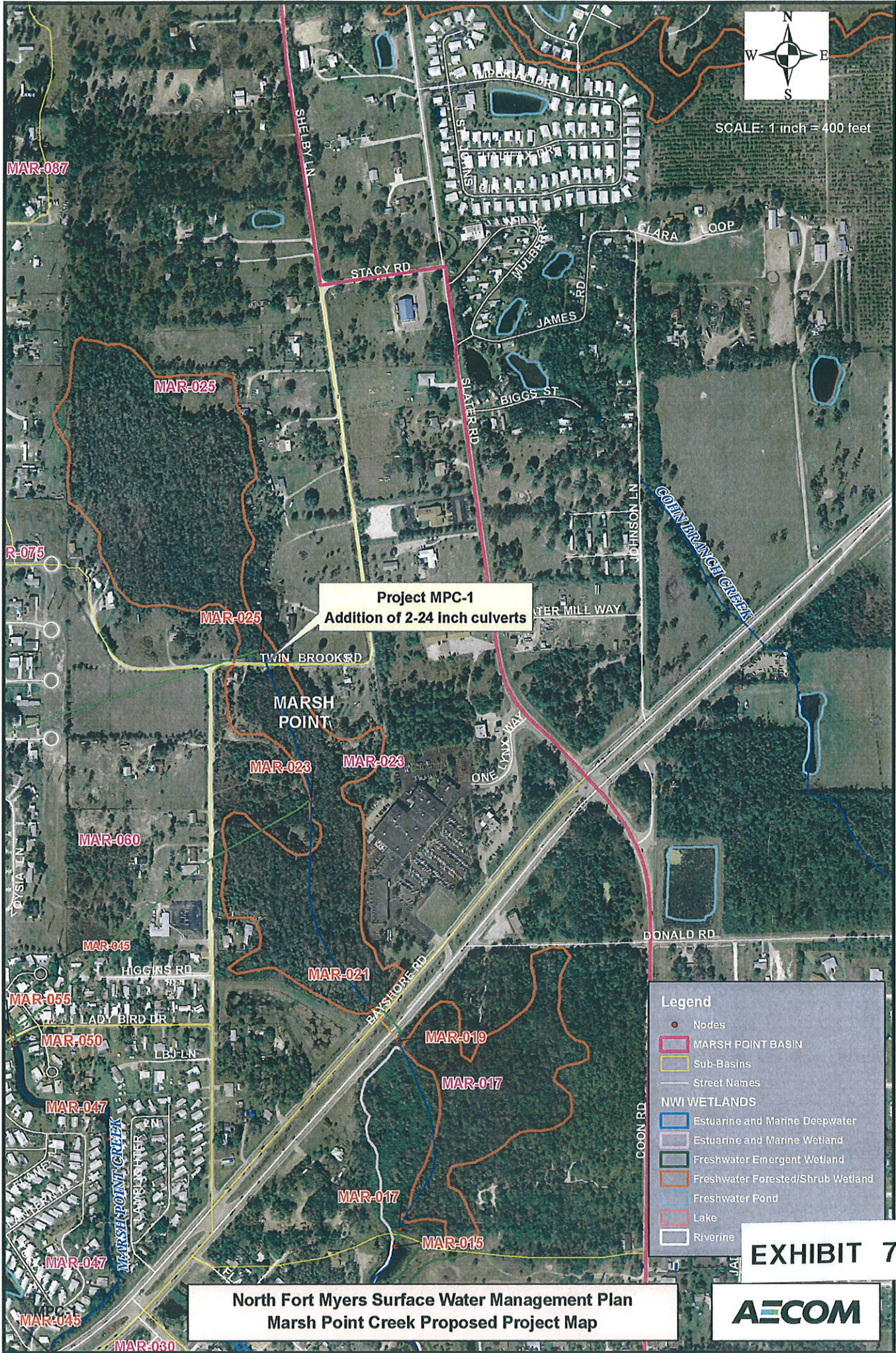




North Fort Myers Surface Water Management Plan
Chapel Branch Creek Proposed Project Map



SCALE: 1 inch = 400 feet



Project MPC-1
Addition of 2-24 inch culverts

Legend

- Nodes
- MARSH POINT BASIN
- Sub-Basins
- Street Names

NWI WETLANDS

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine





SCALE: 1 inch = 400 feet

Proposed Project Stroud 1
Imp # 1: Raise Skis Road by 1 foot
Imp # 2: Addition of 2-30 inch RCPs under Skis Road

Legend

- Nodes
- STROUD CREEK BASIN
- Sub-basins
- Street Names
- NWI WETLANDS
 - Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Riverine

EXHIBIT 9

North Fort Myers Surface Water Management Plan
Stroud Creek Proposed Project Map

AECOM



Proposed Project DCEB 1
Pipe Modified to 36 inch RCP

Legend

- Nodes
- DAUGHTREY CREEK EAST BRANCH BASIN
- Sub-basins
- Street Names

NWI WETLANDS

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

EXHIBIT 10

North Fort Myers Surface Water Management Plan
Daughtrey Creek East Branch Proposed Project Map



SCALE: 1 inch = 200 feet

Proposed Project Unnamed 2 Creek - 1
Location 1: Pipe modified to 2-42 inch RCPs

Proposed Project Unnamed 2 Creek - 1
Location 2: Pipe modified to 2-42 inch RCPs

Proposed Project Unnamed 2 Creek - 1
Location 3: Pipe modified to 2-42 inch RCPs

Legend

- Nodes
- UNNAMED 2 CREEK BASIN
- Sub-basins
- Street Names
- NWI WETLANDS
 - Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Riverine

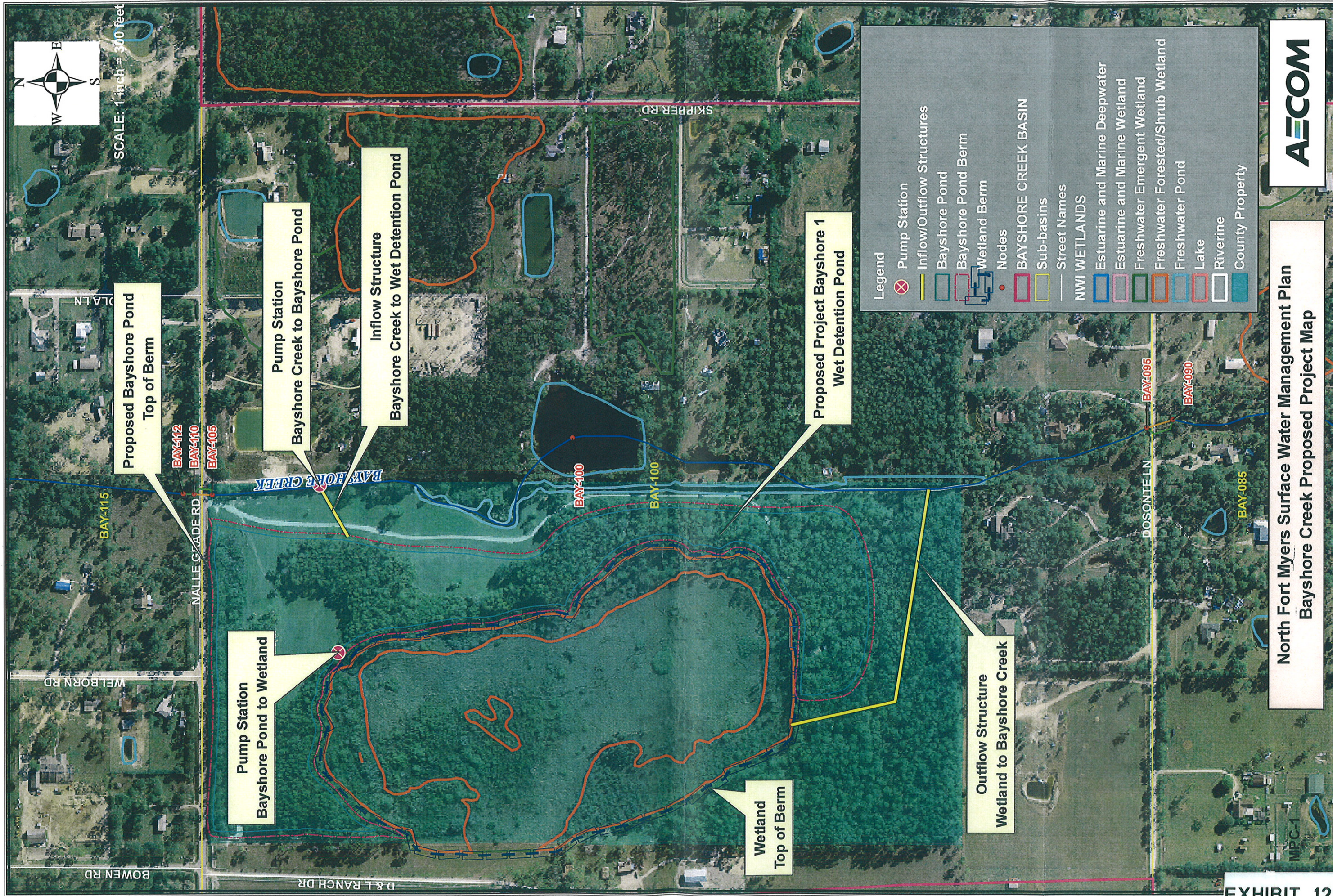
EXHIBIT 11

North Fort Myers Surface Water Management Plan
Unnamed 2 Creek Proposed Project Map

AECOM

Exhibit 12

Bayshore Creek Proposed Project Map



North Fort Myers Surface Water Management Plan
Bayshore Creek Proposed Project Map



Exhibit 13A

Charlotte Co. Subbasin Map

Due to the size of this document, it has not be included in this PDF.

The hard copy can be obtained by contacting the Surface Water Unit with the Lee County Division of Natural Resources.

Phone: 239-533-8109.

Exhibit 13B

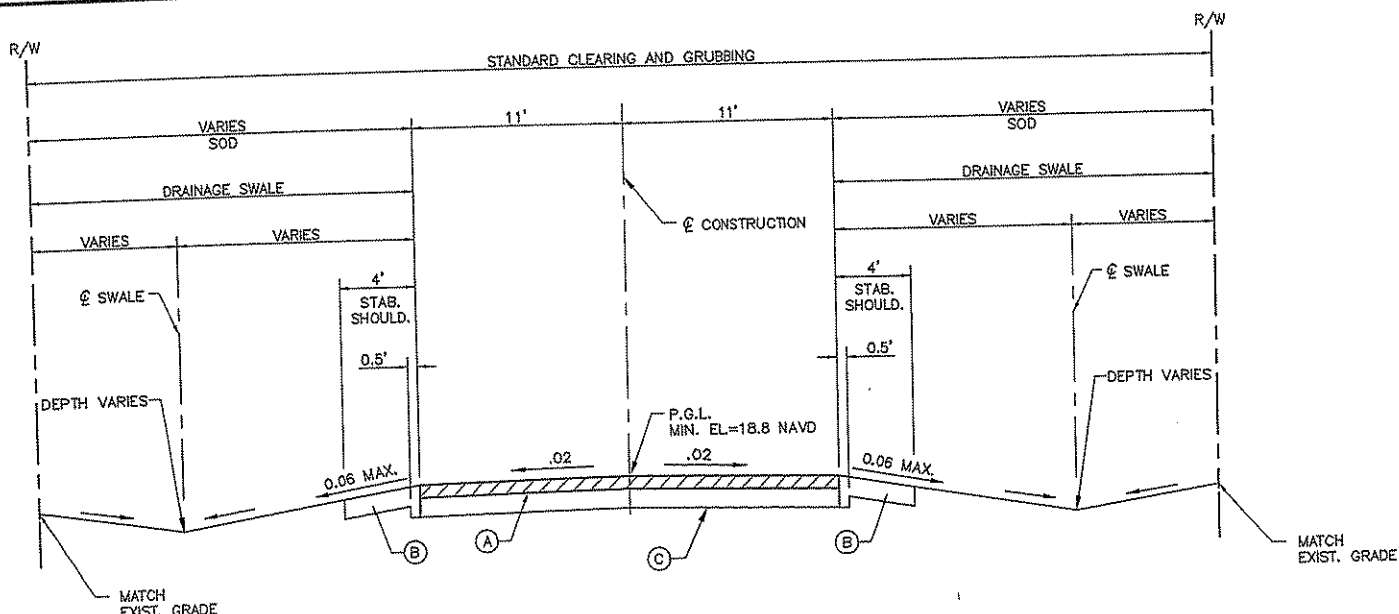
Lee Co. Subbasin Map

Due to the size of this document, it has not be included in this PDF.

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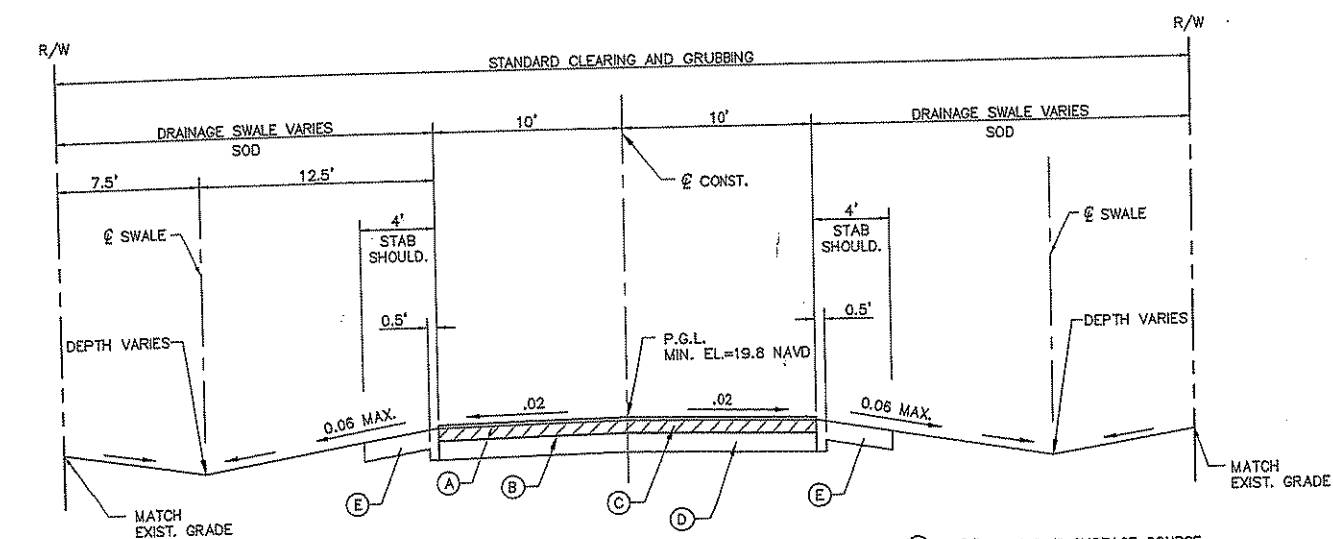
Phone: 239-533-8109.

DATE: 8/25/2009 10:00 AM
DRAWN BY: M.S.B.
CHECKED BY: D.J.B.
DATE: 8/25/2009
DESIGNED BY: D.J.B.
PROJECT ENGINEER: M.S.B.
PROJECT NUMBER: 60061637TYP
EXP. DATE: 8/25/2009
CADD STANDARDS: 8/25/2009
AECOM USA, Inc.
2000 Palm Beach Lakes Blvd, Suite 600
West Palm Beach, Florida 33409
T 561.684.3375 F 561.689.8531
FL Engineering Business No. EB-38
www.aecom.com



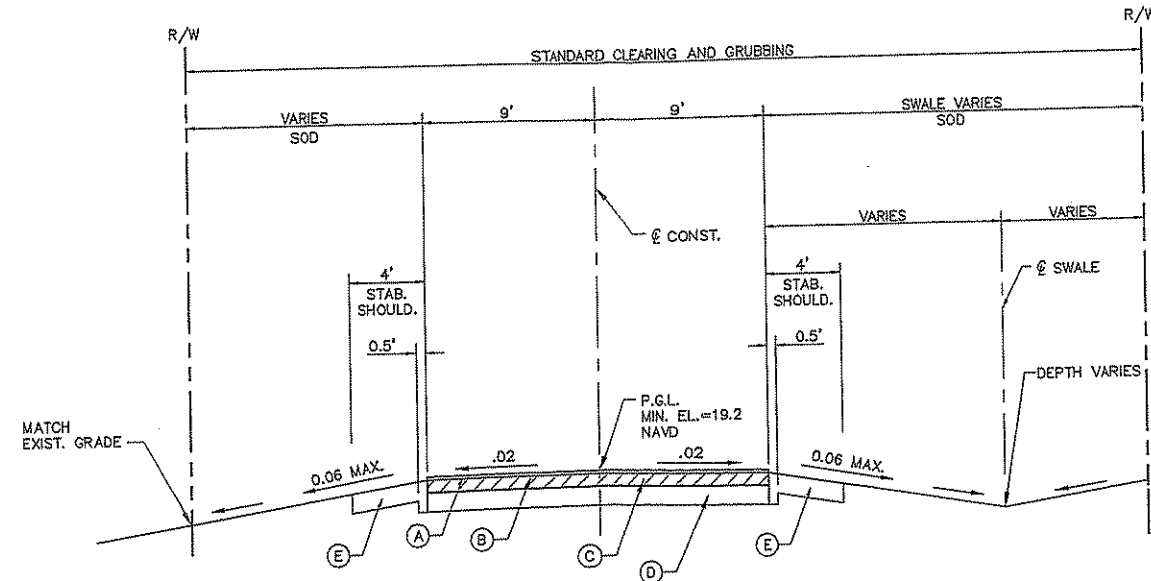
TYPICAL SECTION
SKIS ROAD BETWEEN ETHEL DRIVE &
DURRANCE ROAD (STROUD CREEK)
N.T.S.

