

**IN THE CIRCUIT COURT OF THE TWENTIETH JUDICIAL CIRCUIT
IN AND FOR COLLIER COUNTY, FLORIDA
CIVIL ACTION**

FLOW WAY COMMUNITY DEVELOPMENT
DISTRICT,

Plaintiff,

v.

Case No. 20-CA-_____

TAYLOR MORRISON OF FLORIDA, INC.,
TAYLOR MORRISON ESPLANADE NAPLES,
LLC, TIM HALL, TURRELL, HALL & ASSOCIATES,
INC., ANTHONY BURDETT, STEPHEN REITER,
DAVID TRUXTON, ADAM PAINTER,
CHRISTOPHER NIRENBERG, and ESPLANADE
GOLF & COUNTRY CLUB OF NAPLES, INC.,

Defendants.

_____ /

COMPLAINT

Plaintiff, FLOW WAY COMMUNITY DEVELOPMENT DISTRICT ("the CDD"), by and through its undersigned counsel, and in accordance with the Florida Rules of Civil Procedure, hereby files this Complaint against Defendants, TAYLOR MORRISON OF FLORIDA, INC. ("TM"), TAYLOR MORRISON ESPLANADE NAPLES, LLC ("TM Esplanade", and collectively with TM, "TM Defendants"), TIM HALL ("Hall"), TURRELL, HALL & ASSOCIATES, INC. ("THA"), ANTHONY BURDETT ("Burdett"), STEPHEN REITER ("Reiter"), DAVID TRUXTON ("Truxton"), ADAM PAINTER ("Painter"), CHRISTOPHER NIRENBERG ("Nirenberg"), and ESPLANADE GOLF & COUNTRY CLUB OF NAPLES, INC. ("Association") and alleges as follows:

JURISDICTION AND VENUE

1. This is an action for declaratory relief and damages in excess of \$30,000.00, exclusive of interest and costs.
2. Venue is proper in Collier County, Florida, because the TM Defendants conduct business in Collier County, Florida; the Association conducts business in Collier County, Florida;

the real property that is subject to the instant litigation is located within Collier County, Florida; and the causes of action alleged herein accrued in Collier County, Florida.

PARTIES

3. Plaintiff, the CDD, is a community development district located in Collier County, Florida, and which was established by Collier County Ordinance No. 02–09.

4. Defendant TM is a Florida for-profit corporation that conducts business in Collier County, Florida.

5. Defendant TM Esplanade is a Florida limited liability company that conducts business in Collier County, Florida.

6. Defendant Hall is an adult individual, *sui juris*, who, upon information and belief, resides in Collier County, Florida, and who is the senior ecologist and principal at Defendant THA.

7. Defendant THA is a Florida for-profit corporation that conducts business in Collier County, Florida, and which has its principal place of business in Collier County, Florida.

8. Defendant Burdett is an adult individual, *sui juris*, who formerly served as a board member for the Flow Way CDD in 2018, and who resides in Lee County, Florida.

9. Defendant Reiter is an adult individual, *sui juris*, who formerly served as a board member for the Flow Way CDD in 2018, and who resides in Lee County, Florida.

10. Defendant Truxton is an adult individual, *sui juris*, who formerly served as a board member for the Flow Way CDD from 2018 to November 2020, and who, upon information and belief, resides in Hillsborough County, Florida.

11. Defendant Painter is an adult individual, *sui juris*, who formerly served as a board member for the Flow Way CDD in 2018, and who, upon information and belief, resides in Sarasota County, Florida.

12. Defendant Nirenberg is an adult individual, *sui juris*, who formerly served as a board member for the Flow Way CDD from 2018 to November 2020, and who, upon information

and belief, resides in Lee County, Florida. Defendants, Burdett, Reiter, Truxton, Painter, and Nirenberg, shall collectively be referred to herein as “TM Directors”.

13. The Defendant Association is a Florida not-for-profit corporation that conducts business in Collier County, Florida. The Association is currently, and at all times relevant to this litigation has been, developer-controlled.

GENERAL ALLEGATIONS

14. The Esplanade Golf and Country Club of Naples (“Esplanade”) is a residential community within Naples, Collier County, Florida, which was developed by TM.

15. To the north and along the western boundary of Esplanade are approximately 1,087 acres of preserve land, referred to herein as the “Preserves”, and which are the subject of the instant dispute.

16. The Preserves consist of five (5) areas as follows:

- a. Area 1/Wading Birds (totaling approximately 31.86 acres);
- b. Area 2/Internal Preserves within Esplanade (totaling approximately 38 acres);
- c. Area 3/Western Preserve, which is located along the western border of Esplanade (totaling approximately 167 acres);
- d. Area 4/Northern Preserve, which is the largest of the offsite preserves (totaling approximately 730 acres); and
- e. Area 5/Section 11 Preserve, which is located to the east and north of Esplanade along the Collier and Lee County line (totaling approximately 160 acres).

17. Areas 1, 3, 4, and 5 of the Preserves comprise the “Main Preserve”, as that term is frequently used throughout the relevant permit documentation discussed below in more detail.

A. THE DEVELOPMENT

18. In 2001, Collier County adopted Ordinance No. 01-20, which created the Mirasol PUD for the development of the initially proposed residential community of Mirasol.

19. TM changed the name of the development to Esplanade through amendment of the above-referenced PUD Ordinance by way of Collier County Ordinance No. 14-36.

20. The CDD was created by Collier County Ordinance No. 02-09 in or around March 2002 as an independent district subject to Chapter 190 of the Florida Statutes.

21. With the ongoing development of Esplanade, the CDD board remained developer controlled up through November 2020, when a transition occurred. Only recently did the CDD board attain a 4:1 resident majority, thereby no longer making it developer-controlled.

B. THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT PERMIT

22. In connection with its initial development of Mirasol, TM obtained Permit No. 11–02031–P from the South Florida Water Management District (“SFWMD”).

23. The SFWMD Permit No. 11–02031–P underwent modifications, with the latest occurring in November 2020 (collectively, “SFWMD Permit”). A copy of the SFWMD Permit is attached hereto as **Composite Exhibit “A”**.

24. At all times relevant, the TM Defendants were, and remain, a permittee of the SFWMD Permit.

25. The SFWMD Permit specifically required as follows: “[a] mitigation program for Mirasol [now Esplanade] shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6. **The permittee shall preserve and enhance 127.92 acres of uplands and 995.96 acres of wetlands** (1123.88 acres total).” See Exhibit A, November 2012 Modification, at Special Condition 20 (emphasis supplied).

26. Special Condition 21 further clarifies that the above-required maintenance by TM Defendants shall be “in perpetuity”.

27. Special Condition 25 of the SFWMD Permit also states as follows with respect to funding:

Should the permit be transferred from the construction to operational phase prior to the completion of the mitigation and monitoring program, it will be incumbent upon the original permittee to either keep the existing financial assurance in force or provide replacement financial assurance in the name of the operational entity. The existing financial assurance cannot be released until a replacement document is received and accepted by the District.

28. The TM Defendants provided financial assurances and committed to financial obligations, which could not be transferred onto another entity prematurely and without proper acceptance by SFWMD.

29. General Condition 7 of the SFWMD Permit similarly explains as follows:

The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved

responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

30. The TM Defendants were therefore also to remain liable for compliance with the terms of the SFWMD Permit at least until such time that an appropriate environmental group was approved for the operation and maintenance of the Preserves.

31. Contrary to these above-delineated Special and General Conditions set forth in the SFWMD Permit, the TM Defendants prematurely transferred ownership of the Preserves to the CDD, thereby also attempting to shift the TM Defendants' maintenance and funding obligations concerning the Preserves to the CDD.

32. As an attempt to try and retroactively have its improper actions approved, Tim Hall, acting on behalf of the CDD (through prior developer authorization) submitted a modification request to the SFWMD on or about May 22, 2020, seeking the following:

- a. To amend the co-permittee for the Hatcher addition (Application No. 190726-11) from TM to TM Esplanade;
- b. To amend the Mitigation, Monitoring, and Maintenance Plan ("MMM Plan") for the Internal Preserves to, *inter alia*, identify the CDD as a maintenance entity alongside the Association;

- c. To amend the MMM Plan for the Main Preserve **to identify the CDD as the long-term maintenance entity for the Main Preserve**; and
- d. To amend Exhibit 3.8 to the SFWMD Permit to include Dilillo and Hatcher parcel preserve areas.

33. On November 5, 2020, SFWMD issued its notice that the modification request was approved. A copy of the Notice is attached hereto as **Exhibit "B"**.

34. On or about November 20, 2020, the CDD, through counsel, sent correspondence to SFWMD revoking any authority of Andrew Miller (as former chairperson of the CDD board) and Tim Hall to act on behalf of the CDD, and advising of its intent to appeal the approval of the modification request.

35. The Petition for Administrative Hearing regarding the modification request was filed with the SFWMD on November 23, 2020; and, an Amended Petition was filed on December 15, 2020. A copy of the Amended Petition is attached hereto as **Exhibit "C"**.

C. THE U.S. ARMY CORPS OF ENGINEERS PERMIT

36. TM was also issued a permit by the U.S. Army Corps of Engineers ("Corps") as Permit No. SAJ-2000-01926 in connection with its initial development of Mirasol in 2007 ("Original Corps Permit"), and which was subsequently modified. The latest modification occurred on December 7, 2012 ("Modified Corps Permit"). Copies of both versions of the Permit are attached hereto as **Composite Exhibit "D"**.

37. Special Condition 12 of the Original Corps Permit provided as follows:

[t]he permittee shall maintain and monitor the 883.71-acre preserve in accordance with this permit until such time that the permittee transfers the ownership of the parcel to the Corskscrew Regional Ecosystem Watershed (CREW) Land Trust. The transfer of ownership shall include an endowment fund to ensure the perpetual maintenance and management of the main preserve as a natural area.

38. Special Condition 13 further provided that "[t]he cost per acre and total amount of the endowment fund is to be determined by CREW at the time of land transfer."

39. Thus, from the issuance of the Original Corps Permit, it was made clear that the Permittee(s)—the TM Defendants—shall transfer ownership of the Main Preserve to CREW and shall establish an endowment fund for perpetual maintenance of the Main Preserve.

40. These directives did not change with the subsequent modification, as the Modified Corps Permit similarly provides that the Corp was to be “be notified in writing of any intention to reassign the conservation easement to a new grantee and shall approve the selection of the grantee” (see Special Condition 12), and further states as follows:

[a]t such time as the permittee proposes to transfer Preserve Areas A & B to CREW or another acceptable land conservation entity, a permit modification application shall be submitted to the Corps for review and approval in accordance with the terms and conditions of the attached Biological Opinion (USFWS) requiring approval of the perpetual maintenance fund and management entity proposed by the permittee.

See Special Condition 17 of the Modified Corps Permit.

41. The TM Defendants did not comply with the foregoing Permit conditions, as they failed to obtain the mandated approval of the transfer of the Preserves to the CDD from the Corps and the Fish & Wildlife Service (“FWS”).

42. The language of the November 2012 MMM Plan further establishes that the TM Defendants’ transfer of the Preserves to the CDD was inappropriate, as it expressly provided as follows:

[o]nce the exotic vegetation has been removed and the native vegetation restored, ***the intent of the applicant is to donate the preserve to CREW or another appropriate land management entity for perpetual preservation.*** Until such time as that may happen however, it will be the responsibility of the CDD or homeowner’s association to maintain the preserve.

See MMM Plan, revised November 26, 2012, a copy of which is attached hereto as **Exhibit “E”**, at p. 8 (emphasis supplied).

43. It then further explained as follows:

[i]n addition to meeting the success criteria of the preserve with respect to the exotic removal and native vegetation re-establishment and the future donation of the property to an appropriate land management entity, ***the applicant will also establish a non-wasting escrow fund for the long-term maintenance of the***

preserve. The amount of the escrow fund will be determined at the time the preserve is turned over and be based on the expected long-term maintenance requirements. It is felt that the donation of the preserve to an entity specifically charged with property maintenance and preservation, in lieu of perpetual management by a homeowners association that may not be fully equipped or experienced in preservation management techniques, will be more appropriate for a preserve of this size.

Id. (emphasis supplied).

44. The CDD is not an appropriate entity under the Modified Corps Permit to be burdened with the long-term maintenance and/or funding of the maintenance of the Preserves.

45. Further, the Modified Corps Permit, in conjunction with the MMM Plan, requires that the TM Defendants, as the applicants and permittees, establish a fund for the perpetual maintenance of the Preserves.

46. Such requirement exists irrespective of whether the Preserves are transferred to CREW or another appropriate entity.

47. This is exemplified by page 12 of the MMM Plan, which states that “[t]he maintenance and management of the preserve areas will be the responsibility of the owner/developer in perpetuity. The responsibility for the preserve maintenance can be transferred to the property owners association or CDD once the project is ‘turned-over’ to the appropriate association.”

48. The MMM Plan further provided as follows:

This may entail the property owner’s association or CDD acquiring ownership of the preserve prior to the CREW transfer. The maintenance and management responsibilities for the preserves will transfer to that entity. At this time the said associations shall assume responsibility for the perpetual maintenance and management of the preserve and retained areas. Association documents will indicate the responsibilities, restrictions and limitations associated with the conservation areas. Once the restoration activities have met the success criteria, the Preserve will be offered to CREW (or another suitable land management entity) along with the escrow funds to perpetually maintain the preserve.

Id.

49. No turnover has occurred with respect to the HOA, yet.

50. Turnover is not anticipated to occur until at least the Spring of 2021.

51. Thus, any transfer of the Preserves by the TM Defendants at any time prior to turnover was both premature and improper.

52. This is further demonstrated by the MMM Plan, where it expressly stated that “the applicant will be responsible for reaching the success criteria outlined below before donation of the preserve occurs.” *Id.* at p. 8.

53. FWS’ approval of the entity acquiring the obligation to maintain the preserves is also required. Specifically, the U.S. Fish and Wildlife Service Biological Opinion Amendment, Dated September 18, 2012, a copy of which is attached hereto as **Exhibit “F”**, expressly provides as follows:

Once the exotic vegetation has been removed and the native vegetation restored, the preserve lands outside of the development footprint (about 1,089 ac) are to be **maintained** by the applicant or the homeowner’s association until they can be donated to the CREW Trust, or another appropriate public entity capable of providing such services, ***and approved by the Service***. The land transfer to the public management entity is to be completed within 6 months of final agency sign-off on the mitigation activities referenced in the Corps/District permit applications

In addition to the donation of the property to an appropriate entity, a non-wasting escrow fund for the perpetual maintenance and monitoring of the preserve ***shall be established***. The amount of the endowment will be determined at the time the preserve is transferred to the public management entity, and will be based on the perpetual management, maintenance and monitoring needs as determined and approved through coordinated discussions with the land recipient and the Service at the time of the proposed transfer. The amount of the endowment funds and the entity to receive the funds must be determined prior to the final agency sign-off on the mitigation activities referenced in the Corps/South Florida Water Management District Permit applications. ***The monies generated from the non-wasting endowment fund will be sufficient to fund all management costs including: site fencing and fire break maintenance, taxes, liability insurance (if necessary), site management and maintenance, monitoring reports, escrow holder handling fee, and a 10 percent contingency.*** A capitalization rate will be determined in coordination with, and approved by, the Service at the time the property is turned over to insure the endowment fund is non-wasting.

(emphasis supplied).

54. In an effort to try and retroactively have their improper actions approved, the TM Defendants, and/or Tim Hall acting on behalf of the developer-controlled CDD at the time, submitted a request to modify the Modified Corps Permit on or around October 9, 2019.

55. However, the Corps declined to modify the Modified Corps Permit, per its response sent on December 20, 2019.

D. DEFENDANTS' ACTIONS

56. Contrary to the above-referenced terms and conditions set forth in the SFWMD Permit, the Modified Corps Permit, and the previously submitted MMM Plans, the TM Defendants prematurely transferred a small area of the Preserves (Tract P5) to the CDD by way of a Special Warranty Deed and Quitclaim Deed, copies of which are attached hereto as **Composite Exhibit "G"**, in 2015.

57. Simultaneously with this improper transfer, the TM Defendants also charged mitigation expenses for this Preserve area to the CDD in an attempt to avoid their own financial obligations.

58. Then, the TM Defendants prematurely transferred the remaining areas of the Main Preserve to the CDD by way of a Special Warranty and Quitclaim Deed, recorded on March 12, 2019, thereby attempting to alleviate themselves of all maintenance and funding obligations of the Preserves in their entirety. Copies of each of these deeds are attached hereto as **Composite Exhibit "H"**.

59. The TM Defendants have unequivocally stated, through their CDD board representatives, that they will never establish the fund to maintain the Preserves in perpetuity.

60. As a result of the TM Defendants' improper actions, in conjunction with those of developer representatives previously on the CDD board, the CDD has been forced into a position of ownership of the Preserves, without the requisite preconditions having first been satisfied by TM and/or TM Esplanade, as applicable.

61. Such improper actions by the TM Defendants has, and will, cost the CDD hundreds of thousands of dollars in maintenance and funding obligations, if the TM Defendants are not required to comply with the SFWMD and Modified Corps Permit conditions.

62. Further, the CDD is not an appropriate entity to maintain the Preserves in perpetuity, as has already been expressed by the Corps.

63. While the TM Defendants and/or their former representatives on the CDD Board initially proposed a transfer of the Preserves to CREW, they failed to make a formal offer as required, and subsequently took no actions to find a suitable alternative to CREW, once CREW advised of its unwillingness to maintain the Preserves.

64. The CDD contests ownership of the Preserves, as the decision effectuating such ownership was made in the best interests of the TM Defendants, while they controlled the Board for the CDD, and was not made in the best interest of the CDD.

65. The TM Defendants have, respectively, failed to comply with all terms and conditions as set forth in the SFWMD Permit; failed to comply with all terms and conditions of the Modified Corps Permit; and failed to obtain the mandated approval of the transfer of the Preserves from the Fish & Wildlife Service.

COUNT I
DECLARATORY JUDGMENT
(The CDD v. TM Defendants and the Association)

66. The CDD hereby restates and incorporates paragraph 1 through 65 of the Complaint, above, as if set forth herein in full.

67. This is an action for declaratory relief brought pursuant to Chapter 86 of the Florida Statutes against the TM Defendants.

68. The Association has been joined to this action as a nominal defendant, to the extent that the declaratory relief sought herein would affect the internal preserves.

69. The CDD contends that the TM Defendants prematurely transferred ownership of the Main Preserve to the CDD; that the CDD is not an appropriate entity for long-term

maintenance and/or funding of the Preserves, and particularly the Main Preserve; and that the TM Defendants are required to establish an escrow fund for financing the maintenance of the Main Preserve in perpetuity and to secure an appropriate land management entity for the long-term maintenance, and ultimate transfer of ownership of, the Preserves.

70. The TM Defendants incorrectly contend that the CDD is an appropriate land management entity for the long-term maintenance and perpetual funding of the Preserves; that they do not have an obligation to establish an escrow fund for maintenance of the Preserves, contrary to the SFWMD and Modified Corps Permit Conditions; and that they properly, and timely, transferred ownership of the Preserves, despite the fact that turnover of the HOA had yet to occur and not all SFWMD and Modified Corps Permit conditions had been satisfied.

71. There is a bona fide, actual, present, and practical need for the declaration sought herein.

72. The declaration sought deals with a present, ascertained or ascertainable state of facts or present controversy as to a state of facts.

73. Some immunity, power, privilege or right of the Parties is dependent upon the facts or law applicable to those facts.

74. The Parties have an actual, present, adverse, and antagonistic interest in the subject matter, either in fact or law.

75. The antagonistic and adverse interests are all before the Court on proper process.

76. The relief sought herein is not merely the giving of legal advice by the Court or the answer to questions propounded from curiosity.

77. The CDD does not have an adequate remedy at law.

78. The CDD has suffered, and will continue to suffer, immediate and irreparable injury, loss, and damages unless or until a declaration is rendered as to the relief sought herein.

79. All conditions precedent to the bringing of this action have occurred or been waived.

WHEREFORE, Plaintiff, FLOW WAY COMMUNITY DEVELOPMENT DISTRICT, hereby respectfully requests the entry of a declaration as follows:

- a. That prior to turnover of the Association, TM is required to create an escrow fund for the perpetual maintenance of the Preserves;
- b. That TM is required to make an offer to an appropriate land management entity, or entities as may be necessary, with funding to secure long-term ownership and maintenance of the Preserves by an entity, other than the CDD;
- c. That, if the CDD is alternatively deemed to be an appropriate land management entity or otherwise found obligated to maintain and own the Preserves in an interim period until such that an appropriate land management entity is secured, TM is required to fund the maintenance of the Preserves in perpetuity, including, but not limited to, for the interim holding period;
- d. That the transfer of the Preserves, including ownership of and/or any maintenance obligations therefor, to the CDD by TM was premature; and
- e. That the CDD is entitled to be reimbursed by TM for costs and expenses incurred in having to undertake ownership and/or maintenance of the Preserves, together with an award of pre- and post-judgment interest, costs, and all such other and further relief as the Court deems just and proper.

COUNT II
BREACH OF FIDUCIARY DUTY
(The CDD v. TM Directors)

80. The CDD hereby restates and incorporates paragraph 1 through 65 of the Complaint, above, as if set forth herein in full.

81. This is an action for breach of fiduciary duty against the TM Directors, as a result of their improper authorization of a premature transfer of the Preserves to the CDD.

82. As members on the Board for the CDD, the TM Directors owed fiduciary duties of good faith and loyalty to the CDD, including to act in the best interests of the CDD and its constituents.

83. By accepting the transfer of the Preserves to the CDD, contrary to the mandates of the terms and conditions set forth in the SFWMD Permit and the Modified Corps Permit, the

TM Directors were acting in the best interests of their employer and initial landowner, TM, and not the CDD.

84. Indeed, by shifting the significant maintenance costs onto the CDD, TM was able to save hundreds of thousands of dollars, while the CDD became improperly burdened with long-term financial and maintenance obligations that it is not even qualified to undertake.

85. By disregarding the interests of the CDD and voting in favor of prematurely transferring ownership of the Preserves, the TM Directors breached their fiduciary duties to the CDD and its constituents.

86. As a result of the TM Directors' respective breaches of fiduciary duty, the CDD has been damaged and will continue to suffer damages.

WHEREFORE, Plaintiff, FLOW WAY COMMUNITY DEVELOPMENT DISTRICT, hereby respectfully requests the entry of a judgment in its favor, and against Defendants, ANTHONY BURDETT, STEPHEN REITER, DAVID TRUXTON, ADAM PAINTER, and CHRISTOPHER NIRENBERG, for all damages, pre- and post-judgment interest, and costs, together with all such other and further relief as the Court deems just and proper.

COUNT III
BREACH OF FIDUCIARY DUTY
(The CDD v. THA and Hall)

87. The CDD hereby restates and incorporates paragraph 1 through 65 of the Complaint, above, as if set forth herein in full.

88. This is an action for breach of fiduciary duty against Defendants, THA and Hall.

89. Hall was hired by the CDD, when it was developer-controlled, to serve as the CDD's environmental consultant and assist the CDD with permitting requirements for the Preserves, including preparing the MMM Plan for same.

90. Hall was provided with the authority to speak on behalf of TM with respect to its SFWMD Permit and Modified Corps Permit.

91. Though hired by the CDD, Hall was essentially serving as a representative on behalf of the developer and landowner—the TM Defendants.

92. Hall, individually and acting on behalf of his company, THA, owed the CDD a duty to act in its best interests in advising on environmental issues and with respect to the permitting of the Preserves.

93. However, Hall breached that duty by acting for the benefit of the TM Defendants, and assisting in the premature transfer of ownership of, and long-term maintenance obligations for, the Preserves to the CDD.

94. At all times relevant, Hall knew, or should have known, that the CDD was not a proper or appropriate long-term maintenance entity for the Preserves—particularly given the vast size of the Preserves and expressed intent of the permitting authorities that the Preserves be maintained by an entity such as CREW or one similar thereto.

95. Even after the premature transfers occurred, Hall continued to make modification requests of the SFWMD Permit (on or about May 22, 2020) and of the Modified Corps Permit (on or about October 9, 2019), for the benefit of the TM Defendants.

96. The modification request to the SFWMD was recently approved, and is currently being contested by the CDD, now that it is a resident-majority board.

97. As a result of the foregoing breaches of fiduciary duty, the CDD has been damaged and will continue to suffer damages.

98. All conditions precedent to the bringing of the instant action have occurred or been waived.

WHEREFORE, Plaintiff, FLOW WAY COMMUNITY DEVELOPMENT DISTRICT, hereby respectfully requests the entry of a judgment in its favor, and against Defendants, TURRELL, HALL & ASSOCIATES, INC. and TIM HALL, for all damages, pre- and post-judgment interest, and costs, together with all such other and further relief as the Court deems just and proper.

DEMAND FOR JURY TRIAL

The CDD hereby demands a jury trial with respect to Counts II and III of the Complaint, above.

Dated this 30th day of December, 2020.

**WOODS, WEIDENMILLER, MICHETTI &
RUDNICK, LLP**

By: /s/Gregory N. Woods

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Attorneys for the CDD



**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
PERMIT MODIFICATION NO. 11-02031-P
DATE ISSUED: NOVEMBER 5, 2012**

FORM 00157
REV. 07/09

PERMITTEE: I M COLLIER JOINT VENTURE
(MIRASOL)
6080 CYPRESS HOLLOW WAY,
NAPLES, FL 34109

ORIGINAL PERMIT ISSUED: FEBRUARY 14, 2002

ORIGINAL PROJECT DESCRIPTION: AN ERP TO AUTHORIZE THE CONSTRUCTION AND OPERATION OF A SWM SYSTEM WHICH SERVES A 1713.7 ACRE RESIDENTIAL AND GOLF COURSE DEVELOPMENT AND THE CONSTRUCTION OF A 52.76 ACRE CONVEYANCE CHANNEL WHICH EXTENDS OFF-SITE THROUGH THE ADJACENT WILDEWOOD LAKES AND OLDE CYPRESS DEVELOPMENTS. THE SYSTEM DISCHARGES TO THE COCOHATCHEE CANAL.

APPROVED MODIFICATION: MODIFICATION OF AN ENVIRONMENTAL RESOURCE PERMIT AUTHORIZING CONSTRUCTION AND OPERATION OF A SWM SYSTEM SERVING 1,790.38 ACRES OF RESIDENTIAL AND GOLF COURSE DEVELOPMENT AND 7.97 ACRES OF CONCEPTUAL DEVELOPMENT, WITH DISCHARGE INTO THE COCOHATCHEE CANAL.

PROJECT LOCATION: COLLIER COUNTY, SECTION 10, 15, 22 TWP 48S RGE 26E

PERMIT DURATION: See Special Condition No.1. Pursuant to Rule 40E-4.321, Florida Administrative Code.

This is to notify you of the District's agency action concerning Permit Application No. 120425-8, dated April 25, 2012. This action is taken pursuant to the provisions of Chapter 373, Part IV, Florida Statutes (F.S.), and the Operation Agreement Concerning Regulation Under Part IV, Chapter 373 F.S., between South Florida Water Management District and the Department of Environmental Protection.

Based on the information provided, District rules have been adhered to and an Environmental Resource Permit Modification is in effect for this project subject to:

1. Not receiving a filed request for an administrative hearing pursuant to Section 120.57 and Section 120.569; or request a judicial review pursuant Section 120.68, Florida Statutes.
2. The attached 19 General Conditions.
3. The attached 34 Special Conditions.
4. The attached 3 Exhibits.

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Should you wish to object to the proposed agency action or file a petition, please provide written objections, petitions and/or waivers to:

Elizabeth Veguilla, Deputy Clerk, MSC2440
South Florida Water Management District
Post Office Box 24680
West Palm Beach, FL 33416-4680

Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

CERTIFICATION OF SERVICE

I HEREBY CERTIFY that the Staff Report, Conditions and Notice of Rights have been mailed to the Permittee (and the persons listed on the attached staff report distribution list) no later than 5:00 p.m. on this 6th day of November, 2012, in accordance with Section 120.60(3), Florida Statutes, and a copy has been filed and acknowledged with the Deputy District Clerk.

By Elizabeth Veguilla
DEPUTY CLERK
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Attachments

EXHIBIT A

PERMIT NO: 11-02031-P
PAGE 2 OF 11

SPECIAL CONDITIONS

1. The conceptual phase of this permit shall expire on November 5, 2017.
The construction phase of this permit shall expire on November 5, 2017.
2. Operation of the surface water management system shall be the responsibility of the Homeowner's Association.
3. Discharge Facilities:

Basin: Basin 1-1, Structure: CS-DC

1-24" W X 36" H DROP INLET weir with crest at elev. 18.4' NGVD 29.

1-3" dia. CIRCULAR ORIFICE with invert at elev. 13.4' NGVD 29.

Receiving body : Lake #1

Control elev : 13.4 feet NGVD 29.

Basin: Basin 1-2, Structure: DS1-2

1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.2' NGVD 29.

1-12" W X 7.1" H RECTANGULAR ORIFICE with invert at elev. 13.4' NGVD 29.

Receiving body : ON-SITE FLOW WAY

Control elev : 13.4 feet NGVD 29.

Basin: Basin 2-1, Structure: DS2-1

1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.1' NGVD 29.

1-10.2" W X 6" H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD 29.

1-16" W X 5" H RECTANGULAR ORIFICE with invert at elev. 14' NGVD 29.

Receiving body : ON-SITE FLOW WAY

Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-2, Structure: CS2-2 / PA2

1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.

Receiving body : Preserve D

Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-4b, Structure: CS-MF

1-24" W X 36" H DROP INLET weir with crest at elev. 15.5' NGVD 29.

1-3" dia. CIRCULAR ORIFICE with invert at elev. 13.5' NGVD 29.

Receiving body : Lake #11

Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-5, Structure: CS 2-5 / PA3

1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.

Receiving body : Preserve E

Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-7, Structure: CS 2-7 / PRES C

1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.

Receiving body : Preserve C

Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-7, Structure: DS 2-7

1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.1' NGVD 29.

1-14.1" W X 6" H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD 29.

1-19.5" W X 5" H RECTANGULAR ORIFICE with invert at elev. 14' NGVD 29.

Receiving body : ON-SITE FLOW WAY

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Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-9, Structure: CS 2-9 / PRES3

1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.

Receiving body : Preserve C

Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-9, Structure: CS CH.

1-24" W X 36" H DROP INLET weir with crest at elev. 15.5' NGVD 29.

1-3" dia. CIRCULAR ORIFICE with invert at elev. 13.5' NGVD 29.

Receiving body : Lake #23

Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-16, Structure: DS 2-16

1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.1' NGVD 29.

1-12" W X 10" H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD 29.

Receiving body : ON-SITE FLOW WAY.

Control elev : 13.5 feet NGVD 29.

Basin: Flowway, Structure: Intake Weir.

1-100' W RECTANGULAR weir with crest at elev. 14.95' NGVD 29.

2-3.5' W X 0.95' H RECTANGULAR ORIFICE with invert at elev. 14.0' NGVD 29.

Receiving body : ON-SITE FLOW WAY

Control elev : 14.0 feet NGVD 29.

Basin: Flowway, Structure: Outfall Weir.

1-175' W RECTANGULAR weir with crest at elev. 13.4' NGVD 29.

Receiving body : COCOHATCHEE CANAL

Control elev : 13.4 feet NGVD 29.

4. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.
5. Measures shall be taken during construction to insure that sedimentation and/or turbidity violations do not occur in the receiving water.
6. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.
7. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
8. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.
9. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
10. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.
11. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water

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resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.

12. The permittee acknowledges that, pursuant to Rule 40E-4.101(2), F.A.C., a notice of Environmental Resource or Surface Water Management Permit may be recorded in the county public records. Pursuant to the specific language of the rule, this notice shall not be considered an encumbrance upon the property.
13. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.
14. Minimum building floor elevation:
 - BASIN: Basin 1 - 16.70 feet NGVD 29.
 - BASIN: Basin 2 - 16.70 feet NGVD 29.
15. Minimum road crown elevation:
 - Basin: Basin 1 - 16.20 feet NGVD 29.
 - Basin: Basin 2 - 16.20 feet NGVD 29.
16. Minimum parking lot elevation:
 - Basin: Basin 1 - 15.4 feet NGVD 29.
 - Basin: Basin 2 - 15.5 feet NGVD 29.
17. Prior to the commencement of construction, the permittee shall conduct a pre-construction meeting with field representatives, contractors and District staff. The purpose of the meeting will be to discuss construction methods and sequencing, including type and location of turbidity and erosion controls to be implemented during construction, mobilization and staging of contractor equipment, phasing of construction, methods of vegetation clearing, construction dewatering, coordination with other entities on adjacent construction projects, wetland/buffer protection methods, and endangered species protection with the permittee and contractors. The permittee shall contact District Environmental Resource Compliance staff from the Lower West Coast Service Center at 239-338-2929 to schedule the pre-construction meeting.
18. Success of the mitigation activities proposed herein is heavily dependent on proper grading to achieve the design ground elevations necessary to recruit the expected vegetation or to sustain the proper hydrology for the targeted vegetation communities. The permittee shall submit as-built topography of the proposed created marsh areas prior to planting (31.86-acre woodstork habitat creation areas). The permittee shall correct any deficiencies in the project grade within 14 days of being notified of such deficiencies by District staff.
19. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.
20. A mitigation program for Mirasol shall be implemented in accordance with Exhibit Nos. 3,5 and 3,6. The permittee shall preserve and enhance 127.92 acres of uplands and 995.96 acres of wetlands (1123.88 acres total).

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21. A maintenance program shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6 for the preserved/enhanced wetlands and uplands on a regular basis to ensure the integrity and viability of those areas as permitted. Maintenance shall be conducted in perpetuity to ensure that the conservation areas are maintained free from Category 1 and Category 2 exotic vegetation immediately following a maintenance activity. Maintenance in perpetuity shall also insure that conservation areas, including buffers, maintain the species and coverage of native, desirable vegetation specified in the permit. Coverage of exotic and nuisance plant species shall not exceed 4% total cover in the internal preserves and 5% of total cover in the external preserves between maintenance activities. In addition, the permittee shall manage the conservation areas such that exotic/nuisance plant species do not dominate any one section of those areas.
22. Prior to the commencement of construction, the perimeter of protected wetland/buffer zones/upland preservation areas/conservation areas shall be staked/roped/fenced to prevent encroachment into the protected areas. Using Global Positioning System (GPS) technology, the perimeter of the preserve area(s) shall be identified for future reference. The data shall be differentially corrected and accurate to less than a meter (+/- one meter or better). Electronic copies of the GPS data shall be provided to the District's Environmental Resource Compliance staff in accordance with Exhibit 3.7. The permittee shall notify the District's Environmental Resource Compliance staff in writing upon completion of staking/roping/fencing and schedule an inspection of this work. The staking/roping/fencing shall be subject to District staff approval. The permittee shall modify the staking/roping/fencing if District staff determines that it is insufficient or is not in conformance with the intent of this permit. Staking/roping/fencing shall remain in place until all adjacent construction activities are complete.
23. Endangered species, threatened species and/or species of special concern have been observed onsite and/or the project contains suitable habitat for these species. It shall be the permittee's responsibility to coordinate with the Florida Fish and Wildlife Conservation Commission and/or the U.S. Fish and Wildlife Service for appropriate guidance, recommendations and/or necessary permits to avoid impacts to listed species. Please see Exhibits 3.9 and 3.10 for endangered species management plans.
24. Activities associated with the implementation of the mitigation, monitoring and maintenance plan(s) shall be completed in accordance with the work schedule attached as Exhibit No. 3.7. Any deviation from these time frames will require prior approval from the District's Environmental Resource Compliance staff. Such requests must be made in writing and shall include (1) reason for the change, (2) proposed start/finish and/or completion dates; and (3) progress report on the status of the project development or mitigation effort.
25. Prior to the commencement of construction and in conformance with the work schedule in Exhibit 3.7, the permittee shall provide original bonds in the amount of \$612,112, \$117,513, \$310,635, \$1,229,911, and \$343,816 to ensure the permittee's financial ability and commitment to complete the proposed mitigation, monitoring and maintenance plan as shown on Exhibit Nos. 3.5 and 3.6. The financial assurance shall be in substantial conformance with Exhibit No. 3.12. The financial assurance shall be in effect for the entire period of the mitigation and monitoring program. Notification to the District by the financial institution or surety that the financial assurance will not be renewed or is no longer in effect shall constitute non-compliance with the permit.

Should the permit be transferred from the construction to operational phase prior to the completion of the mitigation and monitoring program, it will be incumbent upon the original permittee to either keep the existing financial assurance in force or provide replacement financial assurance in the name of the operational entity. The existing financial assurance cannot be released until a replacement document is received and accepted by the District.

26. A monitoring program shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6. The monitoring program shall extend for a period of 5 years with annual reports submitted to District staff.

For the Internal Preserves, the replanting plan is as follows:

The internal preserve areas will be left to regenerate naturally for at least a year after time zero before deciding if supplemental planting is necessary. If no immediate seed source is available, replanting will help to re-establish any.

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denuded areas more rapidly and contributes to the restoration success. The preserve areas will be evaluated once the initial exotic removal activities are completed and any plantings that are necessary will be coordinated with District staff as part of the Time Zero Monitoring Report.

Replanting will also be considered one year after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Additionally, replanting will be considered after two years for any area that shows less than 75% coverage by appropriate native vegetation. Please see Exhibit 3.5 for details.

For the External Preserves, the replanting plan is as follows:

The supplemental planting plan for the external preserve areas differs from that of the internal preserve areas. The preserve areas will be left to regenerate naturally for at least a year after time zero before deciding if complete replanting is necessary. In areas that are more than 75% melaleuca and that have no suitable groundcover vegetation present, replanting may be done immediately following the exotic eradication activities. If no immediate seed sources are available in these areas, immediate replanting will re-establish the denuded areas more rapidly and contributes to the success of the enhancement. The entire preserve area will be evaluated once the initial exotic removal activities are completed and any planting that is necessary will be proposed and coordinated with District staff as a part of the Time Zero Report.

Replanting will also be considered two years after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Additionally, replanting will be considered after three years for any area that shows less than 75% coverage by appropriate native vegetation. Please see Exhibit 3.6 for details.

Replanting will occur immediately after any mechanical removal of exotic vegetation. Areas disturbed by the removal will be re-graded to match adjacent elevations and remove any rutting, then planted with the appropriate plant palette.

Target Success Criteria:

All exotic vegetation will be killed within the preserve areas. The hydric flatwood and pine/cypress target condition is a very open canopy with little to no shrub layer, prairie-type groundcover, and widely spaced trees. Trees will be a mix of slash pine and cypress depending on site specific hydrology. Tree density in the open flatwood and pine cypress areas should be between 10 to 50 trees per acre. Cypress dome target conditions are as a more closed canopy (110 to 175 trees per acre) with more sparse ground cover. A minimum of 80% appropriate vegetative coverage will be maintained in all strata. Mesic pine areas will contain tree densities in the 50 to 100 trees per acre range with midstory vegetation of saw palmetto, wax myrtle, and other appropriate plantings. Ground cover densities may vary depending on canopy coverage.

Forested and Prairie Habitats:

After two years, all preserve areas will contain a minimum of 50% coverage by appropriate vegetation in all three strata combined. After three years, all preserve areas will contain a minimum of 75% coverage by appropriate vegetation in all three strata combined. After five years, preserves will contain a minimum of 80% coverage by appropriate vegetation in all three strata combined. Any areas not meeting the minimum appropriate vegetative coverage will be subject to supplemental planting plans as outlined in Exhibit 3.6.

Created Marsh Habitats:

Since the main component of these areas is foraging improvement, dense vegetative coverage is not desired. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season in these freshwater marsh areas. More vegetation may grow in the depressional areas during the dry season, but should die off or substantially thin out as water levels rise. Vegetative coverage of 50% will be considered successful in these foraging improvement areas. Please see Exhibit 3.6 for details.

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27. Prior to commencement of construction and in accordance with the work schedule in Exhibit 3.7, the permittee shall submit the following in an electronic or hard copy version for review and approval. Electronic versions shall be submitted via the District's ePermitting/eCompliance website and hard copy versions shall reside on CD disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted.

The applicant shall submit a:

- 1) Project map identifying conservation area(s)
- 2) Legal description of conservation area(s)
- 3) Signed conservation easement
- 4) Sealed boundary survey of conservation area(s) by professional Land surveyor
- 5) Title insurance commitment for conservation easement naming District as beneficiary using approved valuation;
- 6) Formatting in accordance with paragraph F (below) if available.

The above information shall be submitted to the Environmental Resource Compliance staff in the District service center where the application was submitted or via the District's ePermitting website.

B) The real estate information referenced in paragraph (A) above shall be reviewed by the District in accordance with the District's real estate review requirements described in the attached Exhibit 3.7. The easement shall not be recorded until such approval is received.

C) The permittee shall record a conservation easement(s) over the real property designated as a conservation / preservation / mitigation area(s) on attached Exhibit 3.5 and 3.6. The easement shall be granted free of encumbrances or interests which the District determines are contrary to the intent of the easement. The conservation easement shall be granted to the District utilizing the form attached as Exhibit 3.11. Any proposed modifications to the approved form must receive prior written consent from the district.

D) The permittee shall record the conservation easement in the public records within 14 days of receiving the District's approval of the real estate information. Upon recordation, the permittee shall submit two certified copies of the recorded conservation easement for the mitigation area and associated buffers and title insurance policy, to the Environmental Resource Compliance staff in the District service center where the application was submitted.

E) In the event the conservation easement real estate information reveals encumbrances or interests in the easement which the District determines are contrary to the intent of the easement, the permittee shall be required to provide release or subordination of such encumbrances or interests. If such are not obtained, permittee shall be required to apply for a modification to the permit for alternative acceptable mitigation.

F) The permittee shall submit an electronic or hard copy version of the recorded conservation easement for the mitigation area(s) and associated buffer(s). Electronic versions shall be submitted via the District's ePermitting/eCompliance website and hard copy versions shall reside on CD disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted. The data should also be supplied in a digital CAD (.dxf) or GIS (ESRI Coverage) format. The files should be in the Florida State Plane coordinate system, East Zone (3601) with a data datum of NAD83, HARN with the map units in feet.

28. The Urban Stormwater Management Plan shall be implemented in accordance with Exhibit No. 2.1.

29. The permittee shall utilize the criteria contained in the Construction Pollution Prevention Plan (Exhibit No. 2.2) and on

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the applicable approved construction drawings for the duration of the project's construction activities.