- (A) 14" BASE (LIMEROCK) (THREE COURSES)
COMPACTED TO 98% OF MAX. DRY DENSITY AS
ESTABLISHED BY AASHTO PROCEDURE T-180
- (B) 12" STABILIZED SUBBASE COMPACTED TO 98% OF
MAX. DRY DENSITY AS ESTABLISHED BY AASHTO
PROCEDURE T-180
- (C) EXISTING DIRT ROAD



TYPICAL SECTION
LEETANA ROAD
FROM PANTHER TRAIL LANE TO 400' WEST
(CHAPEL BRANCH CREEK-1)
N.T.S.

- (A) 14" BASE (LIMEROCK) (THREE COURSES)
COMPACTED TO 98% OF MAX. DRY DENSITY AS
ESTABLISHED BY AASHTO PROCEDURE T-180
- (B) 12" STABILIZED SUBBASE COMPACTED TO 98% OF
MAX. DRY DENSITY AS ESTABLISHED BY AASHTO
PROCEDURE T-180
- (C) EXISTING ROAD



TYPICAL SECTION
RUDEN ROAD BETWEEN HONEY BEAR
LANE & GWYNN ROAD (PALM CREEK)
N.T.S.

- (A) 14" TYPE S-III SURFACE COURSE
- (B) 14" TYPE S-I BASE COURSE
- (C) 8" BASE (LIMEROCK) (DOUBLE COURSE)
COMPACTED TO 98% OF MAX. DRY DENSITY AS
ESTABLISHED BY AASHTO PROCEDURE T-180
- (D) EXISTING DIRT ROAD
- (E) 12" STABILIZED SUBBASE COMPACTED TO 98% OF
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PROCEDURE T-180

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D.J.B.
DRAWN BY
M.S.B.
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D.J.B.
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8/25/2009

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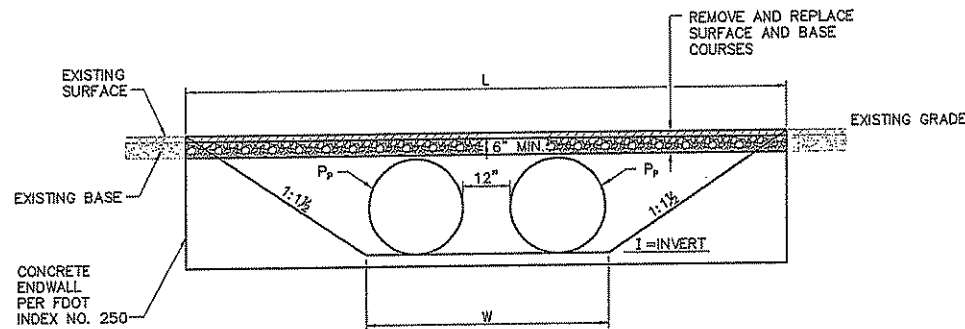
AECOM

LEE COUNTY
NORTH FORT MYERS SURFACE WATER MANAGEMENT PLAN

TYPICAL SECTIONS
EXHIBIT 14

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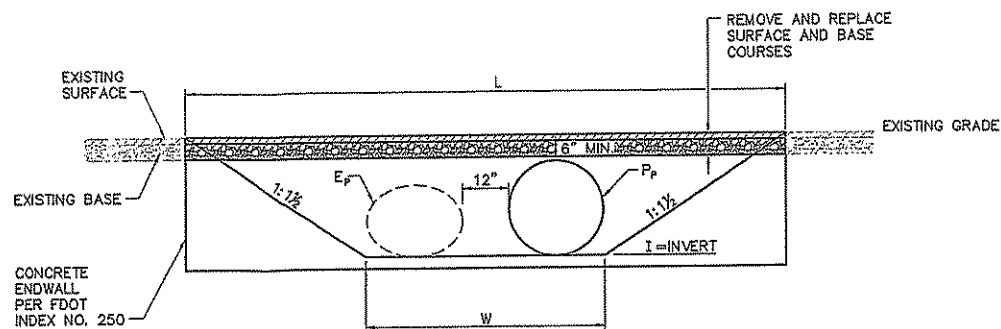
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NEW CULVERT DETAIL
N.T.S.

- NOTES:
1. SEE TABLE FOR SPECIFIC DIMENSIONAL INFORMATION FOR EACH PROJECT.
 2. IF MULTIPLE PIPES ARE PROPOSED, THERE SHALL BE 12 INCHES BETWEEN EACH PIPE
 3. IF EXISTING DIRT SURFACE, REPLACE W/COMPACTED LIMEROCK.

PROJECT		
	MARSH POINT	STROUD
P _p	24"ø	30"ø
Q _p	2	2
M _p	RCP	RCP
L _p	50'	50'
I	7.0/6.9	15.98/15.95
L	15'	15'
W	5'	6'



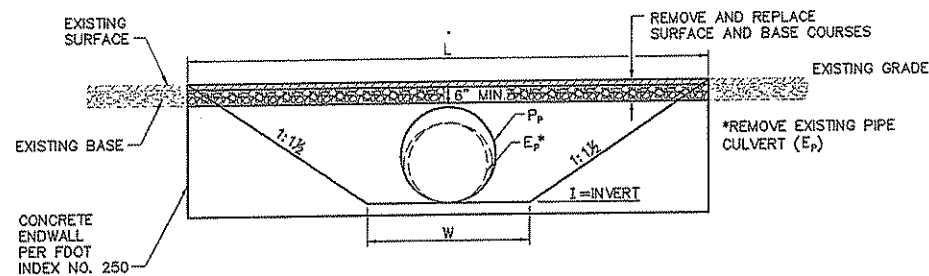
ADDITIONAL CULVERT DETAIL
N.T.S.

- NOTES:
1. SEE TABLE FOR SPECIFIC DIMENSIONAL INFORMATION FOR EACH PROJECT.
 2. IF MULTIPLE PIPES ARE PROPOSED, THERE SHALL BE 12 INCHES BETWEEN EACH PIPE
 3. IF EXISTING DIRT SURFACE, REPLACE W/COMPACTED LIMEROCK.

PROJECT	
	COHN
P _p	24"ø
Q _p	1
M _p	RCP
L _p	40'
E _p	18"x24"
I	0.13/-0.27
L	15'
W	5'

LEGEND

P _p	PROPOSED PIPE
Q _p	PROPOSED PIPE QUANTITY
M _p	PROPOSED PIPE MATERIAL
L _p	PROPOSED PIPE LENGTH PROPOSED
E _p	EXISTING PIPE DIMENSIONS
I	INVERT (UP/DOWN STREAM)
L	LIMITS OF RECONSTRUCTION
W	WIDTH OF SWALE BOTTOM
S	SPAN
R	RISE
L _c	PROPOSED CULVERT LENGTH

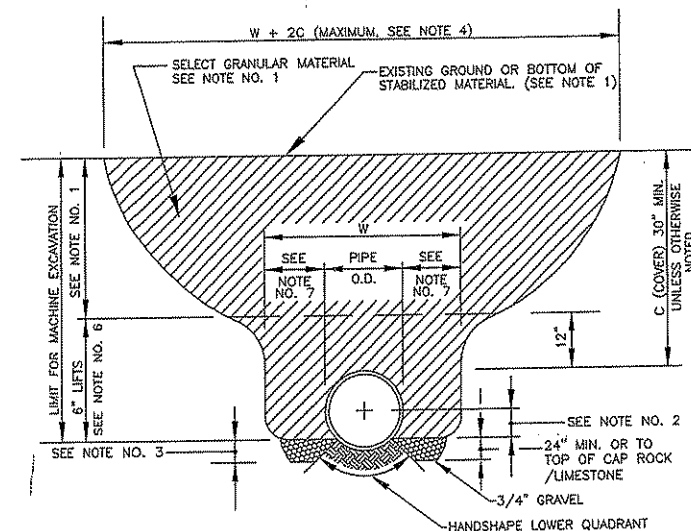


REMOVE & REPLACE CULVERT DETAIL
N.T.S.

PROJECT						
	DAUGHTREY	PALM	UNNAMED CREEK #2	UNNAMED CREEK #2	UNNAMED CREEK #2	CHAPEL
P _p	36"ø	30"ø	42"ø	42"ø	42"ø	42"ø
Q _p	1	1	2	2	2	2
M _p	RCP	RCP	RCP	RCP	RCP	RCP
L _p	30'	40'	64'	62'	62'	72'
E _p	30"	30"	34"x 48"	34"x 48"	32"x 50"	(2)30"
I	13.78/13.06	15.30/15.25	6.0/5.2	4.7/4.3	3.51/3.2	13.85/13.80
L	20'	15'	25'	25'	25'	25'
W	3'	2.5'	3.5'	3.5'	3.5'	3.5'

PROJECT					
	POPASH #1	POPASH #2A	POPASH #2B	POPASH #2C	POPASH #2E
P _p	28"x 45"	29"x 45"	29"x 45"	29"x 45"	29"x 45"
Q _p	1	1	1	1	1
M _p	ERCP	ERCP	ERCP	ERCP	ERCP
L _p	40'	40'	40'	40'	48'
E _p	24"x 38"	24"x 38"	24"x 38"	24"x 38"	24"x 38"
I	19.3/19.24	19.58/19.57	19.58/19.58	19.61/19.60	19.63/19.62
L	15'	15'	15'	15'	15'
W	3.75'	3.75'	3.75'	3.75'	3.75'

- NOTES:
1. SEE TABLE FOR SPECIFIC DIMENSIONAL INFORMATION FOR EACH PROJECT.
 2. IF MULTIPLE PIPES ARE PROPOSED, THERE SHALL BE 12 INCHES BETWEEN EACH PIPE.
 3. IF EXISTING DIRT SURFACE, REPLACE W/COMPACTED LIMEROCK.



NOTES:

1. IF THE TRENCH IS LOCATED UNDER ASPHALT PAVEMENT, THE TRENCH IS TO BE BACKFILLED WITH CLEAN GRANULAR MATERIAL, IN 6" LAYERS (MAXIMUM), COMPACTED TO 100% MAXIMUM DENSITY PER A.A.S.H.T.O. T-99 SPECIFICATIONS. IF THE TRENCH IS LOCATED OUTSIDE OF PAVEMENT AREAS, THE TRENCH IS TO BE BACKFILLED WITH CLEAN GRANULAR MATERIAL, IN 12" LAYERS (MAXIMUM), AND COMPACTED TO 98% MAXIMUM DENSITY PER A.S.H.T.O. T-99 SPECIFICATION.
2. FILL MATERIAL TO BE PLACED MANUALLY UP TO THE SPRING LINE OF THE PIPE AND COMPACTED BY HAND PRIOR TO ADDING ADDITIONAL MATERIAL.
3. AS AN ALTERNATE TO HANDSHAPING LOWER QUADRANT, CONTRACTOR MAY OVER EXCAVATE THE TRENCH AND BACKFILL WITH 3/4" GRAVEL AS SHOWN.
4. IF "W+2C" EXCEEDS 12 FEET, THE TRENCH SHALL BE SHEETED AND BRACED OR OTHERWISE LIMITED TO NOT GREATER THAN 12 FEET.
5. CONTRACTOR IS RESPONSIBLE FOR MEETING ALL SAFETY STANDARDS FOR TRENCHING WIDTHS CONSIDERING O.S.H.A. STANDARDS FOR SOIL TYPES, TRENCH WIDTHS, ANGLE OF REPOSE, ETC. IN ORDER TO PROPERLY PROTECT HIS EMPLOYEES.
6. IF USING H.D.P.E. PIPE, COMPACT MATERIAL UP TO 12" ABOVE PIPE BY HAND. IF USING D.I. PIPE, COMPACT MATERIAL BY HAND UP TO TOP OF PIPE AND COMPACT REMAINING 12" TO 95% MAXIMUM DENSITY PER A.A.S.H.T.O. T-99 SPECIFICATIONS.
7. 12" MAX. OR OUTSIDE PIPE DIAMETER DIVIDED BY 2 WHICHEVER IS GREATER.

TYPICAL PIPELINE TRENCH AND BACKFILL

N.T.S.

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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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DRAWN BY
M.S.B.
CHECKED BY
D.J.B.
DATE
8/25/2009

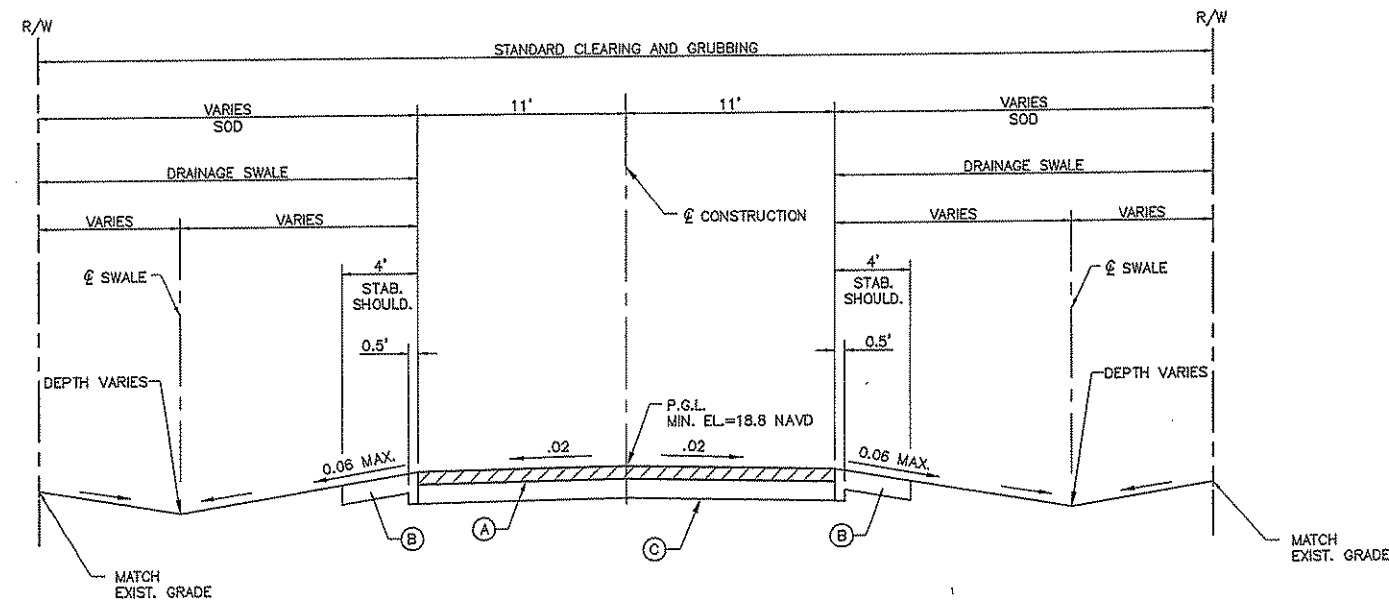
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CADD STANDARDS

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West Palm Beach, Florida 33409
T 561.684.3375 F 561.688.8531
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www.aecom.com

LEE COUNTY
NORTH FORT MYERS SURFACE WATER MANAGEMENT PLAN
DETAILS
EXHIBIT 15

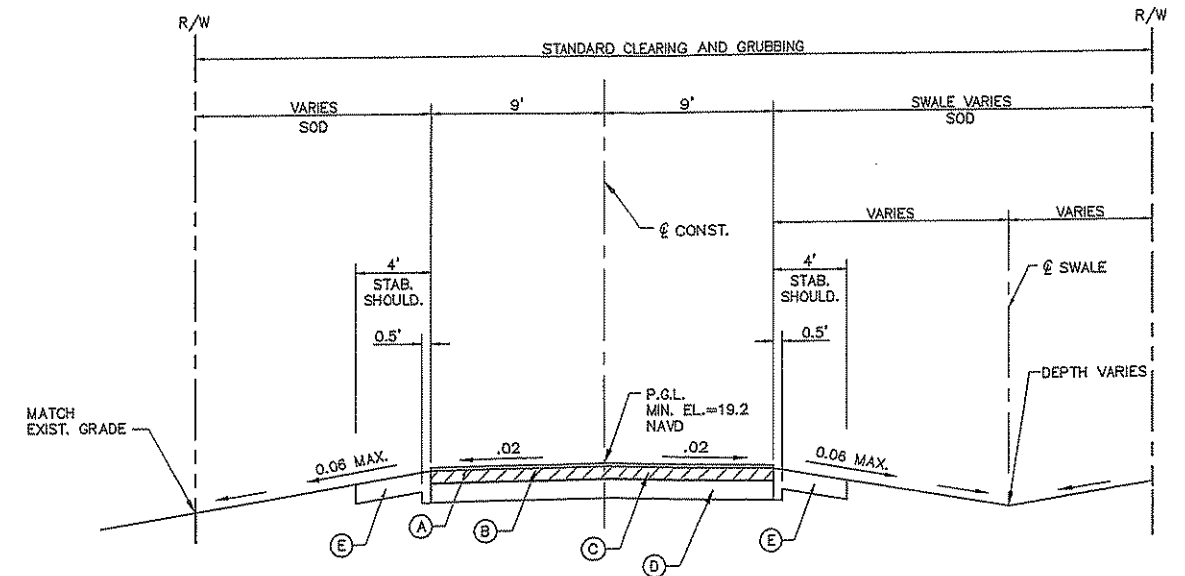
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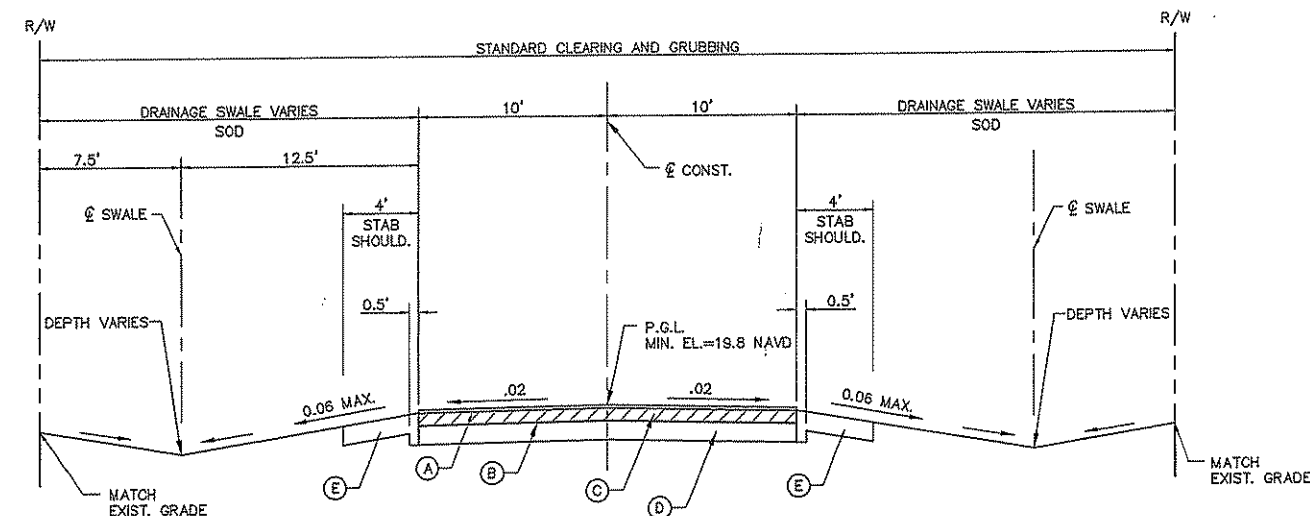
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N.T.S.

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- (B) 12" STABILIZED SUBBASE COMPACTED TO 98% OF
MAX. DRY DENSITY AS ESTABLISHED BY AASHTO
PROCEDURE T-180
- (C) EXISTING DIRT ROAD



TYPICAL SECTION
RUDEN ROAD BETWEEN HONEY BEAR
LANE & GWYNN ROAD (PALM CREEK)
N.T.S.

- (A) 3/4" TYPE S-III SURFACE COURSE
- (B) 3/4" TYPE S-I BASE COURSE
- (C) 8" BASE (LIMEROCK) (DOUBLE COURSE)
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- (D) EXISTING DIRT ROAD
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MAX. DRY DENSITY AS ESTABLISHED BY AASHTO
PROCEDURE T-180



TYPICAL SECTION
LEETANA ROAD
FROM PANTHER TRAIL LANE TO 400' WEST
(CHAPEL BRANCH CREEK-1)
N.T.S.

- (A) 3/4" TYPE S-III SURFACE COURSE
- (B) 3/4" TYPE S-I BASE COURSE
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PROCEDURE T-180

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IF NOT ONE INCH ON
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SCALES ACCORDINGLY

DESIGNED BY
D.J.B.
DRAWN BY
M.S.B.
CHECKED BY
D.J.B.
DATE
8/25/2009

PROJECT ENGINEER
REG NUMBER
EXP DATE
PROJECT NUMBER
CADD STANDARDS

AECOM
AECOM USA, Inc.
2000 Palm Beach Lakes Blvd, Suite 600
West Palm Beach, Florida 33409
T 561.684.3375 F 561.689.8531
FL Engineering Business No. EB-38
www.aecom.com

LEE COUNTY
NORTH FORT MYERS SURFACE WATER MANAGEMENT PLAN
TYPICAL SECTIONS
EXHIBIT 14

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Exhibit 16

Topographic Map – 2-Foot Contours of Study Area in Lee County

Due to the size of this document, it has not be included in this PDF.

The hard copy can be obtained by contacting the Surface Water Unit with the Lee County Division of Natural Resources.

Phone: 239-533-8109.

Exhibit 17

Ecological Assessment Technical Memorandum

To	Anura Karuna-Muni	Page	1
CC	Karen Brandon, P.E.		
Subject	North Fort Myers Surface Water Management Plan Ecological Assessment Technical Memorandum		
From	Michael Howe		
Date	July 2010		

AECOM conducted an Ecological Assessment of the eight drainage improvements projects proposed by Lee County and described in the *North Fort Myers Surface Water Management Plan* (AECOM 2010). The eight proposed drainage projects included in this assessment include five culvert replacement projects, two new culvert installations and one proposed pond (Table 1). All of the projects are located in North Fort Myers, Lee County, Florida.

The scope of this assessment was to evaluate the potential impact of each of the proposed projects to federal or state listed plants and animals and potentially jurisdictional wetlands or surface waters. Subsurface soil, water quality, archaeological, or hazardous materials investigations were not conducted by AECOM as part of this Ecological Assessment. These findings reflect conditions on-site at the time of the investigation and do not preclude the possibility that on-site conditions may change in the future.

Methods

A field review of each of the proposed project sites was conducted on July 6th, 2010. Vegetative community types and general observations were recorded via field data sheets and photographs taken of the site. A list of plant species encountered was recorded for the project site. This list reflects representative species observed within the site and is not necessarily a complete floristic inventory.

Potentially jurisdictional wetlands and surface waters were evaluated based on the Interim Regional Supplemental to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain (October 2008) and the Unified Wetland Delineation Methodology for the State of Florida dated 1 July 1994 (62-340, Florida Administrative Code (F.A.C.)) in 2004. The limits of wetland and surface waters were not staked or flagged in the field during this assessment.

The project areas were reviewed for the presence of any protected species through actual observation, signs of scat, prints, or other indications of their presence or utilization of the study area. A review of Florida Fish and Wildlife Conservation Commission (FFWCC) database (<http://research.myfwc.com/>) records for known bald eagle (*Haliaeetus leucocephalus*) occurrences in the vicinity of the study area was also conducted. Statements regarding protected species are based on limited field observations and existing data records, and do not exclude the possibility that listed species may occasionally forage on-site or may move onto the site at a later date.

Chapel Branch Creek

Two 30-inch reinforced concrete pipes (RCPs) convey Chapel Branch Creek flow under Leetana Road (**Exhibit A**). The County proposes to raise the grade of the road approximately 0.4 feet and replace the existing 30-inch RCPs (CHA-046 and CHA 050) with 42-inch RCPs. Raising the road grade may result in permanent impacts to potential jurisdictional wetlands and require authorization from the ACOE and SFWMD. The upstream invert elevation of the proposed RCPs will be lowered by 0.1 ft. It is not anticipated that this small change in invert elevation will have any hydrologic impact on creek base flows or the seasonal high water elevation in wetlands upstream or downstream of Leetana Road.

The vegetation in the right of way north and south of the road pavement includes Brazilian pepper (*Schinus terebinthifolius*), cabbage palm (*Sabal palmetto*), and Carolina willow (*Salix* sp.) (**Figure 1**). The wetland habitats adjacent to the road are not likely to support protected species. A review of database records indicates that the site is not located in the protection zone of a known bald eagle nest.

Figure 1. Leetana Road crossing Chapel Branch Creek



Daughtrey Creek East Branch

Daughtrey Creek flows through several conveyance structures located on private property south of Rich Road and west of Leetana Rd (**Exhibit B**). The County proposed to replace one 30-inch RCP (DAU-EB-077) with a larger 36-inch RCP. At the time of this assessment the existing 30-inch pipe was under water (**Figure 2**).

The ACOE and SFWMD will likely exert jurisdiction over the Daughtrey Creek channel and adjacent wetland areas. The wetland in and surrounding the creek is vegetated with Carolina willow, water oak (*Quercus nigra*), and a few slash pine (*Pinus elliottii*). Alligator weed (*Alternanthera philoxeroides*) grows in the creek at the pipe location. The invert of the proposed new pipe is not expected to change and therefore there are no anticipated hydrologic impacts to the creek or associated wetlands. The larger pipe size is likewise not anticipated to have adverse hydrologic impacts on existing habitats as it appears the creek currently breaches the current crossing. However, there may be permanent impacts to the wetland from the construction of the crossing (given the current one does not appear to extend above the high water elevation of the creek) and it may require authorization from the ACOE and SFWMD. No listed species were observed in the vicinity of the site. Database records indicate that the site is not located in the protection zone of a known bald eagle nest.

Figure 2. Pipe under water in Daughtrey Creek



Popash Creek

A branch of Popash Creek flows through a series of 24-inch x 38-inch ERCPs and roadside ditches in the Nalle Road right of way (**Exhibit C**). The County proposes to replace these ERCPs with 29-inch x 45-inch ERCP. The inverts of the ERCPs in the middle will vary slightly from the existing inverts. However the invert of the upstream- most ERCP (POP-142H) and the downstream- most ERCP (POP-141) will not be changed.

The ACOE and SFWMD will likely exert jurisdiction over the ditch in the Nalle Road right of way. The project is not anticipated to have any permanent adverse impact to wetlands. The right of way is well maintained and the roadside ditches are not vegetated (**Figure 3**). The ditches do not provide habitat for protected species nor is it anticipated that the proposed project will result in any adverse impact to wildlife or wetland resources.

Figure 3. Branch of Popash Creek in Nalle Road Right of Way



Stroud Creek

Skis Road crosses Stroud Creek without the benefit of a culvert (**Exhibit D**). The County proposes to raise the grade of Skis Road by one foot and install two 30-inch RCPs to convey flow. At the time of this assessment the creek was flowing over the road (**Figure 4**). Stroud Creek flows from left to right across the flooded road right of way pictured in **Figure 4**. The project will likely result in impacts to potentially jurisdictional wetlands within the Skis Road right of way and require authorization from ACOE and SFWMD.

The wetlands north and south of Skis Road support forested canopy of cabbage palm, slash pine, laurel oak (*Quercus laurifolia*), melaleuca (*Melaleuca quinquenervia*), and Brazilian pepper. The stream channel supports maidencane (*Panicum hemitomon*) and Carolina willow. There were no listed species observed utilizing the right of way and it is unlikely that the proposed project would impact these species.

Figure 4. Skis Road flooded at Stroud Creek crossing



Palm Creek

A 30-inch corrugated metal pipe (CMP) conveys flows from Palm Creek under Ruden Road (**Exhibit E**). The County proposes to raise the grade of Ruden Road and replace the existing CMP with an RCP of the same size with a lower invert. Potentially jurisdictional wetlands north of Ruden Road include a small pond and shrubby Carolina willow wetland. A narrow berm vegetated with Australian pine and Brazilian pepper separated the pond from the road side ditch where the existing CMP collects flow from the willow wetland (**Figure 5**). Riparian wetlands adjacent to Palm Creek appear absent south of Ruden Rd and the creek appears channelized and is vegetated mostly with cattail. Raising the road grade may result in impacts to wetlands in the right of way and require authorization from the SFWMD and ACOE. In addition, the proposed new invert elevation of the 30-inch RCP is 0.5 ft lower than the existing elevation. This could result in less ponding of the willow wetland and pond north of Ruden Road.

No listed species were observed in the right of way. A review of database records indicates that the site is not located in the protection zone of a known bald eagle nest.

Figure 5. North right of way of Ruden Rd. The pond lies beyond Australian pine.

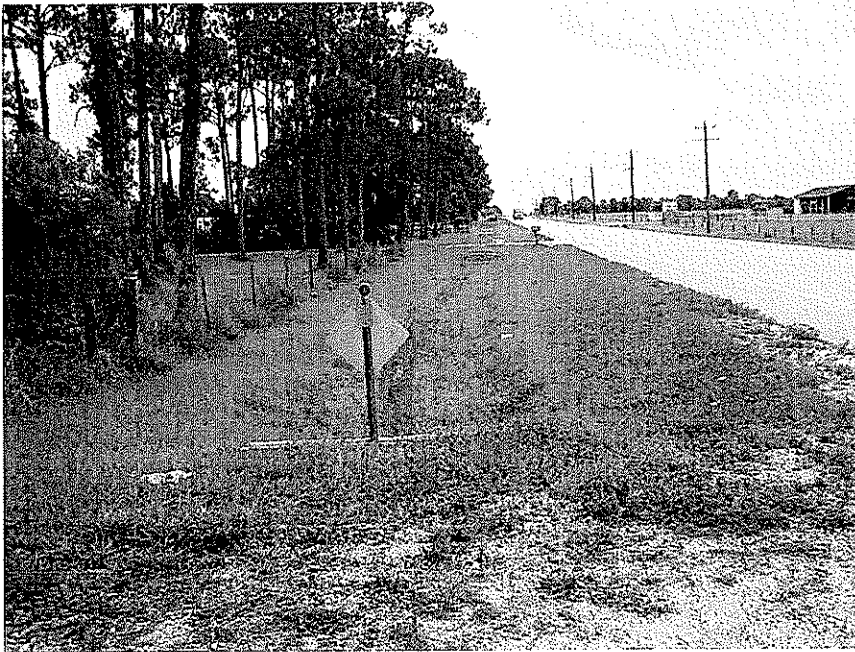


Unnamed 2 Creek

The County proposes to replace three 34-inch x 48-inch ECMPs with dual 42-inch RCPs in State Road 31 (SR 31) right of way (**Exhibit F**). The ECMPs are driveway culverts that convey stormwater runoff. It is not clear that the ditches on the west side of SR 31 right of way are part of a natural unnamed creek. No flow was observed in the ditch at the time of this assessment (**Figure 6**). The SFWMD will likely exert jurisdiction over the ditches as they are part of the stormwater management system for SR 31. The ACOE will not likely exert jurisdiction over the ditches unless it is demonstrated that they are part of a natural creek.

No listed species were observed utilizing the project area, and a review of database records indicate that the project area is not in the protection zone of a known bald eagle nest. The right of way is well maintained and the ditches are not expected to support habitat sufficient for listed species.

Figure 6. Driveway culverts on SR 31 looking north



Marsh Point Creek

Twin Brooks Road crosses forested wetlands that are the headwaters of Marsh Point Creek (**Exhibit G**). There is no conveyance of surface water from the forested wetland north of Twin Brooks Road to the wetland south of the road. The County proposes to add two 24-inch RCPs.

The wetlands are forested with slash pine, water oak, cabbage palm, and a few bald cypress (*Taxodium distichum*) (**Figure 7**). Immediately next to the road, the vegetation includes Carolina willow and primrose willow (*Ludwigia peruviana*). The willow habitat will likely be impacted during the installation of the RCPS and construction of end treatments. Additionally, the new RCPs may reduce the stage of the wetlands north of Twin Brooks Road. The project may in fact restore the historic connection between the two portions of wetlands that have been fragmented by Twin Brooks Road. These impacts will require authorization from the SFWMD and ACOE.

No listed species were observed in the right of way. It is unlikely that the project will have any impact on listed species.

Figure 7. Twin Brooks Road viewed to the east



Bayshore Creek Pond at Nalle Grade Park

The proposed Bayshore Creek project is located on the Nalle Grade Park site (**Exhibit H**). The site was reviewed from Nalle Grade Road south to the archery club facilities. Bayshore Creek is located along the east property boundary, flows north to south, and appears to have been channelized (**Figure 8**). The creek supports patches of alligator weed and torpedo grass. The west portion of the Nalle Grade Park site supports a freshwater wetland. The wetland supports a marsh community of soft rush (*Juncus effusus*), cordgrass (*Spartina bakerii*), and shrubs such as wax myrtle (*Myrica cerifera*) surrounded a transitional, mixed forested wetland of slash pine, water oak, laurel oak, and dahoon holly (**Figure 9**). Melalueca is found around the edges of the marsh and Brazilian pepper can be found throughout the forested habitat. Surface water from the marsh outfalls through a ditch to the southeast to Bayshore Creek. Any proposed impacts to the on-site wetland habitats would require authorization from the SFWMD and ACOE. The wetland limits shown on Exhibit H are from the National Wetland Inventory (NWI) and would need to be delineated in the field to provide a more accurate estimated of the onsite wetland area and potential impacts.