30. In order to maintain adequate conveyance capacity during construction, the flowway shall be constructed concurrently with the filling of the site. The flowway shall be constructed starting from the southern property boundary and fill material may only be placed as far north as the location of the northern extent of the flowway.
31. The following exhibits for the permit are incorporated by reference herein and are located in the permit file. In addition, these exhibits can be viewed on the District's ePermitting website under this application number.
 - Exhibit No. 2.1- Stormwater Pollution Prevention Plan
 - Exhibit No. 2.2- Urban Stormwater Management Program
 - Exhibit No. 3.10- Listed Species Management Plans
 - Exhibit No. 3.11- Conservation Easements
 - Exhibit No. 3.12- Cost Estimate, Performance Bonds, Standby Trust Fund Agreements (financial assurances documents)
32. If monitoring reports or other information show the preserved wetlands have been negatively affected by the permitted development in a manner that is irreversible (such as impounding the wetland and drowning the existing vegetation or a reduction in the hydroperiod resulting in the transition of wetlands into upland/transitional habitat), the permittee shall be required to submit a remediation plan within 30 days of notification by the District's Environmental Resource Compliance staff of such conditions. The remediation plan may include onsite or offsite mitigation as necessary to address any deficiencies.
33. All contractors must be provided with a copy of the staff report and permit conditions prior to the commencement of construction. The permittee is responsible for ensuring that all contractors adhere to the project construction details and methods indicated on the attached permit Exhibits and described herein.
34. The internal preserve areas include 8.19 acres of 100% secondarily impacted habitat. This includes a total of 7.57 acres of wetland and 0.62 acres of upland within Preserve Areas C, D, E and F. While these areas have been mitigated in full, the applicant has proposed to preserve these areas in the onsite conservation easements. Temporary wetland impacts to these areas during construction are allowed, but any such areas that are temporarily impacted must be restored to natural conditions, consistent with the proposed mitigation, monitoring, and maintenance plan.

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GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.
2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.
4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.
5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.
6. Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a professional engineer or other individual authorized by law, utilizing the supplied Environmental Resource/Surface Water Management Permit Construction Completion/Certification Form Number 0881A, or Environmental Resource/Surface Water Management Permit Construction Completion Certification - For Projects Permitted prior to October 3, 1995 Form No. 0881B, incorporated by reference in Rule 40E-1.659, F.A.C. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.
7. The operation phase of this permit shall not become effective until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved

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responsible operating entity, if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.
9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.
10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.
11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..
12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.
13. The permittee must obtain a Water Use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to Subsection 40E-20.302(3), F.A.C., also known as the "No Notice" Rule.
14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.
16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.
17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

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18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.
19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

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NOTICE OF RIGHTS

As required by Sections 120.569(1), and 120.60(3), Fla. Stat., following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a District decision which does or may determine their substantial interests shall file a petition for hearing with the District Clerk within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: 1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or 2) within 14 days of service of an Administrative Order pursuant to Subsection 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of either written notice through mail, or electronic mail, or posting that the District has or intends to take final agency action, or publication of notice that the District has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

Filing Instructions

The Petition must be filed with the Office of the District Clerk of the SFWMD. Filings with the District Clerk may be made by mail, hand-delivery or facsimile. **Filings by e-mail will not be accepted.** Any person wishing to receive a clerked copy with the date and time stamped must provide an additional copy. A petition for administrative hearing is deemed filed upon receipt during normal business hours by the District Clerk at SFWMD headquarters in West Palm Beach, Florida. Any document received by the office of the SFWMD Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the SFWMD Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.
- Filings by hand-delivery must be delivered to the Office of the SFWMD Clerk. Delivery of a petition to the SFWMD's security desk does not constitute filing. To ensure proper filing, it will be necessary to request the SFWMD's security officer to contact the Clerk's office. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by facsimile must be transmitted to the SFWMD Clerk's Office at (561) 682-6010. Pursuant to Subsections 28-106.104(7), (8) and (9), Fla. Admin. Code, a party who files a document by facsimile represents that the original physically signed document will be retained by that party for the duration of that proceeding and of any subsequent appeal or subsequent proceeding in that cause. Any party who elects to file any document by facsimile shall be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed with the clerk as a result. The filing date for a document filed by facsimile shall be the date the SFWMD Clerk receives the complete document.

EXHIBIT A

Initiation of an Administrative Hearing

Pursuant to Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 and 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other SFWMD identification number, if known.
2. The name, address and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

If the District takes action with substantially different impacts on water resources from the notice of intended agency decision, the persons who may be substantially affected shall have an additional point of entry pursuant to Rule 28-106.111, Fla. Admin. Code, unless otherwise provided by law.

Mediation

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401-405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Sections 120.60(3) and 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

EXHIBIT A

Last Date For Agency Action: November 20, 2012

INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Mirasol

Permit No.: 11-02031-P

Application No.: 120425-8

Associated File: 120525-17 WU Concurrent
120525-16 WU Concurrent

Application Type: Environmental Resource (Conceptual Approval And Construction/Operation Modification)

Location: Collier County, S10, 15, 22/T48S/R26E

Permittee: I M Collier Joint Venture

Operating Entity: Property Owners Association

Project Area: 1,798.35 acres

Project Land Use: Residential

Special Drainage District: NA

Total Acres Wetland Onsite: 1495.82

Total Acres Wetland Preserved Onsite: 967.02

Total Acres Impacted Onsite: 506.84

Total Acres Presv/Mit Compensation Onsite: 1109.49

Mitigation Previously Permitted: Yes

Conservation Easement To District: Yes

Sovereign Submerged Lands: No

**FINAL APPROVED BY
EXECUTIVE DIRECTOR
NOVEMBER 5, 2012****PROJECT PURPOSE:**

This application is a request for modification of an Environmental Resource Permit authorizing construction and operation of a surface water management system serving 1,790.38 acres of residential and golf course development and 7.97 acres of conceptual development, with discharge to the Cocohatchee Canal.

EXHIBIT A

PROJECT EVALUATION:

PROJECT SITE DESCRIPTION:

The site is located on the north side of the Cocohatchee Canal, just west of the intersection of Immokalee Road and Collier Boulevard in Naples, Collier County, Florida. A location map is attached as Exhibit 1.0.

The site currently consists of undeveloped lands which were previously permitted (Permit No. 11-02031-P) for residential and golf course development in February 2002 under Application No. 000518-10 and substantially modified in September 2007 under Application No. 060524-2. The majority of the site has been infested to varying degrees by exotic vegetation such as melaleuca and Brazilian pepper. Large portions of the site have been used in the past as forested cattle pasture and continue to be used as such presently. This modification proposes to add 84.95 acres of land to the project area. The 84.95 acres includes 15.64 acres of uplands and 69.31 acres of wetlands and is located primarily in the southwestern portion of the property, with a small addition in the northeastern portion of the project. The total project area contains approximately 302.53 acres of uplands and 1,495.82 acres of wetlands. Please see the wetlands sections for additional information.

PROJECT BACKGROUND:

In February 2002, the District authorized Application No. 000518-10 / Permit No. 11-02031-P for the construction and operation of two 18 hole golf courses, single family residential areas, a golf course clubhouse and parking area, golf course maintenance facilities, a sales facility and parking area, and a surface water management system. As part of the surface water management system, the February 2002 permit also included a conveyance channel and flowway along the northern and western development boundaries. This flowway and conveyance channel was part of the project's surface water management system, to address floodplain compensation criteria and the conveyance of off-site flows. The flowway consisted of a shallow meandering conveyance channel with control structures. The channel continued off-site onto the Wildewood Lakes development (Permit #11-02055-P / Application No. 970923-12) and Olde Cypress development (Permit #11-01232-S / Application No. 010419-6). Special Condition 36 of the February 2002 Permit required construction of the flowway and associated control structures to be completed prior to construction of impervious surface within the development site. The flowway and associated control structures and surface water management system were never constructed.

In September of 2007, the permit was modified under Application No. 060524-2 to include the removal of the previously authorized flow-way and associated control structures and proposed revisions to the previously permitted surface water management system. The revisions to the surface water management system included replacing the previously permitted flowway with a series of interconnected lakes within the development. The interconnected lakes were proposed to allow for the passage of flows from the north of the development site to the Cocohatchee Canal on the south side of the development site. The flowway and its associated weir structure was designed to ensure that there would be no increase in stage elevation upstream of the project. Application No. 060524-2 also proposed the modification of the original permit by revising the wetland preservation, wetland impacts, and wetland mitigation areas contained within the internal preserve areas within the development site and the modification of the proposed flow-way within the external preserve areas. Please see Application No. 060524-2 for additional details.

PROPOSED PROJECT:

The previously approved landplan included 799 single and multifamily residential units, 36 golf holes, clubhouses, and the required lakes and infrastructure to support the development. This modification proposes to add approximately 84.95 acres to the project (primarily in the southwestern portion of the project), to revise the project landplan to include additional residential units, reduce the number of golf

EXHIBIT A

holes from 36 to 18, revise the project's surface water management system, and to revise the project's development footprint. The development footprint will be decreased in size, resulting in a net reduction in wetland impacts.

As noted above, the surface water management system is proposed to be modified in this application to accommodate the proposed landplan changes. The modifications include a relocation of the previously permitted flowway; the flowway is designed to convey flows from areas upstream of the project site to the Cocohatchee Canal. The previously permitted flowway was located in the center of the development and consisted of a series of lakes interconnected with culverts. This application proposes to relocate the flowway to the western side of the development footprint and to modify the flowway design from a series of interconnected lakes to a continuous open conveyance. The modified flowway design is consistent with the upstream peak stages, tailwater elevations in the Cocohatchee Canal, and peak flow rates that were included in the previous permit authorizations. The upstream stages, tailwater elevations in the Cocohatchee Canal, and peak flow rates used in the design of the flowway were modeled in the South Lee County Watershed Plan and the Big Cypress Basin Cocohatchee Canal Study. The rate of flow into the flowway will be regulated by an intake weir at the upstream end of the flowway and discharge into the Cocohatchee Canal will be controlled by the outfall weir at the southern end of the proposed flowway. The flowway will be operated and maintained by the project's Homeowners Association.

The modified surface water management system for the project is proposed to encompass 682.26 acres. The 682.26 acres proposed to encompass the surface water management system includes 619.73 acres of development area, 26.24 acres of conservation area that is incorporated into the surface water management system, and the 36.29 acre flowway.

The 619.73 acres of development area have been divided into Basin 1 (104.64 acres) and Basin 2 (515.09 acres). Basin 1 includes the southern portion of the proposed development and consists of six sub-basins containing roadways, surface water management facilities (wet and dry detention), golf course, single family residential areas, multifamily residential areas, and a sales center (the sales center will provide one-half inch of dry-pretreatment volume on-site prior to outfall into wet-detention areas). Outfall from Basin 1 will be from Lake #2 to the flowway through control structure DS 1-2. Basin 2 includes the northern portion of the proposed development and consists of 23 sub-basins containing roadways, surface water management facilities (wet and dry detention), golf course, single family residential areas, multifamily residential areas, the golf course maintenance facility, a clubhouse, and a passive park. The golf course maintenance facility and the clubhouse site will provide one-half inch of dry-pretreatment prior to outfall into wet-detention areas. The passive park and a portion of the clubhouse site are requested for conceptual authorization in this application and will require modification of the permit prior to the commencement of construction within the conceptually approved areas. Outfall from Basin 2 will be to the internal preserve areas (Preserve Areas C, D, and E) following water quality treatment in the wet and dry detention areas of Basin 2 and to the flowway. Discharge to the flowway from Basin 2 will be from Lake #6 (through DS 2-1), Lake #7 (through DS 2-7) and Lake #19 (through DS 2-16).

LAND USE:

The land use categorized below as "Impervious" is associated with impervious surfaces within the future conceptual areas. The land use categorized as "Other" includes the flowway, the portions of the Cocohatchee Canal within the project ownership, and berm backslopes outside of the project's controlled basin area.

EXHIBIT A**Conceptual**

		Area (ac)
Basin 2:	Impervious	5.58
	Pervious	2.39
Total:		7.97

Construction**Project:****Total Project**

Building Coverage	91.28	acres
Golf Course	86.41	acres
Impervious	5.57	acres
Lake	144.64	acres
Other	54.74	acres
Pavement	92.10	acres
Pervious	199.73	acres
Preserved	1123.88	acres
Total:	1798.35	

Basin : Basin.1

	This Phase	Total Basin	
Building Coverage	11.72	11.72	acres
Golf Course	20.28	20.28	acres
Lake	21.05	21.05	acres
Pavement	14.86	14.86	acres
Pervious	36.73	36.73	acres
Total:	104.64	104.64	

Basin : Basin 2:

	This Phase	Total Basin	
Building Coverage	79.53	79.53	acres
Golf Course	66.13	66.13	acres
Impervious		5.58	acres
Lake	123.59	123.59	acres
Pavement	77.52	77.25	acres
Pervious	160.62	163.01	acres
Total:	507.39	515.09	

Basin : Flowway

EXHIBIT A

Basin : Flowway

	This Phase	Total Basin	
Open Water	24.92	24.92	acres
Pavement	2.01	2.01	acres
Pervious	9.36	9.36	acres
Total:	36.29	36.29	

WATER QUANTITY :

Discharge Rate :

The project site is located within the Cocohatchee Canal watershed. An allowable discharge rate of 0.04 cfs / acre for the Cocohatchee Canal watershed has been established per Collier County Ordinance 2001-27 and the Cocohatchee Canal Plan. The peak allowable discharge in the 25 Year - 3 Day Storm Event for the 645.96 acres of controlled basin area is 25.8 cfs; the proposed peak discharge from the surface water management system to the flowway is 24.8 cfs.

As shown in the table below, the proposed discharge from the surface water management system to the flowway is within the allowable limit for the area.

As discussed in the Proposed Project Section, this application includes modification of the proposed flowway. The information used in the modified flowway design is consistent with the upstream peak stages, tailwater elevations in the Cocohatchee Canal, and peak flow rates included in the previous permit authorizations. The upstream stages, tailwater elevations in the Cocohatchee Canal, and peak flow rates used in the design of the flowway were modeled in the South Lee County Watershed Plan and the Big Cypress Basin Cocohatchee Canal Study.

Flows from the north of the development site will enter the flowway through the intake weir at the north end of the flowway. The intake weir will receive flows from the intake spreader swale located between the weir and the conservation areas north of the development footprint. The intake weir will consist of a concrete wall with two rectangular notches (3.5 feet wide by 0.95 feet high) at elevation 14.0 ft-NGVD and a 100 foot wide weir crest at elevation 14.95 ft-NGVD. The design of the weir allows for approximately 185 cfs to enter the flowway in the 25 Year - 3 Day Storm Event with a corresponding upstream peak stage of 15.6 ft-NGVD. In the 100 Year - 3 Day Storm Event, the design of the weir allows for approximately 286 cfs to enter the flowway based on an upstream peak stage of 15.89 ft-NGVD.

Discharge Storm Frequency : 25 YEAR-3 DAY

Design Rainfall : 11.28 inches

Basin	Allow Disch (cfs)	Method Of Determination	Peak Disch (cfs)	Peak Stage (ft, NGVD 29)
Basin 1	4.19	Conveyance Limitation	4.17	16.18
Basin 2	21.65	Conveyance Limitation	20.59	16.13

Finished Floors ::

Building Storm Frequency : 100 YEAR-3 DAY

Design Rainfall : 14.27 inches

Basin

EXHIBIT A

Basin	Peak Stage (ft, NGVD 29)	Proposed Min. Finished Floors (ft, NGVD 29)	FEMA Elevation (ft, NGVD 29)
Basin 1	16.67	16.7	14.73
Basin 2	16.69	16.7	14.73

Road Design ::

Road Storm Frequency : 25 YEAR-3 DAY		Design Rainfall: 11.28 inches
Basin	Peak Stage (ft, NGVD 29)	Proposed Min. Road Crown (ft, NGVD 29)
Basin 1	16.18	16.2
Basin 2	16.13	16.2

EXHIBIT A**Control Elevation :**

Basin	Area (Acres)	Ctrl Elev (ft, NGVD 29)	WSWT Ctrl Elev (ft, NGVD 29)	Method Of Determination
Basin 1-1	8.33	13.4	13.40	Previously Permitted
Basin 1-2	37.90	13.4	13.40	Previously Permitted
Basin 1-3	11.40	13.4	13.40	Previously Permitted
Basin 1-4	16.10	13.4	13.40	Previously Permitted
Basin 1-5a	15.95	13.4	13.40	Previously Permitted
Basin 1-5b	14.95	13.4	13.40	Previously Permitted
Basin 2-1	7.69	13.5	13.50	Previously Permitted
Basin 2-2	42.20	13.5	13.50	Previously Permitted
Basin 2-3	11.17	13.5	13.50	Previously Permitted
Basin 2-4a	15.95	13.5	13.50	Previously Permitted
Basin 2-4b	30.77	13.5	13.50	Previously Permitted
Basin 2-5	9.56	13.5	13.50	Previously Permitted
Basin 2-6	15.07	13.5	13.50	Previously Permitted
Basin 2-7	40.10	13.5	13.50	Previously Permitted
Basin 2-8	31.31	13.5	13.50	Previously Permitted
Basin 2-9	27.81	13.5	13.50	Previously Permitted
Basin 2-10a	23.16	13.5	13.50	Previously Permitted
Basin 2-10b	11.70	13.5	13.50	Previously Permitted
Basin 2-11	31.22	13.5	13.50	Previously Permitted
Basin 2-12a	11.41	13.5	13.50	Previously Permitted
Basin 2-12b	14.22	13.5	13.50	Previously Permitted
Basin 2-13	6.46	13.5	13.50	Previously Permitted
Basin 2-14	21.97	13.5	13.50	Previously Permitted
Basin 2-15	46.63	13.5	13.50	Previously Permitted
Basin 2-16	11.55	13.5	13.50	Previously Permitted
Basin 2-17	12.76	13.5	13.50	Previously Permitted
Basin 2-18	17.92	13.5	13.50	Previously Permitted
Basin 2-19	51.38	13.5	13.50	Previously Permitted
Basin 2-20	23.07	13.5	13.50	Previously Permitted
Preserve C	9.67	13.5	13.50	Previously Permitted
Preserve D	2.79	13.5	13.50	Previously Permitted
Preserve E	13.78	13.5	13.50	Previously Permitted
Basin 1	104.64	13.4	13.40	Previously Permitted
Basin 2	515.09	13.5	13.50	Previously Permitted
Flowway	36.29	13.4	13.40	Previously Permitted

Receiving Body :

Basin	Str.#	Receiving Body
Basin 1-1	CS DC	Lake #1

EXHIBIT A

Receiving Body :

Basin	Str.#	Receiving Body.
Basin 1-2	DS 1-2	ON-SITE FLOW WAY
Basin 2-1	DS 2-1	ON-SITE FLOW WAY
Basin 2-2	CS 2-2 / PR	Preserve D
Basin 2-4b	CS-MF	Lake #11
Basin 2-5	CS 2-5 / PR	Preserve E
Basin 2-7	CS 2-7 / PR	Preserve C
Basin 2-7	DS 2-7	ON-SITE FLOW WAY
Basin 2-9	CS 2-9 / PR	Preserve C
Basin 2-9	CS CH	Lake #23
Basin 2-16	DS 2-16	ON-SITE FLOW WAY
Flowway	Intake Weir	Flowway
Flowway	Outfall Weir	Cocohatchee Canal

Discharge Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29).

Bleeders:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Invert Angle	Invert Elev.
Basin 1-1	CS DC	1	Circular Orifice				3"		13.4
Basin 1-2	DS 1-2	1	Rectangular Orifice	12"	7.1"				
Basin 2-1	DS 2-1	1	Rectangular Orifice	10.2"	6"				13.5
Basin 2-1	DS 2-1	1	Rectangular Orifice	16"	5"				14
Basin 2-16	DS 2-16	1	Rectangular Orifice	12"	10"				13.5
Basin 2-4b	CS-MF	1	Circular Orifice				3"		13.5
Basin 2-7	DS 2-7	1	Rectangular Orifice	14.1"	6"				13.5
Basin 2-7	DS 2-7	1	Rectangular Orifice	19.5"	5"				14
Basin 2-9	CS CH	1	Circular Orifice				3"		13.5
Flowway	Intake Weir	2	Rectangular Notch	3.5'	.95'				14

Weirs:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Elev.
Basin 1-1	CS DC	1	Drop Inlet	24"	36"			18.4 (crest)
Basin 1-2	DS 1-2	1	Rectangular	49"	8"			16.2 (crest)
Basin 2-1	DS 2-1	1	Rectangular	49"	8"			16.1 (crest)
Basin 2-16	DS 2-16	1	Rectangular	49"	8"			16.1 (crest)
Basin 2-2	CS 2-2 / PRES D	1	Drop Inlet	24"	36"			14 (crest)
Basin 2-4b	CS-MF	1	Drop Inlet	24"	36"			15.5 (crest)
Basin 2-5	CS 2-5 / PRES E	1	Drop Inlet	24"	36"			14 (crest)
Basin 2-7	CS 2-7 / PRES C	1	Drop Inlet	24"	36"			14 (crest)
Basin 2-7	DS 2-7	1	Rectangular	49"	8"			16.1 (crest)
Basin 2-9	CS 2-9 / PRES3	1	Drop Inlet	24"	36"			14 (crest)
Basin 2-9	CS CH	1	Drop Inlet	24"	36"			15.5 (crest)
Flowway	Intake Weir	1	Rectangular	100'				14.95 (crest)
Flowway	Outfall Weir	1	Rectangular	175'				13.4 (crest)

WATER QUALITY :

EXHIBIT A

The proposed surface water management system provides the required 51.64 ac-ft of water quality treatment volume based on one inch over the 619.73 acre area included in Basin 1 and 2. The surface water management system provides an additional 50% water quality treatment volume above the amount required per Section 5.2 of the Basis of Review. The additional water quality treatment volume is provided to provide reasonable assurances that the proposed project will not contribute to impairments of downstream receiving bodies. The project is located within the Cocohatchee (Inland Segment) watershed (FDEP WBID No. 3278D); the Cocohatchee (Inland Segment) is considered to be impaired for Dissolved Oxygen.

In addition to the required water quality treatment volume, the applicant has provided an analysis demonstrating that the post-development nutrient loadings are less than the pre-development nutrient loadings. A Construction Pollution Prevention Plan and Urban Stormwater Management Program, specifications and guidelines are part of the water quality requirements. Construction and daily operation of the project shall be conducted in accordance with Special Condition Nos. 29 and 30. No adverse water quality impacts are anticipated as a result of the proposed project.

Basin	Treatment Method	Vol Req'd (ac-ft)	Vol Prov'd
Basin 1	Treatment	8.72	13.08
Basin 2	Treatment	42.92	64.39

WETLANDS:

This modification proposes to add 84.95 acres of land to the previously permitted project area of 1713.4 acres. The 84.95 acres consists of 15.64 acres of uplands and 69.31 acres of wetlands making the total project area 1,798.35 acres (302.53 acres of uplands and 1,495.82 acres of wetlands). The majority of the newly added lands are located in Preserve B and include 14.55 acres of uplands that will be converted into wetland habitat, and 17.31 acres of hydric farm field that will be restored to native wetland habitat.

The newly added on-site uplands consist of pine flatwoods with less than 25% exotic coverage, pine flatwoods with less than 50% exotic coverage, and a commercial services area.

The newly added on-site wetlands consist of cypress with less than 25% exotic coverage, melaleuca dominant habitat, pine/cypress/cabbage palm with less than 25% exotic coverage, hydric pine flatwoods with less than 25% exotic coverage, pine/cypress with less than 50% exotic coverage, and hydric pasture. The other existing wetland habitat types on-site, as discussed in the previous permit authorizations, include cypress, hydric pine, wet prairie, and pine/cypress. A FLUCCS Map is attached as Exhibit 3.0.

Wetland Impacts:

The following discussion includes a comparison of the previous authorizations (Application Nos. 000518-10 and 060524-2) with the currently proposed site plan and associated wetland impacts. The internal preserves described below (Preserve Areas C, D, E and F) are conservation areas to be maintained internal to the development boundary and are part of the project's surface water management system, with the exception of Preserve F. External preserve areas (Preserve Areas A and B) are contiguous preserve areas located outside of the development boundary, and are outside of the project's surface

EXHIBIT A

water management system.

Application No. 000518-10:

The permit authorized 568.66 acres of direct wetland impacts. An additional area of 39.5 acres of narrow, linear wetlands within the Development Site were considered to be secondarily impacted due to their proximity to adjacent development. Although these internal wetland areas were considered to have reduced functions, they were not reflected in the wetland impact total for direct impacts, because the wetlands were not physically impacted. The permitted flow-way construction was not considered a wetland impact and was not included in the total wetland impact acreage.

Application No. 060524-2:

The permit included a proposal to impact 595.52 acres of wetlands. The areas that were previously considered secondarily impacted were then proposed to be directly impacted (filled). At the same time, some of the linear internal preserve areas and wetlands adjacent to the offsite preserve areas were expanded to incorporate 13.32 acres of wetlands that were previously authorized to be filled. In addition, the area previously designated as a flow-way was not be constructed and remained part of the external preserve area outside of the Development Site. Overall the modified site plan resulted in an increase of 26.86 acres of direct wetland impacts in the controlled (internal) basin, of which 28.16 acres were previously considered to be secondarily impacted and 0.68 acres resulted from slight changes in the internal site design.

Proposed Modification:

The development plan proposes to directly impact approximately 506.84 acres of wetlands and 100% secondarily impact approximately 7.57 acres of wetlands within the internal preserves. The 100% secondarily impacted wetlands comprise the outer edge of the internal preserve areas that are immediately adjacent to the development boundary. While these areas have been fully mitigated for, they will be preserved and maintained within the proposed conservation easements. Potential temporary impacts to these areas during construction are outlined in Special Condition 34. The combined direct and 100% secondary wetland impacts total 514.41 acres.

A total of 14.39 acres of wetlands are also considered partially secondarily impacted under the proposed project. These secondary impacts comprise the portion of Preserve Areas A and B that are located within the first 50 feet of the development boundary, and therefore are located along the western edge of the proposed flowway and the northern boundary of the development. Approximately 4.02 acres of Preserve A and 10.37 acres of Preserve B will be secondarily impacted, totaling 14.39 acres. Reductions to wildlife, groundcover, buffer, hydrology, and water quality components are reflected in the Wetland Rapid Assessment Procedure (WRAP) analysis. Wetland Impact Maps are attached as Exhibit 3.1.

The direct impacts proposed under this permit modification result in a decrease of approximately 80.8 acres of direct wetland impacts from the previously authorized project (Application No. 060524-2). Some of this reduction will occur due to the elimination of one of the proposed golf courses in the revised site design. The wetlands proposed to be directly impacted are all degraded to some extent by exotic vegetation and hydrological impacts and have already been assessed under the previous applications. There are no new direct wetland impacts associated with this modification.

Mitigation Proposal:

The applicant proposes to preserve a total of 995.96 acres of wetlands and 127.92 acres of uplands for a total mitigation area of 1123.88 acres (please see Exhibit 3.2). The 1123.88 acres includes 14.39 acres of partially secondarily impacted wetlands in Preserves A and B. An additional 7.57 acres of wetlands and

EXHIBIT A

0.62 acres of uplands will be physically preserved within the Internal Preserves, adjacent to the development boundary, but are considered 100% secondarily impacted. The following discussion will provide a comparison between the previous authorizations (Application Nos. 000518-10 and 060524-2) and the currently proposed site plan and associated wetland mitigation.

Application No. 000518-10:

The staff report indicated that 860.59 acres of wetlands and 111.91 acres of uplands (972.50 total acres) would be preserved and enhanced as compensation for the permitted direct and secondary wetland impacts. Of the area designated as wetland preserve, a total of 39.5 acres of wetlands were also considered secondarily impacted due to their proximity to development. As a result, these areas were not anticipated to provide the same amount of wetland functions as in their undeveloped state. The acreages are as follows:

External Preserve (Wetlands) - 780.37 acres
 External Preserve (Uplands) - 103.53 acres
 Total External Preserve - 883.90 acres

Internal Preserve (Wetlands) - 80.22 acres (includes 39.5 acres of secondarily impacted wetlands)
 Internal Preserve (Uplands) - 8.38 acres
 Total Internal Preserve - 88.60 acres

Total External & Internal Preserve Areas: 972.50 acres

Application No. 060524-2:

The staff report indicated that a total of 940.47 acres of wetlands and uplands would be preserved. This included a proposal for larger, contiguous mitigation areas within the Development Site to offset the direct impacts to previously preserved, but secondarily-impacted wetlands and the preservation/ enhancement of the External Preserve Area. In addition, the applicant proposed to purchase a total of 5.68 credits from the Panther Island Mitigation Bank:

External Preserve (Wetlands) - 776.83 acres
 External Preserve (Uplands) - 106.88 acres
 Total External Preserve - 883.71 acres*

Internal Preserve (Wetlands) - 54.06 acres
 Internal Preserve (Uplands) - 2.70 acres
 Total Internal Preserve - 56.76 acres

Total External & Internal Preserve Areas: 940.47 acres

* There was a slight (0.19 acre) decrease in the total External Preserve Area acreage due to a previous survey error corrected in that application.

Current Modification:

Since the majority of the project's proposed wetland impacts were reviewed and approved by the District under the previous permits, an assessment of only the proposed changes was conducted for this permit modification application. The assessment of the changes to the permitted wetland impacts and mitigation was conducted using the Wetland Rapid Assessment Method (WRAP), as described further in the Wetland Inventory section below. The applicant is proposing to preserve a total of 1123.88 acres of wetlands and uplands to offset the proposed wetland impacts.

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External Preserve (Wetlands) - 961.21 acres

External Preserve (Uplands) - 125.83 acres

Total External Preserve - 1087.04 acres

(This mitigation acreage includes the 84.95 acre property addition, and the 14.39 acres of secondarily impacted wetlands within Preserve Areas A and B.)

Internal Preserve (Wetlands) - 34.75 acres*

Internal Preserve (Uplands) - 2.09 acres

Total Internal Preserve - 36.84 acres

(This mitigation total does not include the 0.62 acres of uplands and 7.57 acres of wetlands, totaling 8.19 acres, that will be preserved in conservation easements but are considered 100% secondarily impacted)

*Please note that there is a decrease of 19.31 acres within the internal wetland preserves from Application No. 060524-2 to the newly proposed project. This is because this 19.31 acres is now within the external preserve area (Preserves A and B).

Total External and Internal Mitigation Areas: 1123.88 acres (see Exhibit 3.2)

Total External and Internal Preserve Areas: 1132.07 acres (see Exhibits 3.5 and 3.6. Includes the 8.19 acres of 100% secondarily impacted areas)

Total Conservation Easement Area: 1119.19 acres (please see the Legal Section for further discussion)

Current Wetland Mitigation Evaluation:

The current modification proposes to reduce the development footprint by 117.59 acres. This reduction in acreage is comprised of 80.80 acres of direct wetlands impacts, 19.76 acres of secondary wetland impacts, 16.41 acres of upland impacts and 0.62 acres of right-of-way along Immokalee Road. A WRAP analysis of the formerly impacted wetlands (80.80 acres of direct and 19.76 acres of secondary) results in a functional gain of 27.48 WRAP functional units.

The applicant also proposes to increase the amount of preserved land by incorporating a total of 84.95 acres of land located primarily west of the flow-way into the project area. This 84.95 acres is comprised of 69.31 acres of wetlands and 15.64 acres of uplands. A WRAP analysis of the newly added lands results in a functional gain of 8.8 WRAP functional units. Therefore, the total wetland functional gain associated with this application is 36.28 WRAP functional units. The WRAP analysis for the 14.39 acres of secondarily impacted wetlands resulted in a functional loss of 3.60 functional units, resulting in a net functional gain of 32.68 WRAP units.

Maps depicting the newly added lands are attached as Exhibit 3.3.

The 2007 permit authorization required the purchase of 5.68 wetland credits. In addition to on-site mitigation efforts to offset the permitted impacts. Since this application will result in a net increase in wetland functional values (with the addition of the new lands and the reduction in impact area) that exceeds the wetland functional values that will be lost as a result of the project's wetland impacts, the proposed on-site wetland mitigation will fully compensate for the proposed project wetland impacts and off-site credits are no longer required.

The on-site mitigation will involve conducting wetland enhancement and creation activities and the enhancement of uplands within the preserves. The wetland mitigation areas total approximately 1123.88 acres, 995.96 acres of which are wetlands (includes 14.55 acres of created wetlands). Major components of the anticipated mitigation activities include:

- Eradication and control of Category 1 and Category 2 invasive exotics identified in the Florida Exotic Pest Plant Council's (EPPC) List of Invasive Species.

EXHIBIT A

- Eradication and control of nuisance plant species as necessary (target control less than 5% cover by nuisance species).

- Grading (mainly excavating) and contouring the areas listed on Exhibit 3.4 as wetland creation and enhancement areas for woodstork foraging improvements. This will include a total of 31.86 acres of farm land/uplands that will be used to create/restore wetlands. This plan also involves the removal or breaching of the existing perimeter berm along the northern and eastern border of the farm field during the grading process, to ensure a more natural hydrologic connection to adjacent preserve areas.

Mitigation Within the Internal Preserves:

There are four distinct areas that will be preserved within the project's development footprint. These are labeled as Preserve C, Preserve D, Preserve E, and Preserve F on Exhibit 3.5 and total 36.84 acres (34.7 acres of wetlands and 2.09 acres of upland buffers). All of the exotic vegetation will be cut by hand and removed from these areas, and all of these areas will be placed under a conservation easement. These areas, except for Preserve F, are all part of the master surface water management system and will receive treated surface water from the adjacent lakes, once the water quality elevation has been reached.

Preserve C totals 9.67 acres of wetlands which are predominantly cypress with an infestation of melaleuca. A portion of the wetland contains hydric pine habitat. Preserve C contains 1.73 acres of buffer (1.69 acres of wetlands and 0.04 acres of uplands) that is included within the conservation easement that is considered 100% secondarily impacted.

Preserve D totals 2.79 acres of wetlands and is located immediately east of Preserve C. It contains cypress with an infestation of melaleuca and also some hydric pine, similar to Preserve C. Preserve D contains 0.99 acres of buffer (0.95 acres of wetlands and 0.04 acres of uplands) that is included within the conservation easement that is considered 100% secondarily impacted.

Preserve E totals 13.77 acres of cypress and hydric pine wetlands with a heavy infestation of melaleuca. A combination of hand and mechanical exotic vegetation removal is proposed for this preserve as exotic vegetation levels are high. All exotic vegetation will be removed from the preserve area once it has been felled by hand or mechanical means. If any mechanical clearing is done, the cleared portion will be immediately planted according to the planting plan outlined in Exhibit 3.5. The permittee may later explore the possibility of constructing an elevated, hand-railed boardwalk into this preserve. Any such proposal would require District authorization via a permit modification. Preserve E contains 2.48 acres of wetland buffer that is included within the conservation easement that is considered 100% secondarily impacted.

Preserve F totals 10.61 acres and is comprised of 8.52 acres of wetlands (cypress and hydric pine wetlands with varying degrees of infestation of melaleuca) and 2.09 acres of uplands. All exotic vegetation will be removed from this preserve area either by hand or by mechanical means. If any mechanical clearing is done, the cleared portion will be immediately replanted according to the planting plan outlined in Exhibit 3.5. Preserve F contains 2.99 acres of buffer (2.45 acres of wetlands and 0.54 acres of uplands) that is included within the conservation easement that is considered 100% secondarily impacted. In addition, 1.43 acres of Preserve F is excluded from the conservation easement due to overlap with the county right-of-way along the eastern property line. The 1.43 acres comprises 1.20 acres of wetlands and 0.23 acres of uplands.

Replanting Plan:

The internal preserve areas will be left to regenerate naturally for at least a year after time zero before deciding if supplemental planting is necessary. If no immediate seed source is available, replanting will help to re-establish any denuded areas more rapidly and contribute to the restoration success. The

EXHIBIT A

preserve areas will be evaluated once the initial exotic removal activities are completed and any plantings that are necessary will be coordinated with District staff as part of the Time Zero Monitoring Report.

Replanting will also be considered one year after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Additionally, replanting will be considered after two years for any area that shows less than 75% coverage by appropriate native vegetation. Please see Exhibit 3.5 for details.

Mitigation Within the External Preserves:

The external preserve (also known as the main preserve) is approximately 1087.04 acres in size and is comprised of 961.21 acres of wetlands and 125.83 acres of uplands. A total of 14.55 acres of the wetland preserve will be created from existing uplands as part of the mitigation and enhancement activities (please refer to the Wetland Creation section below). The external preserve encompasses the northern portion of the project site as well as approximately 200 acres along the western boundary of the site. There are no proposed impact areas within the external preserve. However, approximately 11.45 acres of Preserve A will be preserved but excluded from the conservation easement, due to existing access easements associated with CR 951 (Broken Back Road) along the eastern property line and an access easement along the northeastern property line. Boardwalks and at-grade pedestrian access may be considered in the future, but are not currently proposed. No vehicular or other motorized access will be allowed except for monitoring or maintenance purposes.

The external preserve is the main preserve on the site and the enhancement activities within this area generate the majority of the mitigation credit for the development. Historical vegetation communities within the preserve include cypress swamp, hydric and mesic pine flatwoods, and wet prairie. All of these habitats have been impacted by widespread exotic vegetation as well as altered hydrological regimes.

The applicant is proposing the use of hand clearing and kill-in-place methods to eradicate exotic vegetation from the external preserves. Because of the potential damage and destruction to groundcover vegetation and likely rutting of the ground by machinery, no mechanical clearing is currently proposed. Hand cleared debris will be removed from the preserve where feasible, but in areas where removal would cause additional, unwanted damage, the trees will be killed in place (if they are greater than 6 inches diameter at breast height (DBH)), or cut and stacked into piles (if they are less than 6 inches DBH). If stacked in piles, the trunks will be cut into manageable sections and stacked "teepee" or "log cabin" style and the piles will be placed no closer than 100 feet from each other. If possible, burn permits will be obtained from the local fire control district and the piles will be burned in place. If obtaining burn permits is not possible, the piles will be left to decompose.

While mechanical removal is currently not contemplated, it may be utilized in areas where exotic vegetation density is too great to achieve enhancement success within the five year monitoring time frame. If mechanical clearing is contemplated, the area to be cleared, timing, and other specifics will be coordinated with District Compliance staff. If any mechanical clearing is done, the cleared area will be immediately planted according to the planting plan outlined in Exhibit 3.6.

All Category 1 and Category 2 exotic vegetation will be brought under control before any replanting or species management techniques (i.e. fire or mowing) are employed. Once the removal efforts have been successful, annual maintenance treatments should be sufficient to control future exotic growth. The preserve areas will be exotic free immediately following a maintenance activity. At no time shall the density of exotic and nuisance plant species exceed 2% relative coverage in any vegetative strata or 4% of the relative coverage in all strata.

Wetland Creation:

Three upland areas totaling 14.55 acres in the southwest portion of the preserve will be scraped down

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and contoured similarly to the woodstork foraging improvements of the farm field which is described below. Two of these areas are existing mesic pine communities (8.68 acres and 3.09 acres respectively), while the third area is a small commercial area (2.78 acre) that has been used for storage and repair work located at the south end of the farm field (see Exhibit 3.4). The existing vegetation will be removed and the fill from the contouring activities will be utilized within the development area. Random depressions and contours will concentrate prey as water levels recede and further enhance opportunities on the site for woodstork foraging. Planting for these marsh communities will be with groundcover vegetation only, and maintenance of the areas will include removal of any canopy or midstory vegetation that may recruit into the areas. Maintenance may occur through hand removal of vegetation, controlled burns, or mowing (see Exhibit 3.6 for details).

Berm Removal:

An existing berm that currently surrounds the farm field area will be removed from the northern and eastern sides of the field. If specimen trees are present on or adjacent to portions of the berm or would be adversely impacted by the berm removal, then small sections of berm may be left as long as breaches are created to allow for sufficient flows across the area. This will allow for open sheet flow of surface waters onto and across the site during periods of high water. The berm will be scraped down to the adjacent natural ground elevation and the disturbed area will be planted with appropriate plantings to match the adjacent vegetative communities.

Woodstork and Other Wading Bird Foraging Improvements:

The existing 17.31 acre farm field will be scraped down and contoured to create a series of depressional marshes of varying depths. Depths in the various pools range from -1 feet to -8 feet. As-built surveys of the created marsh areas will be required prior to planting pursuant to Special Condition 19. This work will also tie into and include the three wetland creation areas described above (see Exhibit 3.4). The depressions will serve to concentrate forage fish and provide enhanced foraging opportunities to woodstorks and other wading birds. Fill from the construction of these areas will be utilized as needed in the development portion of the project. Since the main component of these areas is foraging improvement, dense vegetative coverage is not desired. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season. Vegetative coverage of 50% will be considered successful in these foraging improvement areas. Please see Exhibit 3.6 for details.

Replanting Plan:

The supplemental planting plan for the external preserve areas differs from that of the internal preserve areas. The preserve areas will be left to regenerate naturally for at least a year after time zero before deciding if complete replanting is necessary. In areas that are more than 75% melaleuca and that have no suitable groundcover vegetation present, replanting may be done immediately following the exotic eradication activities. If no immediate seed sources are available in these areas, immediate replanting will re-establish the denuded areas more rapidly and contribute to the success of the enhancement. The entire preserve area will be evaluated once the initial exotic removal activities are completed and any planting that is necessary will be proposed and coordinated with District staff as a part of the Time Zero Report.

Replanting will also be considered two years after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Additionally, replanting will be considered after three years for any area that shows less than 75% coverage by appropriate native vegetation. Please see Exhibit 3.6 for details.

Replanting will occur immediately after any mechanical removal of exotic vegetation. Areas disturbed by the removal will be re-graded to match adjacent elevations and remove any rutting, then planted with the appropriate plant palette.

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Target Success Criteria:

All exotic vegetation will be killed within the preserve areas. The hydric flatwood and pine/cypress target condition is a very open canopy with little to no shrub layer, prairie-type groundcover, and widely spaced trees. Trees will be a mix of slash pine and cypress depending on site specific hydrology. Tree density in the open flatwood and pine cypress areas should be between 10 to 50 trees per acre. Cypress dome target conditions are as a more closed canopy (110 to 175 trees per acre) with more sparse ground cover. A minimum of 80% appropriate vegetative coverage will be maintained in all strata. Mesic pine areas will contain tree densities in the 50 to 100 trees per acre range with midstory vegetation of saw palmetto, wax myrtle, and other appropriate plantings. Ground cover densities may vary depending on canopy coverage.

Forested and Prairie Habitats:

After two years, all preserve areas will contain a minimum of 50% coverage by appropriate vegetation in all three strata combined. After three years, all preserve areas will contain a minimum of 75% coverage by appropriate vegetation in all three strata combined. After five years, preserves will contain a minimum of 80% coverage by appropriate vegetation in all three strata combined. Any areas not meeting the minimum appropriate vegetative coverage will be subject to supplemental planting plans as outlined in Exhibit 3.6.

Created Marsh Habitats:

Since the main component of these areas is foraging improvement, dense vegetative coverage is not desired. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season in these freshwater marsh areas. More vegetation may grow in the depressional areas during the dry season, but should die off or substantially thin out as water levels rise. Vegetative coverage of 50% will be considered successful in these foraging improvement areas. Please see Exhibit 3.6 for details.

Cumulative Impact Assessment:

Pursuant to Section 4.2.7 and 4.2.8 of the Basis of Review, the applicant has provided reasonable assurance that the proposed project will not result in unacceptable cumulative impacts upon wetland and other surface waters within the same drainage basin. The applicant has provided sufficient mitigation to offset both the direct and secondary wetland impacts on-site and within the same drainage basin as the project (West Collier Drainage Basin).

Monitoring/Maintenance:

The proposed monitoring of the wetland and upland preserves will consist of baseline, time-zero, and annual monitoring of vegetation, wildlife, rainfall, and wetland water levels. The baseline monitoring report will document conditions in the project site as they currently exist. The time-zero monitoring report will document conditions immediately following wetland and upland enhancement (exotic/nuisance vegetation removal and replanting as appropriate). The annual monitoring reports will document conditions following enhancement activities and document the extent of success of the project. If needed, the annual reports will identify specific actions to be taken to improve the conditions within the project area. Sampling transects and methodology for the baseline, time-zero, and annual reports will utilize identical methods of data collection. A complete description of the monitoring plans can be found on Exhibit 3.5 and 3.6.

Maintenance will be conducted in perpetuity to ensure that the enhanced and restored wetlands and uplands are free of exotic vegetation immediately following maintenance and that exotic and nuisance

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species will constitute no more than five percent of total combined cover or dominate any one single area. For the external preserve areas, exotic and nuisance vegetation shall not exceed 2% relative coverage in any stratum or 4% relative coverage in all strata combined. Please note that exotic cover includes dead or felled exotic vegetation in the preserve areas.

All monitoring and maintenance activities shall be completed in accordance with the work schedule attached as Exhibit 3.7.

The monitoring and maintenance of the internal and external preserves shall be divided into five distinct areas (please see Exhibit 3.8). Separate cost estimates and performance bonds are required for each of the five mitigation areas to demonstrate financial assurance (please see the Legal Section of this staff report for additional details). The woodstork creation and enhancement areas in the southwestern portion of the project comprise Mitigation Area 1. The internal preserve areas (C, D, E and F) comprise Mitigation Area 2. External Preserve B comprises Mitigation Area 3. External Preserve A comprises Mitigation Areas 4 and 5.

Wetland Inventory:

The following is a summary of the WRAP assessment for the newly added and formerly impacted lands:

New Lands:

Pre-Development WRAP - 45.63
 Post-Development WRAP - 54.43
 Result - 8.8 units of functional gain

Formerly Impacted Land:

Pre-Development WRAP - 31.44
 Post-Development WRAP - 58.92
 Result - 27.48 units of functional gain

Secondary Impacts:

Post-Development WRAP - 3.60
 Result - 3.60 units of functional loss

TOTAL: 32.68 units of functional gain

In addition, the wetland and mitigation acreages on the first page of the staff report are described as follows:

Total Acres Wetland Onsite: 1495.82 acres of existing wetland habitat onsite.

Total Acres Wetland Preserved Onsite: This includes all existing wetlands that will be preserved onsite and that are not considered secondarily impacted. The 967.02-acre total excludes the 14.39 acres of secondarily impacted wetlands in the External Preserves and the 7.57 acres of secondarily impacted wetlands in the Internal Preserves.

Total Acres Impacted Onsite: This total, 506.84 acres, includes only the direct wetland impacts proposed with this permit modification.

Total Acres Preservation/Mitigation Onsite: This total of 1109.49 acres includes the 967.02 acres of wetlands that will be preserved onsite and are not considered secondarily impacted, 127.92 acres of upland preserve onsite, and the 14.55 acres of created marsh within Preserve B.

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** To calculate the total 1132.07 acres of habitat that will be physically preserved onsite, the 14.39 acres of secondarily impacted wetlands within the External Preserves and 8.19 acres of secondarily impacted wetlands and uplands within the Internal Preserves must be added to the 1109.49-acre total cited above.

Wetland Inventory :

CONSTRUCTION MOD - Mirasol

Site Id	Site Type	Pre-Development				Post-Development						
		Pre-Fluc cs	AA Type	Acreeage (Acres)	Current Wo Pres	With Project	Time Lag (Yrs)	Risk Factor	Pres. Adj. Factor	Post Fluc cs	Adj. Delta	Functional Gain / Loss
A-Up	ON	411	Enhancement	108.82						411		
A-Wet	ON	600	Enhancement	775.71						600		
A-SEC	ON	600	Secondary	4.02						600	.000	.000
B-Up	ON	411	Enhancement	17.01						411		
B-Wet	ON	621	Enhancement	139.25						621		
B-SEC	ON	600	Secondary	10.37							.000	.000
B-WS	ON	6AA	Restoration/Creation	17.31						641		
B-WS	ON	411	Restoration/Creation	14.55						641		
C Up Bu	ON	424	Secondary	.04						424	.000	.000
C Wet B	ON	600	Secondary	1.69						600	.000	.000
C Wet	ON	621	Enhancement	9.67						621		
D Up Bu	ON	411	Secondary	.04						411	.000	.000
D Wet B	ON	600	Secondary	.95						600	.000	.000
D-Wet	ON	621	Enhancement	2.79						621		
E Wet B	ON	600	Secondary	2.48						600	.000	.000
E-Wet	ON	621	Enhancement	13.77						621		
F Up Bu	ON	411	Secondary	.54						411	.000	.000
F Wet B	ON	600	Secondary	2.45						600	.000	.000
F-Up	ON	411	Enhancement	2.09						411		
F-Wet	ON	621	Enhancement	8.52						621		
Previous	ON	600	Direct	506.84							.000	.000
Total:				1638.91								.00

Fluc cs Code	Description
411	Pine Flatwoods
411	Pine Flatwoods - Hydric
411	Pine Flatwoods - Upland
424	Melaleuca-Upland
424	Melaleuca-Wetland
600	Wetlands
621	Cypress
641	Freshwater Marshes
6AA	Hydric Pasture

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Wildlife Issues:

The project site does contain preferred habitat for wetland-dependent endangered or threatened wildlife species or species of special concern. Wetland-dependent endangered/threatened species or species of special concern were observed onsite. Woodstorks and Big Cypress Fox Squirrels have been observed on-site, and Florida black bear tracks have been observed as well. A listed species sightings map is attached as Exhibit 3.9.

The applicant has worked with the U.S. Fish and Wildlife Service (FWS) and the Florida Fish and Wildlife Conservation Commission (FWC) regarding listed species that have been observed or may inhabit the proposed project area. Habitat management plans for Florida black bears, Eastern Indigo snakes, Big Cypress fox squirrels, and listed wading birds are attached as Exhibit 3.10. The proposed preservation and enhancement of wetland and upland mitigation areas, particularly removal of exotic species and the creation of woodstork/wading bird foraging areas, is expected to provide improved habitat for these listed species. This permit does not relieve the applicant from complying with all applicable rules and any other agencies' requirements if, in the future, endangered/threatened species or species of special concern are discovered on the site.

LEGAL ISSUES:

The applicant is proposing to place a total of 1119.19 acres of on-site preserve into passive recreational conservation easements. There will be a total of six conservation easements for the site and they include:

Preserve A - 877.10 acres
 Preserve B - 198.49 acres
 Preserve C - 11.40 acres
 Preserve D - 3.78 acres
 Preserve E - 16.25 acres
 Preserve F - 12.17 acres

The conservation easements are attached as Exhibit 3.11.

Please note that while 1132.07 acres of native habitat will be physically preserved onsite, 12.88 acres will be excluded from the conservation easement due to existing access easements along CR 951 in the eastern boundary of the project and along the northeastern property line. In Preserve F, 1.43 acres are excluded from the conservation easement (1.20 acres of wetlands and 0.23 acres of uplands). In Preserve A, 11.45 acres are excluded from the conservation easement (8.95 acres of wetlands and 2.50 acres of uplands).

In addition, while 1132.07 acres of native habitat will be physically preserved onsite, only 1123.88 acres are considered wetland mitigation. The 1123.88-acre mitigation total includes the 14.39 acres of partially secondarily impacted wetlands in the External Preserves, but excludes the 8.19 acres of 100% secondarily impacted wetland and upland areas within the Internal Preserves. The 8.19 acres (7.57 acres of wetland and 0.62 acres of upland) will be preserved and maintained within the conservation easement area. Please refer to Exhibit 3.2 for further information.

Cost estimates, performance bonds to demonstrate financial assurance, and corresponding standby trust fund agreements for the five mitigation phases (referenced in Exhibit 3.8), to demonstrate financial assurance for the proposed mitigation, are attached as Exhibit 3.12.

CERTIFICATION AND MAINTENANCE OF THE WATER MANAGEMENT SYSTEM:

It is suggested that the permittee retain the services of a Professional Engineer registered in the State of Florida for periodic observation of construction of the surface water management (SWM) system. This will facilitate the completion of construction completion certification Form #0881 which is required pursuant to Section 10 of the Basis of Review for Environmental Resource Permit Applications within the South Florida

EXHIBIT A

Water Management District, and Rule 40E-4.361(2), Florida Administrative Code (F.A.C.).

Pursuant to Chapter 40E-4 F.A.C., this permit may not be converted from the construction phase to the operation phase until certification of the SWM system is submitted to and accepted by this District. Rule 40E-4.321(7) F.A.C. states that failure to complete construction of the SWM system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization unless a permit extension is granted.

For SWM systems permitted with an operating entity who is different from the permittee, it should be noted that until the permit is transferred to the operating entity pursuant to Rule 40E-1.6107, F.A.C., the permittee is liable for compliance with the terms of this permit.

The permittee is advised that the efficiency of a SWM system will normally decrease over time unless the system is periodically maintained. A significant reduction in flow capacity can usually be attributed to partial blockages of the conveyance system. Once flow capacity is compromised, flooding of the project may result. Maintenance of the SWM system is required to protect the public health, safety and the natural resources of the state. Therefore, the permittee must have periodic inspections of the SWM system performed to ensure performance for flood protection and water quality purposes. If deficiencies are found, it is the responsibility of the permittee to correct these deficiencies in a timely manner.

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RELATED CONCERNS:

Water Use Permit Status:

The applicant has indicated surface water lakes and groundwater wells will be used as a source for irrigation water for the project. Water Use Application No. 120525-17 has been submitted and is being processed concurrently for this project.

The applicant has indicated that dewatering is required for construction of this project. Dewatering Application No. 120525-16 has been submitted and is being processed concurrently for this project.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Potable Water Supplier:

Collier County Utilities

Waste Water System/Supplier:

Collier County Utilities

Right-Of-Way Permit Status:

Prior to performing any construction activities within the drainage easement for the Cocohatchee Canal, a District Right-of-Way Permit must be issued.

DRI Status:

This project is not a DRI.

Historical/Archeological Resources:

The District has received correspondence dated June 4, 2012 from the Florida Department of State, Division of Historical Resources (DHR) indicating that no significant archaeological or historical resources are recorded in the project area. However, due to environmental conditions consistent with those found at other archaeological sites in Florida and lack of professional archaeological or historical investigation, there is some potential for undiscovered archaeological sites to occur. Therefore, DHR has stipulated that if unexpected discoveries are found during ground disturbing activities on the property, that all work in the vicinity cease and the DHR should be contacted immediately. Please see Special Condition No. 13. This permit does not release the permittee from compliance with any other agencies' requirements in the event that historical and/or archaeological resources are found on the site.

DEO/CZM Consistency Review:

The issuance of this permit constitutes a finding of consistency with the Florida Coastal Management Program.

Third Party Interest:

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No third party has contacted the District with concerns about this application.

Enforcement:

There has been no enforcement activity associated with this application.

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STAFF RECOMMENDATION TO EXECUTIVE DIRECTOR:

The Staff recommends that the following be issued :

This application is a request for modification of an Environmental Resource Permit authorizing construction and operation of a surface water management system serving 1,790.38 acres of residential and golf course development and 7.97 acres of conceptual development, with discharge into the Cohatchee Canal.

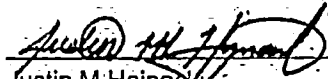
Based on the information provided, District rules have been adhered to,

Staff recommendation is for approval subject to the attached General and Special Conditions.

STAFF REVIEW:

NATURAL RESOURCE MANAGEMENT APPROVAL

ENVIRONMENTAL EVALUATION.



Justin M. Hojnacki

SUPERVISOR

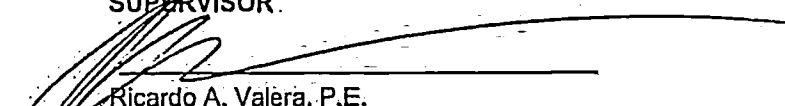

Laura Layman

SURFACE WATER MANAGEMENT APPROVAL


ENGINEERING EVALUATION.


Daniel F. Waters, P.E.

SUPERVISOR.

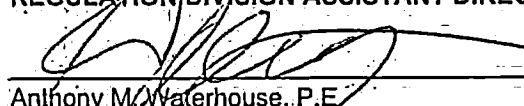

Ricardo A. Valera, P.E.

ENVIRONMENTAL RESOURCE PERMITTING BUREAU CHIEF :


Anita R. Bain

DATE: 11/2/12

REGULATION DIVISION ASSISTANT DIRECTOR :


Anthony M. Waterhouse, P.E.

DATE: 11/2/12

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GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.
2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.
4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.
5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.
6. Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a professional engineer or other individual authorized by law, utilizing the supplied Environmental Resource/Surface Water Management Permit Construction Completion/Certification Form Number 0881A, or Environmental Resource/Surface Water Management Permit Construction Completion Certification - For Projects Permitted prior to October 3, 1995 Form No. 0881B, incorporated by reference in Rule 40E-1.659, F.A.C. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.
7. The operation phase of this permit shall not become effective until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental

EXHIBIT A

GENERAL CONDITIONS

Resource - Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.
9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.
10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.
11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..
12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State; the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.
13. The permittee must obtain a Water Use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to Subsection 40E-20.302(3), F.A.C., also known as the "No

EXHIBIT A

GENERAL CONDITIONS

"Notice" Rule:

14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.
16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.
17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.
18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.
19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

EXHIBIT A

SPECIAL CONDITIONS

1. The conceptual phase of this permit shall expire on November 5, 2017.
The construction phase of this permit shall expire on November 5, 2017.
2. Operation of the surface water management system shall be the responsibility of the Homeowner's Association.
3. Discharge Facilities:

Basin: Basin 1-1, Structure: CS-DC

1-24" W X 36" H DROP INLET weir with crest at elev. 18.4' NGVD 29.

1-3" dia. CIRCULAR ORIFICE with invert at elev. 13.4' NGVD 29.

Receiving body : Lake #1

Control elev : 13.4 feet NGVD 29.

Basin: Basin 1-2, Structure: DS1-2

1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.2' NGVD 29.

1-12" W X 7.1" H RECTANGULAR ORIFICE with invert at elev. 13.4' NGVD 29.

Receiving body : ON-SITE FLOW WAY

Control elev : 13.4 feet NGVD 29.

Basin: Basin 2-1, Structure: DS2-1

1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.1' NGVD 29.

1-10.2" W X 6" H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD 29.

1-16" W X 5" H RECTANGULAR ORIFICE with invert at elev. 14' NGVD 29.

Receiving body : ON-SITE FLOW WAY

Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-2, Structure: CS2-2 / PA2

1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.

Receiving body : Preserve D

Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-4b, Structure: CS-MF

1-24" W X 36" H DROP INLET weir with crest at elev. 15.5' NGVD 29.

1-3" dia. CIRCULAR ORIFICE with invert at elev. 13.5' NGVD 29.

Receiving body : Lake #11

Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-5, Structure: CS 2-5 / PA3

1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.

Receiving body : Preserve E

Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-7, Structure: CS 2-7 / PRES C

1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.

Receiving body : Preserve C

Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-7, Structure: DS 2-7

1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.1' NGVD 29.

1-14.1" W X 6" H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD 29.

1-19.5" W X 5" H RECTANGULAR ORIFICE with invert at elev. 14' NGVD 29.

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SPECIAL CONDITIONS:

Receiving body : ON-SITE FLOW WAY
Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-9, Structure: CS 2-9 / PRES3
1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.
Receiving body : Preserve C
Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-9, Structure: CS CH.
1-24" W X 36" H DROP INLET weir with crest at elev. 15.5' NGVD 29.
1-3" dia. CIRCULAR ORIFICE with invert at elev. 13.5' NGVD 29.
Receiving body : Lake #23
Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-16, Structure: DS 2-16
1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.1' NGVD 29.
1-12" W X 10" H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD 29.
Receiving body : ON-SITE FLOW WAY
Control elev : 13.5 feet NGVD 29.

Basin: Flowway, Structure: Intake Weir
1-100' W RECTANGULAR weir with crest at elev. 14.95' NGVD 29.
2-3.5' W X 0.95' H RECTANGULAR ORIFICE with invert at elev. 14.0' NGVD 29.
Receiving body : ON-SITE FLOW WAY
Control elev : 14.0 feet NGVD 29.

Basin: Flowway, Structure: Outfall Weir
1-175' W RECTANGULAR weir with crest at elev. 13.4' NGVD 29.
Receiving body : COCOHATCHEE CANAL
Control elev : 13.4 feet NGVD 29.

4. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.
5. Measures shall be taken during construction to insure that sedimentation and/or turbidity violations do not occur in the receiving water.
6. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.
7. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
8. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.
9. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
10. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse

EXHIBIT A

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flooding conditions.

11. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.
12. The permittee acknowledges that, pursuant to Rule 40E-4.101(2), F.A.C., a notice of Environmental Resource or Surface Water Management Permit may be recorded in the county public records. Pursuant to the specific language of the rule, this notice shall not be considered an encumbrance upon the property.
13. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.
14. Minimum building floor elevation:
 - BASIN: Basin 1 - 16.70 feet NGVD 29.
 - BASIN: Basin 2 - 16.70 feet NGVD 29.
15. Minimum road crown elevation:
 - Basin: Basin 1 - 16.20 feet NGVD 29.
 - Basin: Basin 2 - 16.20 feet NGVD 29.
16. Minimum parking lot elevation:
 - Basin: Basin 1 - 15.4 feet NGVD 29.
 - Basin: Basin 2 - 15.5 feet NGVD 29.
17. Prior to the commencement of construction, the permittee shall conduct a pre-construction meeting with field representatives, contractors and District staff. The purpose of the meeting will be to discuss construction methods and sequencing, including type and location of turbidity and erosion controls to be implemented during construction, mobilization and staging of contractor equipment, phasing of construction, methods of vegetation clearing, construction dewatering, coordination with other entities on adjacent construction projects, wetland/buffer protection methods, and endangered species protection with the permittee and contractors. The permittee shall contact District Environmental Resource Compliance staff from the Lower West Coast Service Center at 239-338-2929 to schedule the pre-construction meeting.
18. Success of the mitigation activities proposed herein is heavily dependent on proper grading to achieve the design ground elevations necessary to recruit the expected vegetation or to sustain the proper hydrology for the targeted vegetation communities. The permittee shall submit as-built topography of the proposed created marsh areas prior to planting (31.86-acre woodstork habitat creation areas). The permittee shall correct any deficiencies in the project grade within 14 days of

EXHIBIT A

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being notified of such deficiencies by District staff.

19. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.
20. A mitigation program for Mirasol shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6. The permittee shall preserve and enhance 127.92 acres of uplands and 995.96 acres of wetlands (1123.88 acres total).
21. A maintenance program shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6 for the preserved/enhanced wetlands and uplands on a regular basis to ensure the integrity and viability of those areas as permitted. Maintenance shall be conducted in perpetuity to ensure that the conservation areas are maintained free from Category 1 and Category 2 exotic vegetation immediately following a maintenance activity. Maintenance in perpetuity shall also insure that conservation areas, including buffers, maintain the species and coverage of native, desirable vegetation specified in the permit. Coverage of exotic and nuisance plant species shall not exceed 4% total cover in the internal preserves and 5% of total cover in the external preserves between maintenance activities. In addition, the permittee shall manage the conservation areas such that exotic/nuisance plant species do not dominate any one section of those areas.
22. Prior to the commencement of construction, the perimeter of protected wetland/buffer zones/upland preservation areas/conservation areas shall be staked/roped/fenced to prevent encroachment into the protected areas. Using Global Positioning System (GPS) technology, the perimeter of the preserve area(s) shall be identified for future reference. The data shall be differentially corrected and accurate to less than a meter (+/- one meter or better). Electronic copies of the GPS data shall be provided to the District's Environmental Resource Compliance staff in accordance with Exhibit 3.7. The permittee shall notify the District's Environmental Resource Compliance staff in writing upon completion of staking/roping/fencing and schedule an inspection of this work. The staking/roping/fencing shall be subject to District staff approval. The permittee shall modify the staking/roping/fencing if District staff determines that it is insufficient or is not in conformance with the intent of this permit. Staking/roping/fencing shall remain in place until all adjacent construction activities are complete.
23. Endangered species, threatened species and/or species of special concern have been observed onsite and/or the project contains suitable habitat for these species. It shall be the permittee's responsibility to coordinate with the Florida Fish and Wildlife Conservation Commission and/or the U.S. Fish and Wildlife Service for appropriate guidance, recommendations and/or necessary permits to avoid impacts to listed species. Please see Exhibits 3.9 and 3.10 for endangered species management plans.
24. Activities associated with the implementation of the mitigation, monitoring and maintenance plan(s) shall be completed in accordance with the work schedule attached as Exhibit No. 3.7. Any deviation from these time frames will require prior approval from the District's Environmental Resource Compliance staff. Such requests must be made in writing and shall include (1) reason for the change; (2) proposed start/finish and/or completion dates; and (3) progress report on the status of the project development or mitigation effort.
25. Prior to the commencement of construction and in conformance with the work schedule in Exhibit 3.7, the permittee shall provide original bonds in the amount of \$612,112, \$117,513, \$310,635, \$1,229,911, and \$343,816 to ensure the permittee's financial ability and commitment to complete the proposed mitigation, monitoring and maintenance plan as shown on Exhibit Nos. 3.5 and 3.6. The financial assurance shall be in substantial conformance with Exhibit No. 3.12. The financial assurance shall be in effect for the entire period of the mitigation and monitoring program. Notification to the District by the financial institution or surety that the financial assurance will not be

EXHIBIT A

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renewed or is no longer in effect shall constitute non-compliance with the permit.

Should the permit be transferred from the construction to operational phase prior to the completion of the mitigation and monitoring program, it will be incumbent upon the original permittee to either keep the existing financial assurance in force or provide replacement financial assurance in the name of the operational entity. The existing financial assurance cannot be released until a replacement document is received and accepted by the District.

26. A monitoring program shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6. The monitoring program shall extend for a period of 5 years with annual reports submitted to District staff.

For the Internal Preserves, the replanting plan is as follows:

The internal preserve areas will be left to regenerate naturally for at least a year after time zero before deciding if supplemental planting is necessary. If no immediate seed source is available, replanting will help to re-establish any denuded areas more rapidly and contributes to the restoration success. The preserve areas will be evaluated once the initial exotic removal activities are completed and any plantings that are necessary will be coordinated with District staff as part of the Time Zero Monitoring Report.

Replanting will also be considered one year after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Additionally, replanting will be considered after two years for any area that shows less than 75% coverage by appropriate native vegetation. Please see Exhibit 3.5 for details.

For the External Preserves, the replanting plan is as follows:

The supplemental planting plan for the external preserve areas differs from that of the Internal preserve areas. The preserve areas will be left to regenerate naturally for at least a year after time zero before deciding if complete replanting is necessary. In areas that are more than 75% melaleuca and that have no suitable groundcover vegetation present, replanting may be done immediately following the exotic eradication activities. If no immediate seed sources are available in these areas, immediate replanting will re-establish the denuded areas more rapidly and contributes to the success of the enhancement. The entire preserve area will be evaluated once the initial exotic removal activities are completed and any planting that is necessary will be proposed and coordinated with District staff as a part of the Time Zero Report.

Replanting will also be considered two years after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Additionally, replanting will be considered after three years for any area that shows less than 75% coverage by appropriate native vegetation. Please see Exhibit 3.6 for details.

Replanting will occur immediately after any mechanical removal of exotic vegetation. Areas disturbed by the removal will be re-graded to match adjacent elevations and remove any rutting, then planted with the appropriate plant palette.

Target Success Criteria:

All exotic vegetation will be killed within the preserve areas. The hydric flatwood and pine/cypress target condition is a very open canopy with little to no shrub layer, prairie-type groundcover, and widely spaced trees. Trees will be a mix of slash pine and cypress depending on site specific

EXHIBIT A

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hydrology. Tree density in the open flatwood and pine cypress areas should be between 10 to 50 trees per acre. Cypress dome target conditions are as a more closed canopy (110 to 175 trees per acre) with more sparse ground cover. A minimum of 80% appropriate vegetative coverage will be maintained in all strata. Mesic pine areas will contain tree densities in the 50 to 100 trees per acre range with midstory vegetation of saw palmetto, wax myrtle, and other appropriate plantings. Ground cover densities may vary depending on canopy coverage.

Forested and Prairie Habitats:

After two years, all preserve areas will contain a minimum of 50% coverage by appropriate vegetation in all three strata combined. After three years, all preserve areas will contain a minimum of 75% coverage by appropriate vegetation in all three strata combined. After five years, preserves will contain a minimum of 80% coverage by appropriate vegetation in all three strata combined. Any areas not meeting the minimum appropriate vegetative coverage will be subject to supplemental planting plans as outlined in Exhibit 3.6.

Created Marsh Habitats:

Since the main component of these areas is foraging improvement, dense vegetative coverage is not desired. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season in these freshwater marsh areas. More vegetation may grow in the depressional areas during the dry season, but should die off or substantially thin out as water levels rise. Vegetative coverage of 50% will be considered successful in these foraging improvement areas. Please see Exhibit 3.6 for details.

27. Prior to commencement of construction and in accordance with the work schedule in Exhibit 3.7, the permittee shall submit the following in an electronic or hard copy version for review and approval. Electronic versions shall be submitted via the District's ePermitting/eCompliance website and hard copy versions shall reside on CD disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted.

The applicant shall submit a:

- 1) Project map identifying conservation area(s)
- 2) Legal description of conservation area(s)
- 3) Signed conservation easement
- 4) Sealed boundary survey of conservation area(s) by professional Land surveyor
- 5) Title insurance commitment for conservation easement naming District as beneficiary using approved valuation.
- 6) Formatting in accordance with paragraph F (below) if available.

The above information shall be submitted to the Environmental Resource Compliance staff in the District service center where the application was submitted or via the District's ePermitting website.

B) The real estate information referenced in paragraph (A) above shall be reviewed by the District in accordance with the District's real estate review requirements described in the attached Exhibit 3.7. The easement shall not be recorded until such approval is received.

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- C) The permittee shall record a conservation easement(s) over the real property designated as a conservation / preservation / mitigation area(s) on attached Exhibit 3.5 and 3.6. The easement shall be granted free of encumbrances or interests which the District determines are contrary to the intent of the easement. The conservation easement shall be granted to the District utilizing the form attached as Exhibit 3.11. Any proposed modifications to the approved form must receive prior written consent from the district.
- D) The permittee shall record the conservation easement in the public records within 14 days of receiving the District's approval of the real estate information. Upon recordation, the permittee shall submit two certified copies of the recorded conservation easement for the mitigation area and associated buffers and title insurance policy, to the Environmental Resource Compliance staff in the District service center where the application was submitted.
- E) In the event the conservation easement real estate information reveals encumbrances or interests in the easement which the District determines are contrary to the intent of the easement, the permittee shall be required to provide release or subordination of such encumbrances or interests. If such are not obtained, permittee shall be required to apply for a modification to the permit for alternative acceptable mitigation.
- F) The permittee shall submit an electronic or hard copy version of the recorded conservation easement for the mitigation area(s) and associated buffer(s). Electronic versions shall be submitted via the District's ePermitting/eCompliance website and hard copy versions shall reside on CD disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted. The data should also be supplied in a digital CAD (.dxf) or GIS (ESRI Coverage) format. The files should be in the Florida State Plane coordinate system, East Zone (3601) with a data datum of NAD83, HARN with the map units in feet.
28. The Urban Stormwater Management Plan shall be implemented in accordance with Exhibit No. 2.1.
29. The permittee shall utilize the criteria contained in the Construction Pollution Prevention Plan (Exhibit No. 2.2) and on the applicable approved construction drawings for the duration of the project's construction activities.
30. In order to maintain adequate conveyance capacity during construction, the flowway shall be constructed concurrently with the filling of the site. The flowway shall be constructed starting from the southern property boundary and fill material may only be placed as far north as the location of the northern extent of the flowway.
31. The following exhibits for the permit are incorporated by reference herein and are located in the permit file. In addition, these exhibits can be viewed on the District's ePermitting website under this application number.
- Exhibit No. 2.1- Stormwater Pollution Prevention Plan
 - Exhibit No. 2.2- Urban Stormwater Management Program
 - Exhibit No. 3.10- Listed Species Management Plans
 - Exhibit No. 3.11- Conservation Easements
 - Exhibit No. 3.12- Cost Estimate, Performance Bonds, Standby Trust, Fund Agreements (financial assurances documents)
32. If monitoring reports or other information show the preserved wetlands have been negatively affected by the permitted development in a manner that is irreversible (such as impounding the wetland and drowning the existing vegetation or a reduction in the hydroperiod resulting in the transition of wetlands into upland/transitional habitat), the permittee shall be required to submit a remediation plan

EXHIBIT A

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within 30 days of notification by the District's Environmental Resource Compliance staff of such conditions. The remediation plan may include onsite or offsite mitigation as necessary to address any deficiencies.

33. All contractors must be provided with a copy of the staff report and permit conditions prior to the commencement of construction. The permittee is responsible for ensuring that all contractors adhere to the project construction details and methods indicated on the attached permit Exhibits and described herein.
34. The internal preserve areas include 8.19 acres of 100% secondarily impacted habitat. This includes a total of 7.57 acres of wetland and 0.62 acres of upland within Preserve Areas C, D, E and F. While these areas have been mitigated in full, the applicant has proposed to preserve these areas in the onsite conservation easements. Temporary wetland impacts to these areas during construction are allowed, but any such areas that are temporarily impacted must be restored to natural conditions, consistent with the proposed mitigation, monitoring, and maintenance plan.

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Exhibits Table of Contents Mirasol Application No. 120425-8

Exhibit 1.0 – Location Map

Exhibit 2.0 – Engineering Plans

Exhibit 2.1 – Stormwater Pollution Prevention Plan (by reference)

Exhibit 2.2 – Urban Stormwater Management Program (by reference)

Exhibit 3.0 – FLUCCS Map

Exhibit 3.1 – Wetland Impact Map

Exhibit 3.2 – Conservation Areas Map

Exhibit 3.3 – Additional Lands Map

Exhibit 3.4 – Woodstork Foraging Areas Map

Exhibit 3.5 – Internal Preserve Mitigation, Monitoring, Maintenance Plan

Exhibit 3.6 – External Preserve Mitigation, Monitoring, Maintenance Plan

Exhibit 3.7 – Work Schedule

Exhibit 3.8 – Compliance Mitigation Area Breakdown

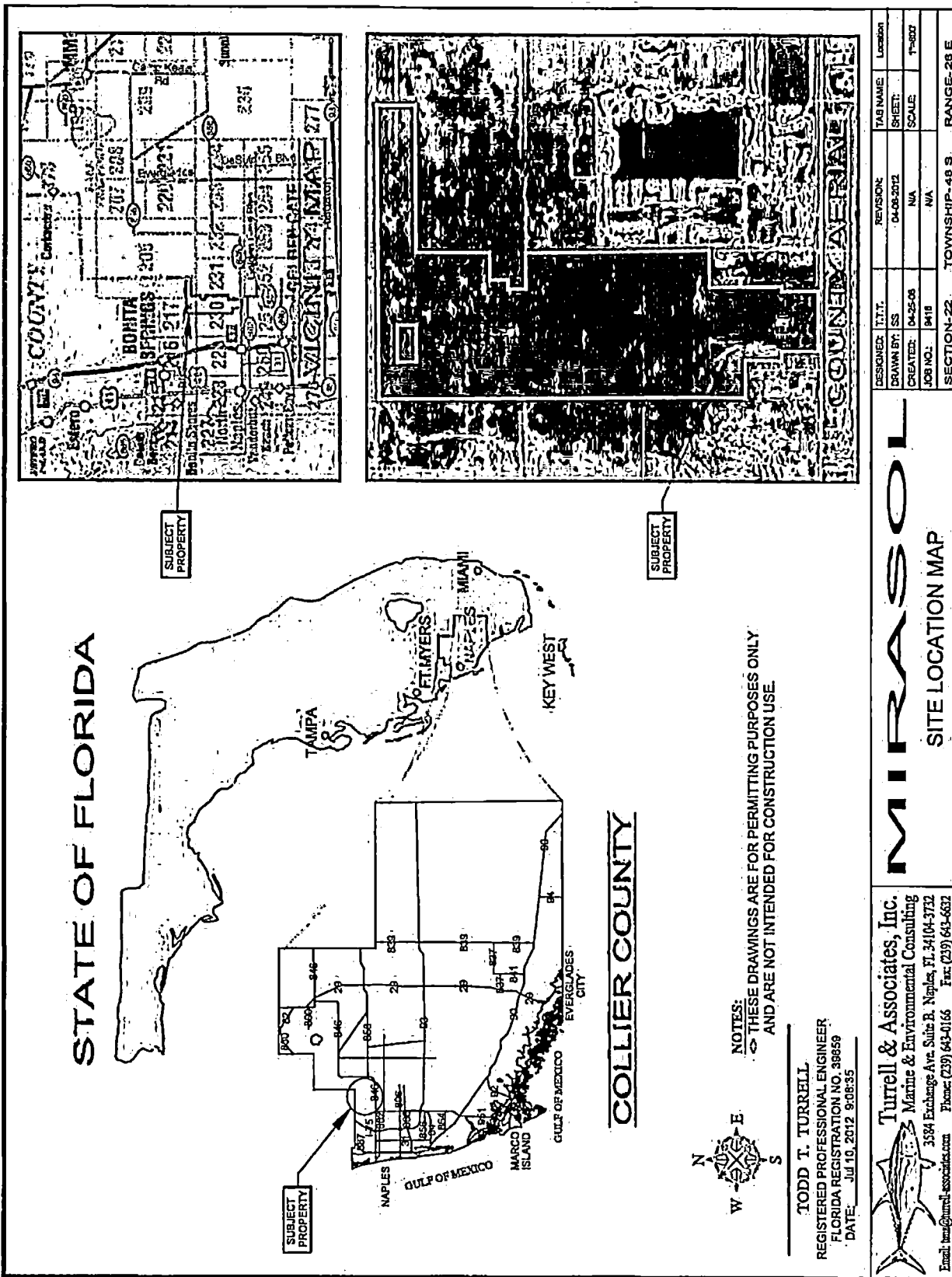
Exhibit 3.9 – Listed Species Sightings Map

Exhibit 3.10 – Listed Species Management Plans (by reference)

Exhibit 3.11 – Conservation Easements (by reference)

Exhibit 3.12 – Cost Estimate, Performance Bonds, Standby Trust Agreement (by reference)

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DESIGNED: T.T.T.	REVISION:	TAB NAME:	Location
DRAWN BY: SS	04-08-2012	SHEET:	
CREATED: 04-25-08	NA	SCALE:	1"=800'
JOB NO.: 0418	NA		
SECTION-22	TOWNSHIP-48 S	RANGE-28 E	

MIRASOL
SITE LOCATION MAP

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6832
 Email: tt@turrell-associates.com

TODD T. TURRELL
 REGISTERED PROFESSIONAL ENGINEER
 FLORIDA REGISTRATION NO. 38859
 DATE: Jul 10, 2012 9:08:35

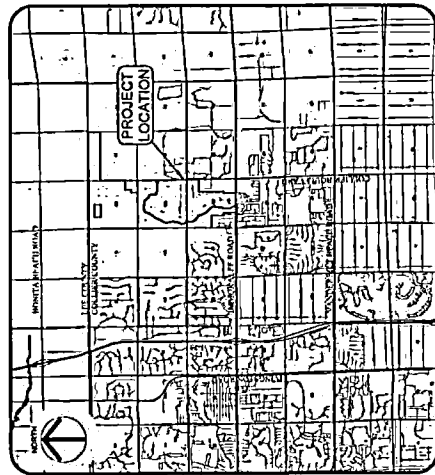
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EXHIBIT A

SURFACE WATER MANAGEMENT ERP MODIFICATION PLANS FOR

MIRASOL

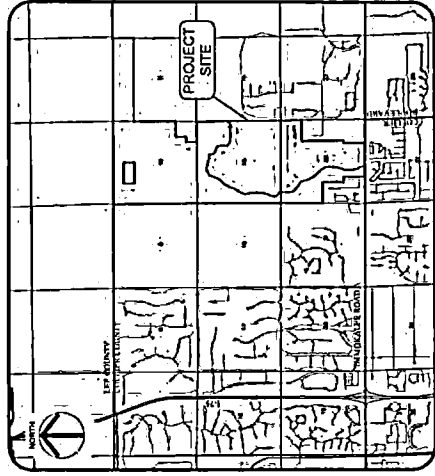
PART OF SECTIONS 10, 11, 15 & 22 TOWNSHIP 48 SOUTH, RANGE 26 EAST,
COLLIER COUNTY, FLORIDA



PROJECT LOCATION MAP
AS SHOWN

SHEET INDEX

1	GENERAL MAP
2	GENERAL SITE PLAN
3	SECTION 10
4	SECTION 11
5	SECTION 15
6	SECTION 22
7	SECTION 10, 11, 15 & 22
8	SECTION 10, 11, 15 & 22
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10	SECTION 10, 11, 15 & 22
11	SECTION 10, 11, 15 & 22
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14	SECTION 10, 11, 15 & 22
15	SECTION 10, 11, 15 & 22
16	SECTION 10, 11, 15 & 22
17	SECTION 10, 11, 15 & 22
18	SECTION 10, 11, 15 & 22
19	SECTION 10, 11, 15 & 22
20	SECTION 10, 11, 15 & 22
21	SECTION 10, 11, 15 & 22
22	SECTION 10, 11, 15 & 22
23	SECTION 10, 11, 15 & 22
24	SECTION 10, 11, 15 & 22
25	SECTION 10, 11, 15 & 22
26	SECTION 10, 11, 15 & 22
27	SECTION 10, 11, 15 & 22
28	SECTION 10, 11, 15 & 22
29	SECTION 10, 11, 15 & 22
30	SECTION 10, 11, 15 & 22
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46	SECTION 10, 11, 15 & 22
47	SECTION 10, 11, 15 & 22
48	SECTION 10, 11, 15 & 22
49	SECTION 10, 11, 15 & 22
50	SECTION 10, 11, 15 & 22



MIRASOL PROJECT SITE MAP
AS SHOWN

MIRASOL
CLIENT: IM COLLIER JOINT VENTURE
COVER

PLANS

NO.	DESCRIPTION	DATE
1	GENERAL MAP	10/1/08
2	GENERAL SITE PLAN	10/1/08
3	SECTION 10	10/1/08
4	SECTION 11	10/1/08
5	SECTION 15	10/1/08
6	SECTION 22	10/1/08
7	SECTION 10, 11, 15 & 22	10/1/08
8	SECTION 10, 11, 15 & 22	10/1/08
9	SECTION 10, 11, 15 & 22	10/1/08
10	SECTION 10, 11, 15 & 22	10/1/08
11	SECTION 10, 11, 15 & 22	10/1/08
12	SECTION 10, 11, 15 & 22	10/1/08
13	SECTION 10, 11, 15 & 22	10/1/08
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15	SECTION 10, 11, 15 & 22	10/1/08
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46	SECTION 10, 11, 15 & 22	10/1/08
47	SECTION 10, 11, 15 & 22	10/1/08
48	SECTION 10, 11, 15 & 22	10/1/08
49	SECTION 10, 11, 15 & 22	10/1/08
50	SECTION 10, 11, 15 & 22	10/1/08

DEVELOPED BY:
IM COLLIER JOINT VENTURE
6080 CYPRESS HOLLOW WAY
NAPLES, FLORIDA 34109
PHONE: (239) 498-7840

EXHIBIT A



MIRASOL
CLIENT: IM COLLIER JOINT VENTURE
MASTER SITE PLAN

NO.	DATE	DESCRIPTION
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2	08/11/2011	REVISED
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4	08/11/2011	REVISED
5	08/11/2011	REVISED
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98	08/11/2011	REVISED
99	08/11/2011	REVISED
100	08/11/2011	REVISED

LAND USE SUMMARY TABLE

Land Use	ACRES										TOTAL ACRES	PERCENT
	1	2	3	4	5	6	7	8	9	10		
Open Space	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	10.0	10.0%
...
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0%

PROJECT SUMMARY TABLE

PARCEL DESCRIPTION	AREA (AC)	% TOTAL
...
TOTAL	100.0	100.0%

GENERAL NOTES

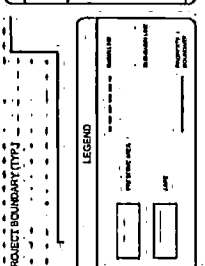
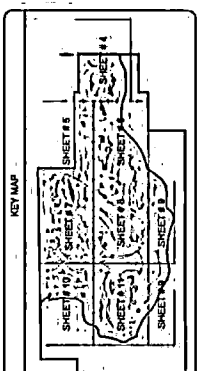
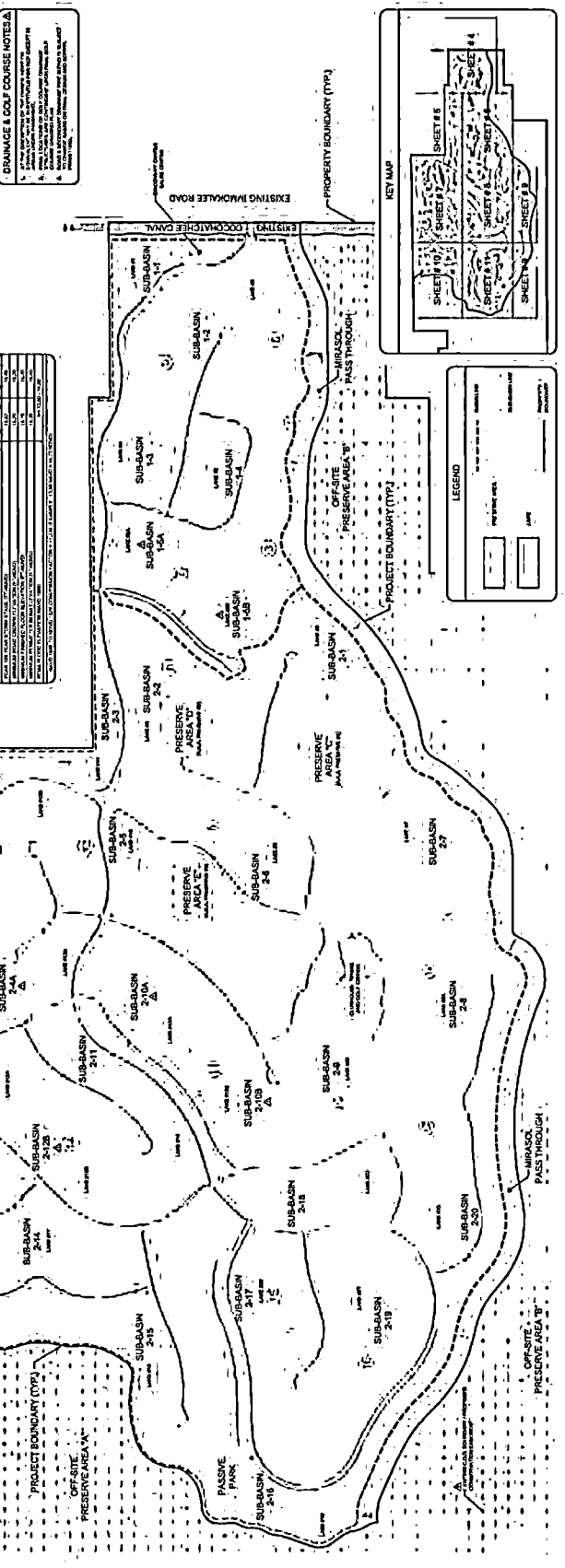
1. The project is located on the south side of the property, bounded by the property line to the north, the property line to the east, and the property line to the south.
2. The project is located on the south side of the property, bounded by the property line to the north, the property line to the east, and the property line to the south.
3. The project is located on the south side of the property, bounded by the property line to the north, the property line to the east, and the property line to the south.
4. The project is located on the south side of the property, bounded by the property line to the north, the property line to the east, and the property line to the south.
5. The project is located on the south side of the property, bounded by the property line to the north, the property line to the east, and the property line to the south.
6. The project is located on the south side of the property, bounded by the property line to the north, the property line to the east, and the property line to the south.
7. The project is located on the south side of the property, bounded by the property line to the north, the property line to the east, and the property line to the south.
8. The project is located on the south side of the property, bounded by the property line to the north, the property line to the east, and the property line to the south.
9. The project is located on the south side of the property, bounded by the property line to the north, the property line to the east, and the property line to the south.
10. The project is located on the south side of the property, bounded by the property line to the north, the property line to the east, and the property line to the south.