No listed species were observed utilizing the project area, and a review of database records indicate that the project area is not in the protection zone of a known bald eagle nest.

Figure 8. Bayshore Creek viewed north towards Nalle Grade Road



Figure 9. Marsh at Nalle Grade Park





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www.aecom.com

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407.246.7002 fax

Table 1. Proposed Drainage Improvement Projects

Project and Location	Existing culvert(s)	Current Invert Elevation (FT NAVD)	Proposed Project(s)	Proposed Invert Elevation (FT NAVD)
Chapel Branch Creek @ Rich Rd	2-30" RCP	US 13.91/13.95 DS 13.79/14.16	Add 2-42" RCP's	US 13.85/DS 13.80
Daughtrey Creek East Branch so. of Rich Rd	1-30" RCP	US 13.78/DS 13.06	Replace w/ 1-36" RCP	US 13.78/DS 13.06
Popash Creek @ Heather 250' no. of Heather Ln 300' no. of Heather Ln 400' no. of Heather Ln 530' no. of Heather Ln 900' no. of Heather Ln	1-24"x38" ERCP 1-24"x38" ERCP 1-24"x38" ERCP 1-24"x38" ERCP 1-24"x38" ERCP	US 19.3/DS 19.24 US 19.25/DS 19.45 US 19.4/DS 19.14 US 19.39/DS 19.41 US 19.59/DS 19.59 US 19.73/DS 19.82	Repl. w/1-29"x45" ERCP Repl. w/1-29"x45" ERCP Repl. w/1-29"x45" ERCP Repl. w/1-29"x45" ERCP Repl. w/1-29"x45" ERCP	US 19.3/DS 19.24 US 19.58/DS 19.57 US 19.59/DS 19.58 US 19.61/DS 19.60 US 19.63/DS 19.62 US 19.73/DS 19.69
Stroud Creek @ Skis Rd	None	N/A	2-30" RCP	US 15.98/DS 15.95
Palm Creek @ Ruden Rd	1-30" CMP	US 15.1/DS 15.8	Replace with 1-30" RCP	US 15.3/DS 15.2
Unnamed 2 Creek - Driveway Culverts	1-34"x48" CMP 1-34"x48" CMP 1-32"x50" CMP	US 6/DS 5.2 US 4.78/DS 4.39 US 3.51/DS 3.2	Replace w/2-42" RCP Replace w/2-42" RCP Replace w/2-42" RCP	US 6/DS 5.2 US 4.7/DS 4.3 US 3.51/DS 3.2
Marsh Point @ Twin Brooks Rd	None	N/A	2-24" RCP	US 7.0/DS 6.9
Bayshore Creek Pond @ Nalle Grade Park	None	N/A	30-acre wet detention pond and pump station	N/A



AECOM
320 East South Street
Orlando, FL 32801
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Exhibit A Chapel Branch Creek at Rich Road

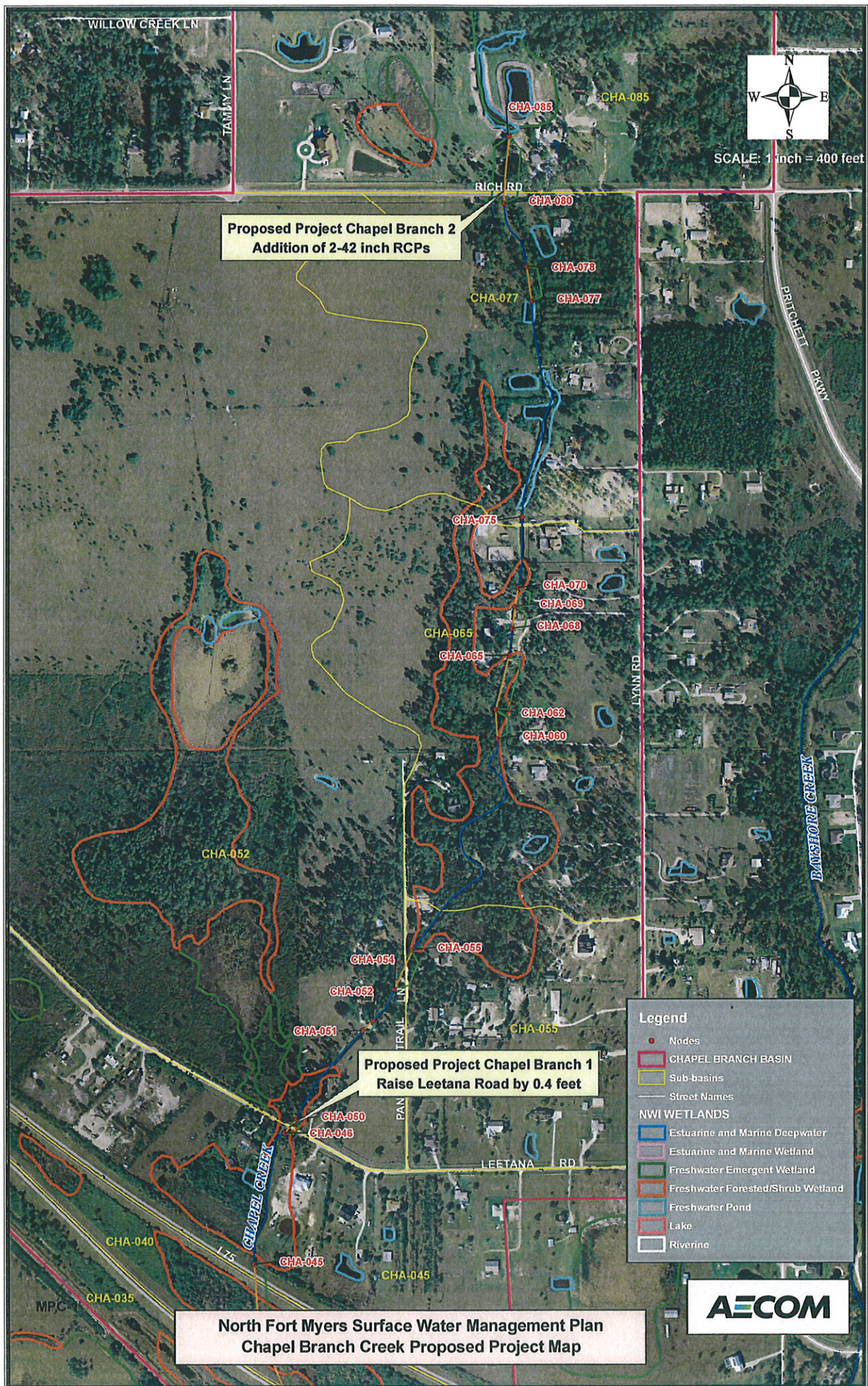


Exhibit B
Daughtrey Creek East Branch South of Rich Road

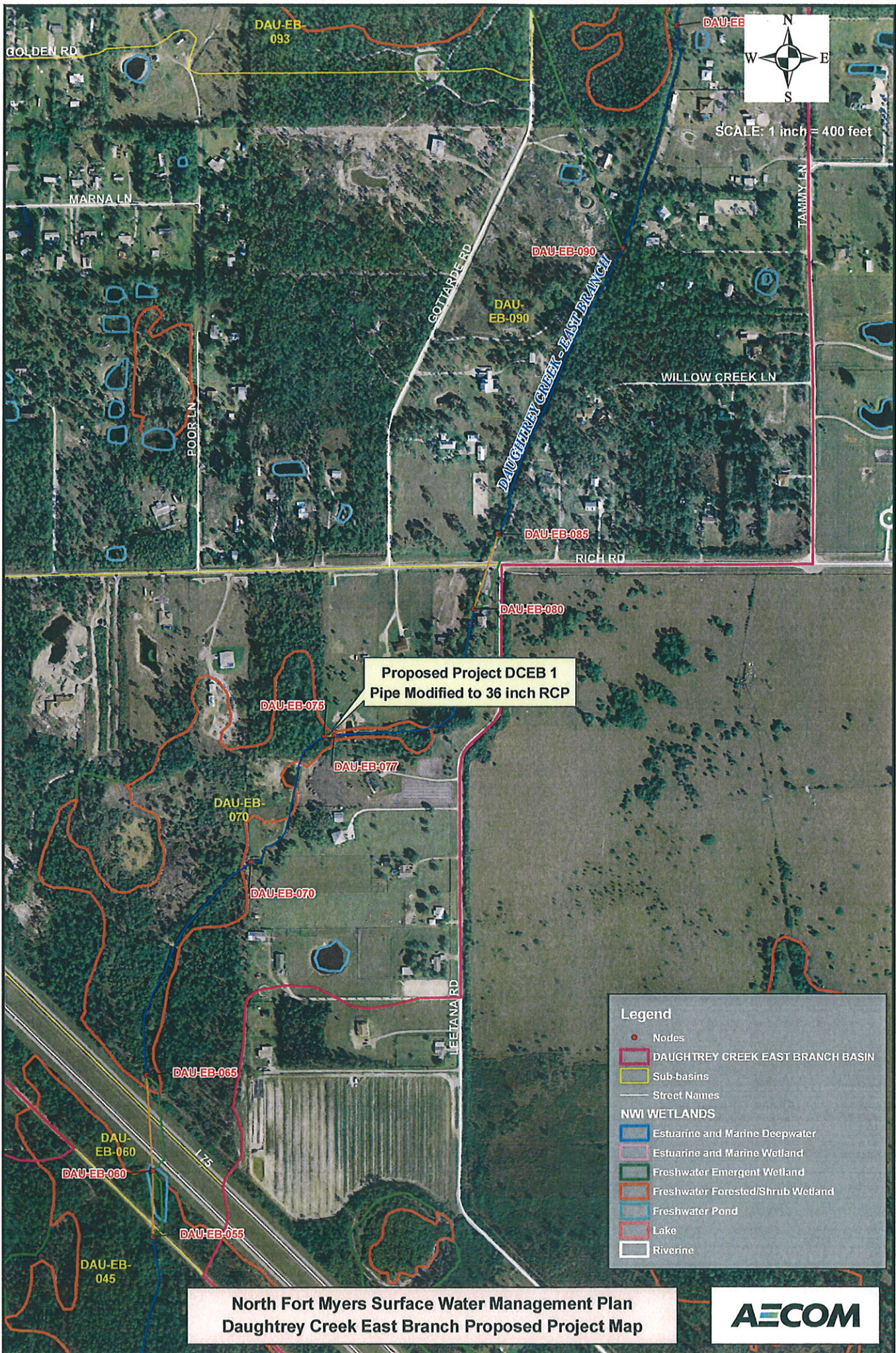


Exhibit C
Popash Creek Driveway Culverts

Exhibit D
Stroud Creek at Skis Road





SCALE 1 inch = 400 feet

Proposed Project Stroud 1
Imp # 1: Raise Skis Road by 1 foot
Imp # 2: Addition of 2-30 inch RCPs under Skis Road

Legend

- Nodes
- STROUD CREEK BASIN
- Sub-basins
- Street Names
- NWI WETLANDS**
 - Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Riverine

North Fort Myers Surface Water Management Plan
Stroud Creek Proposed Project Map

AECOM

Exhibit E
Palm Creek at Ruden Road

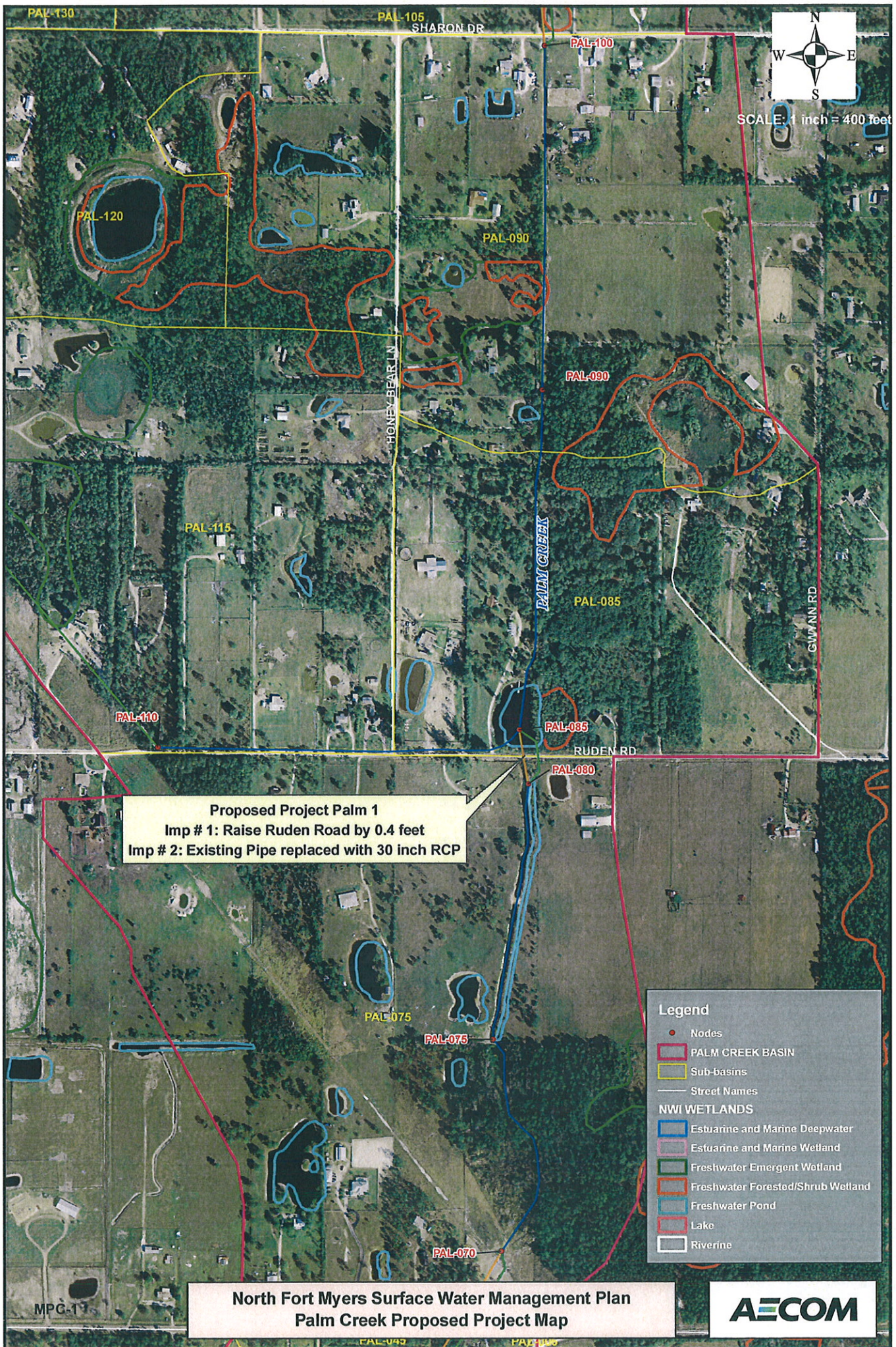
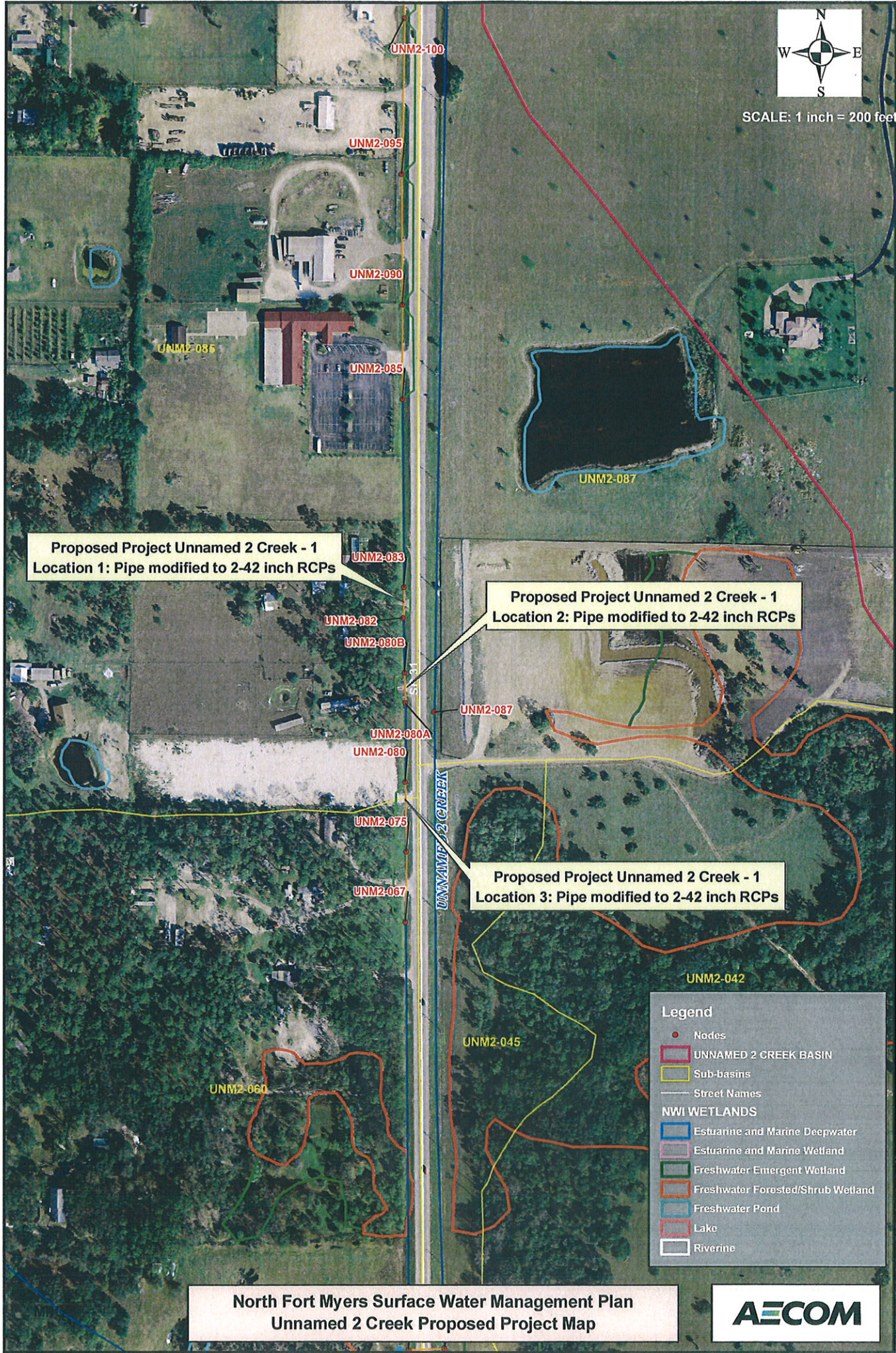