SURFACE WATER MANAGEMENT SUMMARY TABLE

Basin	Area (Ac)	Volume (MG)
Basin 1	1.0	1.0
Basin 2	1.0	1.0
Basin 3	1.0	1.0
Basin 4	1.0	1.0
Basin 5	1.0	1.0
Basin 6	1.0	1.0
Basin 7	1.0	1.0
Basin 8	1.0	1.0
Basin 9	1.0	1.0
Basin 10	1.0	1.0
Basin 11	1.0	1.0
Basin 12	1.0	1.0
Basin 13	1.0	1.0
Basin 14	1.0	1.0
Basin 15	1.0	1.0
Basin 16	1.0	1.0
Basin 17	1.0	1.0
Basin 18	1.0	1.0
Basin 19	1.0	1.0
Basin 20	1.0	1.0
Basin 21	1.0	1.0
Basin 22	1.0	1.0
Basin 23	1.0	1.0
Basin 24	1.0	1.0
Basin 25	1.0	1.0
Basin 26	1.0	1.0
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Basin 30	1.0	1.0
Basin 31	1.0	1.0
Basin 32	1.0	1.0
Basin 33	1.0	1.0
Basin 34	1.0	1.0
Basin 35	1.0	1.0
Basin 36	1.0	1.0
Basin 37	1.0	1.0
Basin 38	1.0	1.0
Basin 39	1.0	1.0
Basin 40	1.0	1.0
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Basin 45	1.0	1.0
Basin 46	1.0	1.0
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Basin 49	1.0	1.0
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Basin 57	1.0	1.0
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Basin 66	1.0	1.0
Basin 67	1.0	1.0
Basin 68	1.0	1.0
Basin 69	1.0	1.0
Basin 70	1.0	1.0
Basin 71	1.0	1.0
Basin 72	1.0	1.0
Basin 73	1.0	1.0
Basin 74	1.0	1.0
Basin 75	1.0	1.0
Basin 76	1.0	1.0
Basin 77	1.0	1.0
Basin 78	1.0	1.0
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Basin 80	1.0	1.0
Basin 81	1.0	1.0
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Basin 93	1.0	1.0
Basin 94	1.0	1.0
Basin 95	1.0	1.0
Basin 96	1.0	1.0
Basin 97	1.0	1.0
Basin 98	1.0	1.0
Basin 99	1.0	1.0
Basin 100	1.0	1.0

LAND USE SUMMARY TABLE

Land Use	Area (Ac)	Volume (MG)
...
TOTAL	100.0	100.0



PLAN REVISIONS

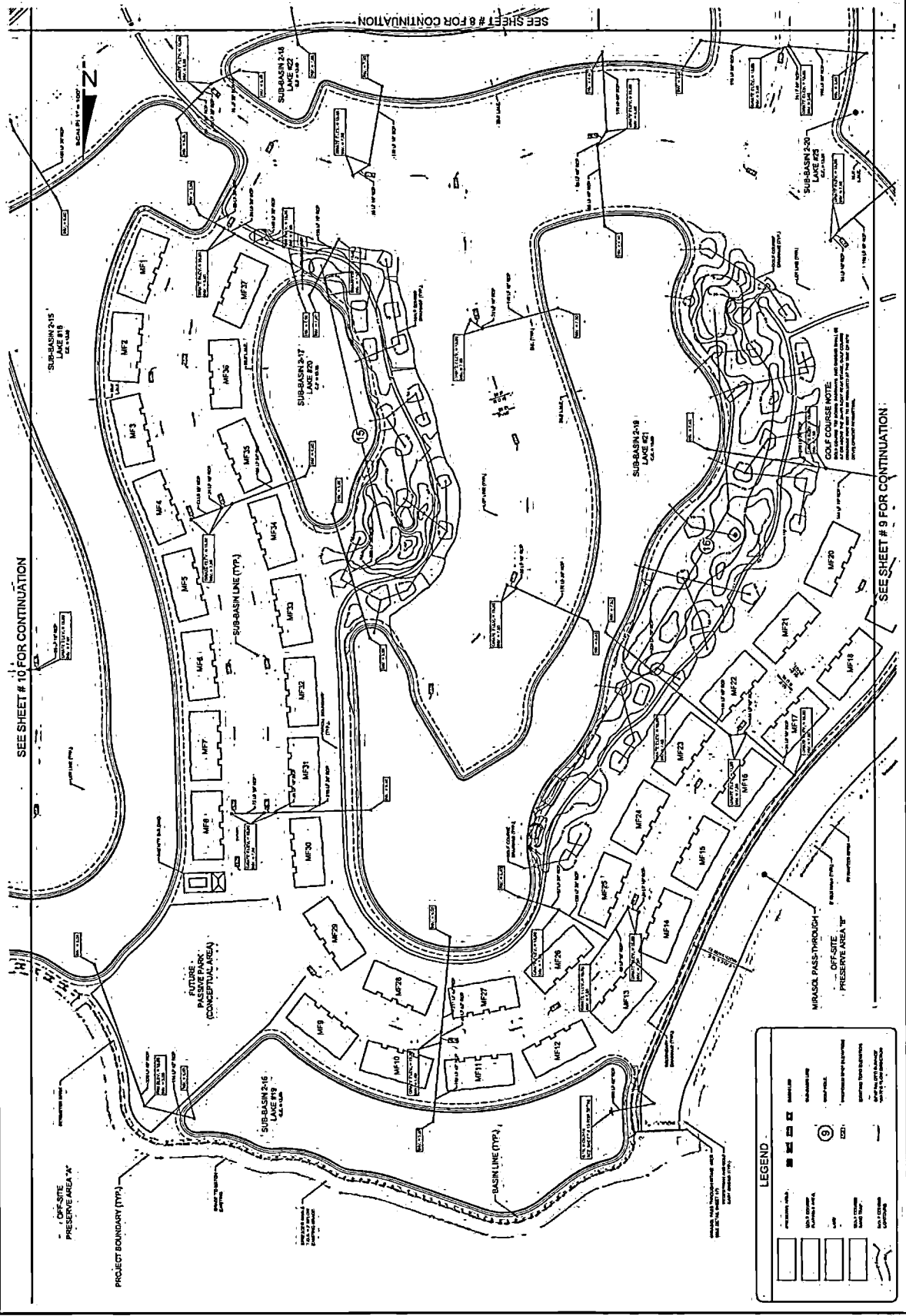
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71	08/11/2011	REVISED
72	08/11/2011	REVISED

EXHIBIT A



MIRASOL
 CLIENT: IM COLLIER JOINT VENTURE
 SITE PLAN (U)

DATE: 08/20/18	BY: J. J. JONES
SCALE: AS SHOWN	PROJECT: MIRASOL
SHEET: 11	TOTAL SHEETS: 11



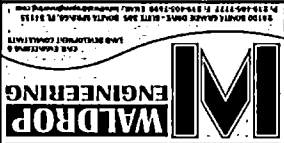
SEE SHEET # 10 FOR CONTINUATION

SEE SHEET # 9 FOR CONTINUATION

LEGEND

[Symbol]	PROPOSED ROAD
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[Symbol]	EXISTING DRIVE
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[Symbol]	EXISTING TRAIL
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[Symbol]	EXISTING FENCE
[Symbol]	PROPOSED UTILITY
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[Symbol]	PROPOSED CONSTRUCTION
[Symbol]	EXISTING CONSTRUCTION
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[Symbol]	EXISTING CLEARING
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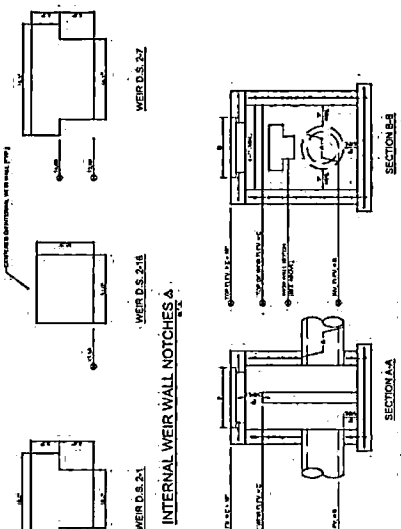
EXHIBIT A



MIRASOL
 CLIENT: IM COLLIER JOINT VENTURE
 ICPR NODAL DIAGRAM & CONTROL STRUCTURE DETAILS

NO.	REVISIONS	DATE	BY	CHKD.
1	ISSUED FOR PERMIT			
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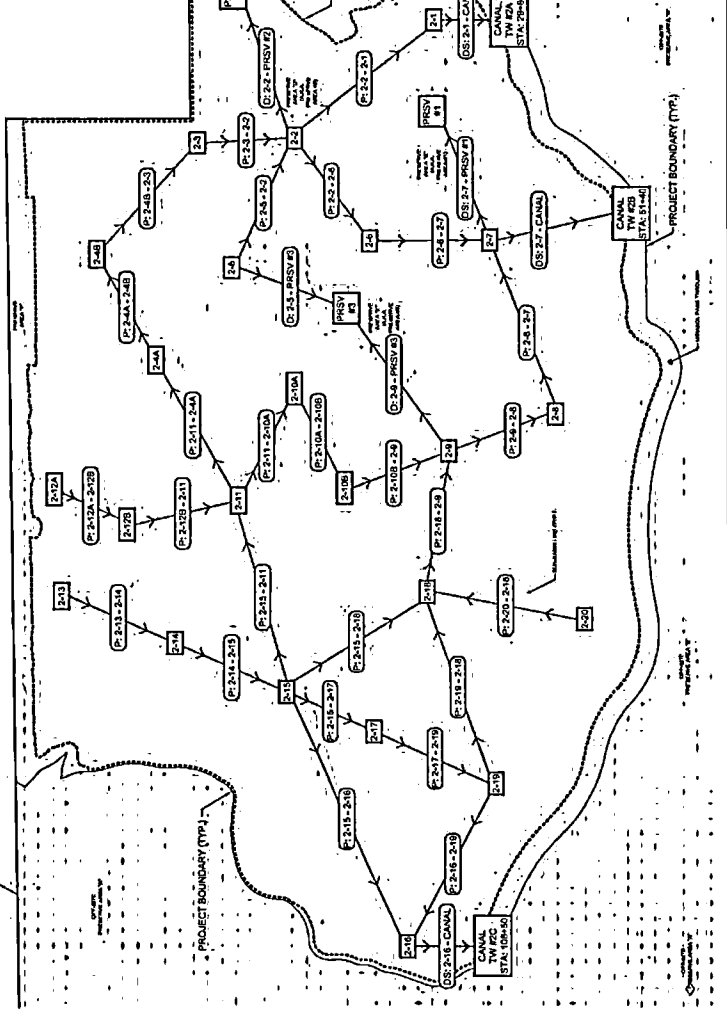
Exhibit 2.0
 Application No. 120425-8
 Page 13 of 19



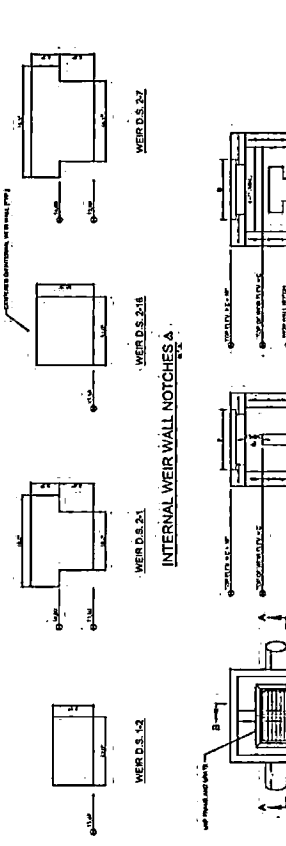
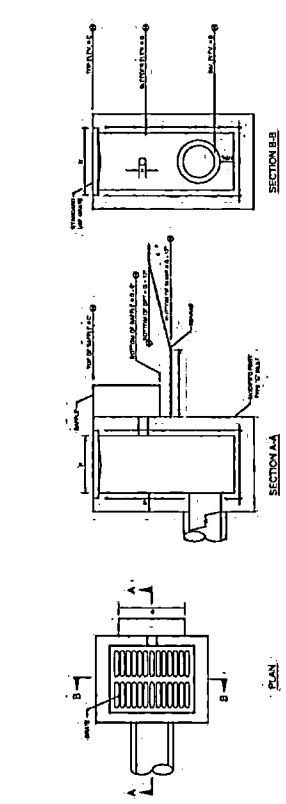
CONTROL STRUCTURE DETAILS
 (DS 1-2, DS 2-1, DS 2-7, DS 2-16) A

CONTROL STRUCTURE TABLE AA

NO.	CONTROL	TYPE	DATE	BY	CHKD.
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CONTROL STRUCTURE DETAIL
 (CS-00, CS-MF, CS-CH, CS-2.3, CS-2.2, CS-2.7) A



WALDROP ENGINEERING
 2110 SOUTH GAZDAR DRIVE, SUITE 300, BOULDER, COLORADO 80501
 303.440.1177 • 303.440.1198 (FAX) • info@waldropeng.com

EXHIBIT A



MIRASOL
 CLIENT: IM COLLIER JOINT VENTURE
 CROSS SECTION MAP & CROSS SECTIONS

NO.	REVISION	DATE	BY	CHK	APP
1	ISSUED FOR PERMIT	08/11/11
2
3
4
5
6
7
8
9
10

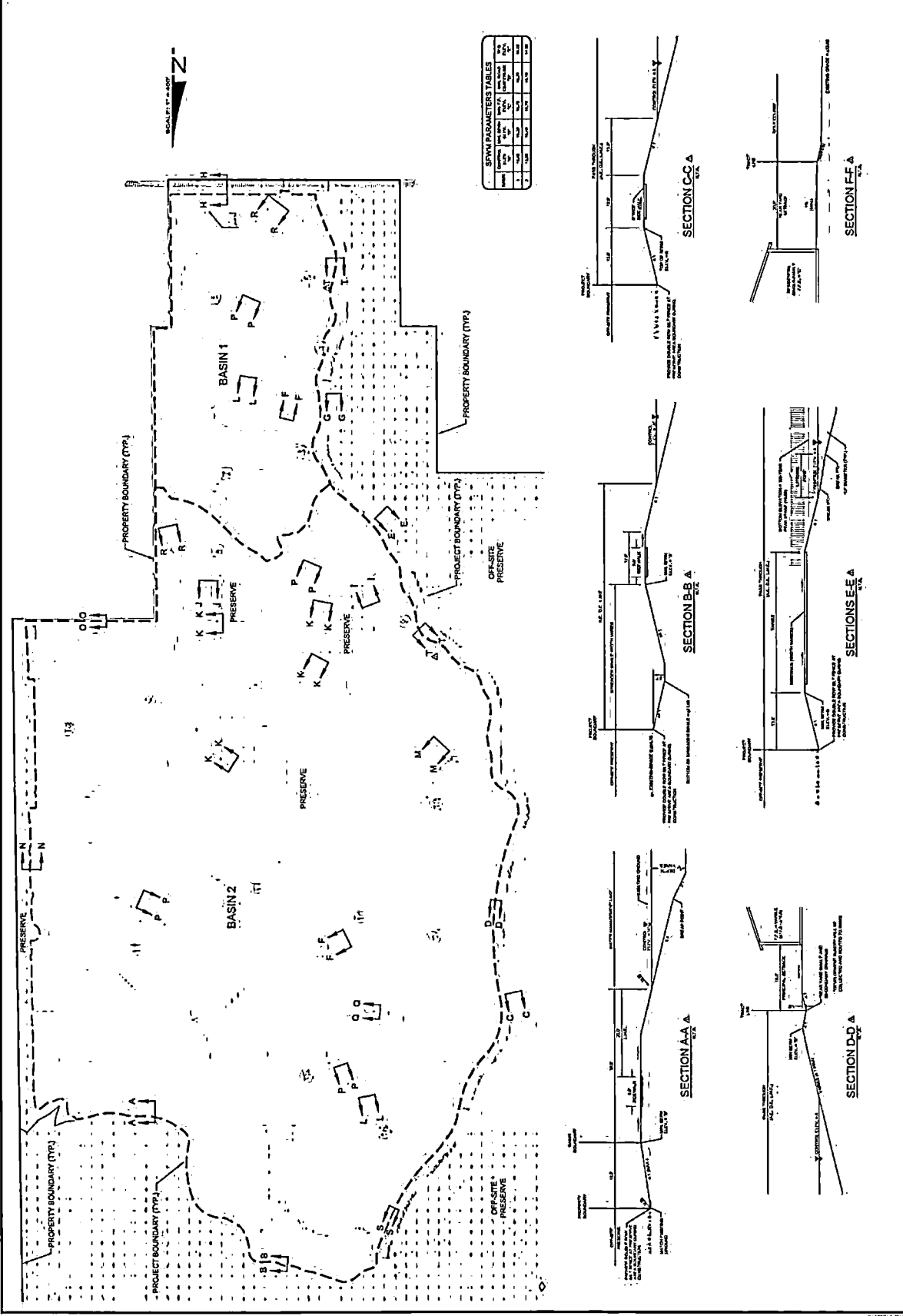


EXHIBIT A

WALDROP ENGINEERING
 1510 SOUTH GARDNER DRIVE - SUITE 100 SOUTH BEND, IN 47203
 (317) 338-7777 or (317) 460-7300 FAX: (317) 338-7777
 www.waldropengineering.com

MIRASOL
 CLIENT: IM COLLIER JOINT VENTURE
 CROSS SECTIONS

NO.	DATE	DESCRIPTION
1	08/11/19	ISSUE FOR PERMITTING
2	08/11/19	ISSUE FOR PERMITTING
3	08/11/19	ISSUE FOR PERMITTING
4	08/11/19	ISSUE FOR PERMITTING
5	08/11/19	ISSUE FOR PERMITTING
6	08/11/19	ISSUE FOR PERMITTING
7	08/11/19	ISSUE FOR PERMITTING
8	08/11/19	ISSUE FOR PERMITTING
9	08/11/19	ISSUE FOR PERMITTING
10	08/11/19	ISSUE FOR PERMITTING
11	08/11/19	ISSUE FOR PERMITTING
12	08/11/19	ISSUE FOR PERMITTING
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48	08/11/19	ISSUE FOR PERMITTING
49	08/11/19	ISSUE FOR PERMITTING
50	08/11/19	ISSUE FOR PERMITTING

SPWM PARAMETERS TABLE

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2	1.000	1.000	1.000	0.000
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4	1.000	1.000	1.000	0.000
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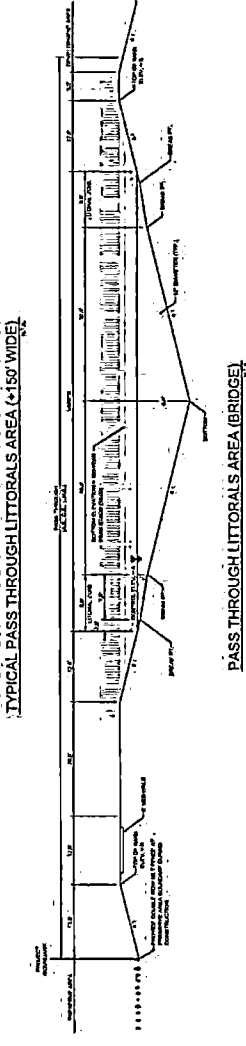
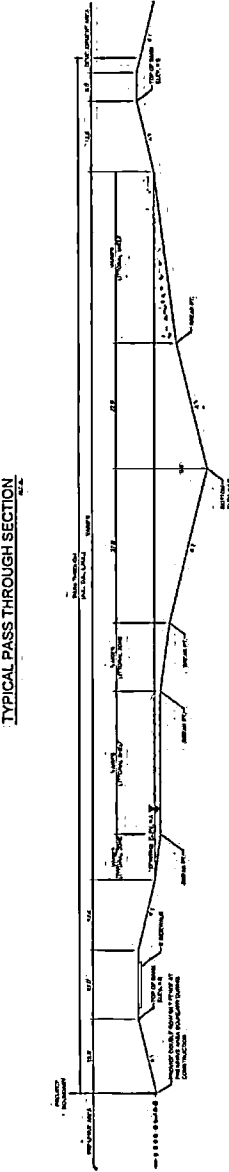
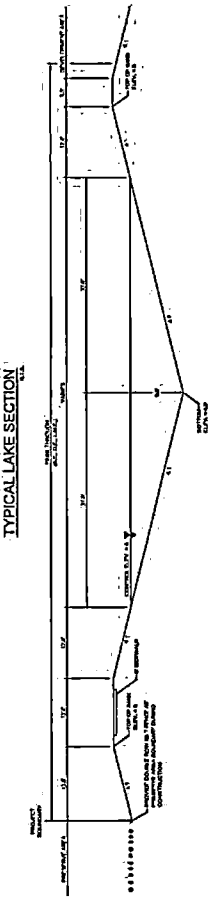
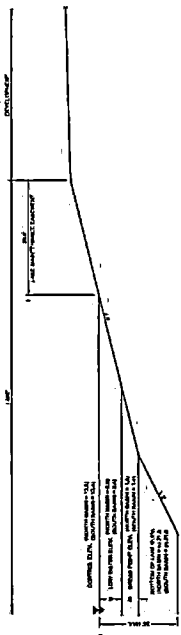
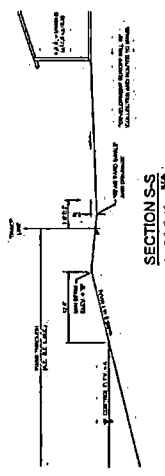
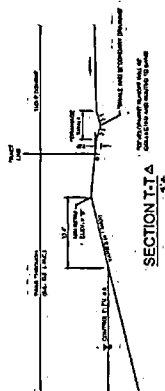


EXHIBIT A

EXHIBITS INCORPORATED BY REFERENCE

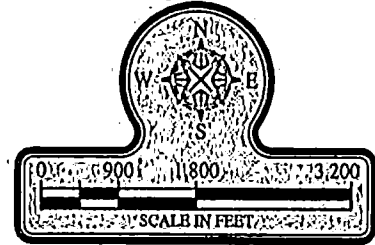
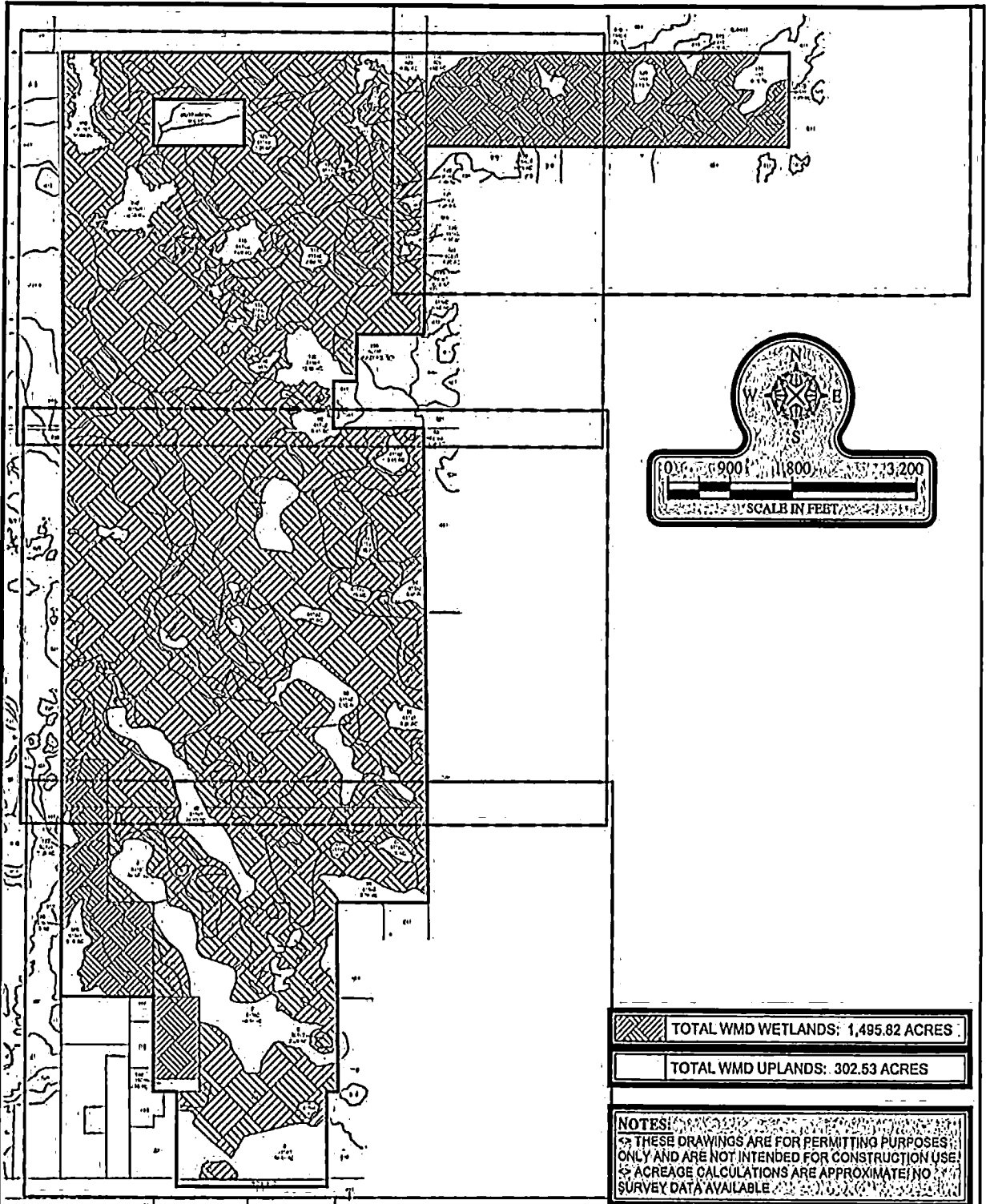
Application No. 120425-8
Permit No. 11-02031-P
Mirasol Permit Modification

Exhibit 2.1 – Stormwater Pollution Prevention Plan
(Pages 1-9)

Exhibit 2.2 – Urban Stormwater Management Program
(Pages 1-6)

EXHIBIT A

P19418 Mirasol2012_DRAWINGS\ERP\ERP 2012.dwg



TOTAL WMD WETLANDS: 1,495.82 ACRES

TOTAL WMD UPLANDS: 302.53 ACRES

NOTES:
 * THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE!
 * ACREAGE CALCULATIONS ARE APPROXIMATE/NO SURVEY DATA AVAILABLE

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B. Naples, FL 34104-3732
 Email: tams@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 SFWMD FLUCFCS MAP (ALL)

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Flucfcs A1
DRAWN BY:	SS	04-05-2012	SHEET:	
CREATED:	04-23-08	N/A	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP-48 S RANGE-26 E				

EXHIBIT A

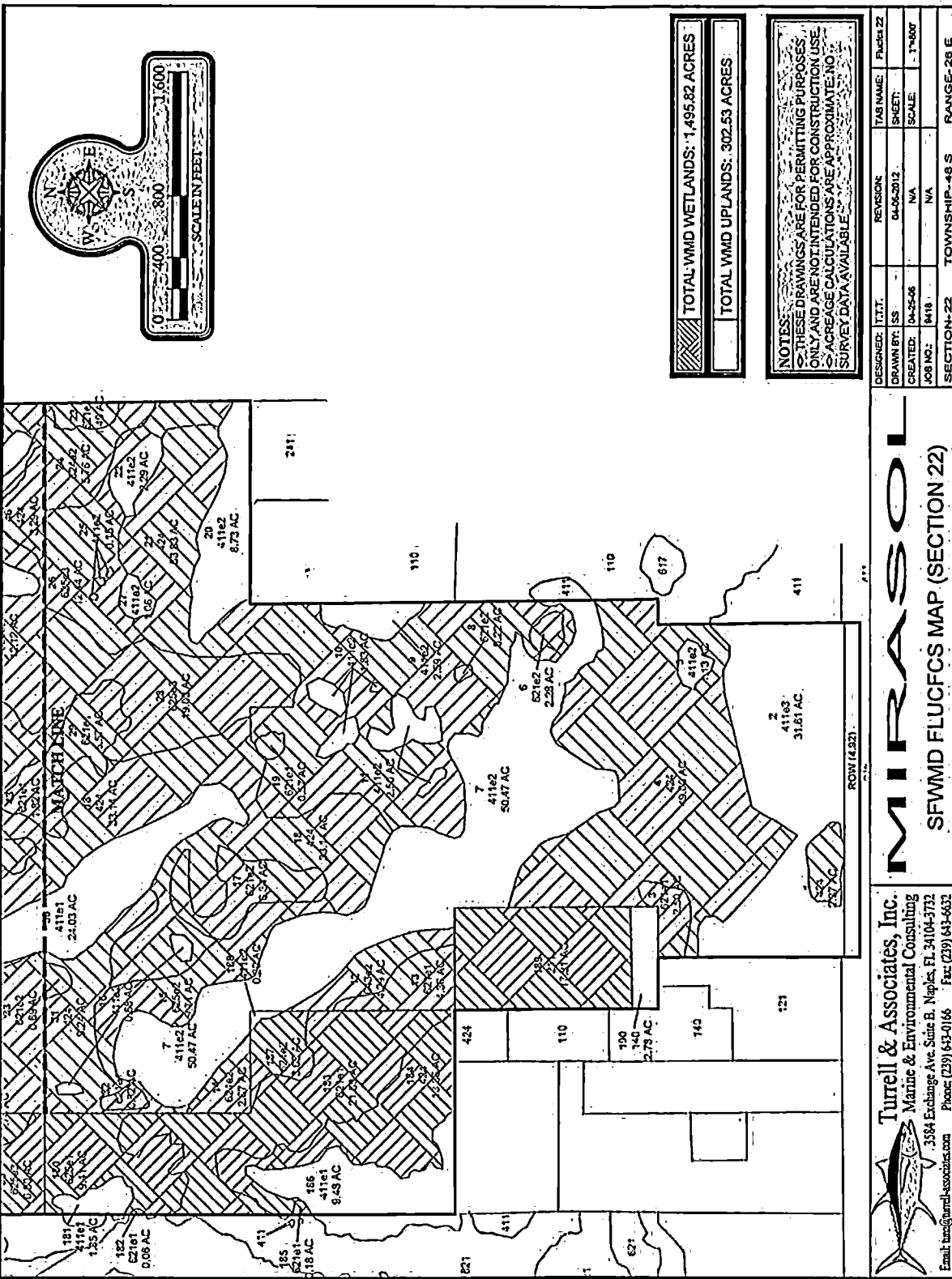



Exhibit 3.0
 Application No. 120425-8.
 Page 2 of 5



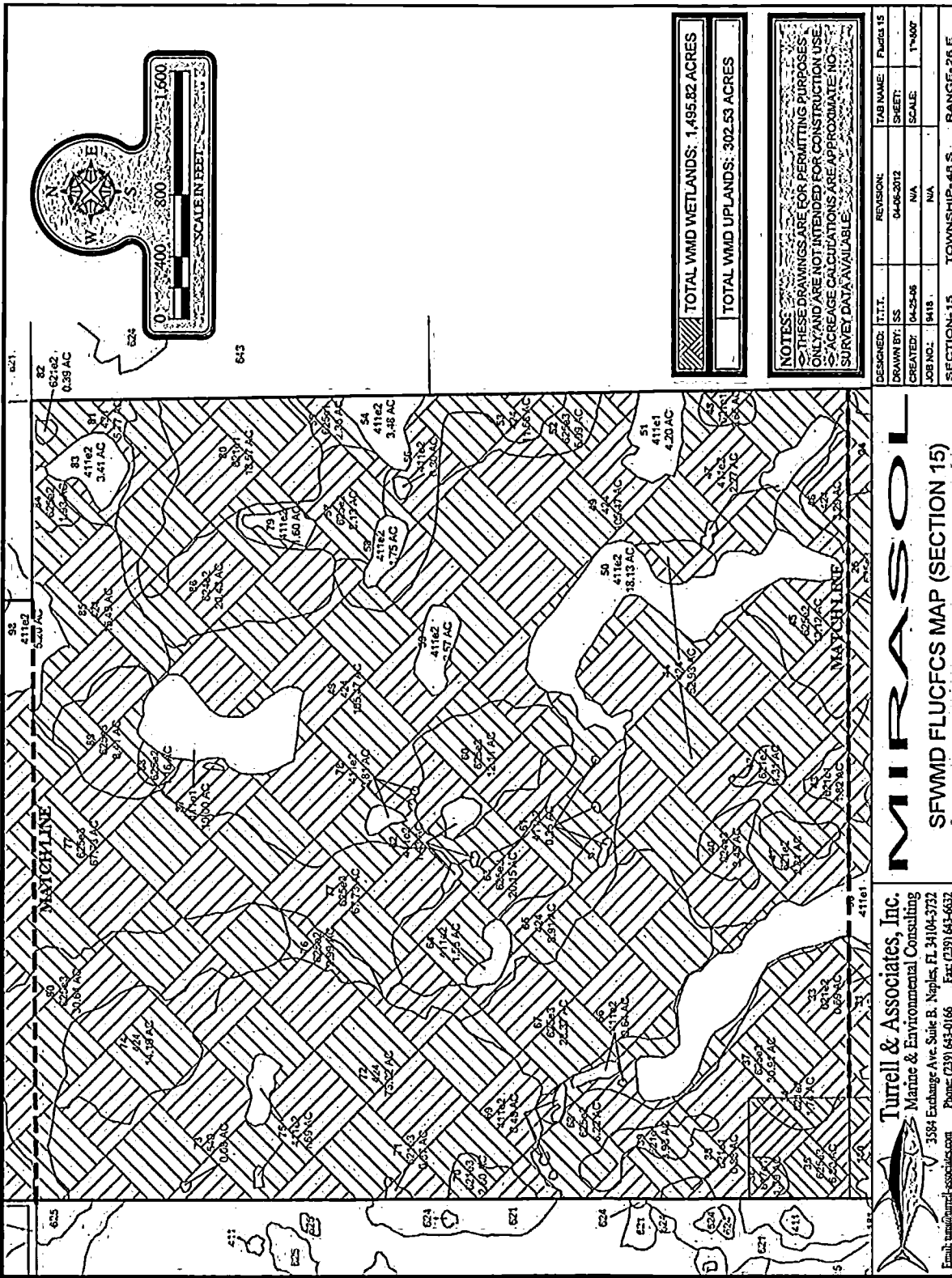
Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B, Naples, FL 34104-3732
 Phone: (239) 614-0166 Fax: (239) 614-6632
 Email: tass@turrell-associates.com

MIRASOL

SFWMD FLUCFS MAP (SECTION 22)

P:\9418 Mirasol2012_DRAWING\ERP-ERP 2012.dwg

EXHIBIT A



P:\9418 Mireel\2012_DRAWINGS\ERP\ERP 2012.dwg

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MIRASOL
 SFVWMD FLUCFCS MAP (SECTION 15)

EXHIBIT A

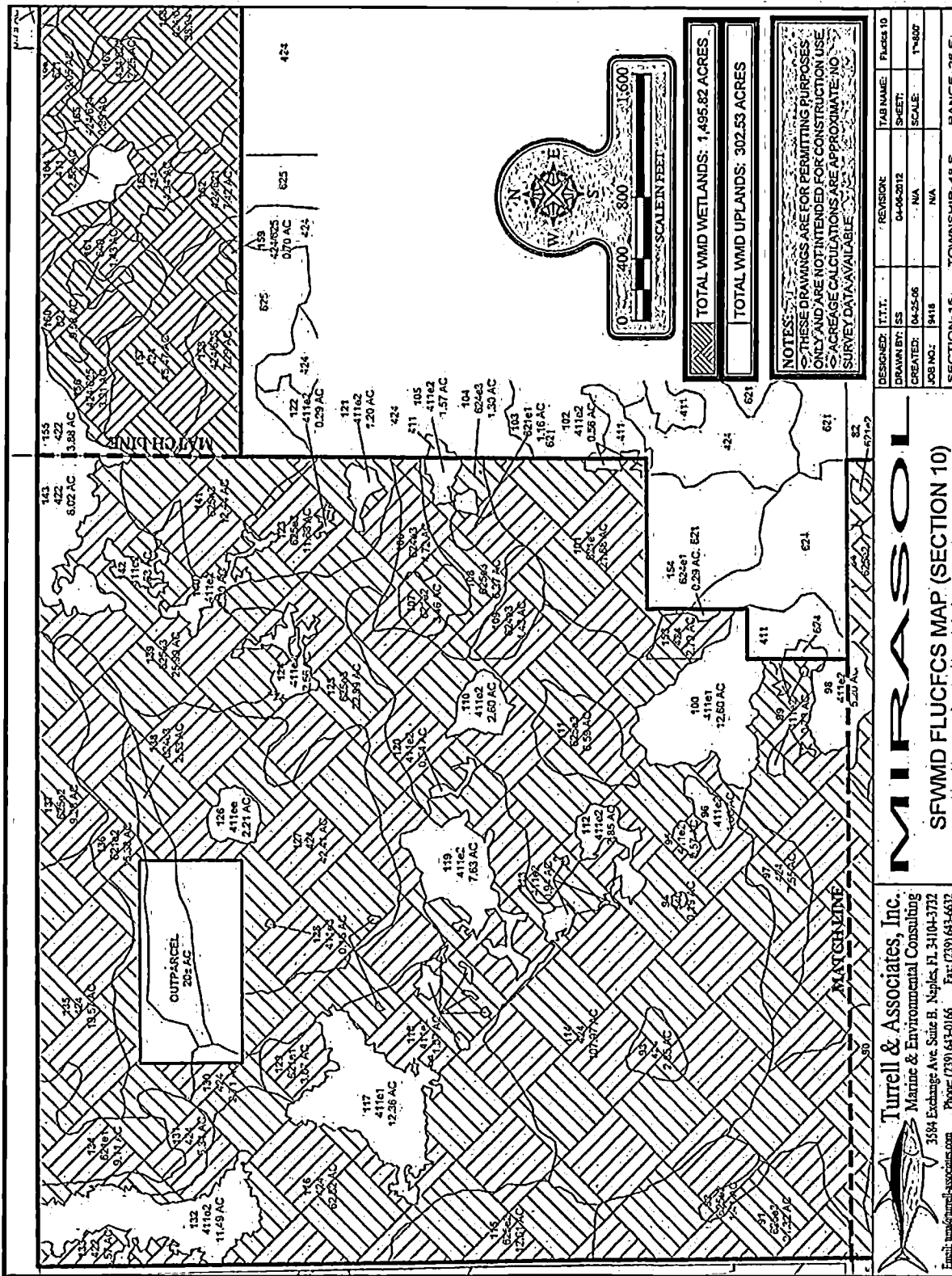
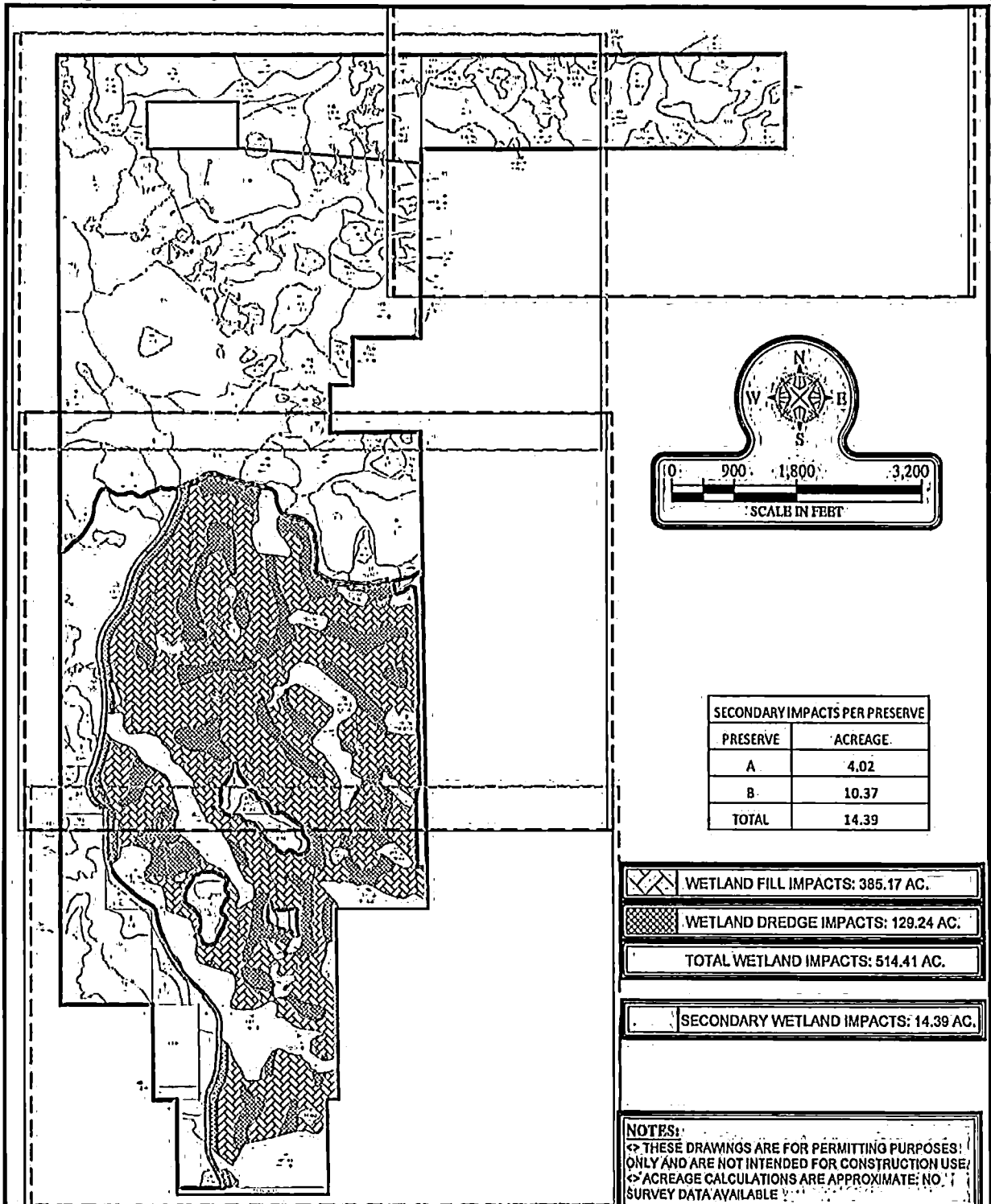


EXHIBIT A

P:\2418 MIRRASOL\2\DRAWINGS\IMPACT\212.dwg



SECONDARY IMPACTS PER PRESERVE	
PRESERVE	ACREAGE
A	4.02
B	10.37
TOTAL	14.39

	WETLAND FILL IMPACTS: 385.17 AC.
	WETLAND DREDGE IMPACTS: 129.24 AC.
	TOTAL WETLAND IMPACTS: 514.41 AC.
	SECONDARY WETLAND IMPACTS: 14.39 AC.

NOTES:
 <> THESE DRAWINGS ARE FOR PERMITTING PURPOSES; ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 <> ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE.

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MIRASOL
 IMPACTS (ALL)

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	Imp A1
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CREATED:	04-25-08		N/A	SCALE:	1"=1,800'
JOB NO.:	9418		N/A		
SECTION- TOWNSHIP-48 S RANGE-28 E					

EXHIBIT A

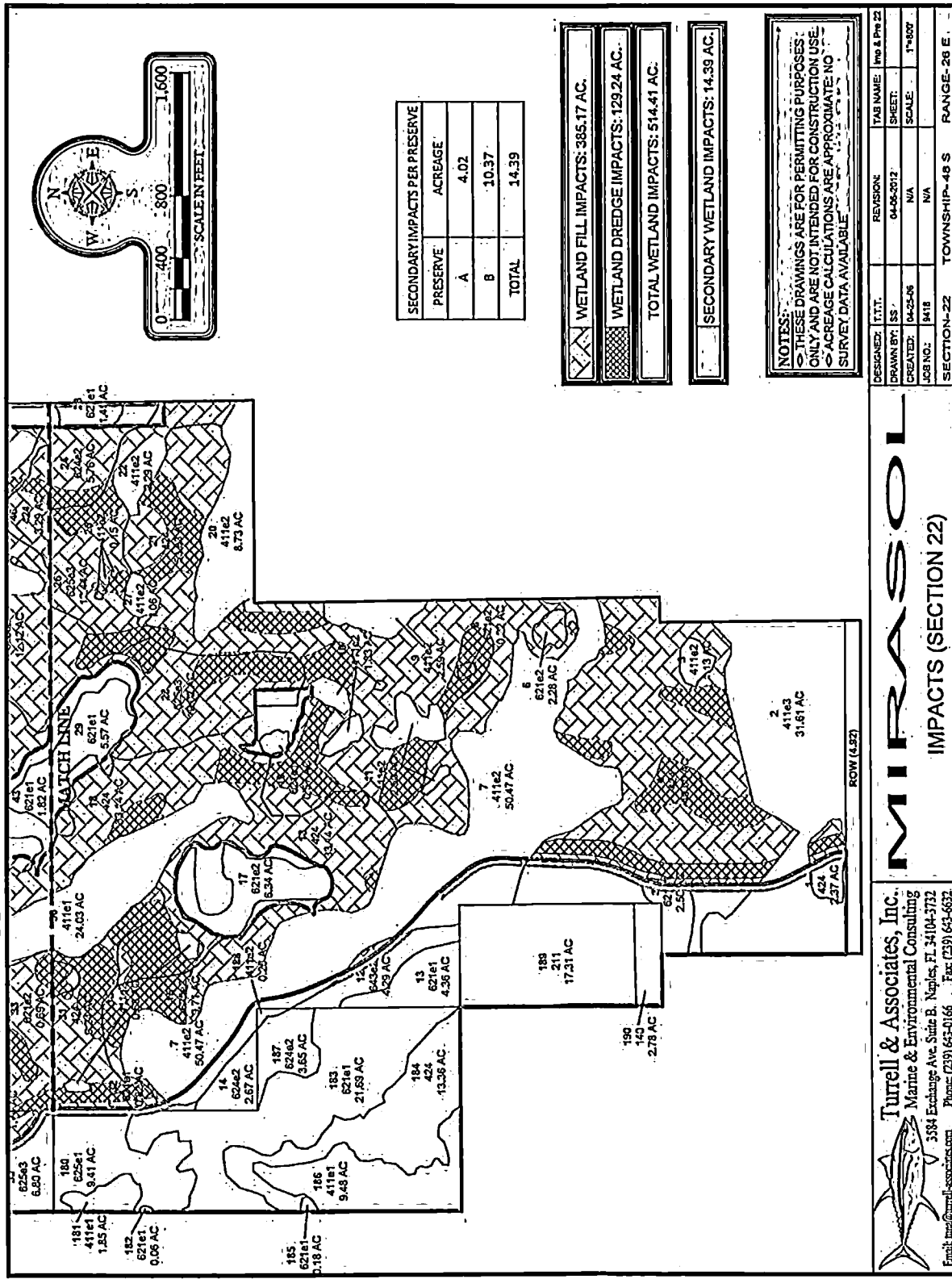


Exhibit 3.1
 Application No. 120425-8.
 Page 2 of 3



MIRASOL
 IMPACTS (SECTION 22)

Turrell & Associates, Inc.
 Manne & Environmental Consulting
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P:\9418 Mirasol\2012_DRAWINGS\ERP 2012.dwg

EXHIBIT A

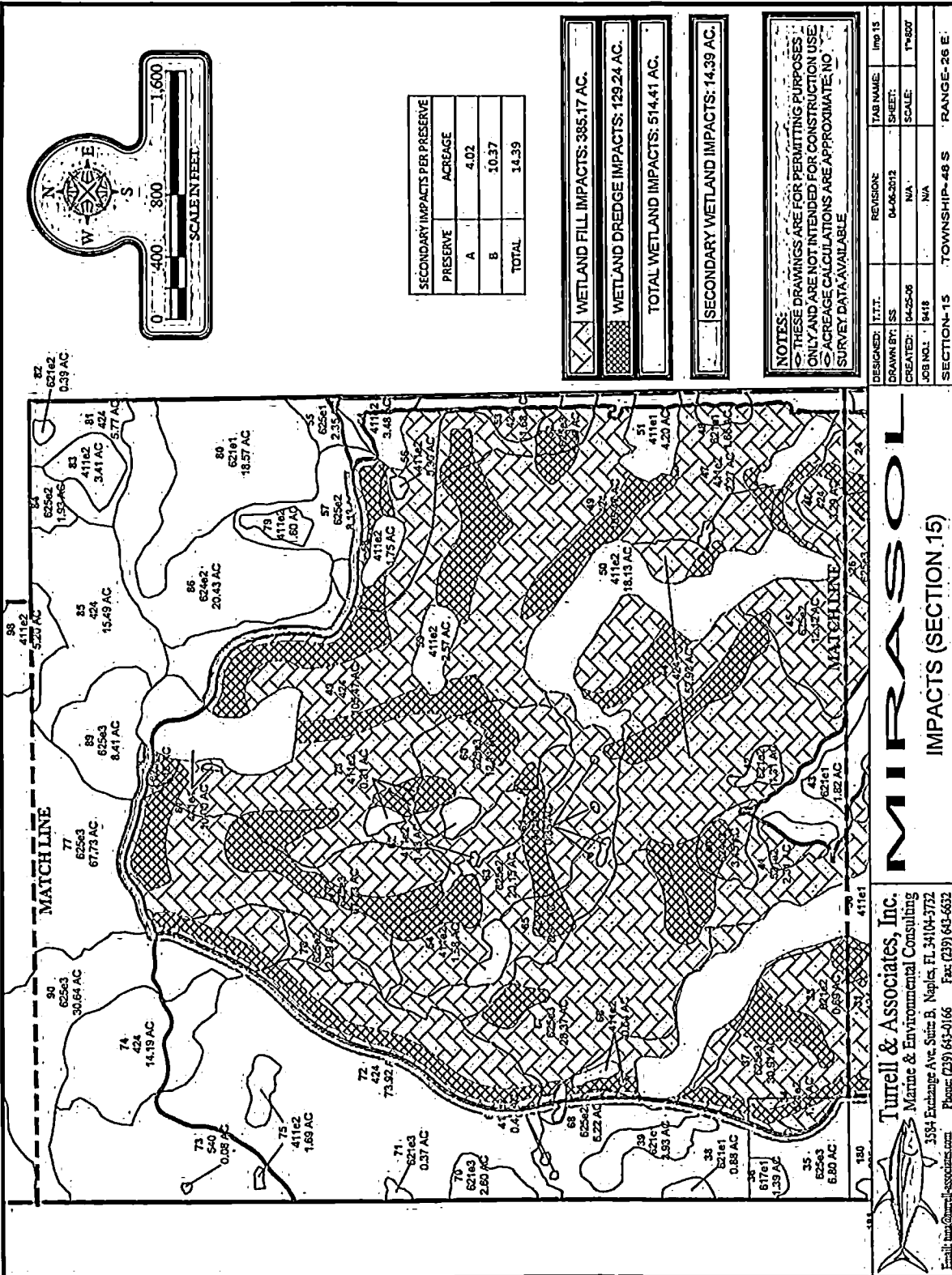


Exhibit 3.1
 Application No. 120425-8.
 Page 3 of 3

P:\9418 M\9418_2012_DRAWING\ERP\ERP 2012.dwg

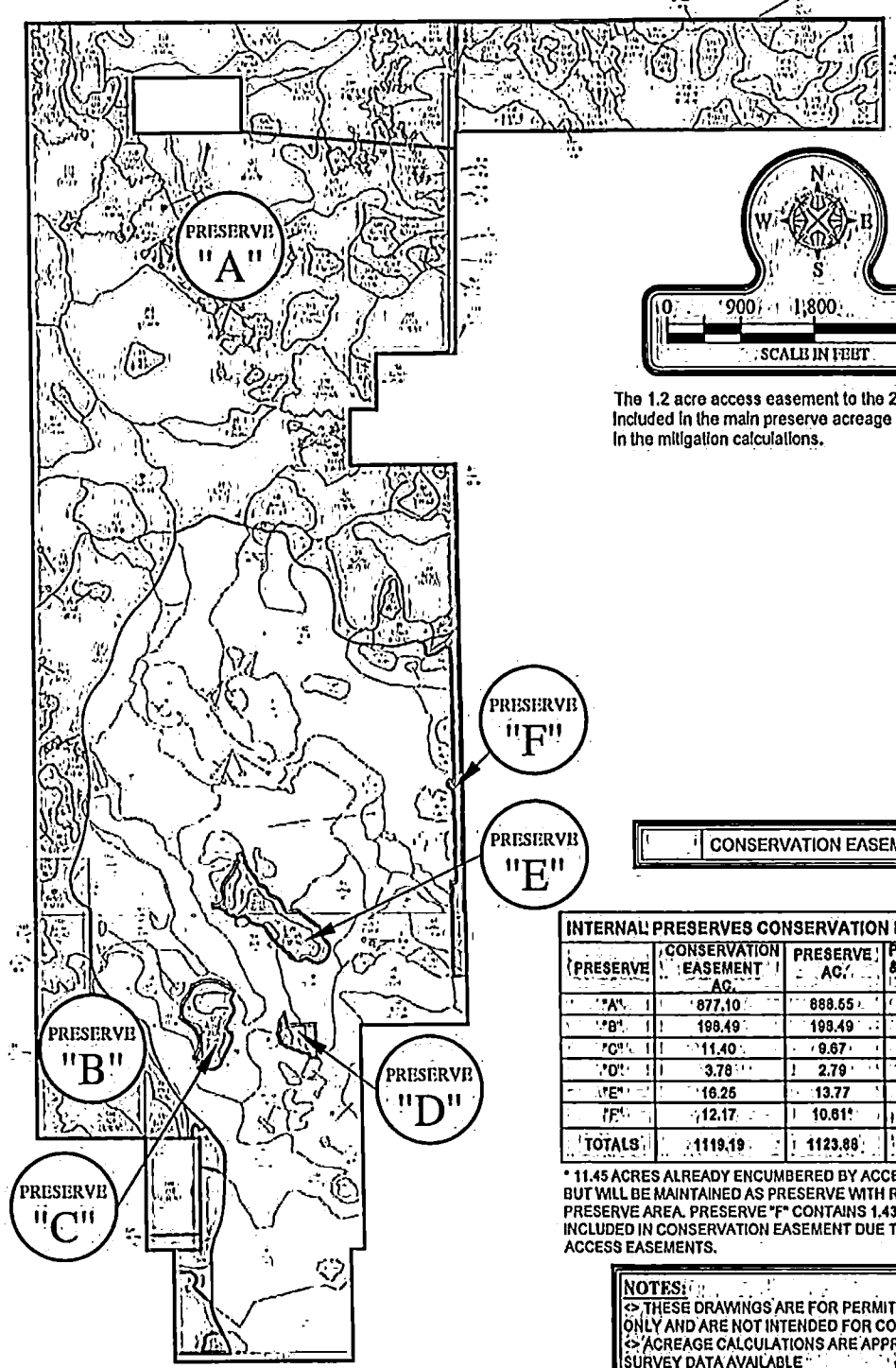
MIRASOL
 IMPACTS (SECTION 15)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3534 Exchange Ave. Suite B, Naples, FL 34104-3772
 Phone: (239) 613-0166 Fax: (239) 643-6632
 Email: tina@turrell-associates.com



EXHIBIT A

P:19418 Mirasol2012_DRAWINGS\ERP2012.dwg



The 1.2 acre access easement to the 20 acre outparcel is included in the main preserve acreage but is not included in the mitigation calculations.

INTERNAL PRESERVES CONSERVATION EASEMENTS			
PRESERVE	CONSERVATION EASEMENT AC.	PRESERVE AC.	PRESERVE BUFFER & RETAINED LANDS AC.
"A"	877.10	888.55	11.45*
"B"	198.49	198.49	0
"C"	11.40	9.67	1.73
"D"	3.78	2.79	0.99
"E"	16.25	13.77	2.48
"F"	12.17	10.61	2.89
TOTALS	1119.19	1123.88	19.64

* 11.45 ACRES ALREADY ENCUMBERED BY ACCESS EASEMENTS BUT WILL BE MAINTAINED AS PRESERVE WITH REMAINDER OF PRESERVE AREA. PRESERVE "F" CONTAINS 1.43 ACRES NOT INCLUDED IN CONSERVATION EASEMENT DUE TO EXISTING ACCESS EASEMENTS.

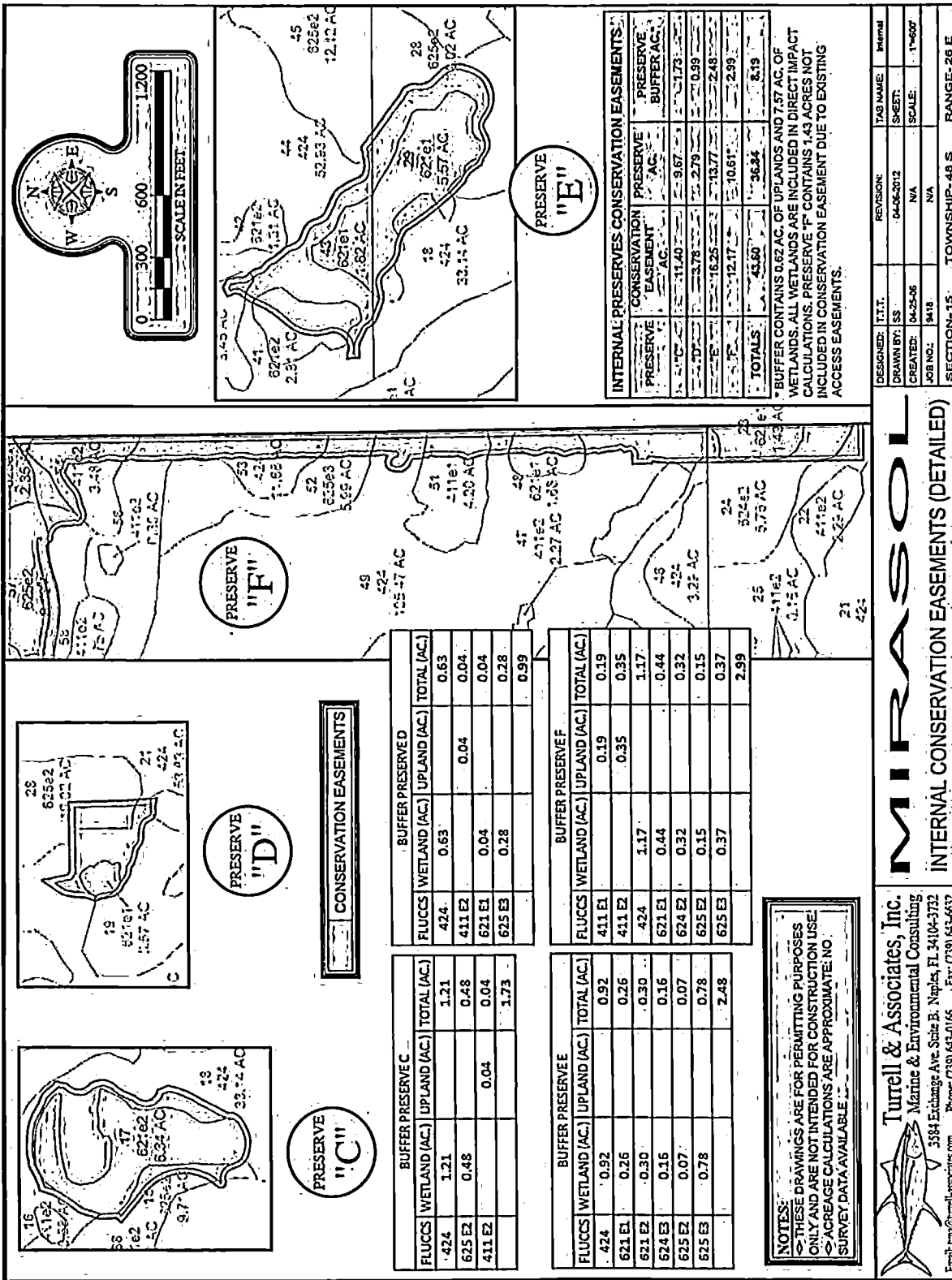
NOTES:
 <> THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
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Turrell & Associates, Inc.
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 3584 Exchange Ave. Suite B. Naples, FL 34104-3732
 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 CONSERVATION EASEMENTS MAP

DESIGNED: T.T.T.	REVISION:	TAB NAME: Conservation
DRAWN BY: SS	04-06-2012	SHEET:
CREATED: 04-25-06	N/A	SCALE: 1"=1,800'
JOB NO.: 9418	N/A	
SECTION- TOWNSHIP-48 S RANGE-20 E		

EXHIBIT A



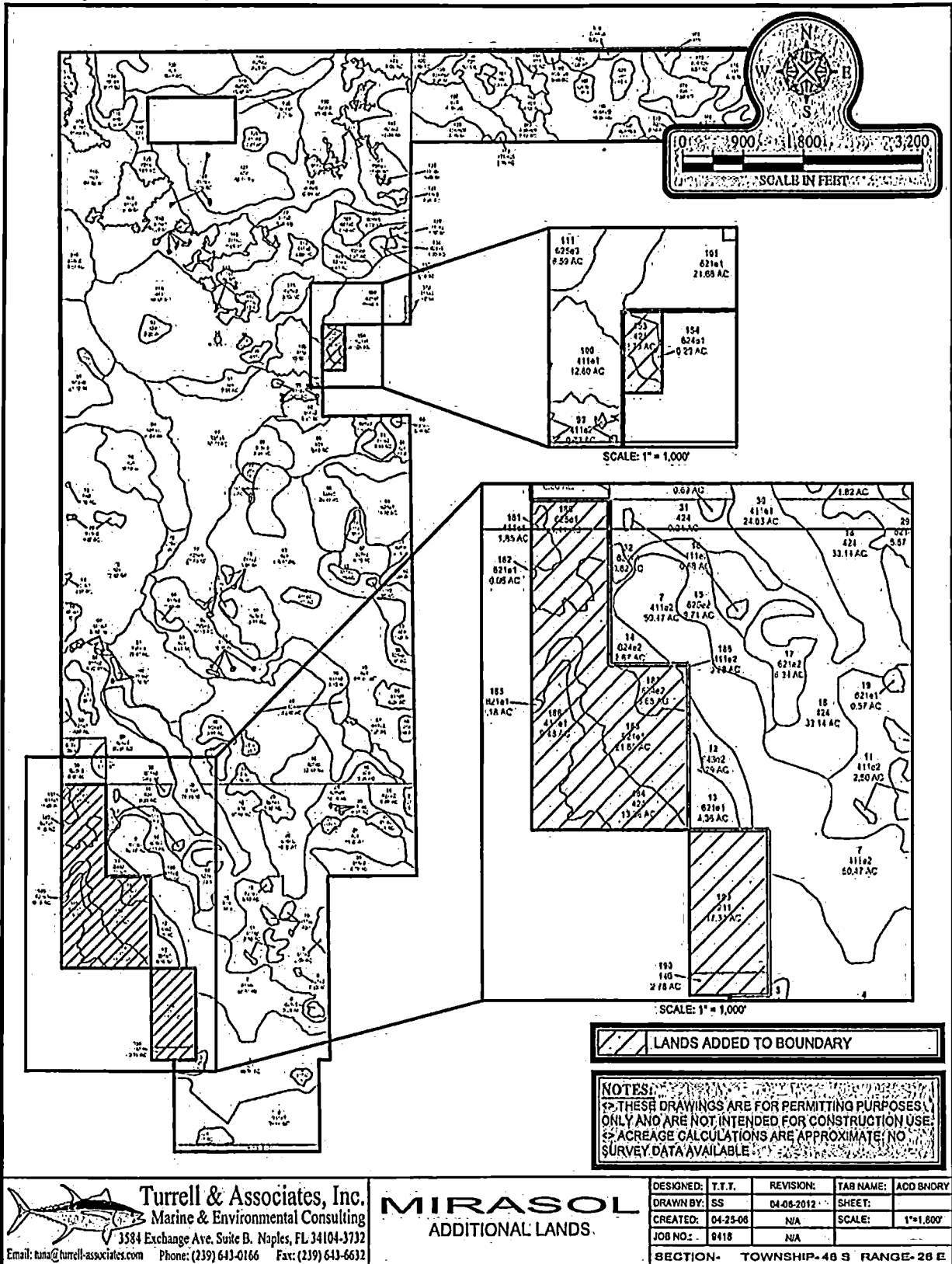
MIRASOL
 INTERNAL CONSERVATION EASEMENTS (DETAILED)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 5584 Exchange Ave. Suite B, Naples, FL 34104-3732
 Phone: (239) 645-0166 Fax: (239) 645-6632
 Email: turrell@turrell-associates.com

P:\9418 Mresson2012_DRAWINGS\SERPIERP 2012.dwg

EXHIBIT A

P:\0418 Mirasol\2012_DRAWINGS\ERP\ERP 2012.dwg

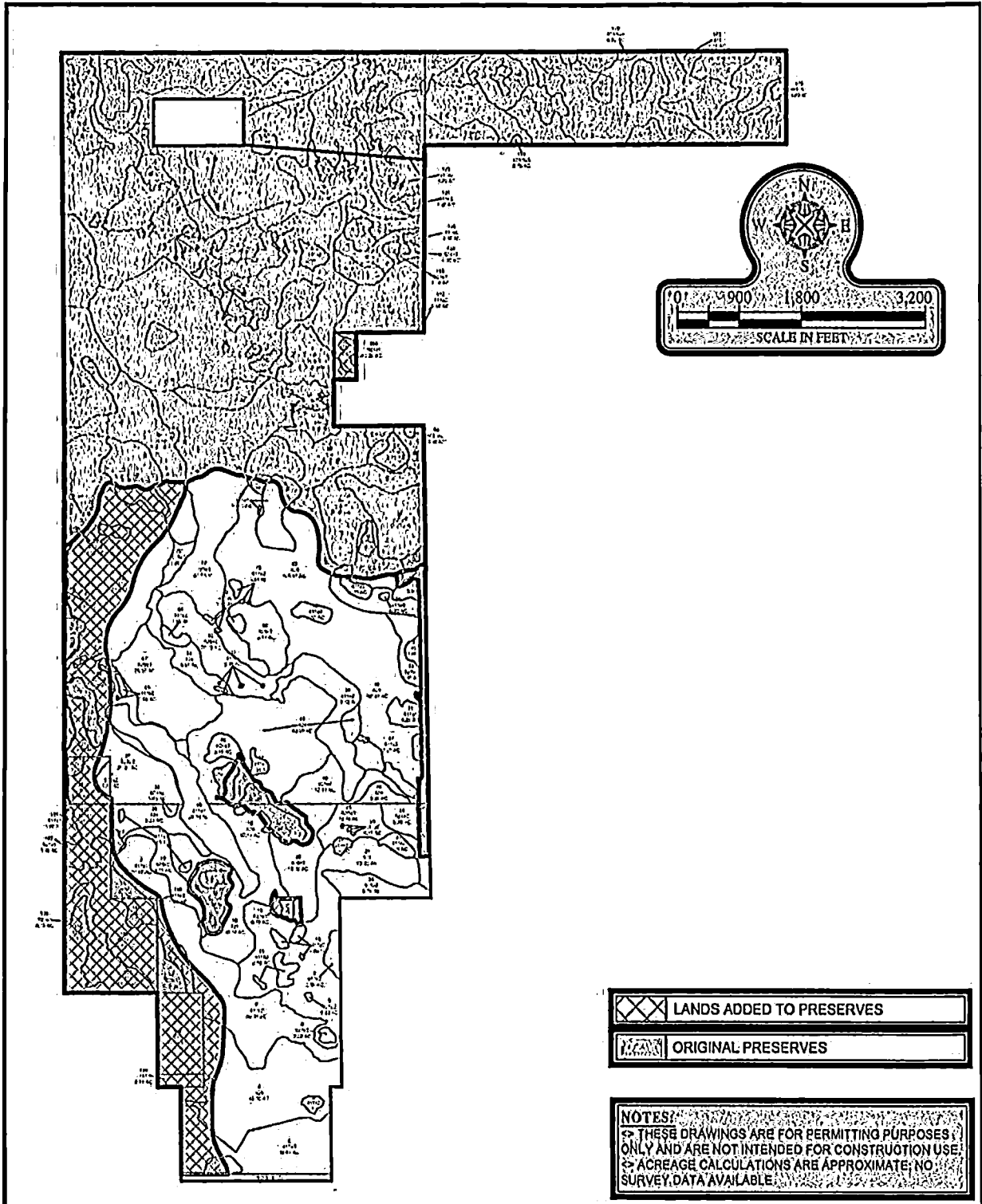


 **Turrell & Associates, Inc.**
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B, Naples, FL 34104-3732
 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 ADDITIONAL LANDS

EXHIBIT A

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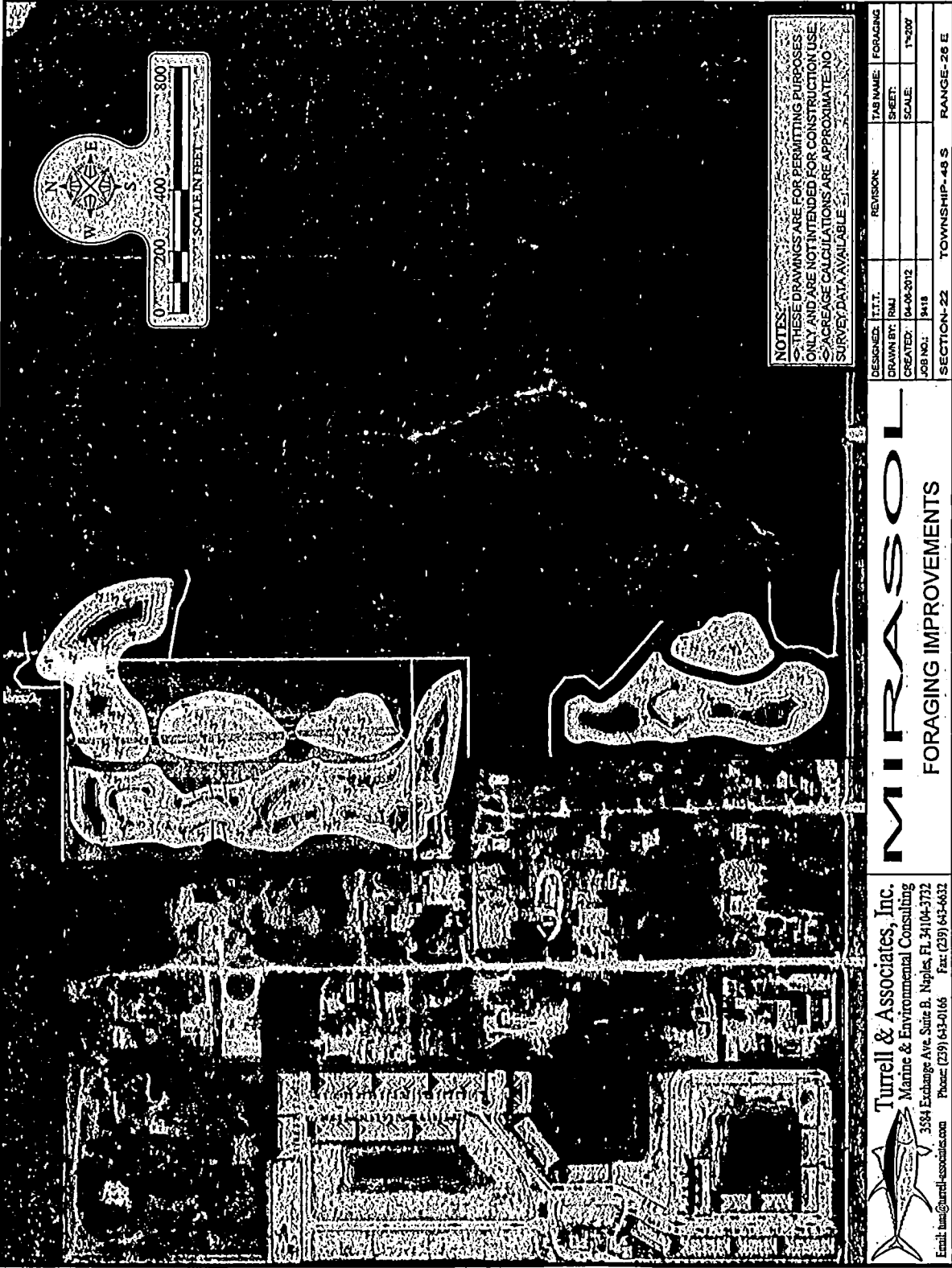


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MIRASOL
 ADDITIONAL PRESERVES

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	000 PRESERVE
DRAWN BY:	SS	04-08-2012	SHEET:	
CREATED:	04-25-06	N/A	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION: _ TOWNSHIP- 48 S . RANGE- 28 E				

EXHIBIT A



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EXHIBIT A

MITIGATION / MONITORING / MAINTENANCE PLAN FOR INTERNAL PRESERVES

REVISED: JULY 15, 2012

PREPARED BY:



**TURRELL HALL & ASSOCIATES, INC.
3584 EXCHANGE AVENUE
NAPLES, FL 34104**

EXHIBIT A

MIRASOL
SEC. 10, 11, 15, 22 TWP 48S RNG 26E COLLIER COUNTY
MITIGATION/MONITORING/MAINTENANCE PLAN FOR INTERNAL PRESERVES
Revised July 15, 2012

I. INTRODUCTION:

The purpose of this report is to document the proposed mitigation activities for preserves internal to the development project known as *Mirasol*. A Mitigation and Monitoring Plan for the large preserve (Main Preserve) that is proposed outside of the development footprint is presented in its own, independent document.

The proposed project encompasses a total of approximately 1,798 acres in four sections of northern Collier County north of CR 846 and east of Interstate 75. A residential and golf course community is planned, with access to be provided from Immokalee Road (CR 846) along the southern property boundary. Most of the southern two sections were historically mowed and these two Sections (15 & 22) in addition to the northern Section (10) were used as cattle pasture. Altered sheet flows from further north and east currently flow across the property and because of constricted and limited outfall, the property is abnormally flooded (to increased depths) on an annual basis.

The historic use of the property as cattle pasture coupled with the annual flooding now occurring has contributed to unchecked proliferation of melaleuca across the entire property. A majority of the site has melaleuca densities of greater than 50% coverage. This infestation in conjunction with the flooding has led to a degradation of the uplands and severely depressed the functional values for the entire area. Native vegetation, wildlife forage value, and actual wildlife utilization have all suffered drastic reductions due to the existing conditions of the site.

To characterize surrounding land use, active farm fields exist to the north of the property while lands to the east consist of undeveloped parcels, a mitigation parcel, and several single-family home-sites. The properties to the west of the subject parcel consist of the proposed Parklands (north) and Terafiná (central) developments, and the existing Olde Cypress (south) development. The southern property boundary abuts the drainage easement and Cocohatchee canal alongside of Immokalee Road (CR 846).

The development site plan proposes to directly impact approximately 514.4 acres of State jurisdictional wetlands. The plan also proposes to preserve approximately 961.2 acres of wetlands and 125.8 acres of uplands to the north and west of the development area. Within the development area the project proposes to preserve 34.7 acres of wetlands and 2.1 acres of uplands. It is to these 36.8 acres of internal preserves that this document is dedicated towards:

II. EXISTING CONDITIONS:

The project site consists of 1,798 acres located in four sections of northern Collier County north of CR 846 and east of Interstate 75. There are limited upland (302.5 acres) and substantial wetland (1,495.8 acres) communities present on the site, which have all been heavily impacted by melaleuca infestation and altered hydrology.

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Habitat Descriptions:

The following paragraphs outline the basic composition of species assemblages found on-site. While many more species are present than presented in this report, the following gives a brief description of the vegetative communities.

411 - Pine Flatwoods

This is the predominant upland habitat present on the property. The canopy component of this area consists of mature slash pines (*Pinus elliottii*) and melaleuca (*Melaleuca quinquenervia*). Melaleuca concentrations vary in these upland areas but some areas exhibit densities approaching 75%. Wax myrtle (*Myrica cerifera*) and small melaleuca form the midstory. These uplands exist as remnant islands throughout the site, most likely due to the altered, elevated water levels present. Understory species include saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*) and wild grape vine (*Vitis rotundifolia*).

422 - Brazilian Pepper

These two small areas are present in the northeast and northwest corners of the property. There are both upland and wetland areas present. Brazilian pepper (*Schinus terebinthifolius*) dominates this vegetative community.

617 - Disturbed Mixed Hydric Hardwoods

This small community in the southwestern corner of Section 15 is the only example of this community on the site. The dominant plant species are bald cypress (*Taxodium distichum*), melaleuca, wax myrtle, swamp bay (*Persea palustris*), saltbush (*Baccharis halimifolia*), and live oak (*Quercus virginiana*). A few cabbage palms (*Sabal palmetto*) are also present. Herbaceous understory vegetation consists of sawgrass (*Cladium jamaicense*) and swamp fern (*Blechnum serrulatum*).

621 - Cypress Swamp

This habitat contains predominately bald cypress with scattered dahoon holly (*Ilex cassine*), wax myrtle, and rare swamp bays. Ground covers are sparse but consist mainly of swamp fern.

424 - Hydric Melaleuca

These areas are dominated by melaleuca (*Melaleuca quinquenervia*) with minimal groundcover of swampfern, sawgrass and several grasses. Melaleuca concentrations are 90 to 100 % of the canopy cover.

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624 – Cypress / Pine / Cabbage palm

This habitat contains predominately bald cypress with scattered slash pine, wax myrtle, and rare cabbage palms. Ground covers are limited but consist mainly of swamp fern and assorted grasses and sedges.

643 - Disturbed Wet Prairie

This community appears as a disturbed area alongside a road in western Section 22 and in the northeast corner of Section 10. Little to no canopy is present and groundcovers include red root (*Lachnocaulon caroliniana*), Crinum lily (*Crinum americanum*), Broomsedge (*Andropogon spp.*), Pipeworts (*Eriocaulon spp.*), Hat pins (*Eriocaulon spp.*), Yellow-cyed grass (*Xyris spp.*), dog fennel (*Eupatorium leptophyllum*), etc.

640 - Flag Pond

This community appears in only one small area within the 160-acre adjacent mitigation parcel in Section 11. No canopy is present and the area is dominated by emergent vegetation, mostly alligator flag (*Thalia geniculata*).

424 / 411 – Mixed Melaleuca / Pine flatwoods

These areas contain vegetation from both communities as listed above. Areas are differentiated by the concentration of melaleuca found in each. The majority of the site contains melaleuca concentrations close to or over 50 % of canopy cover. Concentrations of individual areas are shown on the FLUCCS map that is a part of the permit submittal.

621(624) / 424 – Cypress or Cypress / Pine and Melaleuca

As above, these areas are a mix of the different communities differentiated by Melaleuca concentration.

534 – Ponds

These are small areas excavated as watering holes for the cattle kept on-site.

WETLAND IMPACT AREAS:

The development plan proposes to directly impact approximately 514.4 acres and preserve within the development about 34.7 acres of SFWMD jurisdictional wetlands. The aerial extent of impacts is high but the vast majority of wetlands impacted are highly disturbed, and in some cases, created from historic uplands by the elevated water levels

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now occurring on-site. A breakdown of the impacted areas by FLUCFCS category is presented in the attached Tables.

III. MITIGATION ACTIVITIES

Conservation areas within the project site are identified with two (2) different labels; Development preserves, and the Main preserve. This distinction was made in order to outline the proposed mitigation activities for each individual preserve. This report details the activities planned for the development preserves while the mitigation and monitoring activities planned for the Main preserve are presented under separate cover.

The development preserves are identified as 4 distinct areas on the attached map. The management activities associated with these preserve areas are outlined within this document and will be a requirement for the project.

All of the preserves shall be placed into conservation easements with the South Florida Water Management District, and enforcement rights shall be granted to the South Florida Water Management District and the US Army Corps of Engineers. Conservation easements to Collier County will also be placed over these preserve areas.

As stated above, there are four areas included within the development as preserves. These areas combined are approximately 36.8 acres in size and are identified individually on the attached map.

Preserve C

This is a predominately cypress preserve located in the north central portion of Section 22. It is 9.67 acres in size all of which are wetlands. This preserve contains some hydric pine flatwoods around the central cypress area that have been heavily infested by melaleuca. All of the exotic vegetation will be cut by hand and removed from this preserve area. The hydrology will be maintained by a direct connection to the adjacent lake. Water from the lake will be able to enter the preserve as the water level rises but only after it has undergone treatment within the lake. The boundary will be clearly delineated as a preserve.

Preserve D

This is a small preserve located immediately east of Preserve C in the central portion of Section 22. It is 2.79 acres in size all of which are wetlands. This preserve also contains hydric pine flatwoods around the central cypress dome that have been heavily infested by melaleuca. All of the exotic vegetation will be cut by hand and removed from this preserve area. The hydrology will be maintained by a direct connection to the adjacent lake. Water from the lake will be able to enter the preserve as the water level rises but only after it has undergone treatment within the lake. The boundary will be clearly delineated as a preserve.

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Preserve E

This is the largest preserve area within the development footprint. It is 13.77 acres in size all of which are wetlands. This preserve is located along the border of Sections 22 and 15. It is composed of two cypress areas surrounded by hydric pine flatwoods. Melaleuca has extensively infested this preserve area. The current intent is for all of the exotic vegetation to be cut by hand and removed from the preserve. However, because of the density of melaleuca, a portion of this preserve area may be mechanically cleared. If any mechanical clearing is done, the cleared portion will be immediately planted according to the planting plan outlined below in this report. Like Preserves C and D, this preserve will have a direct connection to the lake system and will receive water from the lakes once it has been treated. Since this is the largest internal preserve it offers the best opportunity to help educate the residents about the preserves and about wetlands in general. The owner may later explore the possibility of constructing an elevated, hand-railed boardwalk into this preserve to facilitate this. Any such proposal would be presented to and coordinated with the South Florida Water Management District and the Corps of Engineers prior to implementation and any necessary permits will be applied for and received prior to this occurring. The boundary will be clearly delineated as a preserve.

Preserve F

This preserve is located linearly along the eastern boundary of Section 15. The preserve is 10.61 acres in size and is composed of 8.52 acres of wetlands and 2.09 acres of uplands. The wetlands are a mix of cypress and hydric pine with widely varying melaleuca concentrations. All exotic vegetation will be removed from this preserve area and the boundary will be clearly delineated as a preserve. All exotic removal is currently anticipated to be done by hand clearing but a couple of very dense areas may be mechanically cleared. If any mechanical clearing is done, the cleared portion will be immediately planted according to the planting plan outlined below in this report.

Exotic Vegetation Eradication

Melaleuca infestation is rampant throughout the site and an extensive eradication program will be implemented to eliminate this noxious plant from all preserve spaces. This program will entail hand clearing within all the preserves internal to the development. All hand cleared debris will be removed from the preserves.

Because of the potential damage and destruction to groundcover vegetation and likely rutting of the ground by machinery, no mechanical clearing is currently proposed. If any mechanical clearing is done in preserves E or F, the cleared portion will be immediately planted according to the planting plan outlined below in this report.

Quarterly maintenance inspections and treatments will be necessary to eliminate the melaleuca that has already gained a stranglehold on the property. Once the removal

EXHIBIT A

efforts have been successful, annual maintenance treatments should be sufficient to control future exotic growth. The preserve areas will be exotic free immediately following a maintenance activity. At no time shall the density of exotic and nuisance plant species within these preserves exceed 4% of the total aerial cover.

Replanting Plans

The preserve areas will be left to regenerate naturally for at least a year before deciding if supplemental planting is necessary. If no immediate seed source is available, immediate replanting helps to re-establish the denuded areas more rapidly and contributes to the restoration of canopy components more efficiently. The preserve areas will be evaluated once the initial exotic removal activities are completed and any plantings felt necessary will be proposed and coordinated with SFWMD staff as part of the Time Zero Report.

Replanting will also be considered one year after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Appropriate vegetation will include canopy, mid-story, and ground cover vegetation. The one year of natural regeneration is proposed to allow for existing vegetation remaining after the exotic removal to re-establish itself in the newly opened areas. Natural regeneration is preferable to immediate planting because it allows for the local plants that will grow in the restoration areas to establish, and it allows for more natural biodiversity of plants. Replanting will be considered after two years for any area that shows less than 75% coverage by appropriate native vegetation.