Exhibit F
Unnamed 2 Creek Driveway Culverts



SCALE: 1 inch = 200 feet



Proposed Project Unnamed 2 Creek - 1
Location 1: Pipe modified to 2-42 inch RCPs

Proposed Project Unnamed 2 Creek - 1
Location 2: Pipe modified to 2-42 inch RCPs

Proposed Project Unnamed 2 Creek - 1
Location 3: Pipe modified to 2-42 inch RCPs

Legend

- Nodes
- UNNAMED 2 CREEK BASIN
- Sub-basins
- Street Names
- NWI WETLANDS
 - Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Riverine

Exhibit G
Marsh Point Creek at Twin Brooks Road



SCALE: 1 inch = 400 feet

MAR-087

R-075

MAR-025

MAR-025

Project MPC-1
Addition of 2-24 inch culverts

MAR-023

MAR-023

MAR-060

MAR-045

MAR-055

MAR-050

MAR-047

MAR-047

MAR-047

MAR-045

MAR-030

MAR-021

MAR-019

MAR-017

MAR-017

MAR-015

MARSH
POINT

TWIN BROOK RD

STACY RD

SHELBY LN

JAMES

BIGGS ST

SLATER RD

WATER MILL WAY

ONE LYNN WAY

CLARA LOOP

COIN FRANCH CREEK

DONALD RD

COON RD

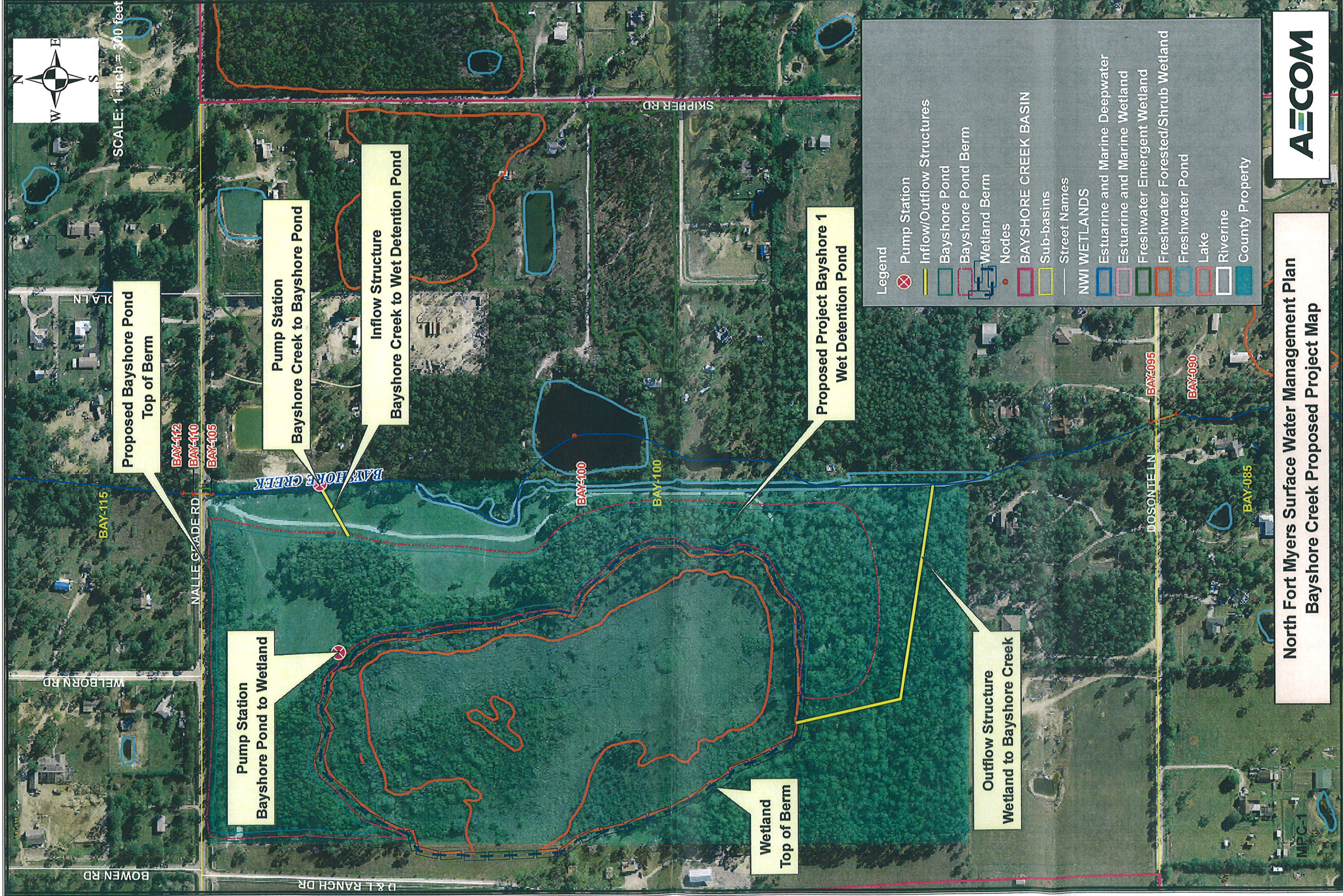
Legend

- Nodes
- MARSH POINT BASIN
- Sub-Basins
- Street Names
- NWI WETLANDS
 - Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Riverine

North Fort Myers Surface Water Management Plan
Marsh Point Creek Proposed Project Map

AECOM

Exhibit H
Bayshore Creek Pond at Nalle Grade Park



North Fort Myers Surface Water Management Plan
Bayshore Creek Proposed Project Map



Exhibit 18

FIRM Flood Insurance Rate Maps (2008)

For NFMSWMP Area

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Florida State Plane west zone (FIPSZONE 9502). The horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NIMS12
National Geodetic Survey
SSUC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital format by the Lee County GIS Department. The road centerline information was constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998 and updated using orthophotography dated 2002 and 2005. The surface water features were also constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998.

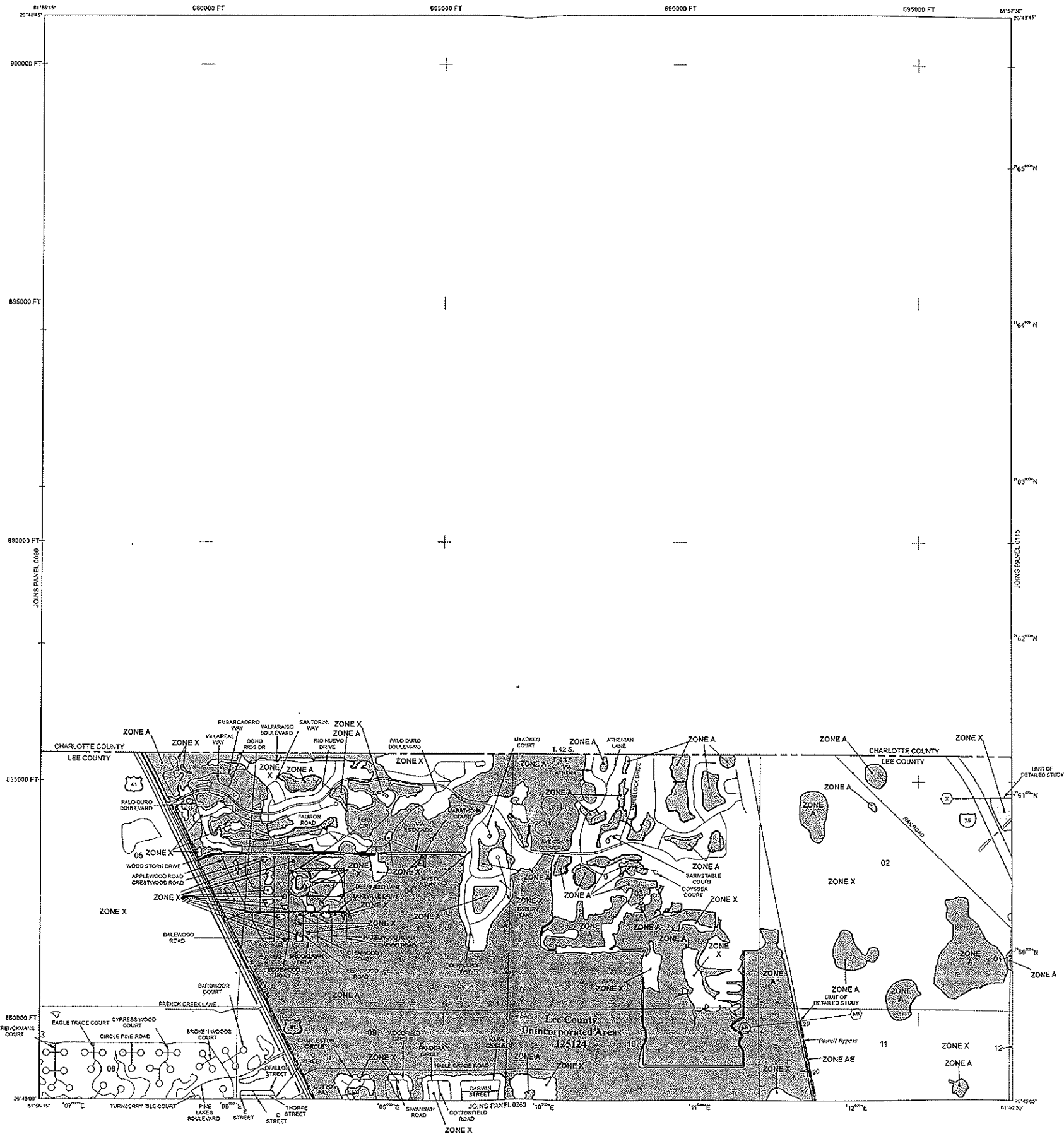
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Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.msc.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-356-2627) or visit the FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100 year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AD, AR, AP, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

- ZONE A No Base Flood Elevations determined.
- ZONE AE Base Flood Elevations determined.
- ZONE AD Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of channel flow flooding, velocities also determined.
- ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE AP Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE D Areas determined to be outside the 0.2% annual chance floodplain.
- UNDETERMINED AREAS Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet
- Base Flood Elevation value where uniform within zone; elevation in feet

* Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transverse line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid values, zone 17

5000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPSZONE 9502), Transverse Mercator projection

Bench mark (see explanation in Notes to Users section of this FIRM panel)

River Mile

MAP REPOSITORY

Refer to listing of Map Repositories on Map Index

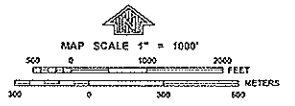
EFFECTIVE DATE OF COUNTRYWIDE FLOOD INSURANCE RATE MAP

August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-636-6620.



PANEL 0095F

FIRM

FLOOD INSURANCE RATE MAP

LEE COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 95 OF 685
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS	COMMUNITY	NUMBER	PANEL	SHEET
	LEE COUNTY	125124	0095	7

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
12071C0095F

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

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NGS Information Services
NOAA, NINGS12
National Geodetic Survey
SSMC-3, #5202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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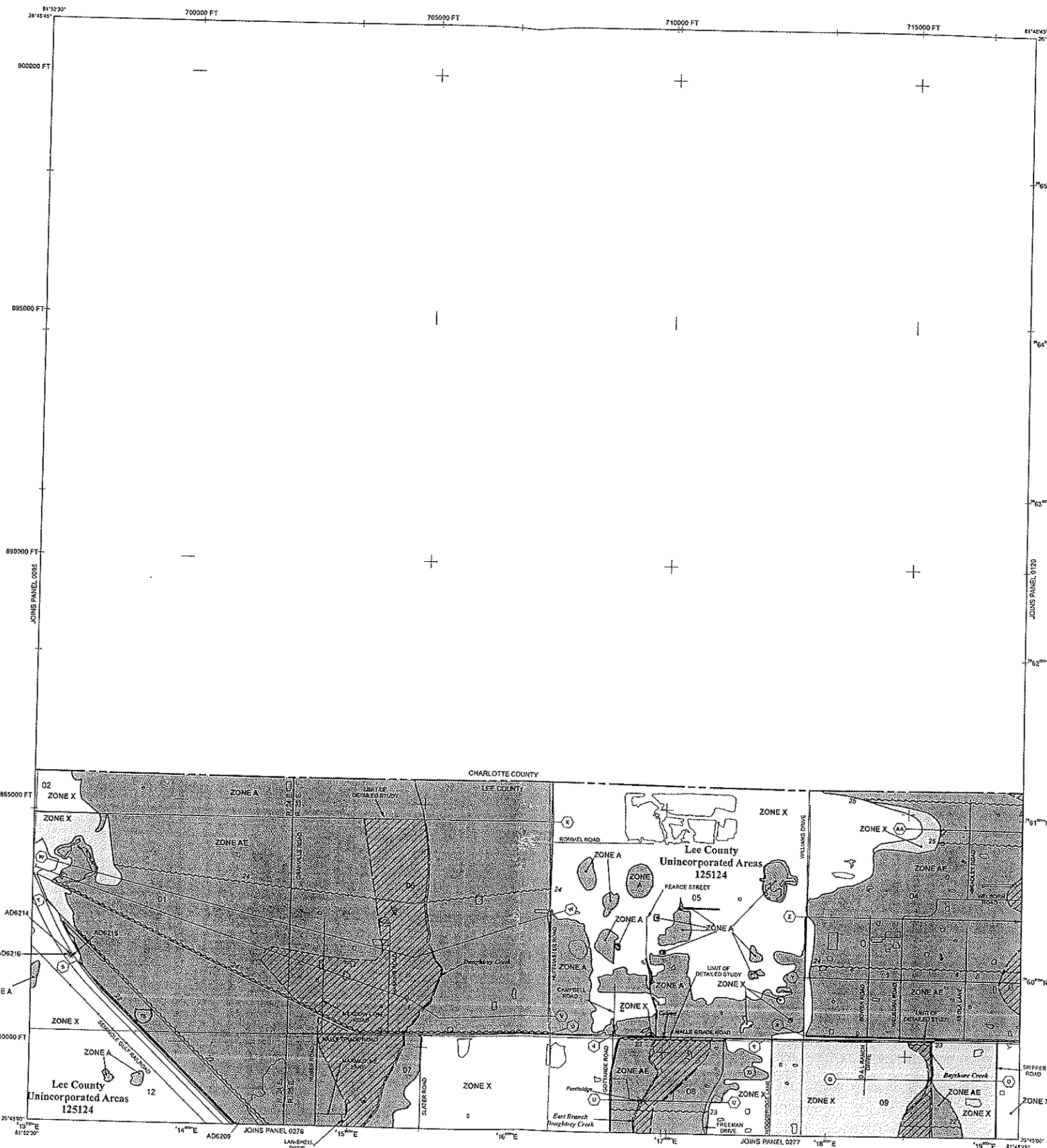
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LEGEND

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- ZONE AE Base Flood Elevation determined.
- ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevation determined.
- ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of abutted fan flooding, velocities also determined.
- ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently destroyed. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE AV Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no base flood elevations determined.
- ZONE V Coastal flood zone with velocity hazard (wave action); no base flood elevations determined.
- ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevation determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; a crest of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE D Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevation, flood depths or flood velocities
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within area; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

○ Cross section line

--- Transit line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1983-foot grid values: Florida State Plane coordinate system, West zone (FIPSZONE 9023), Transverse Mercator projection

600000 FT

DX5510 X

• M15

River Mile

MAP REPOSITORY

Refer to Listing of Map Repositories on Map Index

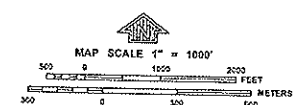
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

August 28, 2008

EFFECTIVE DATES OF REVISIONS TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



PANEL 0115F

FIRM

FLOOD INSURANCE RATE MAP

LEE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 115 OF 685

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	SHEET
LEE COUNTY	125124	0115	F

Notes to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used when insurance applications for the subject community.