Appropriate plant palettes will be applied for the affected areas. They will be dependant on existing ground elevations, anticipated high water elevations, and historic vegetative cover. Also, all areas disturbed as part of the construction or mitigation activities will be replanted according to South Florida Water Management District guidelines and as outlined below:

Cypress: Cypress areas will be planted with sapling cypress, dahoon holly and scattered red maple trees with minimum heights of 4 feet. Depending on the size of the area being planted and the density of the adjacent vegetation, planting will be done on 10 foot or 15 foot centers. It is anticipated that adjacent ground cover vegetation will rapidly colonize the areas so no ground cover planting will be done until a full growing season has passed. If ground cover colonization has not occurred, sawgrass, cordgrass, and other appropriate, available vegetation will be planted in those areas. These plantings will be done on 3 foot centers.

The following table shows some of the representative species that can be considered for planting and restoration of the preserve areas.

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 MITIGATION/MONITORING/MAINTENANCE PLAN FOR INTERNAL PRESERVES
 Revised July 15, 2012

CYPRESS PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Cypress (<i>Taxodium distichum</i>)	Button Bush (<i>Cephalanthus occidentalis</i>)	Sawgrass (<i>Cladnum jamaicense</i>)
Red Maple (<i>Acer rubrum</i>)	Marlberry (<i>Ardisia escallonioides</i>)	Cinnamon Fern (<i>Osmunda cinnamomea</i>)
Dahoon Holly (<i>Ilex cassine</i>)	Pond Apple (<i>Annona glabra</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Laurel Oak (<i>Quercus laurifolia</i>)	Cocoplum (<i>Chrysobalanus icaco</i>)	Alligator Flag (<i>Thalia geniculata</i>)
Slash Pine (<i>Pinus elliotii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Crinum Lily (<i>Crinum americanum</i>)

Flatwoods: Pine flatwood areas will be planted with sapling slash pine on 50 to 75 foot centers. Trees will be from 4' to 6' in height. In very hydric areas, a few cypress saplings may also be used. Few midstory plantings are proposed because of the future management plan for the areas as potential fox squirrel and red-cockaded woodpecker habitat. As above, no ground cover plantings will be done for a full growing season unless no existing vegetation is present. Wiregrass, cordgrass, broomsedge, and other appropriate native vegetation will be used if no regeneration is seen within the first year. These will be planted on 3-foot centers to fill in open areas.

PINE FLATWOOD PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Slash Pine (<i>Pinus elliotii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Wiregrass (<i>Aristida spp.</i>)
Cypress (<i>Taxodium distichum</i>)	St. John's Wort (<i>Hypericum spp.</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Cabbage Palm (<i>Sabal palmetto</i>)		Sand Cordgrass (<i>Spartina alterniflora</i>)
		Yellow-eyed Grass (<i>Xyris spp.</i>)

These lists are not all inclusive and alternative appropriate native vegetation may be used.

All plantings will be coordinated with the wet season so that expected rains will serve to keep the new plantings hydrated and no outside irrigation source will be needed.

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SEC. 10, 11, 15, 22 TWP 48S R1G 26E COLLIER COUNTY
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Educational Displays

The applicant will establish two (2) wildlife displays for the proposed preserve areas. They will feature 'Cypress Domes of Southwest Florida' and 'Pine Flatwoods of Southwest Florida' along with their associated flora and fauna. They briefly describe the uniqueness of these communities, while highlighting plant and animal species which are typical of these habitats. Several 3' x 4' displays will be installed in prominent locations throughout the development. Additional 8.5 x 11 copies will also be available in the club house.

The proposed mitigation activities shall offset unavoidable, adverse wetland impacts and achieve mitigation success by providing viable and sustainable ecological and hydrological functions:

Target Criteria

All woody exotic vegetation will be removed from the internal preserve areas. Preserves will contain a minimum of 80% coverage by appropriate vegetation in all three strata combined. Hydric flatwood target conditions are as a very open canopy, prairie type ground cover with widely spaced trees. Trees will be a mix of slash pine and cypress depending on site specific hydrology. Tree density in the open flatwood areas should be between 10 to 50 trees per acre. Cypress dome target conditions are as a more closed canopy (110 to 175 trees per acre) with sparser ground cover. A minimum of 80% appropriate vegetative coverage will still be maintained. Mesic pine areas will contain tree densities in the 50 to 100 trees per acre range with midstory vegetation of saw palmetto, wax myrtle, myrsine, and other appropriate plantings. Ground cover may be scarce in dense midstory areas.

Financial Assurances

A cost estimate for the enhancement and maintenance activities has been presented to the SFWMD. Assurances that the project has the financial capability to undertake the work will be provided in the form of a letter of credit, performance bond, or other appropriate surety instrument. Once the activities have been completed as outlined in this document and the permit special conditions, the District will release the surety back to the project.

Mitigation Calculations

Pre and post development WRAP analysis were conducted. The proposed development consists of 514.4 acres of wetland impacts. The functional assessment depicting the mitigation credits and deficits associated with the preserve areas has been provided as part of the permit application.

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MITIGATION/MONITORING/MAINTENANCE PLAN FOR INTERNAL PRESERVES
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IV. MONITORING / MAINTENANCE / MANAGEMENT:

The goals and objectives of this monitoring plan will be to provide for ongoing progress and ultimate success of preserved and enhanced areas in a series of scheduled monitoring reports. The reports will quantify and describe conditions within the managed areas, comparing observations with the proposed standards and offering advice for corrective actions if needed.

In areas of heavy vegetation, a visual inspection for exotic plant invasion will be made and all exotic vegetation found will be flagged, mapped and reported for treatment. Meandering transects will be followed in the preserve areas for vegetative inventory and observation of wildlife during regular monitoring. Photo points will be established along with plot sampling stations to determine percent survival and percent coverage of planted and recruited plant species. Transect and plot sampling station locations will be determined at time zero, after exotic eradication and plantings are installed. The mitigation efforts shall be deemed successful when the area contains a minimum of 80% coverage of native vegetation, with less than 5% exotic and nuisance vegetation for a period of 2 years. The preserve areas will be maintained in this exotic free state in perpetuity. Once restoration and enhancement activities are deemed successful, the internal preserve areas will continue to be maintained in perpetuity and the homeowner's association or the Community Development District will be responsible for this perpetual maintenance.

A Baseline Monitoring Report will describe the existing conditions of the conservation areas prior to exotic eradication and supplemental planting. The Time Zero Monitoring Report will describe the aerial extent of exotic removal and other mitigation work, i.e. revegetation, photographs from referenced locations, qualitative observations of wildlife usage and other information such as climatic and hydrological conditions and health of existing vegetation. Annual Monitoring reports shall document changes from the baseline conditions the success of the exotic eradication and identifies ways to maintain or improve these conditions.

Baseline, Time Zero and Annual Reports will include the following:

- quantification of any revegetation of exotic species and recommendations for remedial actions.
- quantification of revegetation of cleared areas by native species including dominant species and % cover by species.
- percent coverage, open space and water depths as appropriate.
- direct and indirect wildlife observations.
- site hydrological characteristics.
- photographs from a referenced location and panoramic photographs. A photo point station will be identified with a PVC labeled stake.
- A staff gauge or constant monitoring groundwater logger will be installed with monthly readings provided in each annual monitoring report.

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The maintenance and management of the preserve areas will be the responsibility of the owner/developer in perpetuity. When the property owners association or CDD acquires ownership of the property, maintenance and management responsibilities will transfer to that entity as well. At this time the said associations shall assume responsibility for the perpetual maintenance and management of the preserve and retained areas. Association documents will indicate the responsibilities, restrictions and limitations associated with the conservation areas.

The conservation areas for *Mirasol* will require regular maintenance. The maintenance activities may include, but are not limited to the following.

- maintenance, repair and/or replacement of monitoring wells,
- follow-up eradication of exotic vegetation,
- supplemental herbicidal treatment of trees/stumps to prevent re-growth after initial treatment.
- Upkeep and replacement of signage delineating preserve areas.

The maintenance activities will be performed on a quarterly basis for the first year, then biannually for the remaining four (4) years of the monitoring period. Perpetual maintenance after the monitoring period will be on an annual basis.

EXHIBIT A

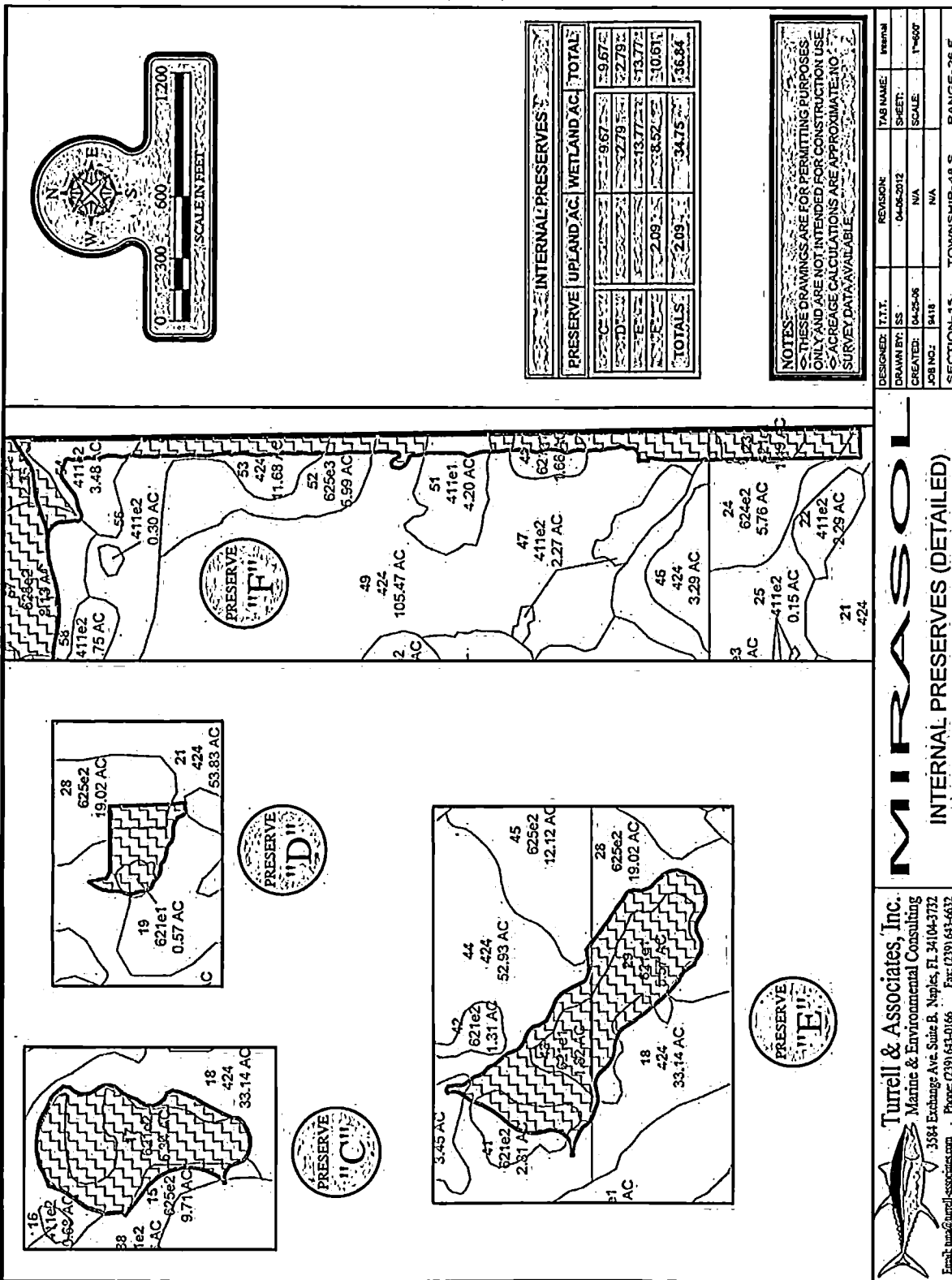
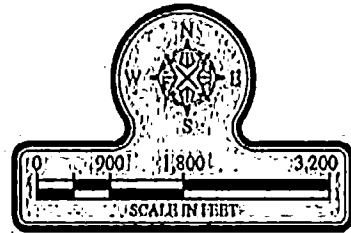
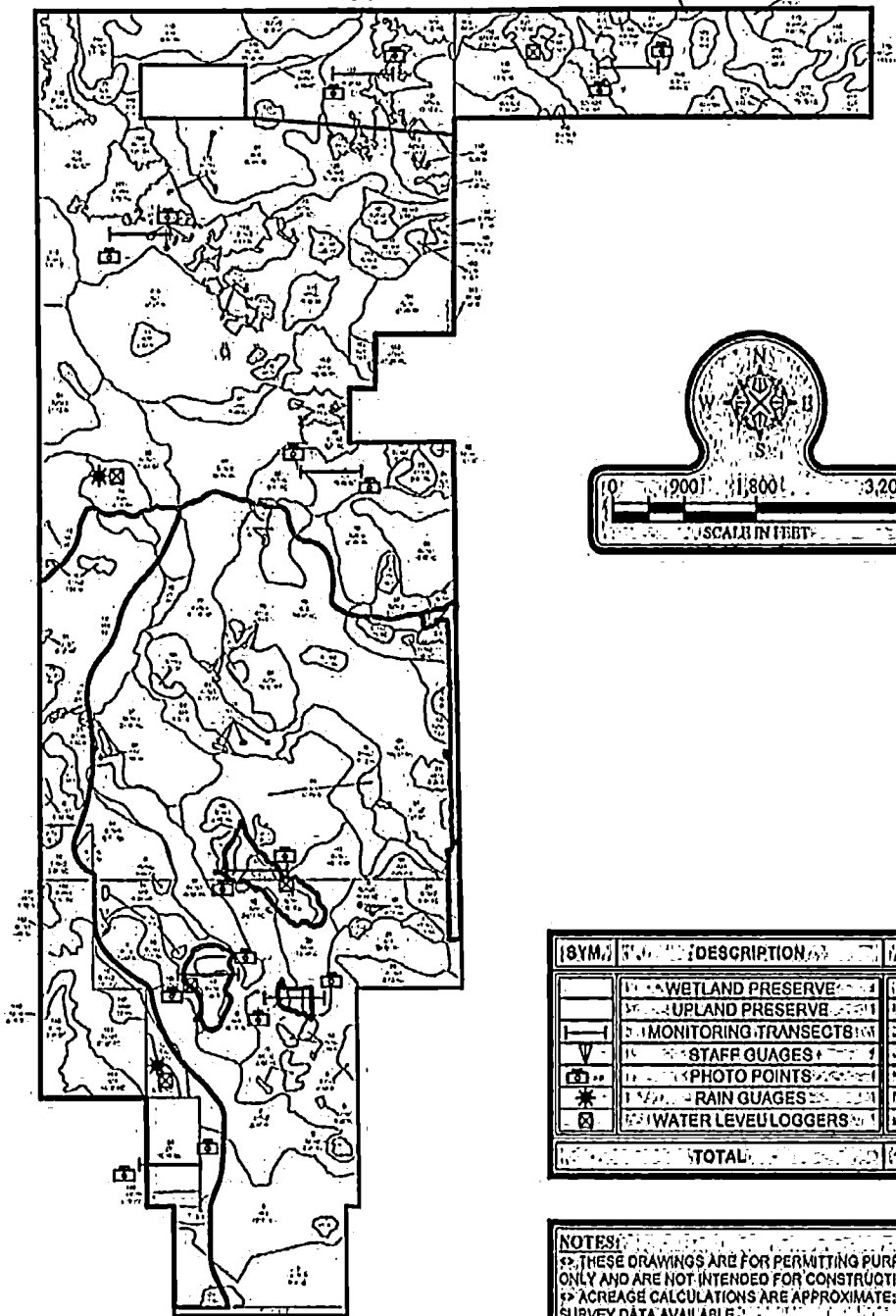


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(SYM.)	DESCRIPTION	ACRES
[Symbol]	WETLAND PRESERVE	1095.08
[Symbol]	UPLAND PRESERVE	1129.44
[Symbol]	MONITORING TRANSECTS	N/A
[Symbol]	STAFF GAUGES	N/A
[Symbol]	PHOTO POINTS	N/A
[Symbol]	RAIN GAUGES	N/A
[Symbol]	WATER LEVEL LOGGERS	N/A
TOTAL		1126.40

NOTES:
 ** THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ** ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE.

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MIRASOL MONITORING MAP

DESIGNED:	T.F.F.	REVISION:	TAB NAME:
DRAWN BY:	SS	04-08-2012	Monitoring
CREATED:	04-25-00	N/A	SHEET:
JOB NO.:	9418	N/A	SCALE:
SECTION:		TOWNSHIP: 46 S. RANGE: 20 E	

EXHIBIT A

MITIGATION / MONITORING / MAINTENANCE PLAN FOR MAIN PRESERVE

REVISED: AUGUST 14, 2012

PREPARED BY:



TURRELL HALL & ASSOCIATES, INC
3584 EXCHANGE AVENUE
NAPLES, FL 34104

EXHIBIT A

MIRASOL
SEC. 10, 11, 15, 22 TYP 48S RNG 26E COLLIER COUNTY
MITIGATION/MONITORING/MAINTENANCE PLAN FOR MAIN PRESERVE
Revised August 14, 2012

I. INTRODUCTION:

The purpose of this report is to document the proposed mitigation activities for preserves external to the development project known as *Mirasol*.

II. EXISTING CONDITIONS:

The project site consists of 1,798 acres located in four sections of northern Collier County north of CR 846 and east of Interstate 75. There are limited upland (302.5 acres) and substantial wetland (1,495.8 acres) communities present on the site, which have all been heavily impacted by melaleuca infestation and altered hydrology.

The Main preserve is approximately 1,087.0 acres in size and is composed of 961.2 acres of wetlands and 125.8 acres of uplands. 14.5 acres of the wetland preserve will be created from existing uplands as part of the mitigation and enhancement activities. The Main preserve encompasses the northern portion of the project site as well as approximately 200 acres along the western boundary of the site. There are no currently proposed impact areas within the main preserve but there is an access easement that has to be provided to the privately owned out parcel located in the center of Section 10. The access area is approximately 1.2 acres in size. Boardwalks and at grade pedestrian access may be considered in the future but are not currently proposed. No vehicular or other motorized access will be allowed except for monitoring or maintenance purposes.

III. MITIGATION ACTIVITIES

This preserve is the main preserve on the site and it is from activities conducted within this area that the majority of mitigation credit for the development impacts is achieved. Historical vegetation communities within the preserve include cypress swamp, hydric and mesic pine flatwoods, and wet prairie. All of these habitats have been impacted by widespread exotic vegetation infestation as well as altered hydrological regimes.

Exotic Vegetation Eradication

Melaleuca infestation is rampant throughout the site and an extensive eradication program will be implemented to eliminate this noxious plant from all preserve spaces. This program will include hand clearing, and kill-in-place methods within the preserve. Because of the potential damage and destruction to groundcover vegetation and likely rutting of the ground by machinery, no mechanical clearing is currently proposed. Hand cleared debris will be removed from the preserve where feasible but in areas where removal would cause additional, unwanted damage, the trees will be killed in place (>6" dbh), or cut and stacked into piles (<6" dbh). If stacked in piles, the trunks will be cut into manageable sections and stacked "teepee" or "log cabin" style and the piles will be placed no closer than 100 feet from each other. If possible, burn permits will be obtained

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from the local fire control district and the pile will be burned in place. If obtaining burn permits is not possible, the piles will simply be left to decompose.

While mechanical removal is not currently contemplated, it may be utilized on isolated pockets where exotic density is felt to be too great to achieve enhancement success within the 5 year time frame. If mechanical clearing is contemplated, the area to be cleared, timing, and other specifics will be coordinated with appropriate SFWMD staff. If any mechanical clearing is done, the cleared area will be immediately planted according to the planting plan outlined below in this report.

In addition to melaleuca, Brazilian pepper and several other exotics are also present on the property. All Category I and Category II exotics, as defined by the Florida Pest Plant Council, are included in this eradication program.

Initially, quarterly maintenance inspections and treatments will be necessary to eliminate the melaleuca that has already gained a stranglehold on the property. All category I and II exotic vegetation will be brought under control before any re-planting or species management techniques (i.e. fire or mowing) are employed. Once the removal efforts have been successful, annual maintenance treatments should be sufficient to control future exotic growth. The preserve areas will be exotic free immediately following a maintenance activity. At no time shall the density of exotic and nuisance plant species exceed 2% relative coverage in any vegetative strata or 4% of the relative coverage in all strata.

Wetland Creation

Three upland areas in the south west portion of the preserve will be scraped down and contoured similarly to the wood stork foraging improvements of the farm field which is described below. Two of these areas are existing mesic pine communities (8.68 acres and 3.09 acres respectively) while the third area is a small commercial (2.78 acre) area that has been used for storage and repair work located at the south end of the farm field. The existing vegetation will be removed and the fill from the contouring activities will be utilized within the development area. Random depressions and contours will concentrate prey as water levels recede and further enhance opportunities on the site for wood stork foraging. Planting will be with ground cover vegetation only and maintenance of the areas will include removal of any canopy or midstory vegetation that may recruit into the areas. Maintenance may occur through hand removal of vegetation, controlled burns, or mowing.

Berm Removal

An existing berm that currently surrounds the farm field area will be removed from the northern and eastern sides of the field. If specimen trees are present on or adjacent to portions of the berm or would be adversely impacted by the berm removal, then small

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sections of berm may be left as long as sufficient breaches are created to allow for free flows across the area. This will allow for open sheet flow of surface waters onto and across the site during periods of high water. The berm will be scraped down to the adjacent natural ground elevation and the disturbed area will be planted with appropriate plantings to match the adjacent vegetative communities.

Wood Stork and Other Wading Bird Foraging Improvements

The existing (17.31 acre) farm field will be scraped down and contoured to create a series of depressional areas of varying depths. This work will also tie into and include the three wetland creation areas described above. The depressions will serve to concentrate forage fish and provide enhanced foraging opportunities to wood storks and other wading birds. Fill from the construction of these areas will be utilized as needed in the development portion of the project.

Wood stork foraging sites are generally composed of a prey source and prey concentration areas. The foraging area concept is essentially a shallow trough 80 to 200 feet wide pocked with depressions which, depending on their depth serve either as aquatic fauna refugia, or as prey concentration zones to facilitate foraging. The trough is basically a small scale shallow slough, with a wet prairie hydroperiod target of around 3-4 months. This is slightly deeper than the existing ground elevations of the mesic and hydric pine flatwoods, or farm field habitats that make up the areas under consideration for these activities so the refuge and foraging depressions would be created in a scattered pattern within the improvement areas.

The dry season refuge for aquatic fauna should not be large deep open water lakes. The entire dry season refuge can be as simple as a circular depression only 50' in diameter, the outer ring supporting a hydroperiod of 8-10 months, the intermediate ring 10-12 months and the center a permanently wet open water depression that may be as much as 6-8 feet deep during the peak of the wet season. The determining factor is that this center location retains about a foot of water during the average dry season. Since the proposed design will incorporate refuges within the same trough as the forage concentration areas, a hydrologic connection will form between them in advance of sheet flow conditions on the site. This will allow prey to populate the adjacent foraging areas sooner than would occur without the connectivity provided by the trough.

The foraging depressions will be designed as shallow cones excavated within the trough. These depressions will be shallower than the refuges and will serve to concentrate prey as the water table drops. The foraging depression size will vary between 0.15 and 0.50 acre in area. The target hydroperiod within the foraging depressions will be 4-5 months along the outer edge and around 6 months nearing the center. A 300-400 square foot "dimple" in the middle of foraging depression will serve as the actual foraging footprint. This "dimple" will be approximately six inches deeper than the immediate surrounding area feeding into it. Incorporating narrow, shallow channels between the refuge and foraging

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depressions will mimic an alligator/wildlife trail and should provide prey access to the foraging areas earlier in the wet season. This will allow for more space and more time to reproduce which will in turn provide more biomass in the foraging depressions as the water levels recede.

Depressions will range from one foot to eight feet in depth. Shallow contours will encourage and facilitate concentration of the forage fish as water levels recede and will provide foraging access over an extended period of time. Planting of this area will be with low herbaceous and graminoid vegetation only to insure that foraging access to the area is maintained.

Since the main component of these areas is foraging improvement, dense vegetative coverage is not desired. Planting of the scraped down areas will be done in conjunction with the wet season immediately following the contouring work as outlined below. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season. More vegetation may volunteer into the depressions areas during the dry season should die off or substantially thin out as water levels rise. Vegetative coverage of 50% will be considered successful in these foraging improvement areas.

Replanting Plans

The preserve areas subject to exotic removal efforts will be left to regenerate naturally for at least a year before deciding if complete replanting is necessary. In areas that are more than 75% melaleuca and that have no suitable groundcover vegetation present, replanting may be done immediately following the exotic eradication or contouring activities. If no immediate seed sources are available in these areas, immediate replanting helps to re-establish the denuded areas more rapidly and contributes to the restoration of canopy components more efficiently. The entire preserve area will be evaluated once the initial exotic removal activities are completed and any plantings felt necessary will be proposed and coordinated with SFWMD staff as part of the Time Zero Report.

Replanting will be considered two years after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Appropriate vegetation will include canopy, mid-story, and ground cover vegetation. The one year of natural regeneration is proposed to allow for existing vegetation remaining after the exotic removal to re-establish itself in the newly opened areas. Natural regeneration is preferable to immediate planting because it allows for more natural biodiversity of plants. Replanting will be considered after three years for any area that shows less than 75% coverage by appropriate native vegetation.

Replanting will also occur immediately after any mechanical removal of exotic vegetation and in the wood stork foraging improvement areas. Areas disturbed by the exotic removal will be re-graded to match adjacent elevations and remove any rutting, and then planted with the appropriate plant palette.

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Appropriate plant palettes will be applied for the affected areas that will be dependant on existing ground elevations, anticipated high water elevations, and historic vegetative cover. Also, all areas disturbed as part of the construction or mitigation activities will be replanted according to South Florida Water Management District guidelines and as outlined below:

Cypress: Cypress areas will be planted with sapling cypress, dahoon holly and scattered red maple trees with minimum heights of 4 feet. Depending on the size of the area being planted and the density of the adjacent vegetation, planting will be done on 10 foot or 15 foot centers. It is anticipated that adjacent ground cover vegetation will rapidly colonize the areas so no ground cover planting will be done until a full growing season has passed. If ground cover colonization has not occurred, sawgrass, cordgrass, and other appropriate, available vegetation will be planted in those areas. These plantings will be done on 3 foot centers.

The following table shows some of the representative species that can be considered for planting and restoration of the preserve areas.

CYPRESS PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Cypress (<i>Taxodium distichum</i>)	Button Bush (<i>Cephalanthus occidentals</i>)	Sawgrass (<i>Cladium jamaicense</i>)
Red Maple (<i>Acer rubrum</i>)	Marlberry (<i>Ardisia escallonioides</i>)	Cinnamon Fern (<i>Osmunda cinnamomea</i>)
Dahoon Holly (<i>Ilex cassine</i>)	Pond Apple (<i>Annona glabra</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Laurel Oak (<i>Quercus laurifolia</i>)	Cocoplum (<i>Chrysobalanus icaco</i>)	Alligator Flag (<i>Thalia geniculata</i>)
Slash Pine (<i>Pinus elliottii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Crinum Lily (<i>Crinum americanum</i>)

Flatwoods: Pine flatwood areas will be planted with sapling slash pine on 50 to 75 foot centers. Trees will be from 4' to 6' in height. In very hydric areas, a few cypress saplings may also be used. Few midstory plantings are proposed because of the future management plan for the areas as potential fox squirrel and red-cockaded woodpecker habitat. As above, no ground cover plantings will be done for a full growing season unless no existing vegetation is present. Wiregrass, cordgrass, broomsedge, and other appropriate native vegetation will be used if no regeneration is seen within the first year. These will be planted on 3-foot centers to fill in open areas.

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PINE FLATWOOD PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Slash Pine (<i>Pinus elliotii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Wiregrass (<i>Aristida spp.</i>)
Cypress (<i>Taxodium distichum</i>)	St. John's Wort (<i>Hypericum spp.</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Cabbage Palm (<i>Sabal palmetto</i>)		Sand Cordgrass (<i>Spartina alterniflora</i>)
		Yellow-eyed Grass (<i>Xyris spp.</i>)

These lists are not all inclusive and alternative appropriate native vegetation may be used.

Wetland Creation and Wood Stork Enhancement: Scraped down and contoured areas will be planted with ground cover herbaceous and graminoid species on 3 foot centers. Plantings will be dependant on anticipated water depths and duration of inundation as outlined in the table below. Areas deeper than shown will not be planted.

<u>Zone 1:</u> ≥ high water (12.75' - 14' NGVD)	<u>Zone 2:</u> ≤ 1' below high water (11.75' - 12.5' NGVD)	<u>Zone 3:</u> 1' to 2' below high water (10.75' - 11.5' NGVD)	<u>Zone 4:</u> 2' to 4' below high water (8.75' - 9.5' NGVD)
Sand Cordgrass (<i>Spartina alterniflora</i>) Wiregrass (<i>Aristida spp.</i>) Yellow-eyed Grass (<i>Xyris spp.</i>) Swamp Fern (<i>Blechnum serrulatum</i>) Crinum Lily (<i>Crinum americanum</i>) Sawgrass (<i>Cladium jamaicense</i>) Red root (<i>Lachnanthes carollana</i>) St. John's Wort (<i>Hypericum spp.</i>)	Bacopa (<i>Bacopa caroliniana</i>) Beak Rush (<i>Rhynchospora spp.</i>) Iris (<i>Iris virginica</i>) Alligator Flag (<i>Thalia geniculata</i>) Pickerelweed (<i>Pontedaria cordata</i>) Canna Lily (<i>Canna generalis</i>) Sand Cordgrass (<i>Spartina alterniflora</i>) Duck Potato (<i>Sagittaria latifolia</i>) Maidencane (<i>Panicum hemitomon</i>)	Duck Potato (<i>Sagittaria latifolia</i>) Bulrush (<i>Schoenoplectus californicus</i>) Spike Rush (<i>Eleocharis spp.</i>) Alligator Flag (<i>Thalia geniculata</i>) Pickerelweed (<i>Pontedaria cordata</i>) Creeping Primrosewillow (<i>Ludwigia repens</i>)	Spatterdock (<i>Nuphar advena</i>) Water Lily (<i>Nymphaea odorata</i>) Soft-stem bulrush (<i>Schoenoplectus tobernaemontani</i>)

These lists are not all inclusive and alternative appropriate native vegetation may be used.

All plantings will be coordinated with the wet season so that expected rains will serve to keep the new plantings hydrated and no outside irrigation source will be needed.

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Prescribed Burning

The predominate long-term management technique proposed is the use of periodic burning to control vegetation growth and promote the native pine flatwood communities desired as the result of the restoration activities. Home-owners will be made aware as part of their purchase agreements that prescribed burning will be undertaken on the preserve. Controlled burning will only be proposed for those areas where exotic vegetation has been successfully removed. These will be amended as the details are coordinated with the relevant agencies. The proposed burning will be done in coordination with the land managers of the CREW Trust preserve, Division of Forestry, and the Corkscrew Swamp Sanctuary preserve.

The CREW General Management Plan 2001-2006 (Sec. 6.3.3.1 pgs 47-51) outlines the general prescribed burn guidelines followed by CREW. It generally states that since each habitat has its own optimum fire frequency ranging from one or two years, to several decades, the systems will be monitored and prescribed burns will be conducted when it is felt that the burn would best help the target and adjacent communities. Also, the burns will be conducted when prevailing winds are in the right direction to minimize smoke impacts on the adjacent residential communities and roadways. CREW does not have any restriction for burning adjacent to residences but wind and humidity are taken into account to insure that smoke and ash side effects are minimized on adjacent developments. CREW staff have been contacted regarding this project and prescribed burns will be a management tool used on the property as needed to maintain viable healthy habitats. Following the initial exotic removal activities and prior to the transfer of the property to CREW, the owner will consult with CREW land managers regarding the need to burn all or part of the property prior to the transfer.

Homeowner Education

In addition to the prescribed burning information mentioned above, all homeowners will be given informational pamphlets regarding south Florida ecosystems and local wildlife. Preserve related information will also be included in the home-owners documents for the development so that residents are well informed that fire management techniques will be used on the property and pet controls will be required throughout the property.

Long-Term Protection

The 961.2 acres of wetlands and 125.8 acres of uplands composing the Main Preserve shall be placed into conservation easements, and enforcement rights shall be granted to the South Florida Water Management District and the US Army Corps of Engineers. The conservation easement for this area will be filed and recorded as required in the SFWMD permit.

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Once the exotic vegetation has been removed and the native vegetation restored, the intent of the applicant is to donate the preserve to CREW or another appropriate public entity for perpetual preservation. Until such time as that may happen however, it will be the responsibility of the CDD or homeowner's association to maintain the preserve. In addition to the donation of the property to an appropriate public entity, the applicant will also establish an escrow fund for the long-term maintenance of the preserve. The amount of the escrow fund will be determined at the time the preserve is turned over and be based on the expected long-term maintenance requirements. It is felt that the donation of the preserve to a public entity specifically charged with property maintenance and preservation, in lieu of perpetual management by a homeowners association that may not be fully equipped or experienced in preservation management techniques, will be more appropriate for a preserve of this size. It is important to note that the applicant will be responsible for reaching the success criteria outlined below before donation of the preserve occurs.

Target Criteria

All exotic vegetation will be killed within the preserve areas. Hydric flatwood target conditions are as a very open canopy, prairie type ground cover with widely spaced trees. Trees will be a mix of slash pine and cypress depending on site specific hydrology. Tree density in the open flatwood areas should be between 10 to 50 trees per acre. Cypress dome target conditions are as a more closed canopy (110 to 175 trees per acre) with sparser ground cover. A minimum of 80% appropriate vegetative coverage will still be maintained. Mesic pine areas will contain tree densities in the 50 to 100 trees per acre range with midstory vegetation of saw palmetto, wax myrtle, myrsine, and other appropriate plantings. Ground cover may be scarce in dense midstory areas.

Forested and prairie habitats

After 2 years, all preserve areas will contain a minimum of 50% coverage by appropriate vegetation in all three strata combined. After 3 years, all preserve areas will contain a minimum of 75% coverage by appropriate vegetation in all three strata combined. After 5 years time, preserves will contain a minimum of 80% coverage by appropriate vegetation in all three strata combined. Any areas not meeting the minimum appropriate vegetative coverage will be subject to supplemental planting plans as outlined above.

Created marsh habitats

As outlined above, the created marsh areas will be subject to a slightly different review with regards to target criteria. After 2 years, all created marsh will contain a minimum of 50% ground cover coverage by appropriate vegetation. Since the main component of these areas is foraging improvement, dense vegetative coverage is not desired. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season. More vegetation may volunteer into the depressions areas during the dry season should die off or substantially thin out as water levels rise. Vegetative coverage of 50% will be considered successful in these foraging improvement areas.

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Financial Assurances

Because of the size, different components, and nature of the proposed mitigation activities, the mitigation program will be broken up into the following 5 different areas.

- 1 – Wood Stork Foraging Improvements
- 2 – Internal Preserves
- 3 – Western Preserve
- 4 – Northern Preserve
- 5 – Section 11

Financial assurances will be broken down to cover each of these areas rather than one document to cover the entire preserve. This will allow District compliance staff to review and act on the separate areas independently. If there is an issue with one of the preserves, the remainder of the areas can still achieve success criteria and obtain sign-offs from the District.

A cost estimate for the enhancement and maintenance activities has been presented to the SFWMD. Assurances that the project has the financial capability to undertake the work will be provided in the form of a letters of credit, performance bonds, or other appropriate surety instruments. Once the activities have been completed for an area as outlined in this document and the permit special conditions, the District can then release the surety back to the project.

Success Criteria

The creation, enhancement, and preservation activities proposed for the preserve will generate mitigation credit that is being applied towards the project's impacts. In order to adequately gauge the appropriateness and eventual success of the mitigation, certain benchmarks must be set to compare against over time. A set of surety documents (letters of credit, bond, etc.) will be put in place in order to insure success of the creation and wood stork foraging improvement areas. The bond will remain until the areas meet the success criteria regarding exotic removal, re-vegetation and plant coverage.

Vegetation

The base planting and vegetation restoration efforts shall be deemed, in part, successful when the area contains a minimum of 80% coverage of native vegetation, with less than 4% exotic and nuisance vegetation for a period of 3 years. The preserve areas will be maintained in this exotic-free state in perpetuity.

Ground cover diversity has been limited by the altered hydrology and exotic infestation throughout the site. It is expected that species diversity will increase as the exotic

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vegetation is removed. The restoration of a prescribed burning regimen will also help to restore a more diverse, natural native habitat. Monitoring of the preserves will include species composition and diversity monitoring of identified plots to document this increase.

IV. MONITORING / MAINTENANCE / MANAGEMENT:

The goals and objectives of this monitoring plan will be to provide for ongoing progress and ultimate success of preserved and enhanced areas in a series of scheduled monitoring reports. The reports will quantify and describe conditions within the managed areas, comparing observations with the proposed standards and offering advice for corrective actions if needed.

In areas of heavy vegetation, a visual inspection for exotic plant invasion will be made and all exotic vegetation found will be flagged, mapped and reported for treatment. Meandering transects will be followed in the preserve areas for vegetative inventory and observation of wildlife during regular monitoring. Photo points will be established along with plot sampling stations to determine percent survival and percent coverage of planted and recruited plant species. Transect and plot sampling station locations will be determined at time zero, after exotic eradication and plantings are installed. The mitigation efforts shall be deemed successful when the area contains a minimum of 80% coverage of native vegetation, with less than 4% exotic and nuisance vegetation for a period of 3 years as well as meeting the other success criteria outlined above. The preserve areas will be maintained in this exotic-free state in perpetuity. Once creation and enhancement activities are deemed successful, the preserve will be offered to CREW and an escrow fund will be established for the long-term maintenance of the preserve.

Water Levels and Rainfall

In order to document that hydrological impacts do not occur as a result of the project, the project will place four water level data loggers and two logging type rain gauges within the Main preserve boundaries. The water level loggers will be placed inside of two (2) inch PVC pipe wells and sunk to a depth of approximately eight (8) feet below ground level. This will place the loggers below the water table and will allow for continuous monitoring of the water levels, above and below ground, experienced on the site. The rain gauges will be set to collect and record rainfall events on a daily basis so that comparisons can be made with the on-site rainfall and water levels experienced. Approximate locations for the loggers, both rainfall and water level, are shown on the SFWMD permit exhibit.

The surface water levels and rainfall data will be included in a report that will be given to the Corps of Engineers and to the SFWMD on an annual basis. This monitoring will be done in conjunction with the vegetative and exotic removal monitoring conducted within

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the forested preserves for the project. The reports will be produced annually for five years after the completion of the initial exotic removal.

Wood Stork Activity

The National Audubon Society Corkscrew Sanctuary staff currently monitors the productivity of the Corkscrew wood stork colony in the form of the number of nests constructed as well as the number of young fledged.

The project will also document the utilization of the preserve areas by wood storks. This information will be useful in conjunction with the available productivity and hydrological data to determine if the project design serves to increase or decrease foraging opportunities. Since the FWS reviewed potential incidental take based on forage production the project will implement a monitoring program to estimate the forage fish production on the project site.

Forage Fish Monitoring

Sampling sites will be established along transects that will incorporate the different wetland communities on the site. The four main habitats to be sampled are hydric pine flatwoods, pine/cypress flatwoods, hypericum prairie, and cypress. The sampling devices will consist of, 1m² throw traps, seines, and acrylic Breder traps. All fish caught will be identified and counted. Results will be presented in the annual report to the agencies.

Reports

A Baseline Monitoring Report will describe the existing conditions of the conservation areas prior to exotic eradication and supplemental planting. The Time Zero Monitoring Report will describe the aerial extent of exotic removal and other mitigation work, i.e. revegetation, photographs from referenced locations, qualitative observations of wildlife usage and other information such as climatic and hydrological conditions and health of existing vegetation. The Time Zero Report will be completed within 30 days of the completion of the initial exotic removal work. Annual Monitoring reports shall document changes from the baseline conditions the success of exotic eradication and identifies ways to maintain or improve these conditions.

Baseline, Time Zero and Annual Reports will include the following:

- Quantification of any re-growth of exotic species and recommendations for remedial actions.
- Quantification of restoration of cleared areas by native species including dominant species and % cover by species.
- Percent coverage, open space and diversity as appropriate of restored vegetation.

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- Direct and indirect wildlife observations.
- Photographs from a referenced location and panoramic photographs. A photo point station will be identified with a PVC labeled stake.
- The current status of the construction of the project as well as any construction phases or milestones that have been completed.
- A summary of the rainfall data collected on-site as well as data from the other agency rainfall monitoring stations identified in the report.
- A summary of the on-site water level data as well as the off-site data available from the other agency monitoring stations.
- Current status of the plantings and exotic removal as well as regeneration of the native vegetation throughout the preserve area.
- Ongoing results of the forage fish sampling including species diversity and densities broken down by habitat types and water depths.
- Any observed on-site foraging by wood storks. Included in this information will be, number of storks observed, habitat or general area observed, number of days or duration of observation, and estimated foraging efficiency.

The maintenance and management of the preserve areas will be the responsibility of the owner/developer in perpetuity. The responsibility for the preserve maintenance can be transferred to the property owners association or CDD once the project is "turned-over" to the appropriate association. The transfer will include all documentation associated with the restoration and enhancement activities as well as the long term responsibilities associated with the preserves.

This may entail the property owner's association or CDD acquiring ownership of the preserve prior to the CREW transfer. The maintenance and management responsibilities for the preserves will transfer to that entity. At this time the said associations shall assume responsibility for the perpetual maintenance and management of the preserve and retained areas. Association documents will indicate the responsibilities, restrictions and limitations associated with the conservation areas. Once the restoration activities have met the success criteria, the Preserve will be offered to CREW (or another suitable public entity) along with the escrow funds to perpetually maintain the preserve.

The maintenance activities will be performed on a quarterly basis for the first year, then biannually or annually as needed for the remaining five (5) years of the monitoring period. Monitoring may continue past the 5 year time period if additional time is needed to meet the success criteria for the preserve. The annual monitoring requirement will be released once the success criteria have been met for a period of three consecutive years. Perpetual maintenance after the monitoring period will be on an annual or as needed basis.

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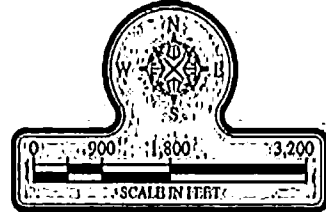
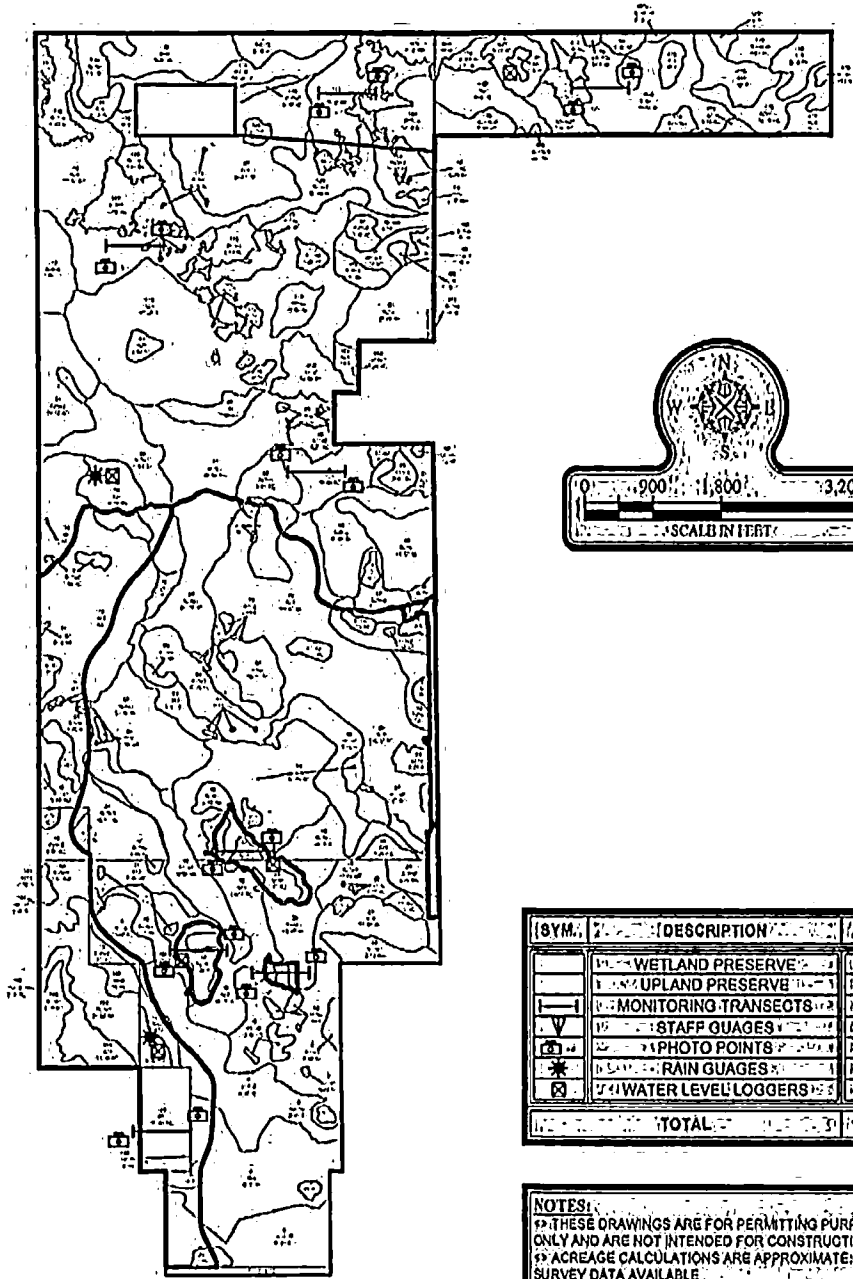
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MONITORING/MAINTENANCE SCHEDULE (dates to be modified dependant on permitting schedule)

Report #	Report Name / Activity	Due Date
1	Baseline Monitoring Report	December 2013
	Final Letters of Credit	December 2013
	Initial Exotic Removal	January 2014
	Maintenance Activity	March 2014
	Maintenance Activity	June 2014
	Preserve Title Insurance Commitments	May 2014
	Record Conservation Easements	June 2014
	2	Time Zero Monitoring Report
	Maintenance Activity	January 2015
	Maintenance Activity	April 2015
3	First Annual Monitoring Report	June 2015
	Maintenance Activity	April 2016
4	Second Annual Monitoring Report	June 2016
	Maintenance Activity	April 2017
5	Third Annual Monitoring Report	June 2017
	Maintenance Activity	April 2018
6	Fourth Annual Monitoring Report	June 2018
	Maintenance Activity	April 2019
7	Fifth (Final) Annual Monitoring Report	June 2019
	Site Inspection	July 2019
8	Establish CREW Escrow Account	December 2019
9	Turnover to CREW	January 2020

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#0418 Mirasol2012_DRAWINGS ERP ERP 2012.dwg



SYM.	DESCRIPTION	ACRES
[Symbol]	WETLAND PRESERVE	1,095.00
[Symbol]	UPLAND PRESERVE	1129.44
[Symbol]	MONITORING TRANSECTS	N/A
[Symbol]	STAFF GAUGES	N/A
[Symbol]	PHOTO POINTS	N/A
[Symbol]	RAIN GAUGES	N/A
[Symbol]	WATER LEVEL LOGGERS	N/A
TOTAL		1128.40

NOTES:
 1. THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 2. ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE.

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite D. Naples, FL 34104-1732
 Fax: (239) 643-0166 Phone: (239) 643-6632

MIRASOL
 MONITORING MAP

DESIGNED	TTT	REVISION	TAB NAME	Monitoring
DRAWN BY:	SS	04-06-2012	SHEET:	
CREATED:	04-25-00	N/A	SCALE:	1"=1,800'
JOB NO.:	0418	N/A		
SECTION - TOWNSHIP - 46 S RANGE - 28 E				

EXHIBIT A
South Florida Water Management District
Work Schedule Requirements

Application No. : 120425-8

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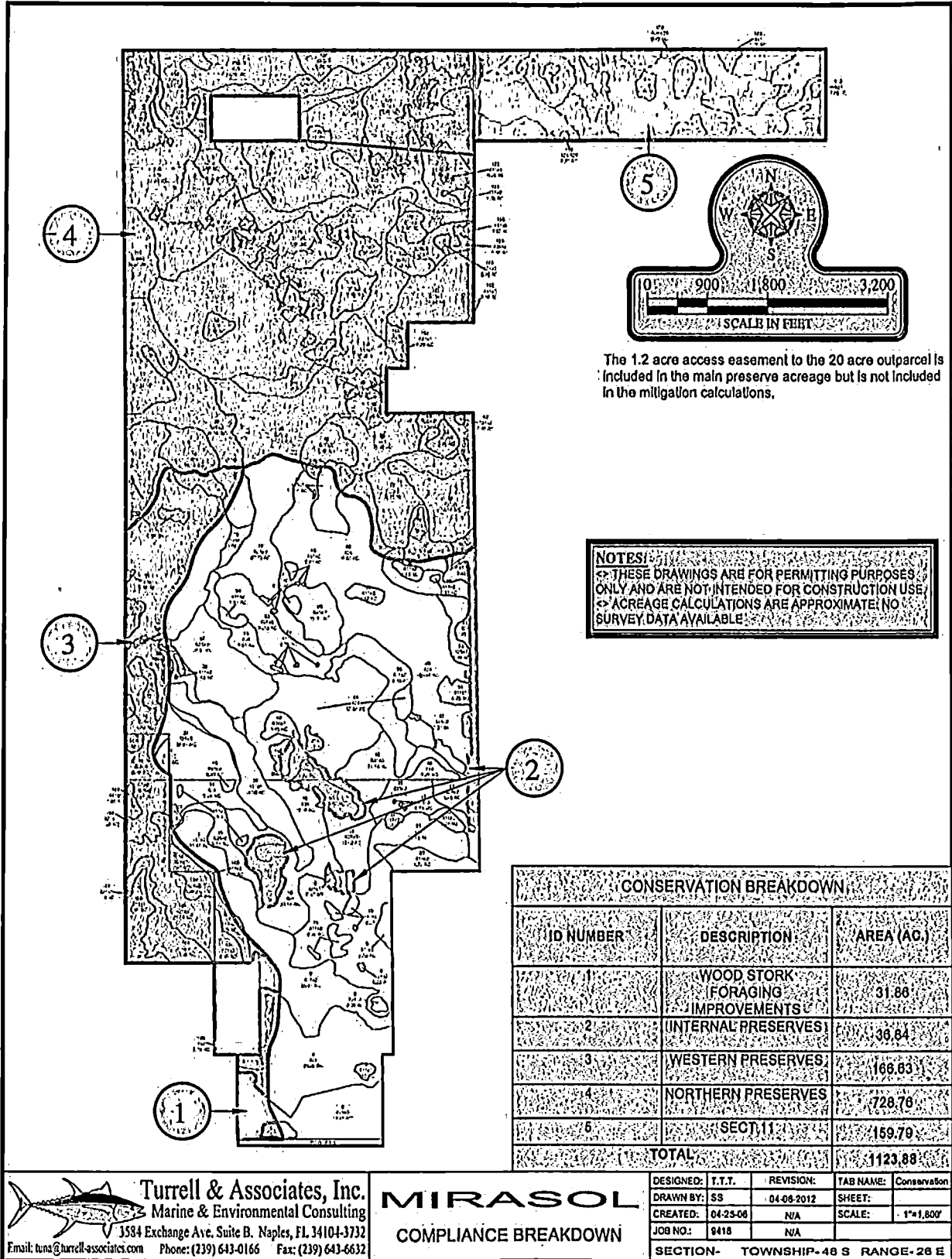
Mitigation Plan ID: MIRASOL
Activity

Due Date

SUBMIT ORIGINAL FINANCIAL ASSURANCE DOCUMENTATION	31-DEC-13
SUBMIT BASELINE MONITORING REPORT	31-DEC-13
SUBMIT TITLE OPINION OR OWNERSHIP FOR THE CONSERVATION EASEMENT	31-DEC-13
SUBMIT PLAT	31-DEC-13
SUBMIT GPS DISK OF BOUNDARIES OF CONSERVATION EASEMENT	31-DEC-13
SUBMIT PAPER MAP OF CONSERVATION EASEMENT OVER AERIAL IMAGERY	31-DEC-13
SUBMIT BOUNDARY SURVEY BY PROFESSIONAL LAND SURVEYOR	31-DEC-13
SUBMIT GIS DISK	31-DEC-13
SUBMIT BOUNDARY SKETCH AND LEGAL DESCRIPTION OF CONSERVATION AREA	31-DEC-13
EXOTIC VEGETATION REMOVAL	31-JAN-14
SUBMIT RECORDED CONSERVATION EASEMENT	01-APR-14
SUBMIT TIME ZERO MONITORING REPORT	31-JUL-14
SUBMIT FIRST MONITORING REPORT	31-JUL-15
SUBMIT SECOND MONITORING REPORT	31-JUL-16
SUBMIT THIRD MONITORING REPORT	31-JUL-17
SUBMIT FOURTH MONITORING REPORT	31-JUL-18
SUBMIT FIFTH MONITORING REPORT	31-JUL-19

EXHIBIT A

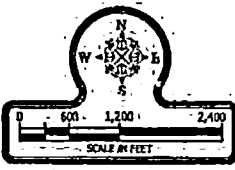
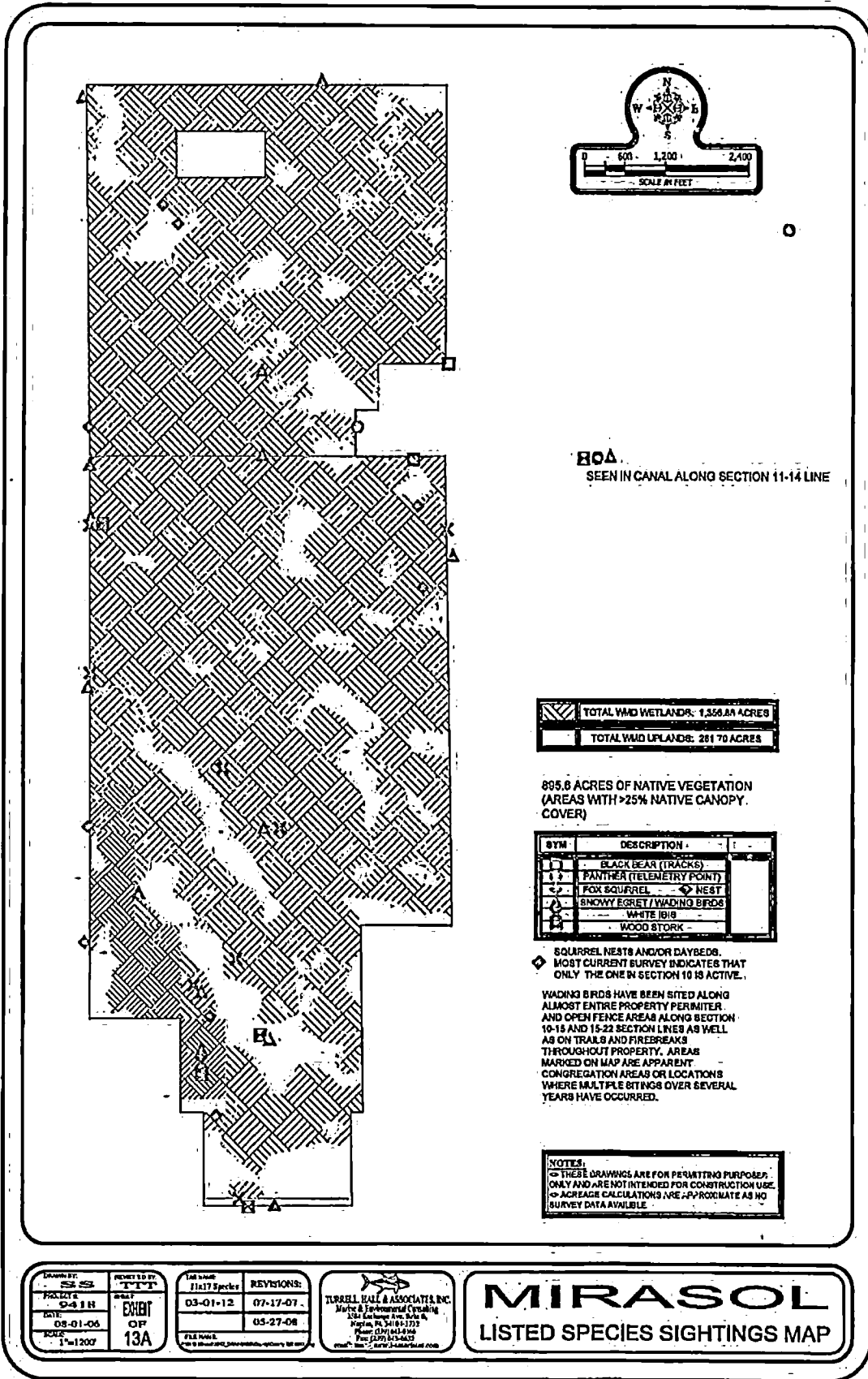
P:\0418 Mirasol\2012_DRAWINGS\ERP\ERP 2012.dwg



Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B. Naples, FL 34104-3732
 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 COMPLIANCE BREAKDOWN

EXHIBIT A



BOA
SEEN IN CANAL ALONG SECTION 11-14 LINE

TOTAL WMD WETLANDS: 1,356.88 ACRES
TOTAL WMD UPLANDS: 281.70 ACRES

895.8 ACRES OF NATIVE VEGETATION
(AREAS WITH >25% NATIVE CANOPY COVER)

SYM	DESCRIPTION
—	BLACK BEAR (TRACKS)
—	PANTHER (TELEMETRY POINT)
—	FOX SQUIRREL NEST
—	SNOWY EGRET / WADING BIRDS
—	WHITE IBIS
—	WOOD STORK

SQUIRREL NESTS AND/OR DAYBEDS. MOST CURRENT SURVEY INDICATES THAT ONLY THE ONE IN SECTION 10 IS ACTIVE.

WADING BIRDS HAVE BEEN SITED ALONG ALMOST ENTIRE PROPERTY PERIMETER AND OPEN FENCE AREAS ALONG SECTION 10-13 AND 15-22 SECTION LINES AS WELL AS ON TRAILS AND FIREBREAKS THROUGHOUT PROPERTY. AREAS MARKED ON MAP ARE APPARENT CONGREGATION AREAS OR LOCATIONS WHERE MULTIPLE SITINGS OVER SEVERAL YEARS HAVE OCCURRED.

NOTES:
 - THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 - ACREAGE CALCULATIONS ARE APPROXIMATE AS NO SURVEY DATA AVAILABLE.

DRAWN BY: SS PROJECT: 0-11N DATE: 08-01-06 SCALE: 1"=1200'	CHECKED BY: TTT SHEET: EXHIBIT OF 13A	JOB NAME: 11a173 Specks REVISIONS: 03-01-12 07-17-07 03-27-08 FILE NAME: 11a173 Specks.dwg	TURRELL HALL & ASSOCIATES, INC. Marine & Environmental Consulting 1341 Lakeside Drive, Suite 4 Naples, FL 34109-3773 Phone: (239) 463-4366 Fax: (239) 463-4367 email: info@www.turrellhall.com
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MIRASOL
LISTED SPECIES SIGHTINGS MAP

EXHIBIT A

EXHIBITS INCORPORATED BY REFERENCE

Application No. 120425-8
Permit No. 11-02031-P
Mirasol Permit Modification

Exhibit 3.10 – Listed Species Management Plans
(Pages 1-20)

Exhibit 3.11 – Conservation Easements
(Pages 1-47)

Exhibit 3.12 – Cost Estimate, Performance Bonds,
Standby Trust Agreement
(Pages 1-29)

EXHIBIT A

STAFF REPORT DISTRIBUTION LIST

MIRASOL

Application No: 120425-8.

Permit No: 11-02031-P

INTERNAL DISTRIBUTION

- X Daniel F. Waters, P.E.
- X Justin M. Hojnacki
- X Ricardo A. Valera, P.E.
- X Laura Layman
- X A. Bain
- X A. Waterhouse.
- X Bill Foley
- X ERC Engineering
- X ERC Environmental
- X Fort Myers Backup File
- X P. Flood
- X R. Valera
- X S F W M D Ananta Nath

EXTERNAL DISTRIBUTION

- X Permittee - I M Collier Joint Venture
- X Agent - Waldrop Engineering P A
- X Env Consultant - Turrell Hall And Associates Inc
- X Other Interested Party - Agnoli Barber And Brundage.
- X Other Interested Party - Collier County T E C M
- X Other Interested Party - F W C
- X Other Interested Party - F W S
- X Other Interested Party - U S A C E.

GOVERNMENT AGENCIES

- X City Engineer, City of Naples.
- X Div of Recreation and Park - District 4 - FDEP

OTHER INTERESTED PARTIES

- X Audubon of Florida - Charles Lee
- X C.R.E.W. Land & Water Trust -Ed Carlson
- X Conservancy of Southwest Florida - Jennifer Hecker.
- X Florida Audubon Society - Brad Cornell
- X Florida Wildlife Federation - Nancy Anne Payton
- X Florida Wildlife Federation, - Nancy Anne Payton
- X Leonore Reich
- X National Wildlife Federation - Laura Hartt
- X Ronald Waldrop, P.E.
- X Rosa Durando
- X S.W.F.R.P.C.
- X Taylor Morrison of Florida, Inc.
- X Thomas W. Reese
- X Water Management Institute - Michael N. Vanatta

EXHIBIT A



**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
PERMIT MODIFICATION NO. 11-02031-P
DATE ISSUED: SEPTEMBER 15, 2014**

PERMITTEE: TAYLOR MORRISON ESPLANADE NAPLES, L L C PETER DILILLO TRUST
(ESPLANADE GOLF AND COUNTRY CLUB OF NAPLES) (ESPLANADE GOLF AND COUNTRY CLUB OF NAPLES)
501 NORTH CATTLEMEN RD STE 100. 128 NORTH 24TH AVE.
SARASOTA, FL 34232 MELROSE PARK, IL 60160

ORIGINAL PERMIT ISSUED: FEBRUARY 14, 2002

ORIGINAL PROJECT DESCRIPTION: CONSTRUCTION AND OPERATION OF A SURFACE WATER MANAGEMENT SYSTEM WHICH SERVES A 1713.7 ACRE RESIDENTIAL AND GOLF COURSE DEVELOPMENT AND THE CONSTRUCTION OF A 52.76 ACRE CONVEYANCE CHANNEL WHICH EXTENDS OFF-SITE THROUGH THE ADJACENT WILDEWOOD LAKES AND OLDE CYPRESS DEVELOPMENTS. THE SYSTEM DISCHARGES TO THE COCOHATCHEE CANAL.

APPROVED MODIFICATION: APPROVAL OF AN ENVIRONMENTAL RESOURCE PERMIT MODIFICATION TO AUTHORIZE CONSTRUCTION AND OPERATION OF A PROJECT THAT INCLUDES A STORMWATER MANAGEMENT SYSTEM SERVING 59.74 ACRES OF RESIDENTIAL DEVELOPMENT KNOWN AS ESPLANADE GOLF AND COUNTRY CLUB AT NAPLES.

PROJECT LOCATION: COLLIER COUNTY, SECTION 22 TWP 48S RGE 26E

PERMIT DURATION: See Special Condition No:1,

This is to notify you of the District's agency action concerning Permit Application No. 140425-12, dated April 24, 2014. This action is taken pursuant to the provisions of Chapter 373, Part IV, Florida Statutes (F.S.).

Based on the information provided, District rules have been adhered to and an Environmental Resource Permit Modification is in effect for this project subject to:

1. Not receiving a filed request for an administrative hearing pursuant to Section 120.57 and Section 120.569, or request a judicial review pursuant Section 120.68, Florida Statutes.
2. The attached 18 General Conditions.
3. The attached 17 Special Conditions.
4. The attached 3 Exhibits.


Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Should you wish to object to the proposed agency action or file a petition, please provide written objections, petitions and/or waivers to:

Office of the District Clerk
South Florida Water Management District
Post Office Box 24680
West Palm Beach, FL 33416-4680
e-mail: clerk@sfwmd.gov

Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

CERTIFICATION OF SERVICE

I HEREBY CERTIFY THAT this written notice has been mailed or electronically submitted to the Permittee (and the persons listed on the attached distribution list) this 16th day of September, 2014, in accordance with Section 120.60(3), F.S. Notice was also electronically posted on this date through a link on the home page of the District's website (my.sfwmd.gov/ePermitting).

By 
DEPUTY CLERK
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Attachments:

EXHIBIT A

PERMIT NO: 11-02031-P
PAGE 2 OF 5

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on September 15, 2019.
2. Operation of the stormwater management system shall be the responsibility of ESPLANADE GOLF & COUNTRY CLUB OF NAPLES, INC. (See Exhibit 2.3).
3. Discharge Facilities:
 - 1-49" W X 8" H SHARP CRESTED weir with crest at elev. 16.2' NGVD 29.
 - 1-6" W X 3" H RECTANGULAR NOTCH with invert at elev. 13.4' NGVD 29.
 - 200 LF of 18" dia. REINFORCED CONCRETE PIPE culvert.
 - Receiving body : Lake #4.
 - Control elev : 13.4 feet NGVD 29.
4. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
5. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
6. Minimum building floor elevation for Sub-basins 1-6, 1-7 and 1-8: 16.9 ft NGVD.
7. Minimum road crown elevation for Sub-basins 1-6, 1-7 and 1-8: 16.4 ft NGVD.
8. Minimum perimeter berm elevation for Sub-basins 1-6, 1-7 and 1-8: 16.6 ft NGVD.
9. The permittee shall utilize the criteria contained in the Construction Pollution Prevention Plan (Exhibit No. 2.1) and on the applicable approved construction drawings for the duration of the project's construction activities.
10. The Urban Stormwater Management Plan shall be implemented in accordance with Exhibit No. 2.2.
11. The following exhibits for the permit are incorporated by reference herein and are located in the permit file. In addition, these exhibits can be viewed on the District's ePermitting website under this application number.
 - Exhibit No. 2.1: Construction Pollution Prevention Plan
 - Exhibit No. 2.2: Urban Stormwater Management Program
 - Exhibit No. 2.3: Property Owners Association documents
12. The exhibits and special conditions in this permit apply only to this application. They do not supersede or delete any requirements for other applications covered in Permit No. 11-02031-P unless otherwise specified herein.
13. Prior to commencement of construction and in accordance with the work schedule in Exhibit No. 3.3, the permittee shall submit documentation from Panther Island Mitigation Bank that 6.99 freshwater credits have been deducted from the official agency ledger.
14. Activities associated with the implementation of the mitigation, monitoring and maintenance plan(s) shall be completed in accordance with the work schedule attached as Exhibit No. 3.3. Any deviation from these time frames will require prior approval from the District's Environmental Resource Compliance staff. Such requests must be made in writing and shall include (1) reason for the change, (2) proposed start/finish and/or completion dates; and (3) progress report on the status of the project development or mitigation effort.

EXHIBIT A

PERMIT NO: 11-02031-P
PAGE 3 OF 5

15. A modification to Water Use Permit No. 11-02032-W to include the additional 19.66-acre parcel must be obtained prior to the commencement of construction.
16. The applicant is required to modify Dewatering Permit No. 11-02033-W to include the additional 19.66-acre parcel prior to the commencement of construction.
17. Prior to the commencement of construction, the permittee shall conduct a pre-construction meeting with field representatives, contractors and District staff. The purpose of the meeting will be to discuss construction methods and sequencing, including type and location of turbidity and erosion controls to be implemented during construction, mobilization and staging of contractor equipment, phasing of construction, construction dewatering if required, coordination with other entities on adjacent construction projects, wetland/buffer protection methods, and endangered species protection with the permittee and contractors. The permittee shall contact District Environmental Resource Compliance staff from the Lower West Coast Service Center at 239-338-2929 to schedule the pre-construction meeting.

EXHIBIT A

PERMIT NO: 11-02031-P
PAGE 4 OF 5

GENERAL CONDITIONS

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized shall subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S. (2012).
2. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the "State of Florida Erosion and Sediment Control Designer and Reviewer Manual" (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the "Florida Stormwater Erosion and Sedimentation Control Inspector's Manual" (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice" indicating the expected start and completion dates. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex- "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
 - b. For all other activities- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
 - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
 - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Applicant's Handbook Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
 - b. Within 30 days of submittal of the as-built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
 - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified

EXHIBIT A

PERMIT NO: 11-02031-P

PAGE 5 OF 5

- herein or in Chapter 62-330, F.A.C.;
- b. Convey to the permittee or create in the permittee any interest in real property;
 - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
 - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
 11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
 12. The permittee shall notify the Agency in writing:
 - a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
 13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
 14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
 15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
 16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
 17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
 18. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

EXHIBIT A

NOTICE OF RIGHTS

As required by Sections 120.569(1) and 120.60(3), Fla. Stat., the following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a SFWMD decision which does or may affect their substantial interests shall file a petition for hearing with the District Clerk within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: 1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or 2) within 14 days of service of an Administrative Order pursuant to Subsection 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of either written notice through mail, electronic mail, or posting that the SFWMD has or intends to take final agency action, or publication of notice that the SFWMD has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

FILING INSTRUCTIONS

The Petition must be filed with the Office of the District Clerk of the SFWMD. Filings with the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted after October 1, 2014. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the District Clerk at SFWMD headquarters in West Palm Beach, Florida. Any document received by the office of the District Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.
- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the SFWMD's security desk does not constitute filing. To ensure proper filing, it will be necessary to request the SFWMD's security officer to contact the Clerk's office. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by e-mail must be transmitted to the District Clerk's Office at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the District Clerk receives the complete document. A party who files a document by e-mail shall (1) represent that the original physically signed document will be retained by that party for the duration of the proceeding and of any subsequent appeal or subsequent proceeding in that cause and that the party shall produce it upon the request of other parties; and (2) be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed.

EXHIBIT A

INITIATION OF AN ADMINISTRATIVE HEARING

Pursuant to Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 and 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, SFWMD file number or any other SFWMD identification number, if known.
2. The name, address and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency decision.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

If the SFWMD takes action with substantially different impacts on water resources from the notice of intended agency decision, the persons who may be substantially affected shall have an additional point of entry pursuant to Rule 28-106.111, Fla. Admin. Code, unless otherwise provided by law.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401-.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Sections 120.60(3) and 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the District Clerk within 30 days of rendering of the final SFWMD action.

EXHIBIT A

FINAL APPROVED BY
EXECUTIVE DIRECTOR
SEPTEMBER 15, 2014

Last Date For Agency Action: September 22, 2014

INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Esplanade Golf And Country Club Of Naples

Permit No.: 11-02031-P

Application No.: 140425-12

Application Type: Environmental Resource (Construction/Operation Modification)

Location: Collier County, S22/T48S/R26E

Permittee: Taylor Morrison Esplanade Naples, L L C
Peter DiIillo Trust

Operating Entity: Esplanade Golf & Country Club Of Naples, Inc.

Project Area: 59.74 acres

Permit Area: 1,818.01 acres

Project Land Use: Residential

Drainage Basin: WEST COLLIER

Sub Basin: Cocohatchee Canal

Receiving Body: Lake #4

Class: CLASS III

Special Drainage District: NA

Total Acres Wetland Onsite: 15.97

Total Acres Impacted Onsite: 15.97

Offsite Mitigation Credits-Mit.Bank: 6.99 Panther Island

Conservation Easement To District: No

Sovereign Submerged Lands: No

PROJECT PURPOSE:

This application is a request for an Environmental Resource Permit Modification to authorize construction and operation of a project that includes a stormwater management system serving 59.74 acres of residential development known as Esplanade Golf and Country Club at Naples.

EXHIBIT A

PROJECT EVALUATION:

PROJECT SITE DESCRIPTION:

The project site is immediately adjacent to the previously permitted Esplanade Golf and Country Club at Naples (FKA Mirasol) mixed-use residential and golf course development, which is located west of the intersection of Immokalee Road and Collier Boulevard Extension in Naples, Collier County. A location map of the project site is attached as Exhibit 1.0.

Esplanade Golf and Country Club at Naples is under construction per Permit No. 11-02031-P. The permitted storm water management system was divided into two basins, 1 and 2. This application involves reconfiguration to previously permitted lakes within Basin 2, and expanding Permit No. 11-02031-P with a 19.66 acre forested parcel located on the southeast side of the permit area. The 59.74 acre project area includes 42.01 acres of Lakes 12, 18, 19, and 22, part of Basin 2, and 17.73 acres of new sub-basins 1-6, 1-7 and 1-8, part of Basin 1.

The 19.66-acre proposed addition to the permit area contains a total of 15.97 acres of wetlands and 3.69 acres of uplands. Please see Wetlands section of this staff report for more information.

BACKGROUND:

Esplanade Golf and Country Club at Naples (FKA Mirasol) was originally permitted in February 2002 (Permit No. 11-02031-P, Application No. 000518-10) with two major basins, 1 and 2. Each basin was divided into multiple sub-basins. The most recent modification issued in May 2013 under Application No. 130503-15, authorized a controlled basin of 645.96 acres (104.64 acres of Basin 1 and 541.32 acres of Basin 2, which included 26.23 acres of Preserves C, D and E), plus 1,152.38 acres of areas located outside the storm water management system but part of the permit area.

PROPOSED PROJECT:

The applicant proposes adding an undeveloped 19.66 acre parcel to the permit area and modifying previously permitted lakes in Basin 2 of the Esplanade Golf and Country Club at Naples. The new parcel will include forty-seven single family units with internal roadways, utilities, and three lakes (#26, #27 and #28). These new lakes will form sub-basins 1-6, 1-7 and 1-8, which will be connected to the Basin 1 stormwater management system. The revised Basin 1 area will be expanded to 122.37 acres and the revised controlled basin area for the project is 663.69 acres. Areas located outside the controlled basin remain unchanged. The site plan, details and storm water management plans are attached as Exhibit 2.0.

The project is in compliance with the previous permit. No adverse discharge impacts are anticipated as a result of this project.

LAND USE:

OTHER land use category covers all areas located outside the revised controlled basin of 663.69 acres. Those areas include the Conservation Area (1,087.04 acres), the Mirasol By-pass Canal (36.29 acres), the Cocohatchee Canal ROW (5.87 acres), the Preserve F (10.6 acres), and the back slope of perimeter berms and buffers (14.52 acres).

Construction Project:

EXHIBIT A

	Previously Permitted	This Phase	Total Project	
Building Coverage	91.28	4.96	96.27	acres
Golf Course	81.65		81.65	acres
Lake	144.74	46.29	153.96	acres
Other	1154.32		1154.32	acres
Pavement	97.58	3.83	101.38	acres
Pervious	202.54	4.66	204.19	acres
Preserved	26.24		26.24	acres
Total:	1798.35	59.74	1818.01	

WATER QUANTITY :

Discharge Rate :

The project has been designed to provide attenuation under post development conditions. The proposed peak discharge rate of 4.15 cfs has been determined to be less than the previously permitted discharge rate of 4.19 cfs. A new internal control structure is proposed to discharge from new sub-basin 1-7 into previously permitted sub-basin 1-3. Minimum design elevations for previously permitted sub-basins remain unchanged. The proposed minimum finished floor, road crown and berm elevations for new sub-basins 1-6, 1-7, and 1-8 are listed in Special Condition Nos. 6-8. No adverse discharge impacts are anticipated as a result of the proposed project.

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NGVD 29)	WSWT Ctrl Elev (ft, NGVD 29)	Method Of Determination
Basin 1	122.37	13.4	13.40	Previously Permitted

Receiving Body :

Basin	Str.#	Receiving Body
Basin 1	CS-1-7	Lake #4

SWM(Internal) Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29).

Bleeders:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Invert Angle	Invert Elev.
Basin 1	CS-1-7	1	Rectangular Notch	6"	3"				13.4

Culverts:

Basin	Str#	Count	Type	Width	Length	Dia.
Basin 1	CS-1-7	1	Reinforced Concrete Pipe		200'	18"

Weirs:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Elev.
Basin 1	CS-1-7	1	Sharp Crested	49"	8"			16.2 (crest)

WATER QUALITY :

EXHIBIT A

The revised Basin 1 stormwater management system provides the required 10.2 ac-ft of water quality treatment volume based on one-inch over the new controlled basin area of 663.69 acres. Per Application No. 130425-8, Basin 2 provides 42.92 ac-ft of water quality treatment volume for the basin. The design of the storm water management system for each basin provides an additional fifty percent of water quality volume and complies with Section 4.2 of the Applicant's Handbook Volume II requirements providing reasonable assurances that downstream receiving waters will not be adversely impacted. A Construction Pollution Prevention Plan and an Urban Stormwater Management Program specifications and guidelines are part of the required water quality. Construction and daily operation of the project shall be conducted in accordance with Special Condition Nos. 9-10 and Exhibits Nos. 2.1 and 2.2 and shall be retained in the permit file. All erosion and turbidity control measures shall remain in place until the completion of the onsite construction. No adverse water quality impacts are anticipated as a result of the proposed project.

Basin	Treatment Method	Vol Req'd (ac-ft)	Vol Prov'd
Basin 1	Treatment	10.2	15.3

WETLANDS:

The 19.66-acre newly added project area contains a total of 15.97 acres of wetlands and 3.69 acres of uplands. The wetlands are comprised of 5.77 acres of cypress-pine flatwoods with 50-75% exotic coverage and 10.20 acres of cypress-pine flatwoods with greater than 75% exotic coverage. The site does not contain surface waters. A FLUCCS Map is attached as Exhibit 3.0.

Wetland Impacts:

The applicant proposes to directly impact 100% of the on-site wetlands (15.97 acres) which are located throughout the majority of the site.

The applicant will also secondarily impact a total of 0.57 acres of off-site wetlands located adjacent to the northern, eastern, and southern boundaries. The secondary wetland impacts include 0.02 acres of cypress-pine flatwoods with 50-75% exotic coverage and 0.55 acres of cypress-pine flatwoods with greater than 75% exotic coverage. The direct and secondary wetland impacts are depicted on Exhibit 3.1. Please note that the secondary impacts depicted on the map include 0.40 acres of fallow crop land, which is considered uplands, and therefore mitigation will not be required to offset the functional loss of this area.

Mitigation Proposal:

The applicant has proposed off-site mitigation to offset the project's direct and secondary wetland impacts. The wetland impacts will be mitigated via the purchase of 6.99 freshwater mitigation credits from the Panther Island Mitigation Bank (please see the letter of credit reservation attached as Exhibit 3.2). The functional loss was determined via the Wetland Rapid Assessment Procedure (WRAP). A work schedule outlining the required submission of mitigation bank documents is attached as Exhibit 3.3.

Cumulative Impact Assessment:

Pursuant to Section 10.2.8 of the Applicant's Handbook, Volume I, the proposed project has been evaluated for potential cumulative impacts to wetlands and other surface waters. The applicant has offset

EXHIBIT A

the 15.97 acres of direct and 0.57 acres of secondary wetland impacts with off-site mitigation consisting of the purchase of 6.99 freshwater credits from the Panther Island Mitigation Bank.

The mitigation provided off-site adequately offsets the proposed wetland impacts. The proposed impacts and mitigation are being conducted within the same drainage basin. Therefore, no unacceptable cumulative impacts to the wetland functions of the West Collier Basin are anticipated as a result of the project.

Wetland Inventory :

CONSTRUCTION MOD - Esplanade Golf and Country Club :

Site Id	Site Type	Pre-Development				Post-Development						
		Pre Fluc cs	AA Type	Acreage (Acres)	Current W/ Pres	With Project	Time Lag (Yrs)	Risk Factor	Pres. Adj. Factor	Post Fluc cs	Adj. Delta	Functional Gain / Loss
3	OFF 624		Secondary	.02							.000	.000
4	OFF 624		Secondary	.55							.000	.000
1	ON 624		Direct	5.77							.000	.000
2	ON 624		Direct	10.20							.000	.000
Total:				16.54								.00

Fluc cs Code	Description
624	Cypress - Pine - Cabbage Palm

MITBANK		PANTHER ISLAND	
Type Of Credits		Number Of Credits	
Fresh Water Forested		Mitigation Bank Cr Used	
			6.99
Total:			6.99

Wildlife Issues:

Pursuant to a wildlife survey conducted in March 2014, the project site does contain habitat for wetland-dependent endangered or threatened wildlife species or species of special concern. A white ibis was the only listed species observed within the project boundary, however, several other wading birds, Big Cypress fox squirrels, were observed or flying overhead. In addition, Florida black bears were observed on adjacent properties. The applicant is proposing impacts to 100% of the on-site wetlands and off-site mitigation to offset the proposed impacts. The applicant is also coordinating with local and federal wildlife agencies regarding the potential impacts to listed species, such as the Florida panther and woodstork. The mitigation within Panther Island Mitigation Bank will provide habitat support for panthers and woodstorks, among other wetland-dependent and listed species. This permit does not relieve the applicant from complying with all applicable rules and any other agencies' requirements if, in the future, endangered/threatened species or species of special concern are discovered on the site.

EXHIBIT A

LEGAL ISSUES:

A total of 6.99 freshwater mitigation credits will be purchased from the Panther Island Mitigation Bank to offset the direct and secondary wetland impacts. A letter of credit reservation is attached as Exhibit 3.2.

CERTIFICATION, OPERATION, AND MAINTENANCE:

Pursuant to Chapter 62-330.310 Florida Administrative Code (F.A.C.), Individual Permits will not be converted from the construction phase to the operation phase until construction completion certification of the project is submitted to and accepted by the District. This includes compliance with all permit conditions, except for any long term maintenance and monitoring requirements. It is suggested that the permittee retain the services of an appropriate professional registered in the State of Florida for periodic observation of construction of the project.

For projects permitted with an operating entity that is different from the permittee, it should be noted that until the construction completion certification is accepted by the District and the permit is transferred to an acceptable operating entity pursuant to Sections 12.1-12.3 of the Applicant's Handbook Volume I and Section 62-330.310, F.A.C., the permittee is liable for operation and maintenance in compliance with the terms and conditions of this permit.

In accordance with Section 373.416(2), F.S., unless revoked or abandoned, all stormwater management systems and works permitted under Part IV of Chapter 373, F.S., must be operated and maintained in perpetuity.

The efficiency of stormwater management systems, dams, impoundments, and most other project components will decrease over time without periodic maintenance. The operation and maintenance entity must perform periodic inspections to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation of projects that may endanger public health, safety, or welfare, or the water resources. If deficiencies are found, the operation and maintenance entity will be responsible for correcting the deficiencies in a timely manner to prevent compromises to flood protection and water quality. See Section 12.4 of Applicant's Handbook Volume I for Minimum Operation and Maintenance Standards.

EXHIBIT A

RELATED CONCERNS:

Water Use Permit Status:

The applicant has indicated that groundwater wells will be used as a source for irrigation water for the project. Water Use Permit No. 11-02032-W has been previously authorized for the original permit area. The applicant is required to modify this permit to include the additional 19.66-acre parcel. Please see Special Condition 15.

The applicant has indicated that dewatering is required for construction of this project. Dewatering Permit No. 11-02033-W has been previously authorized for the original permit area. The applicant is required to modify this permit to include the additional 19.66-acre parcel. Please see Special Condition 16.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Potable Water Supplier:

Collier County Utilities.

Waste Water System/Supplier:

Collier County Utilities.

Right-Of-Way Permit Status:

A District Right-of-Way Permit is not required for this project.

DRI Status:

This project is not a DRI.

Historical/Archeological Resources:

The District has received correspondence dated June 9, 2014 from the Florida Department of State, Division of Historical Resources indicating that no significant archaeological or historical resources are recorded in the project area and the project is therefore unlikely to have an effect upon any such properties. However, the applicant conducted a separate archaeological survey of the project area and the results indicate that there may be a prehistoric midden/campsite located within the upland hardwood hammock located in the south-central portion of the site (please see permit file for complete details). The applicant is proposing to keep this area under preservation as Preserve Area G (please see the Preserve Map attached as Exhibit 3.4). This permit does not release the permittee from compliance with any other agencies' requirements in the event that historical and/or archaeological resources are found on the site.

DEO/CZM Consistency Review:

The issuance of this permit constitutes a finding of consistency with the Florida Coastal Management Program.

EXHIBIT A

Third Party Interest:

No third party has contacted the District with concerns about this application.

Enforcement:

There has been no enforcement activity associated with this application.

EXHIBIT A

STAFF RECOMMENDATION TO EXECUTIVE DIRECTOR:

The Staff recommends that the following be issued :

- Approval of an Environmental Resource Permit Modification to authorize construction and operation of a project that includes a stormwater management system serving 59.74 acres of residential development known as Esplanade Golf and Country Club at Naples.

Based on the information provided, District rules have been adhered to.

Staff recommendation is for approval subject to the attached General and Special Conditions.

STAFF REVIEW:

NATURAL RESOURCE MANAGEMENT APPROVAL

ENVIRONMENTAL EVALUATION:

Justin M. Hojnacki FOR
Justin M. Hojnacki

SUPERVISOR

Laura Layman
Laura Layman
 Laura Layman

SURFACE WATER MANAGEMENT APPROVAL

ENGINEERING EVALUATION

Carmen Quan, P.E.
Carmen Quan
 Carmen Quan, P.E.

SUPERVISOR

Daniel F. Waters, P.E.
Daniel F. Waters
 Daniel F. Waters, P.E.