MAP NUMBER
12071C0115F

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.5' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Florida State Plane west zone (FIPSZONE 902). The horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSMC-3, #5202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital format by the Lee County GIS Department. The road centerline information was constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998 and updated using orthophotography dated 2002 and 2005. The surface water features were also constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or dis-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9618 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AV, X, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A No Base Flood Elevations determined.
- ZONE AE Areas to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of ponding, velocities also determined.
- ZONE AV Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently dismantled. Zone AV indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 foot or with discharge areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*
- * Referenced to the North American Vertical Datum of 1988
- Cross section line
- Transit line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 1000 meter Universal Transverse Mercator grid values, zone 17
- 600000 FT
- DX5510 X
- M 1.5
- River Mile

MAP REPOSITORY

Refer to Listing of Map Repositories on Map Index.

EFFECTIVE DATE OF COMMUNITY FLOOD INSURANCE RATE MAP

August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-435-6616.

MAP SCALE 1" = 600'

250 0 500 1000

150 0 300 600

FEET METERS

PANEL 0119F

FIRM

FLOOD INSURANCE RATE MAP

LEE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 119 OF 685

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

SOURCE:

COMMUNITY NUMBER PANEL PREFIX

LEE COUNTY 125124 0119 F

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER

12071C0119F

EFFECTIVE DATE

AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and floodplain management.

Coastal Base Flood Elevations shown on this map apply only to landward of 0.5 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Florida State Plane west zone (FIPS ZONE 802). The horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1928 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

National Geodetic Survey
NOAA, NGS12
National Geodetic Survey
SSM-C, #3002
1315 East-West Highway
Silver Spring, Maryland 20910-3202
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital format by the Lee County GIS Department. The road centerline information was constructed based on orthorectified imagery produced at a scale of 1"=100' from aerial imagery flown in 1998 and updated using orthorectified imagery dated 2002 and 2005. The surface water features were also constructed based on orthorectified imagery produced at a scale of 1"=100' from aerial imagery flown in 1998.

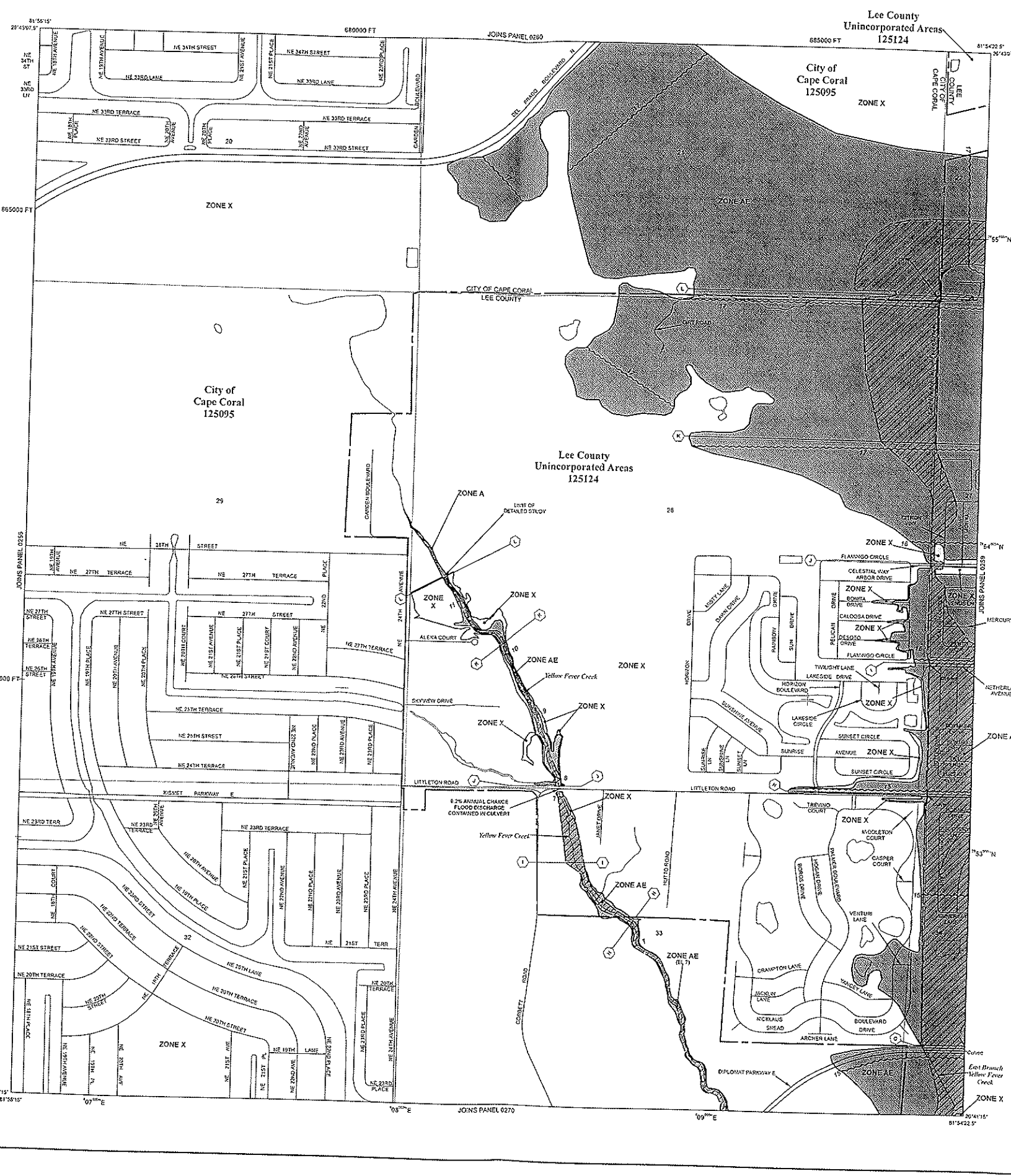
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100 year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AD, AR, AV, V, and VE. The base flood elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A No Base Flood Elevations determined.
- ZONE AE Base Flood Elevations determined.
- ZONE AH Flood depths of 1 to 3 feet (usually areas of ponds); Base Flood Elevations determined.
- ZONE AD Flood depths of 1 to 3 feet (usually street flow on closing levees); average depths determined. For areas of physical fan flooding, vehicles also determined.
- ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE AV Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE D Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities
- Base Flood Elevation line and value, elevation in feet
- Base Flood Elevation value where uniform within zone; elevation in feet

* Referenced to the North American Vertical Datum of 1988

① Cross section line

② Traction line

87°07'45", 32°22'30"

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), NAD83 Mercator

1000-meter Universal Transverse Mercator grid values, Zone 17

600000 FT

0X5510 X

#M1.5

MAP REPOSITORY

Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTRYWIDE FLOOD INSURANCE RATE MAP

August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countrywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6663.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 300 METERS

PANEL 0258F

FIRM

FLOOD INSURANCE RATE MAP

LEE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 258 OF 685

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY CAPE CORAL, CITY OF LEE COUNTY

LAP/BSR PANEL SHEETS 152025 152124 15258

Notes to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER

12071C0258F

EFFECTIVE DATE

AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Subwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Subwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Subwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Florida State Plane west zone (FIPS ZONE 802). The horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, HWS-12
National Geodetic Survey
SSM-3, #3202
1315 East-West Highway
Silver Spring, Maryland 20910-3262
(301) 713-3422

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital format by the Lee County GIS Department. The road centerline information was constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1996 and updated using orthophotography dated 2002 and 2005. The surface water features were also constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998.

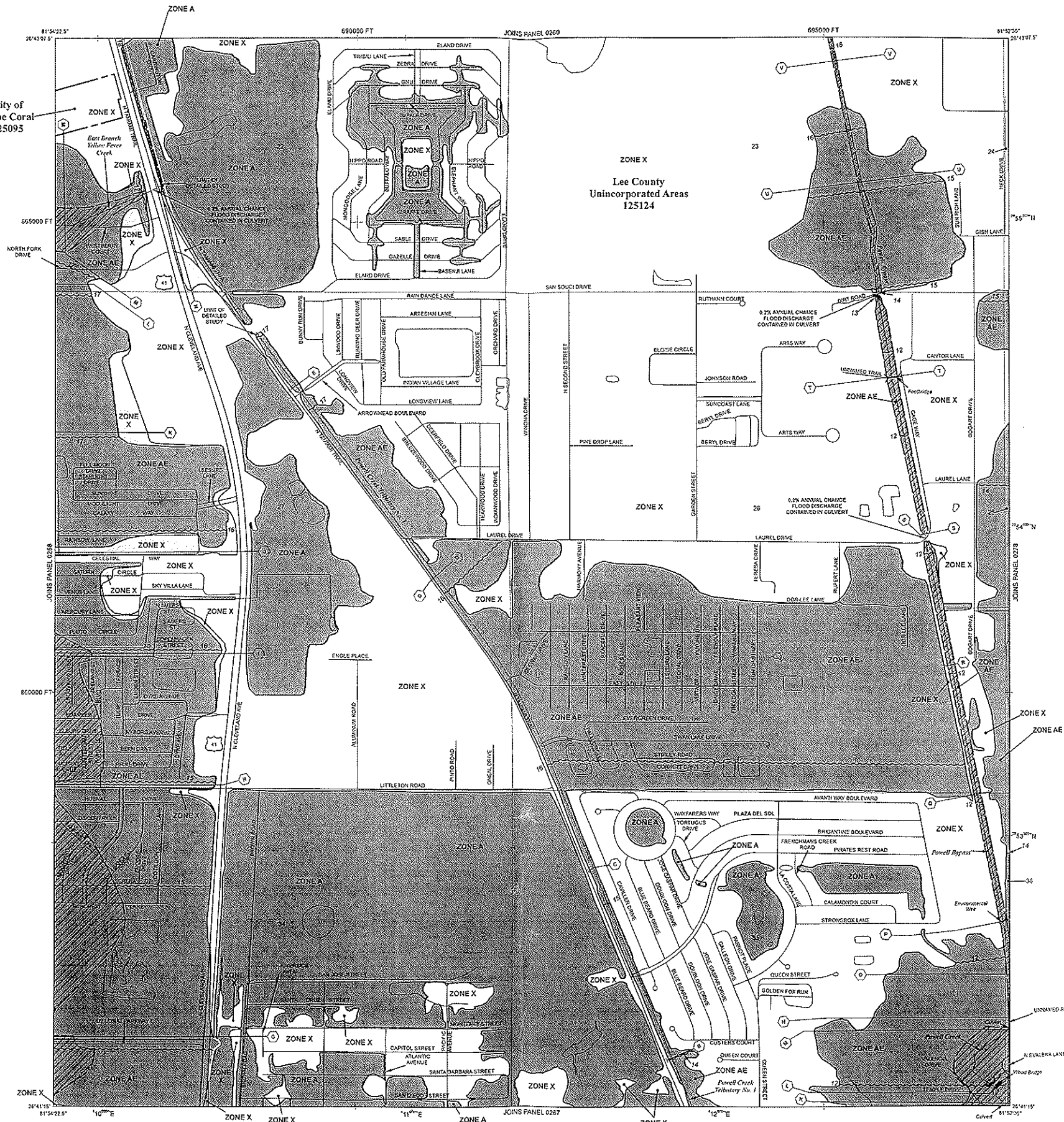
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9516 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9520 and its website at <http://www.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% Annual Flood (100-year Flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AR1, V, and VE. The base flood elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A: No Base Flood Elevation determined.
- ZONE AE: Base Flood Elevation determined.
- ZONE AH: Flood depths of 1 to 3 feet (usually areas of ponds); Base Flood Elevation determined.
- ZONE AD: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of unusual fan flooding, velocities also determined.
- ZONE AR: Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE AR1: Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevation determined.
- ZONE V: Coastal flood zone with velocity hazard (wave action); no Base Flood Elevation determined.
- ZONE VE: Coastal flood zone with velocity hazard (wave action); Base Flood Elevation determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachments so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

Zone X: Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 foot or with discharge areas less than 1 square mile and areas protected by levees from the 1% annual chance flood.

OTHER AREAS

Zone D: Areas determined to be outside the 0.2% annual chance floodplain.

Zone O: Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone A boundary
- Zone AE boundary
- Zone D boundary
- Zone O boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different base flood elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet
- Base Flood Elevation value where uniform within zone; elevation in feet

* Referenced to the North American Vertical Datum of 1988

— Cross section line

— Truncated line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid values, zone 17

600000 FT: 5000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPS ZONE 8002), Transverse Mercator projection

DX5510 X: Bench mark (see explanations in Notes to Users section of this FIRM panel)

M1.5: River Mile

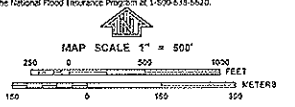
MAP REPOSITORY: Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP: August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-635-5620.



PANEL 0259F

FIRM

FLOOD INSURANCE RATE MAP

LEE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 259 OF 685

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	EFFECTIVE DATE
CAPE CORAL CITY OF LEE COUNTY	155015	0259	8/28/08

MAP NUMBER
12071C0259F

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodway depths have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Florida State Plane west zone (FIPS ZONE 902). The horizontal datum was NAD 83. GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NIMS 12
National Geodetic Survey
SSMC-3, #9202
1315 East West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital format by the Lee County GIS Department. The road centerline information was constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998 and updated using orthophotography dated 2002 and 2005. The surface water features were also constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998.

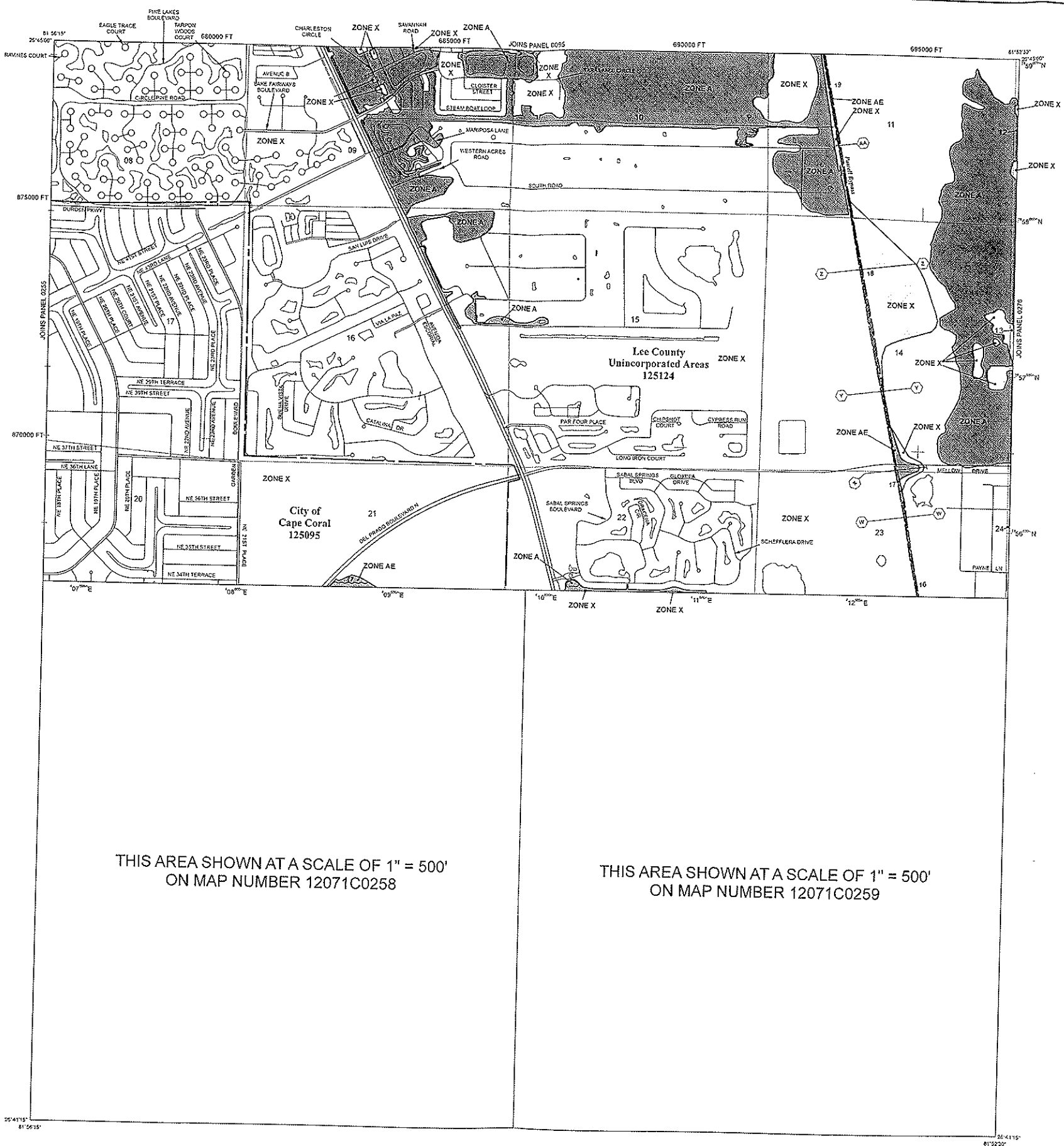
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contain authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-8616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-8620 and its website at <http://www.msc.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.



NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Shallow Water Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Shallow Water Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Shallow Water Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Florida State Plane west zone (FIPSZONE 902). The horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NIMS 12
National Geodetic Survey
SSM-C-3, #5202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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Base map information shown on this FIRM was provided in digital format by the Lee County GIS Department. The road centerline information was constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1989 and updated using orthophotography dated 2002 and 2005. The surface water features were also constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1989.

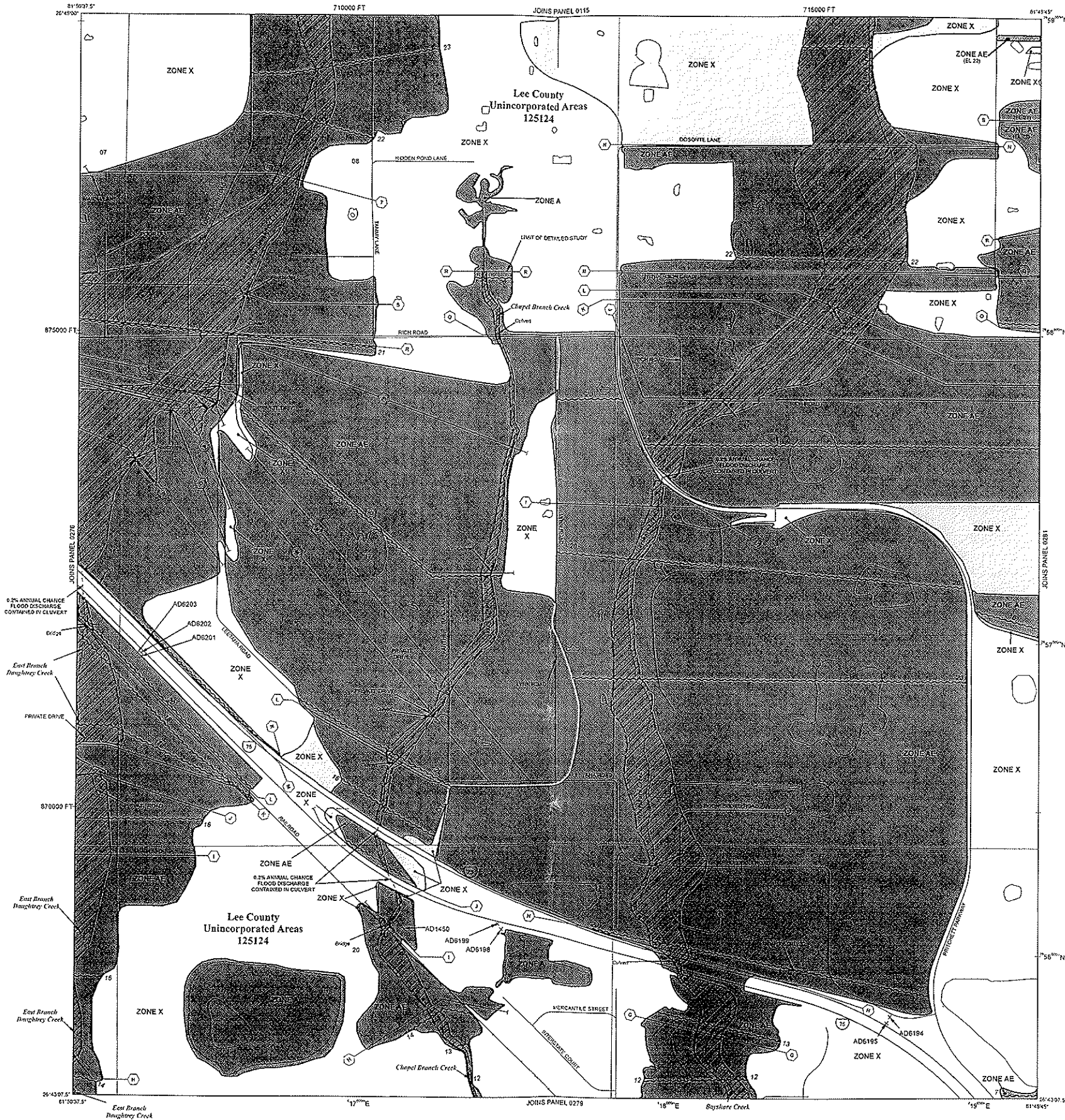
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Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9618 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9602 and its website at <http://www.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-6227) or visit the FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponds); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually short flow on sloping terrain); average depths determined. For areas of coastal fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently dismantled. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE AV** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X** Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 foot or with average areas less than 3 square miles, and areas protected by levees from 1% annual chance flood.
- ZONE D** Areas determined to be outside the 0.2% annual chance floodplain.

OTHER AREAS

- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different time flood durations, flood depths or flood velocities.
- Base Flood Elevation line and value: elevation in feet*
- Base Flood Elevation value within zone: elevation in feet.

* Referenced to the North American Vertical Datum of 1988.

Cross section line

Transect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid values, zone 17

500-foot grid symbol: Florida State Plane coordinate system, Visit zone (FIPSZONE 9003), Transverse Mercator projection.

Bench mark (see explanation in notes to users section of this FIRM panel)

River mile

MAP REPOSITORY

Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-633-6520.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

PANEL 0277F

FIRM
FLOOD INSURANCE RATE MAP

LEE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 277 OF 685
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY: LEE COUNTY NUMBER: 125124 PANEL: 0277 SHEET: F

MAP NUMBER
12071C0277F

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM, Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Florida State Plane west zone (FIPS ZONE 902). The horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1928 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSAC-3, #3202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital format by the Lee County GIS Department. The road centerline information was constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998 and updated using orthophotography dated 2002 and 2005. The surface water features were also constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998.

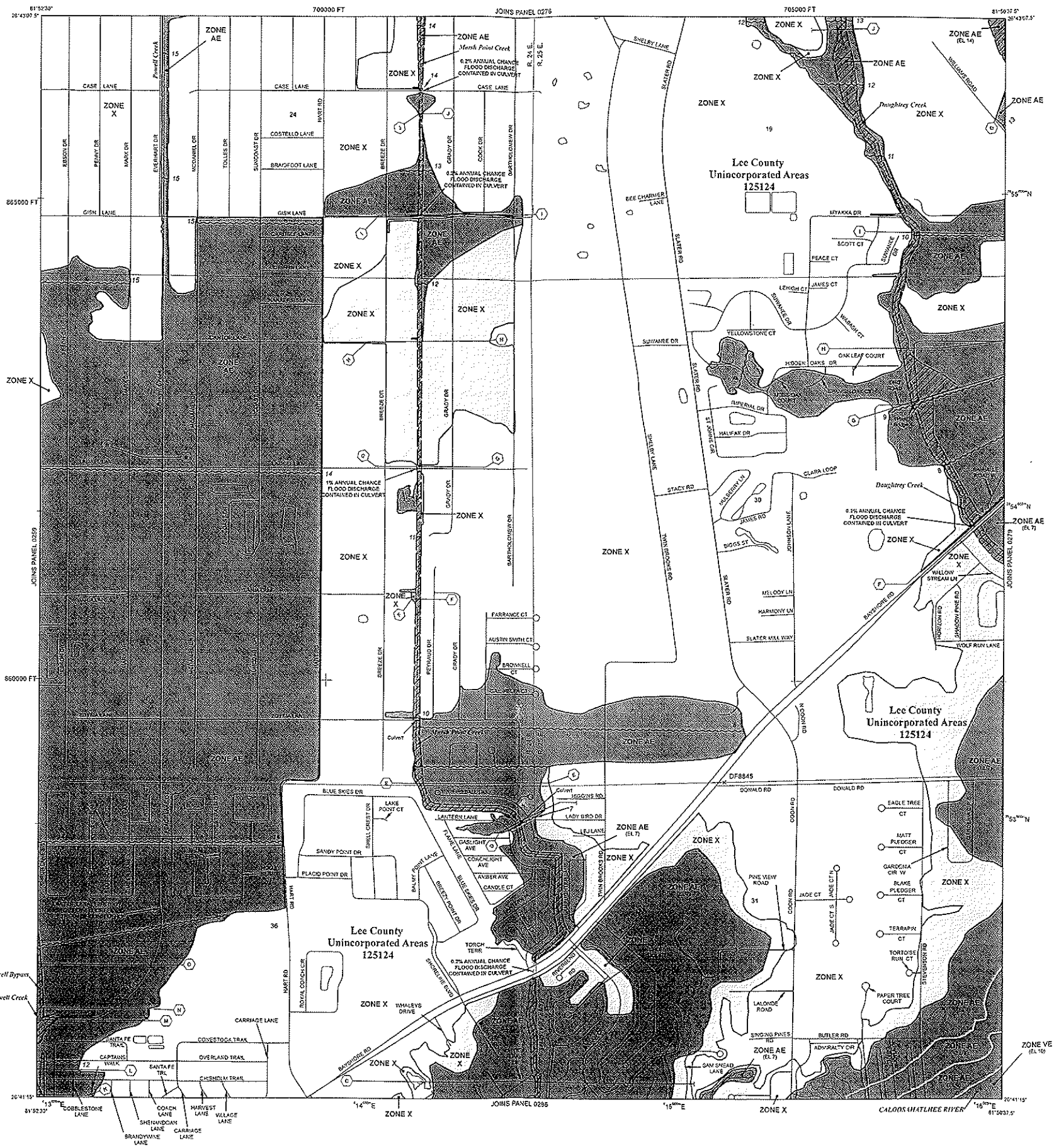
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9520 and its website at <http://www.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2277) or visit the FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A: No Base Flood Elevations determined.
- ZONE AE: Base Flood Elevations determined.
- ZONE AH: Flood depths of 3 to 5 feet (usually areas of ponds); Base Flood Elevation determined.
- ZONE AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of shoals, flood depths, velocities also determined.
- ZONE AR: Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently destroyed. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE AV: Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevation determined.
- ZONE V: Coastal flood zone with velocity based (wave action); no Base Flood Elevation determined.
- ZONE VE: Coastal flood zone with velocity hazard (wave action); base Flood Elevation determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

Zone X: Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

OTHER AREAS

Zone X: Areas determined to be outside the 0.2% annual chance floodplain.

Zone D: Areas in which flood hazards are undetermined, but possible.

Coastal Barrier Resources System (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- - - Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value, elevation in feet
- Base Flood Elevation value where uniform within zone, elevation in feet

* Referenced to the North American Vertical Datum of 1988

① — Cross section line

② — Transect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000 meter Universal Transverse Mercator grid values, zone 17

5000-foot grid values: Florida State Plane coordinate system, West zone (FIPS ZONE 902); Transverse Mercator projection

Band mark (see explanation in Notes to Users section of this FIRM panel)

600000 FT

DX5510

• M1.5

MAP REPOSITORY

Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE

FLOOD INSURANCE RATE MAP

August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map history table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE

1" = 500'

250 0 500 1000

FEET

150 0 150 300

METERS

PANEL 0278F

FIRM

FLOOD INSURANCE RATE MAP

LEE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 278 OF 685

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COUNTY

LEE COUNTY

SUBAREA

125124

PANEL

0278

SUFFIX

F

MOORE TO USE: The Map Number shown below should be used when making map orders; the Community Number shown below should be used on insurance applications for the subject community.

MAP NUMBER

12071C0278F

EFFECTIVE DATE

AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM, Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only to landward of 0.0 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Florida State Plane west zone (FIPSZONE 902). The horizontal datum was NAD 83. GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be completed to structure and ground elevations referenced to this same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NINGS12
National Geodetic Survey
SSMVC-3, #3202
1315 East/West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital format by the Lee County GIS Department. The most current information was constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998 and updated using orthophotography dated 2002 and 2005. The surface water features were also constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998.

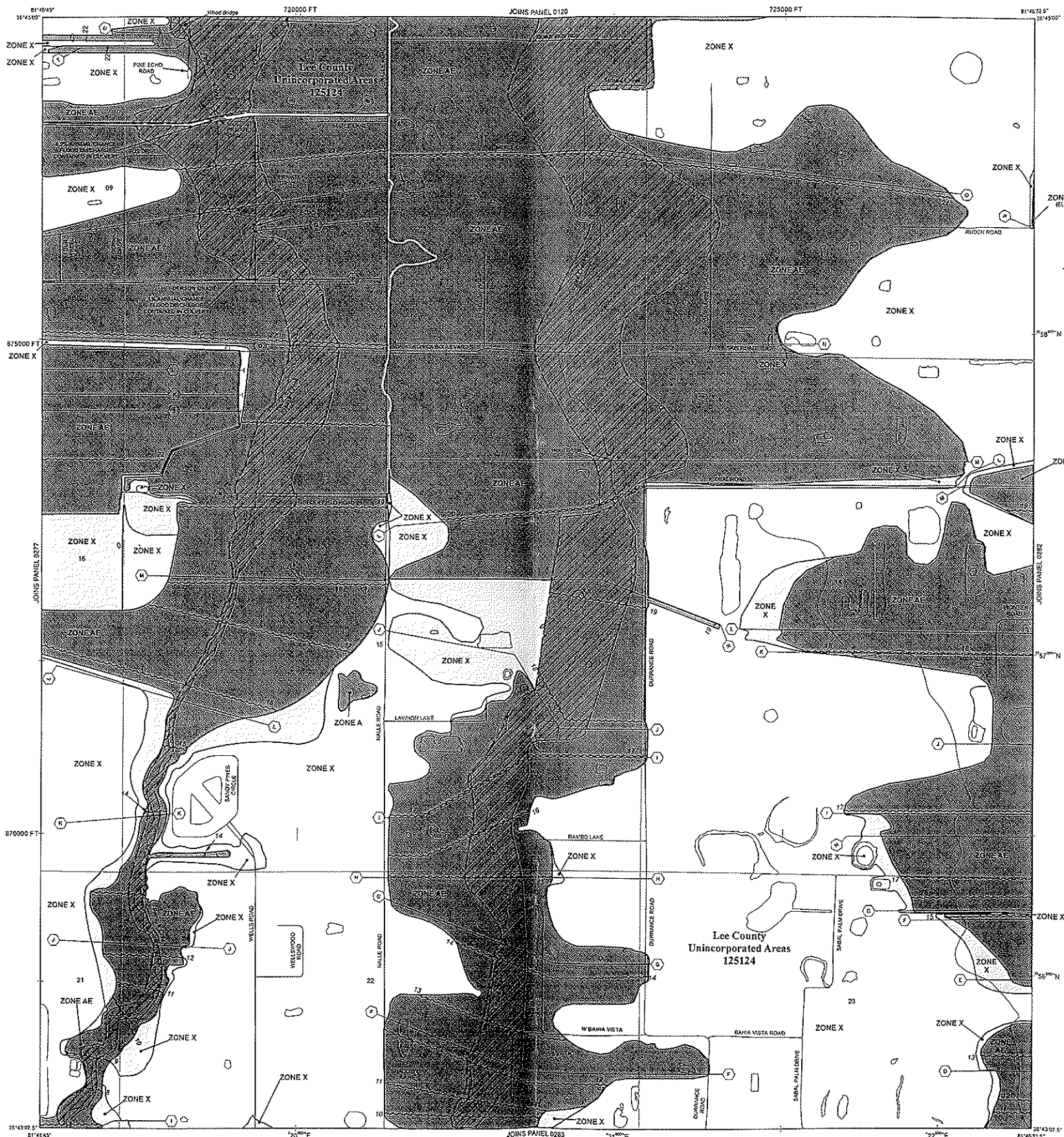
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AR, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A No Base Flood Elevations determined.
- ZONE AE Base Flood Elevations determined.
- ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of shallow ten flooding, velocities also determined.
- ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently destroyed. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance flood.
- ZONE AR9 Area to be protected from 1% annual chance flood by a federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from the 1% annual chance flood.

OTHER AREAS

- ZONE D Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value, elevation in feet
- Base Flood Elevation value where uniform within zone, elevation in feet

* Referenced to the North American Vertical Datum of 1988.

- Cross section line
- Truncated line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 1000-meter Universal Transverse Mercator grid values, zone 17
- 5000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPSZONE 902), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- Zone 17E

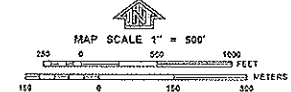
MAP REPOSITORY
Refer to listing of Map Repositories on Map Index.

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-658-6633.



PANEL 0281F

FIRM
FLOOD INSURANCE RATE MAP

**LEE COUNTY,
FLORIDA
AND INCORPORATED AREAS**

PANEL 281 OF 685

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	DATES	PANEL	SUFFIX
LEE COUNTY	125124	0281	F

MAP NUMBER
12071C0281F

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only to landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Florida State Plane west zone (FIPS/ZONE 802). The horizontal datum was NAVD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSAIC-3, #5202
1315 East-West Highway
Silver Spring, Maryland 20910-3262
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital form by the Lee County GIS Department. The road centerline information was constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998 and updated using orthophotography dated 2002 and 2005. The surface vector features were also constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998.

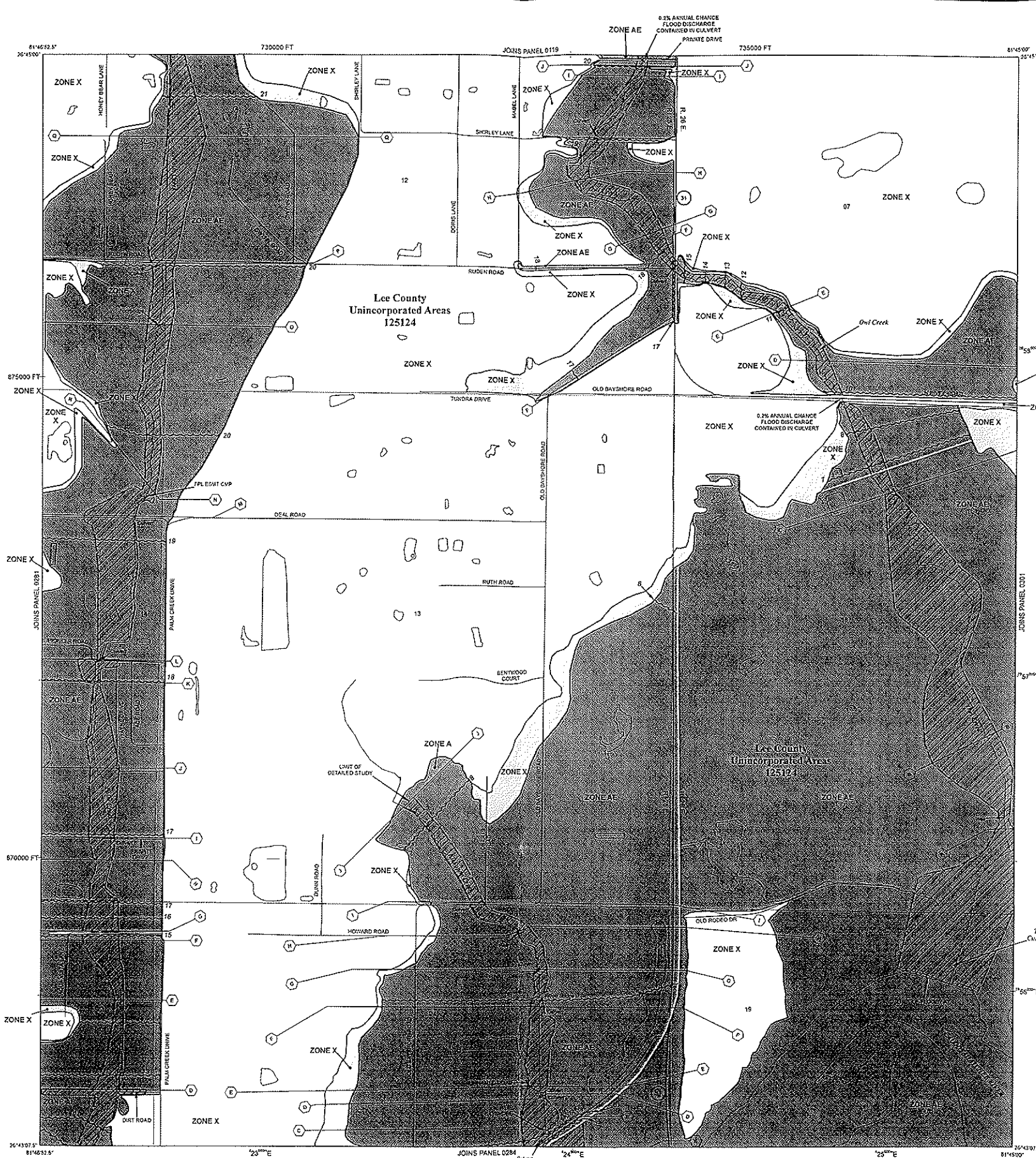
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.msc.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% Annual Flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include zones A, AE, AH, AD, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A No Base Flood Elevations determined.
- ZONE AE Base Flood Elevations determined.
- ZONE AH Flood depths of 1 to 3 feet (mostly areas of ponding); Base Flood Elevation determined.
- ZONE AD Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of sheet flow, velocities also determined.
- ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently destroyed. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevation determined.
- ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevation determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from the 1% annual chance flood.

OTHER AREAS

- ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

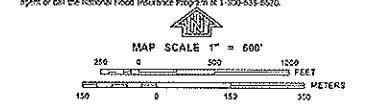
- Floodplain boundary
- Floodway boundary
- Zone boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value, elevation in feet
- Base Flood Elevation value where uniform within zone, elevation in feet

- * Referenced to the North American Vertical Datum of 1988
- ① Cross section line
- ② Truncated line
- 87°07'45", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 17°6'00"N 1000-meter Universal Transverse Mercator grid values, zone 17
- 600000 FT 1000-foot grid scale: Florida State Plane coordinate system, UTM zone 18QDS01 (NAD 83), Transverse Mercator projection
- DX5510 X Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M11.5 River title

- MAP REPOSITORY Refer to listing of Map Repositories on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP August 28, 2005
- EFFECTIVE DATES OF REVISIONS TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-635-6535.



PANEL 0282F

FIRM FLOOD INSURANCE RATE MAP

LEE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 282 OF 685

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY
LEE COUNTY

NUMBER PANEL SHEET
125124 0282 F

Notice to User: The map number shown below should be used when filing map returns, the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
12071C0282F

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodway data have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only to landward of 0.9' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Florida State Plane west zone (FIPS2000 502). The horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NOS Information Services
NOAA, NNGS12
National Geodetic Survey
SSAC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital format by the Lee County GIS Department. The road centerline information was constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998 and updated using orthophotography dated 2002 and 2005. The surface water features were also constructed based on orthophotography produced at a scale of 1"=100' from aerial imagery flown in 1998.

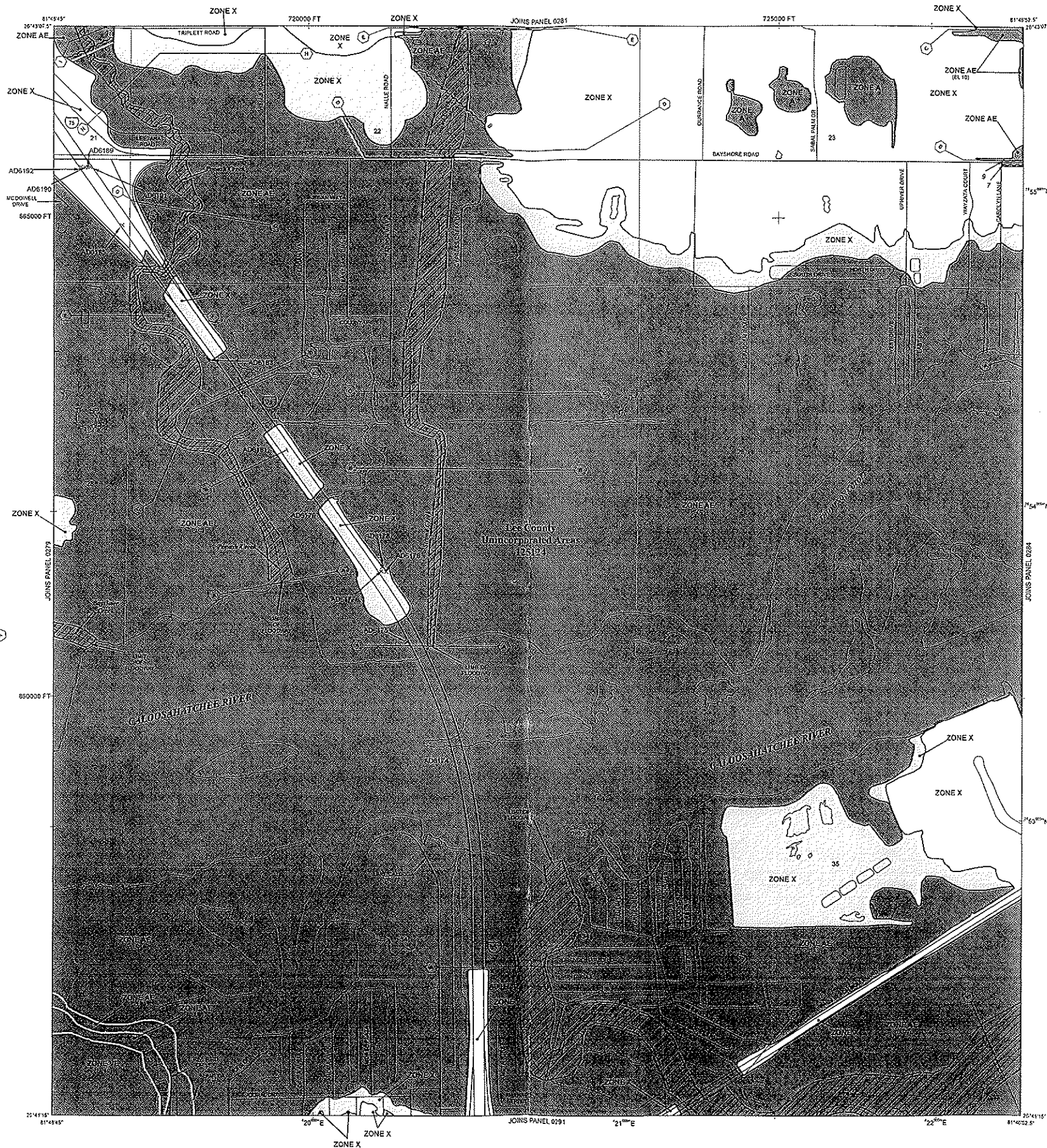
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9516 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9520 and its website at <http://www.msc.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-339-6227) or visit the FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, V, and VE. The base flood elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths at 1 to 3 feet (mostly areas of ponds); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (mostly short flow on sloping terrain); average depths determined. For areas of short flow, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently discontinued. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance flood.
- ZONE AV** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X** Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.
- ZONE D** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE U** Areas in which flood hazards are undetermined, but possible.

OTHER AREAS

- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE U** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities
- Base Flood Elevation line and value, elevation in feet
- Base Flood Elevation value where uniform within zone, elevation in feet

* Referenced to the North American Vertical Datum of 1988.

- Cross section line
- Traverse line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 1000-meter Universal Transverse Mercator grid values, zone 17
- 500-foot grid values: Florida State Plane coordinate system, West zone (FIPS2000 5003), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- River mile

MAP REPOSITORY

Refer to listing of Map Repositories on Map Index

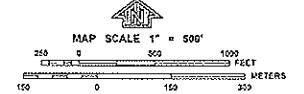
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-455-6623.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0283F

FIRM

FLOOD INSURANCE RATE MAP

LEE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 283 OF 685

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

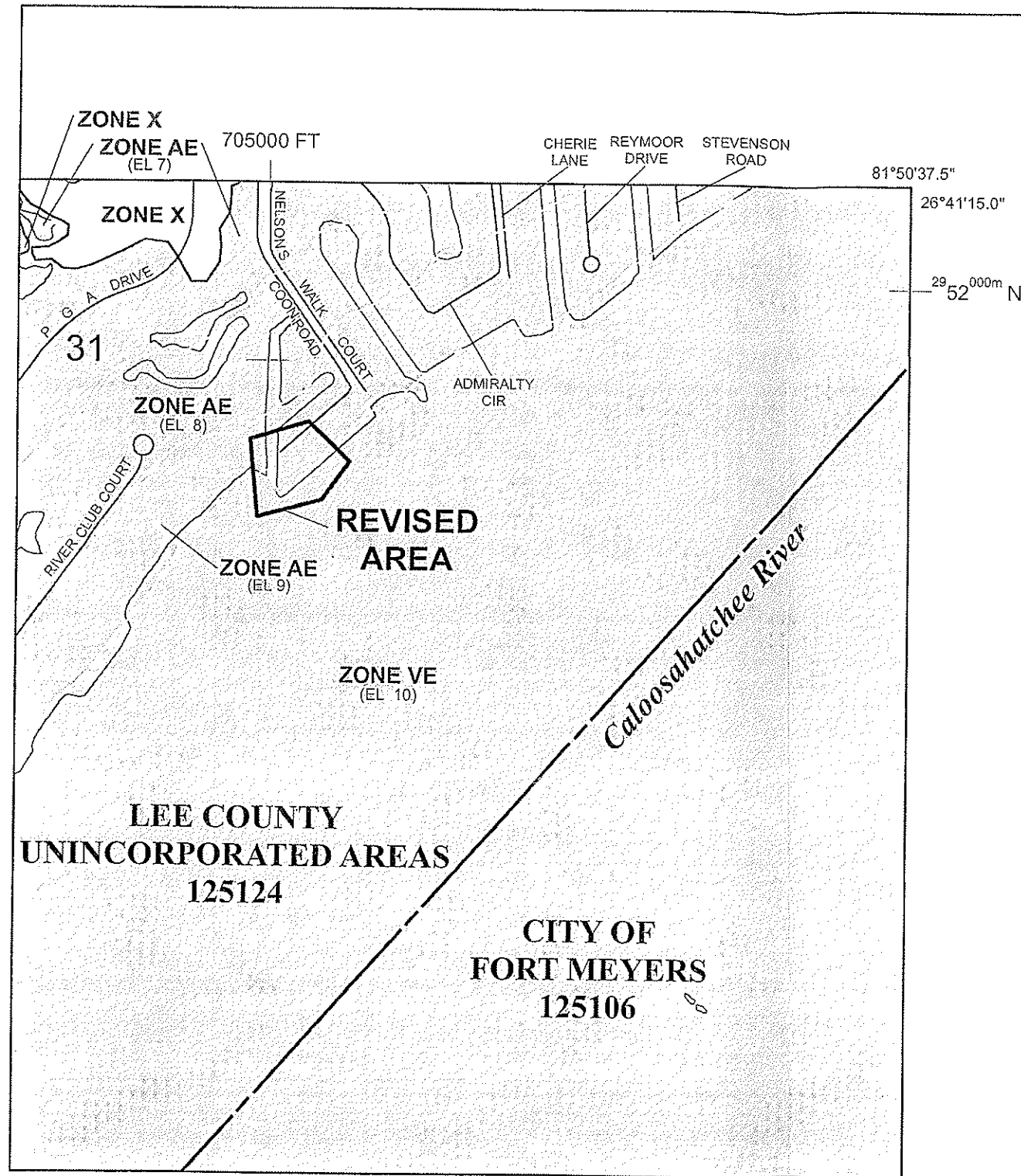
COMMUNITY	NUMBER	PANEL	SUFFIX
LEE COUNTY	120124	0253	F

Notice to Users: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

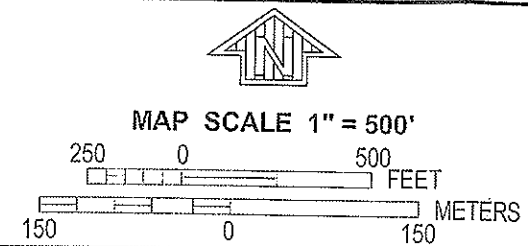
MAP NUMBER
12071C0283F

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency



- Legend
- 1% annual chance (100-Year) Floodplain
 - 1% annual chance (100-Year) Floodway
 - 0.2% annual chance (500-Year) Floodplain



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0286F

FIRM
FLOOD INSURANCE RATE MAP


**LEE COUNTY,
FLORIDA
AND INCORPORATED AREAS**

PANEL 286 OF 685
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LEE COUNTY	125124	0286	F
FORT MYERS, CITY OF	125106	0286	F

**REVISED TO
REFLECT LOMR
EFFECTIVE: March 31, 2010**

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

 **MAP NUMBER
12071C0286F**
**EFFECTIVE DATE
AUGUST 28, 2008**

Federal Emergency Management Agency