ENVIRONMENTAL RESOURCE PERMITTING BUREAU CHIEF :

Anita R. Bain
Anita R. Bain
 Anita R. Bain

DATE: 9/12/14

REGULATION DIVISION ASSISTANT DIRECTOR :

Anthony M. Waterhouse, P.E.
Anthony M. Waterhouse
 Anthony M. Waterhouse, P.E.

DATE: 9/12/14

EXHIBIT A

GENERAL CONDITIONS

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized shall subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S. (2012).
2. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the "State of Florida Erosion and Sediment Control Designer and Reviewer Manual" (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the "Florida Stormwater Erosion and Sedimentation Control Inspector's Manual" (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice" indicating the expected start and completion dates. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity, under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex- "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
 - b. For all other activities- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
 - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
 - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Applicant's Handbook Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
 - b. Within 30 days of submittal of the as-built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

EXHIBIT A

GENERAL CONDITIONS

8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
 - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
 - b. Convey to the permittee or create in the permittee any interest in real property;
 - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
 - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the Agency in writing:
 - a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

EXHIBIT A

GENERAL CONDITIONS

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

EXHIBIT A

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on September 15, 2019.
2. Operation of the stormwater management system shall be the responsibility of ESPLANADE GOLF & COUNTRY CLUB OF NAPLES, INC. (See Exhibit 2.3). Within one year of permit issuance or concurrent with the engineering certification of construction completion, whichever comes first, the permittee shall submit a copy of the recorded deed restrictions (or declaration of condominium, if applicable), a copy of the filed articles of incorporation, and a copy of the certificate of incorporation for the association.
3. Discharge Facilities:
 - 1-49" W X 8" H SHARP CRESTED weir with crest at elev. 16.2' NGVD 29.
 - 1-6" W X 3" H RECTANGULAR NOTCH with invert at elev. 13.4' NGVD 29.
 - 200 LF of 18" dia. REINFORCED CONCRETE PIPE culvert.
 - Receiving body : Lake #4.
 - Control elev : 13.4 feet NGVD 29.
4. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
5. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
6. Minimum building floor elevation for Sub-basins 1-6, 1-7 and 1-8: 16.9 ft NGVD.
7. Minimum road crown elevation for Sub-basins 1-6, 1-7 and 1-8: 16.4 ft NGVD.
8. Minimum perimeter berm elevation for Sub-basins 1-6, 1-7 and 1-8: 16.6 ft NGVD.
9. The permittee shall utilize the criteria contained in the Construction Pollution Prevention Plan (Exhibit No. 2.1) and on the applicable approved construction drawings for the duration of the project's construction activities.
10. The Urban Stormwater Management Plan shall be implemented in accordance with Exhibit No. 2.2.
11. The following exhibits for the permit are incorporated by reference herein and are located in the permit file. In addition, these exhibits can be viewed on the District's ePermitting website under this application number.
 - Exhibit No. 2.1: Construction Pollution Prevention Plan
 - Exhibit No. 2.2: Urban Stormwater Management Program
 - Exhibit No. 2.3: Property Owners Association documents
12. The exhibits and special conditions in this permit apply only to this application. They do not supersede or delete any requirements for other applications covered in Permit No. 11-02031-P unless otherwise specified herein.
13. Prior to commencement of construction and in accordance with the work schedule in Exhibit No. 3.3, the permittee shall submit documentation from Panther Island Mitigation Bank that 6.99 freshwater credits have been deducted from the official agency ledger.
14. Activities associated with the implementation of the mitigation, monitoring and maintenance plan(s) shall be completed in accordance with the work schedule attached as Exhibit No. 3.3. Any deviation

EXHIBIT A

SPECIAL CONDITIONS

from these time frames will require prior approval from the District's Environmental Resource Compliance staff. Such requests must be made in writing and shall include (1) reason for the change; (2) proposed start/finish and/or completion dates; and (3) progress report on the status of the project development or mitigation effort.

15. A modification to Water Use Permit No. 11-02032-W to include the additional 19.66-acre parcel must be obtained prior to the commencement of construction.
16. The applicant is required to modify Dewatering Permit No. 11-02033-W to include the additional 19.66-acre parcel prior to the commencement of construction.
17. Prior to the commencement of construction, the permittee shall conduct a pre-construction meeting with field representatives, contractors and District staff. The purpose of the meeting will be to discuss construction methods and sequencing, including type and location of turbidity and erosion controls to be implemented during construction, mobilization and staging of contractor equipment, phasing of construction, construction dewatering if required, coordination with other entities on adjacent construction projects, wetland/buffer protection methods, and endangered species protection with the permittee and contractors. The permittee shall contact District Environmental Resource Compliance staff from the Lower West Coast Service Center at 239-338-2929 to schedule the pre-construction meeting.

EXHIBIT A

Application No. 140425-12

Permit No. 11-02031-P

ESPLANADE GOLF AND COUNTRY CLUB OF NAPLES

Table of Contents for Staff Report Exhibits

- 1.0 Location Map
- 2.0 Construction Plans
 - 2.1 Construction Pollution Prevention Plan (Incorporated by reference)
 - 2.2 Urban Stormwater Management Program (Incorporated by reference)
 - 2.3 Property Owners Association Documents (Incorporated by reference)
- 3.0 FLUCCS Map
 - 3.1 Wetland Impact Map
 - 3.2 Letter of Credit Reservation from Panther Island Mitigation Bank
 - 3.3 Work Schedule
 - 3.4 Upland Preserve Map

EXHIBIT A

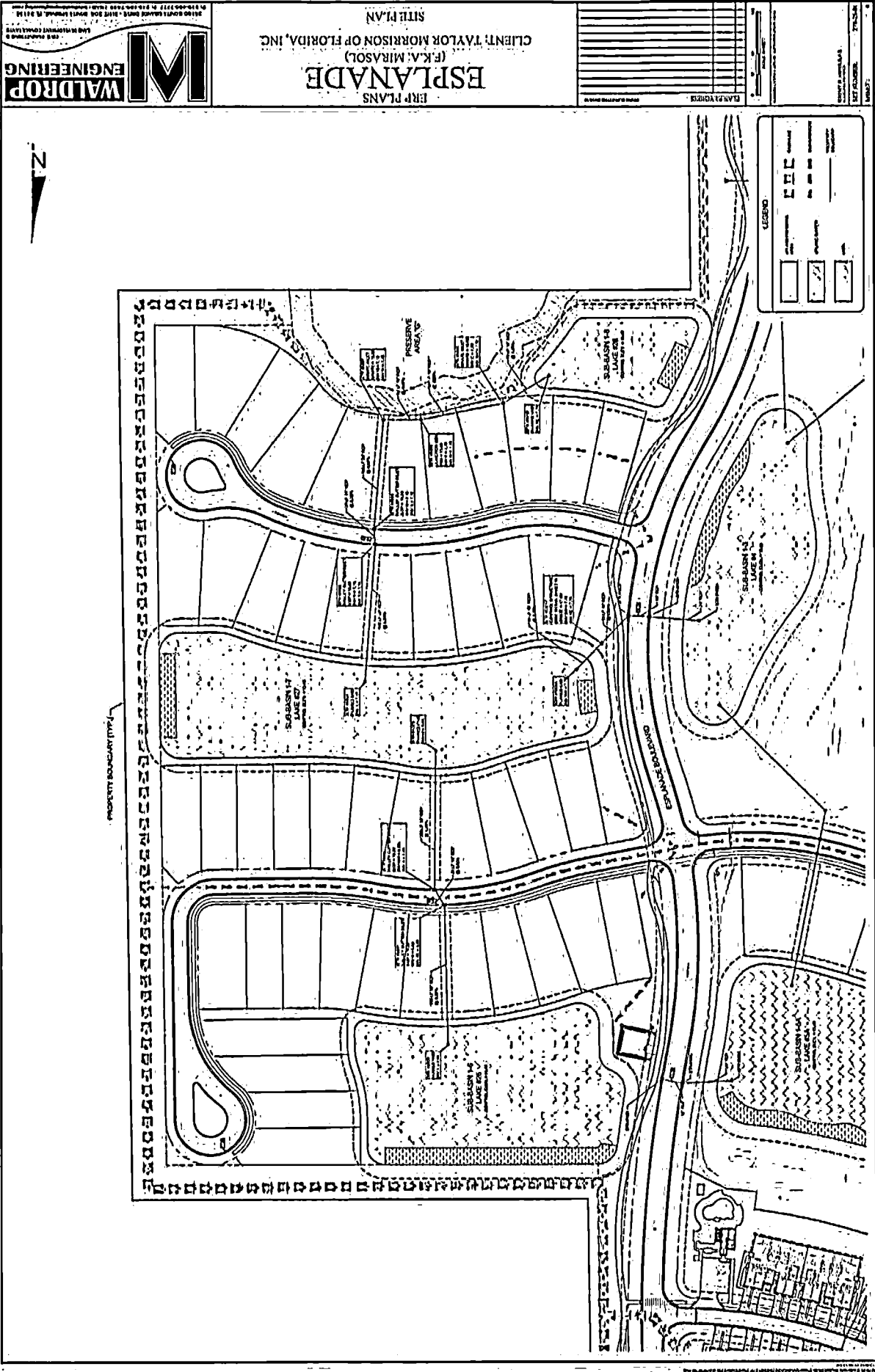



Exhibit No. 2.0
 Application No. 140425-12
 Page 2 of 6

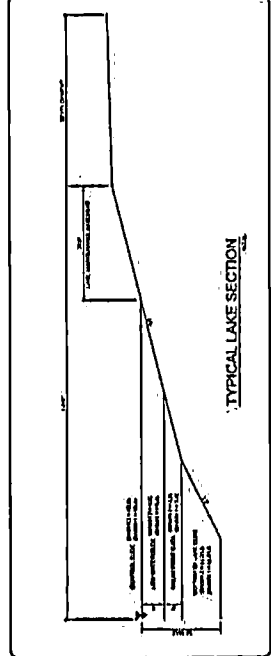
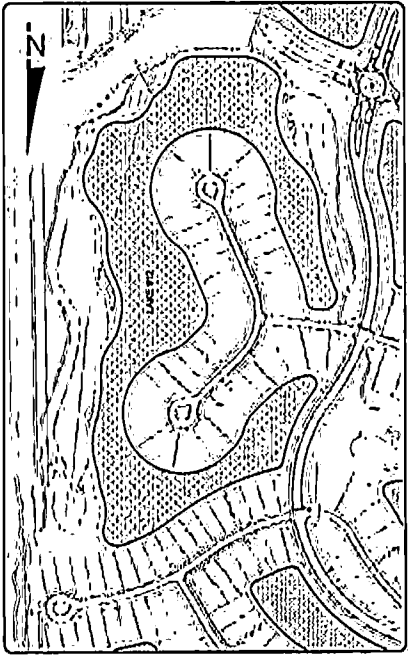
EXHIBIT A



WALDROP ENGINEERING

ERP PLANS
ESPLANADE
 (F.K.A. MIRASOL)
 CLIENT: TAYLOR MORRISON OF FLORIDA, INC.
 LAKE MODIFICATION PLAN

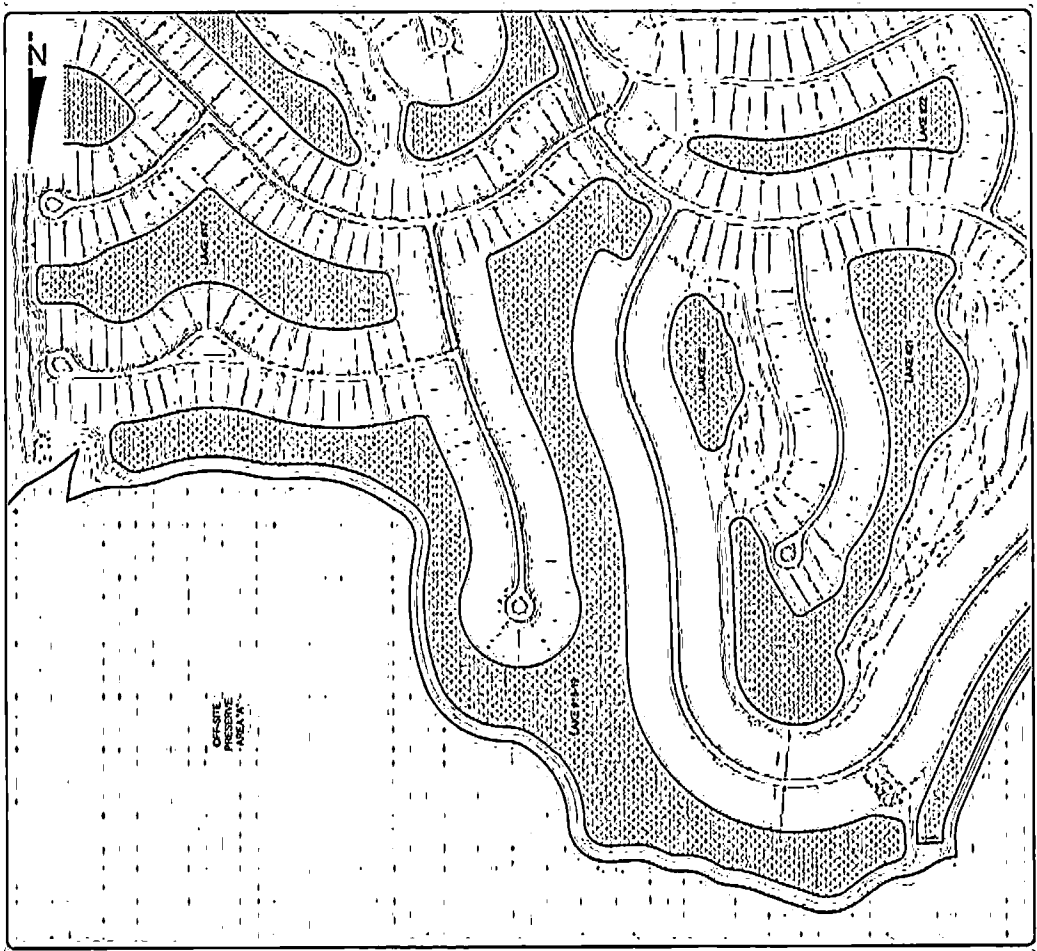
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 ESTIMATOR: []
 SHEET: []



ESPLANADE AREA
 ESPLANADE AREA
 PROPOSED = 128,47 AC.

LEGEND

[Symbol]	LAKE
[Symbol]	PROPOSED LAKE
[Symbol]	EXISTING LAKE



EXISTING
 AREA
 AREA

EXHIBIT A

Application No. 140425-12

Permit No. 11-02031-P

ESPLANADE GOLF AND COUNTRY CLUB OF NAPLES

Exhibits by Reference:

**EXHIBIT NUMBER 2.1 (Pages 1-10)
Construction Pollution Prevention Plan**

**EXHIBIT NUMBER 2.2 (Pages 1-5)
Urban Stormwater Management Program**

**EXHIBIT NUMBER 2.3 (Pages 1-96)
Property Owners Association Documents**

EXHIBIT A

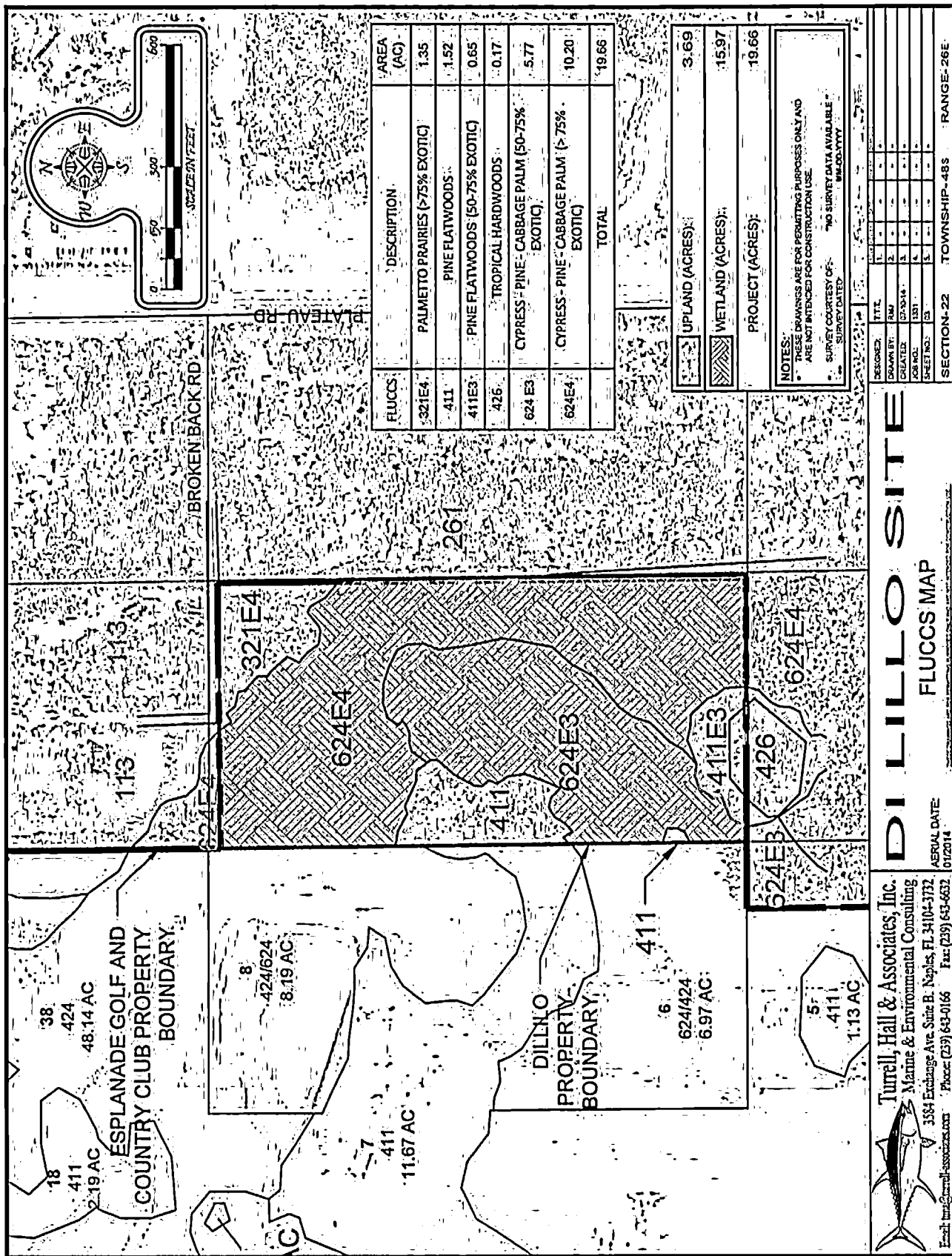
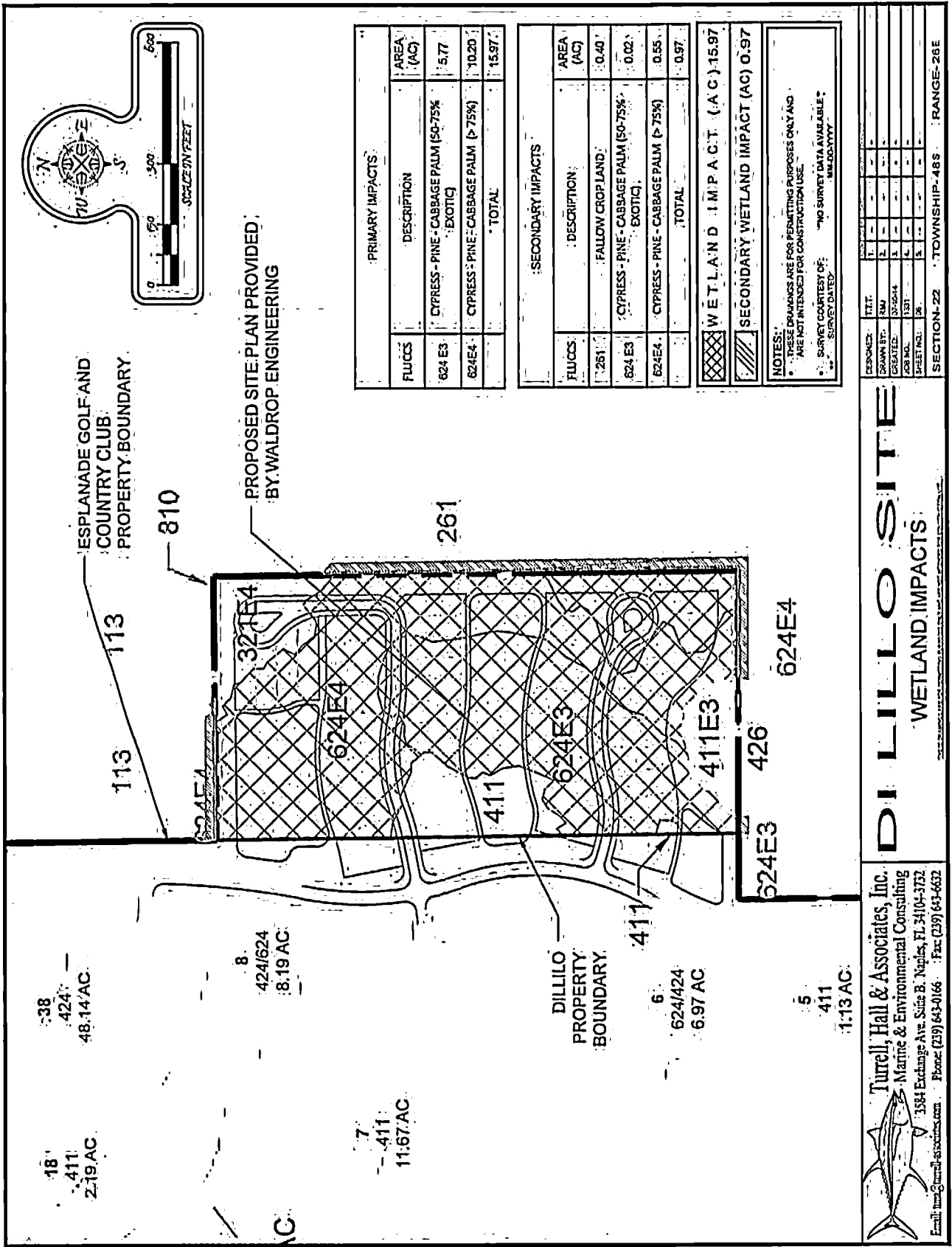


EXHIBIT A



P:\11331-DILLILO\11331\CAD\5\HET\PERMIT-FEDERAL\11331-AC\0E.dwg VEG IMPACTS 7/16/2014

EXHIBIT A



5747 North Andrews Way
Fort Lauderdale Florida 33309
Telephone 954.642.2427 888.301.1707
Fax 866.433.4057

July 29, 2014

Ms. Laura Layman
Section Leader - Regulation
South Florida Water Management District
2301 McGregor Boulevard
Fort Myers, FL 33901

*Re: SFWMD Permit Application No. 140425-12
Project: Esplanade Golf And Country Club Of Naples
Panther Island Mitigation Bank Letter of Reservation*

Dear Ms. Layman:

This is to confirm that Taylor Morrison Esplanade Naples, LLC is purchasing 6.99 freshwater mitigation bank credits from the Panther Island Mitigation Bank for the above referenced project. These credits are reserved accordingly.

Please do not hesitate to call if you have any questions or need further information.

Sincerely,

Desmond Duke

cc: Jason Hojnacki, SFWMD
Stephen Collins, Panther Island Mitigation Bank
Marielle Kitchener, Turrell, Hall and Associates
Tony Squitieri, Taylor Morrison Esplanade Naples, LLC

EXHIBIT A
South Florida Water Management District
Work Schedule Requirements

Application No : 140425-12

Page 1 of 1

Mitigation Plan ID: ESPLANADE

Activity:

Due Date:

SUBMIT MITIGATION BANK DOCUMENTATION.

01-NOV-14

EXHIBIT A

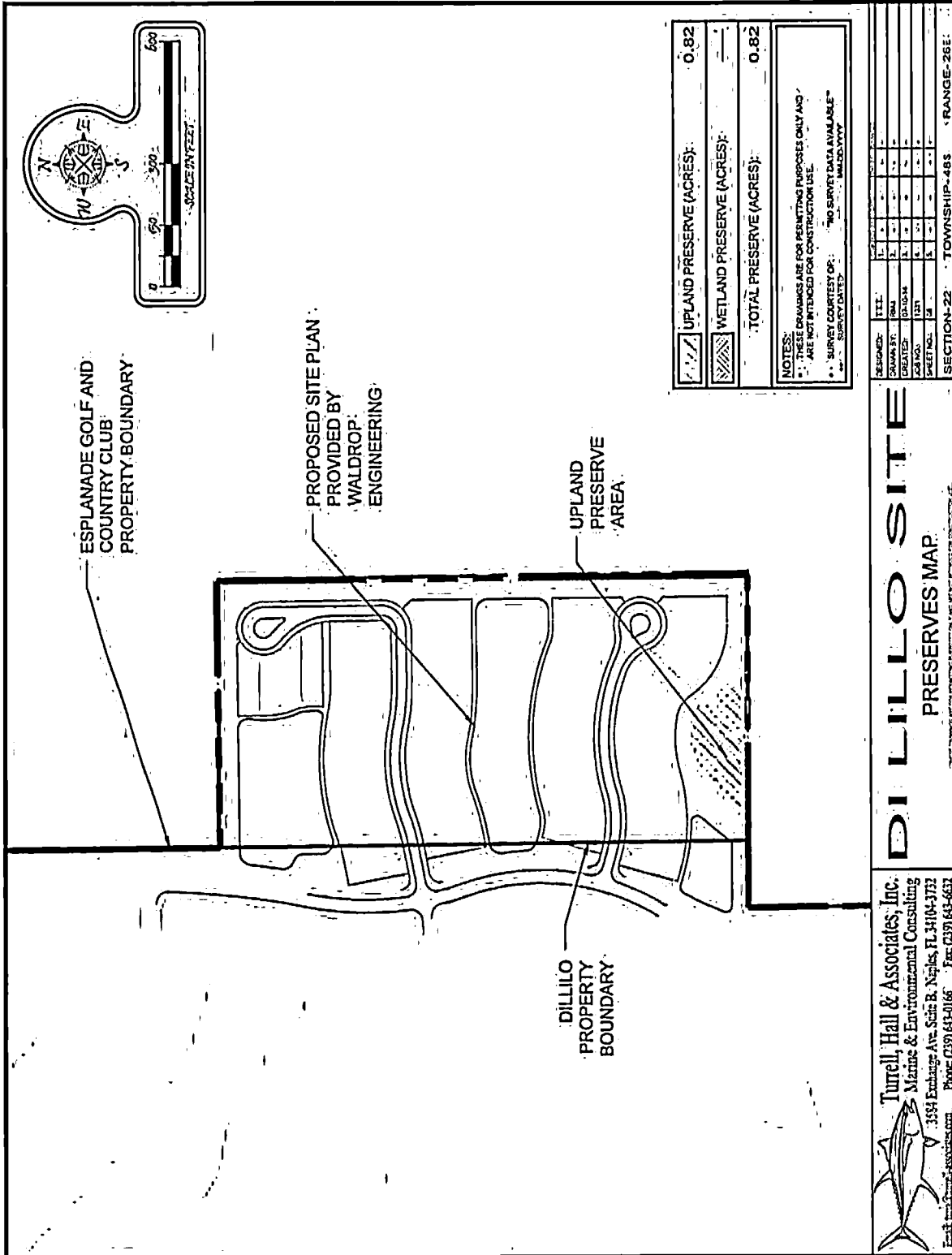


EXHIBIT A

STAFF REPORT DISTRIBUTION LIST

ESPLANADE GOLF AND COUNTRY CLUB OF NAPLES

Application No: 140425-12

Permit No: 11-02031-P

INTERNAL DISTRIBUTION

- X Carmen Quan, P.E.
- X Justin M. Hojnacki
- X Laura Layman
- X Daniel F. Waters, P.E.
- X A. Bain
- X A. Waterhouse
- X ERC Engineering
- X ERC Environmental

EXTERNAL DISTRIBUTION

- X Permittee - Taylor Morrison Esplanade Naples, L.L.C.
- X Permittee - Peter DiIillo Trust
- X Engr. Consultant - Waldrop Engineering
- X Env. Consultant - Turrel Hall And Associates, Inc.

GOVERNMENT AGENCIES

- X City Engineer, City of Naples
- X Div of Recreation and Park - District 4 - Chris Becker, FDEP

OTHER INTERESTED PARTIES

- X Audubon of Florida - Charles Lee



EXHIBIT A
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE PERMIT NO. 11-02031-P
DATE ISSUED: September 30, 2015

PERMITTEE: TAYLOR MORRISON ESPLANADE NAPLES, L L C
 501 NORTH CATTLEMEN RD
 SUITE 100
 SARASOTA, FL 34232

PROJECT DESCRIPTION: This application is a request for a modification of an Environmental Resource Permit to authorize construction and operation of a project that includes a stormwater management system serving 26.12 acres of residential and recreational development for a project known as Esplanade Golf and Country Club of Naples.

PROJECT LOCATION: COLLIER COUNTY, SEC 22 TWP 48S RGE 26E

PERMIT DURATION: See Special Condition No:1.

This is to notify you of the District's agency action for Permit Application No. 150702-16, dated July 2, 2015. This action is taken pursuant to the provisions of Chapter 373, Part IV, Florida Statutes (F.S).

Based on the information provided, District rules have been adhered to and an Environmental Resource Permit is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes, administrative hearing.
2. the attached 18 General Conditions (See Pages : 2 - 4 of 5),
3. the attached 9 Special Conditions (See Pages : 5 - 5 of 5) and
4. the attached 2 Exhibit(s)

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights," we will assume that you concur with the District's action.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT this written notice has been mailed or electronically transmitted to the Permittee (and the persons listed in the attached distribution list) this 30th day of September, 2015, in accordance with Section 120.60(3), F.S. Notice was also electronically posted on this date through a link on the home page of the District's website (my.sfwmd.gov/ePermitting).

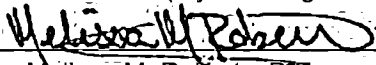
BY: 
 Melissa M. Roberts, P.E.
 Regulatory Administrator
 Lower West Coast Service Center

EXHIBIT A

NOTICE OF RIGHTS

As required by Sections 120.569 and 120.60(3), Fla. Stat., the following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all of the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a SFWMD decision which affects or may affect their substantial interests shall file a petition for hearing with the Office of the District Clerk of the SFWMD, in accordance with the filing instructions set forth herein, within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, or posting that the SFWMD has or intends to take final agency action, or publication of notice that the SFWMD has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action which materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional Rule 28-106.111, Fla. Admin. Code, point of entry.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Fla. Stat., shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk of the SFWMD. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at SFWMD headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.

EXHIBIT A

- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the SFWMD's security desk does not constitute filing. It will be necessary to request that the SFWMD's security officer contact the Office of the District Clerk. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document. A party who files a document by e-mail shall (1) represent that the original physically signed document will be retained by that party for the duration of the proceeding and of any subsequent appeal or subsequent proceeding in that cause and that the party shall produce it upon the request of other parties; and (2) be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed.

INITIATION OF AN ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Fla. Stat., and Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, SFWMD file number or any other SFWMD identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401–.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Section 120.68, Fla. Stat., and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal with the Office of the District Clerk of the SFWMD in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the clerk of the appropriate district court of appeal.

EXHIBIT A

GENERAL CONDITIONS

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized shall subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S. (2012).
2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the "State of Florida Erosion and Sediment Control Designer and Reviewer Manual" (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the "Florida Stormwater Erosion and Sedimentation Control Inspector's Manual" (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice" indicating the expected start and completion dates. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex- "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit"[Form 62-330.310(3)]; or
 - b. For all other activities- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
 - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
 - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as- built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Applicant's Handbook Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
 - b. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that

GENERAL CONDITIONS

require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

9. This permit does not:
 - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
 - b. Convey to the permittee or create in the permittee any interest in real property;
 - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
 - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the Agency in writing:
 - a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other

EXHIBIT A

GENERAL CONDITIONS

uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

EXHIBIT A

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on September 30, 2020.
2. Operation and maintenance of the stormwater management system shall be the responsibility of ESPLANADE GOLF AND COUNTRY CLUB OF NAPLES, INC.
3. Discharge Facilities:
 - 1-3" dia. CIRCULAR ORIFICE with invert at elev. 13.5' NGVD 29.
 - 82 LF of 30" dia. REINFORCED CONCRETE PIPE culvert.
 - 1-24" W X 36" L drop inlet with crest at elev. 15.5' NGVD 29.
 - Receiving body : Existing Lake #23
 - Control elev : 13.5 feet NGVD 29.
4. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
5. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
6. The following are exhibits to this permit. Exhibits noted as incorporated by reference are available on the District's ePermitting website (<http://my.sfwmd.gov/ePermitting>) under this application number.

Exhibit No. 1 Location Map

Exhibit No. 2 Plans

7. Prior to initiating construction activities associated with this Environmental Resource Permit (ERP), the permittee is required to hold a pre-construction meeting with field representatives, consultants, contractors, District Environmental Resource Compliance (ERC) staff, and any other local government entities as necessary.

The purpose of the pre-construction meeting is to discuss construction methods, sequencing, best management practices, identify work areas, staking and roping of preserves where applicable, and to facilitate coordination and assistance amongst relevant parties.

To schedule a pre-construction meeting, please contact ERC staff from the Lower West Coast Service Center at (239) 338-2929 or via e-mail at: pre-con@sfwmd.gov. When sending a request for a pre-construction meeting, please include the application number, permit number, and contact name and phone number.

8. The exhibits and special conditions in this permit apply only to this application. They do not supersede or delete any requirements for other applications covered in Permit No. 11-02031-P unless otherwise specified herein.
9. Prior to the start of construction, the applicant shall complete a Letter Modification to Dewatering Permit No. 11-02033-W to include the new configuration of Lake 13.

EXHIBIT A

Last Date For Agency Action: October 5, 2015

INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Esplanade Golf And Country Club Of Naples

Permit No.: 11-02031-P

Application No.: 150702-16

Application Type: Environmental Resource (Conceptual Approval Modification And New Construction/Operation)

Location: Collier County, S22/T48S/R26E

Permittee : Taylor Morrison Esplanade Naples, L L C

Operating Entity : Esplanade Golf And Country Club Of Naples, Inc.

Project Area: 26.12 acres

Permit Area: 1,818.01 acres

Project Land Use: Residential

Drainage Basin: WEST COLLIER

Sub Basin: Cocohatchee Canal

Receiving Body: Existing SWMS

Class: CLASS III

Special Drainage District: NA

Mitigation Previously Permitted: Yes

Conservation Easement To District : No

Sovereign Submerged Lands: No

PROJECT SUMMARY:

This application is a request for a modification of an Environmental Resource Permit to authorize construction and operation of a project that includes a stormwater management system serving 26.12 acres of residential and recreational development for a project known as Esplanade Golf and Country Club of Naples.

This permit authorizes the conversion from Conceptual Approval to Construction and Operation of a portion of the amenity area (sub-basin 2-9), revisions to the maintenance facility and dog park area (sub-basin 2-3), road realignment in sub-basin 2-4B for Torre Vista Boulevard, and expansion and combination of Lakes 13A and 13B (sub-basin 2-10A and 2-10B). The site plan, details and storm water management plans are attached as Exhibit 2.0.

Issuance of this permit constitutes certification of compliance with state water quality standards in accordance with Rule 62-330.062 Florida Administrative Code (F.A.C.).

EXHIBIT A

PROJECT EVALUATION:

PROJECT SITE DESCRIPTION:

Esplanade Golf and Country Club of Naples (FKA Mirasol) is a mixed-use residential and golf course development is located west of the intersection of Immokalee Road and Collier Boulevard Extension in Naples, Collier County. A location map of the project site is attached as Exhibit 1.0.

There are permitted water management facilities within the project area including Lakes 13A and 13B, a part of Basin 2 of Permit No. 11-02031-P. There are no wetlands located within the project area or affected by this modification. Please see the Wetlands and Other Surface Waters section of this staff report for information on the wetlands located within the permitted area.

BACKGROUND:

Esplanade Golf and Country Club at Naples (FKA Mirasol) was originally permitted in February 2002 (Permit No. 11-02031-P, Application No. 000518-10) with two major basins, 1 and 2. Each basin was divided into multiple sub-basins. Several modifications have occurred to this permit including Application No. 120425-8, which authorized conceptual approval for a passive park and a portion of the clubhouse site within Basin 2, and required the golf course maintenance facility and the clubhouse site to provide one-half inch of dry pre-treatment prior to outfall into the wet detention system.

LAND USE:

Please refer below to the previously permitted and proposed land use breakdown for Basin 2.

Construction

Project:

	Previously Permitted	This Phase	
Building Coverage	79.54	83.46	acres
Lake	123.54	132.94	acres
Pavement	82.72	75.06	acres
Pervious	229.28	216.21	acres
Preserved	26.24	31.43	acres
Total:	541.32	539.10	

WATER QUANTITY :

Discharge Rate :

The project is consistent with the land use and site grading assumptions from the design of the master stormwater management system. Therefore, the stormwater management system has not been designed to limit discharge for the design event to a specified rate.

EXHIBIT A

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NGVD 29)	WSWT Ctrl Elev (ft, NGVD 29)	Method Of Determination
Basin 2	539.10	13.5	13.50	Previously Permitted

Receiving Body :

Basin	Str.#	Receiving Body
Basin 2	CS-CH	Existing Lake #23

SWM(Internal) Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29)

Bleeders:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Invert Angle	Invert Elev.
Basin 2	CS-CH	1	Circular Orifice				3"		13.5

Culverts:

Basin	Str#	Count	Type	Width	Length	Dia.
Basin 2	CS-CH	1	Reinforced Concrete Pipe		82'	30"

Inlets:

Basin	Str#	Count	Type	Width	Length	Dia.	Crest Elev.
Basin 2	CS-CH	1	Fdot Mod C Drop Inlet	24"	36"		15.5

WATER QUALITY :

Water quality dry pre-treatment will be provided in dry detention. The required water quality treatment is provided in the existing wet detention system. As shown in the table below, the proposed dry detention system provides the required one-half inch of dry pre-treatment volume for the Dog Park and Amenity areas.

The project also includes implementation of an Urban Stormwater Management Program and a Construction Pollution Prevention Plan as additional reasonable assurance of compliance with water quality criteria during construction and operation, incorporated in Application No. 140425-12.

Basin	Treatment Method	Vol Req.d (ac-ft)	Vol Prov'd
Basin 2	Pre-Treatment Dry Detention	.52	.52

WETLANDS:

Wetlands And Other Surface Waters:

The 1818.01-acre permit area contains a total of 1511.79 acres of wetlands and 306.22 acres of uplands. There are a total of 1123.88 acres of preserves within the permit area, with a total of 1119.19 acres having been placed under conservation easements. There are no additional wetland impacts associated with the proposed modification. This modification does correct acreage errors in Preserves C, D, and E, listed on the Master Land Use Summary table included within Exhibit 2.0 of Application No. 120425-8.

EXHIBIT A

The preserve acreages erroneously listed the preserve acreage and not the conservation easement acreage (which includes some buffers in these areas). The Master Land Use Summary included within Exhibit 2.0 of this application lists the correct conservation easement acreages for Preserve C (11.40 acres), Preserve D (3.78 acres), and Preserve E (16.25 acres).

Fish And Wildlife Issues:

The wetlands or surface waters to be preserved within the permit area provide habitat for wetland-dependent species and the previously authorized mitigation will provide or improve habitat for wetland-dependent/ aquatic species. This permit does not relieve the applicant from complying with all applicable rules and any other agencies' requirements if, in the future, endangered/threatened species or species of special concern are discovered on the site.

CERTIFICATION, OPERATION, AND MAINTENANCE:

Pursuant to Chapter 62-330.310 Florida Administrative Code (F.A.C.), Individual Permits will not be converted from the construction phase to the operation phase until construction completion certification of the project is submitted to and accepted by the District. This includes compliance with all permit conditions, except for any long term maintenance and monitoring requirements. It is suggested that the permittee retain the services of an appropriate professional registered in the State of Florida for periodic observation of construction of the project.

For projects permitted with an operating entity that is different from the permittee, it should be noted that until the construction completion certification is accepted by the District and the permit is transferred to an acceptable operating entity pursuant to Sections 12.1-12.3 of the Applicant's Handbook Volume I and Section 62-330.310, F.A.C., the permittee is liable for operation and maintenance in compliance with the terms and conditions of this permit.

In accordance with Section 373.416(2), F.S., unless revoked or abandoned, all stormwater management systems and works permitted under Part IV of Chapter 373, F.S., must be operated and maintained in perpetuity.

The efficiency of stormwater management systems, dams, impoundments, and most other project components will decrease over time without periodic maintenance. The operation and maintenance entity must perform periodic inspections to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation of projects that may endanger public health, safety, or welfare, or the water resources. If deficiencies are found, the operation and maintenance entity will be responsible for correcting the deficiencies in a timely manner to prevent compromises to flood protection and water quality. See Section 12.4 of Applicant's Handbook Volume I for Minimum Operation and Maintenance Standards.

EXHIBIT A

RELATED CONCERNS:

Water Use Permit Status:

The applicant has indicated that groundwater wells will be used as a source for irrigation water for the project. Water Use Permit No. 11-02032-W has been previously authorized for the permit area.

The applicant has indicated that dewatering is required for construction of this project. Dewatering Permit No. 11-02033-W has been previously authorized for the permit area. Pursuant to Special Condition No. 9, prior to the start of construction, the applicant shall complete a Letter Modification to Dewatering Permit No. 11-02033-W to include the new configuration of Lake 13.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Potable Water Supplier:

Collier County Utilities.

Waste Water System/Supplier:

Collier County Utilities.

Right-Of-Way Permit Status:

A District Right-of-Way Permit is not required for this project.

Historical/Archeological Resources:

Pursuant to Application No. 140425-12, the District has received correspondence dated June 9, 2014 from the Florida Department of State, Division of Historical Resources indicating that no significant archaeological or historical resources are recorded in the project area and the project is therefore unlikely to have an effect upon any such properties. However, the applicant conducted a separate archaeological survey of the project area and the results indicate that there may be a prehistoric midden/campsite located within the upland hardwood hammock located in the south-central portion of the site (please see permit file for complete details). The applicant is proposing to keep this area under preservation as Preserve Area G (please see the Preserve Map attached as Exhibit 3.4 under Application No. 140425-12). This permit does not release the permittee from compliance with any other agencies' requirements in the event that historical and/or archaeological resources are found on the site.

DEO/CZM Consistency Review:

The issuance of this permit constitutes a finding of consistency with the Florida Coastal Management Program.

Third Party Interest:

No third party has contacted the District with concerns about this application.

Enforcement:

EXHIBIT A

There has been no enforcement activity associated with this application.

STAFF REVIEW:

DIVISION APPROVAL:


NATURAL RESOURCE MANAGEMENT:



Laura Layman

DATE: 9/30/15

SURFACE WATER MANAGEMENT:








Brian Rose, P.E.

DATE: 9/29/15

EXHIBIT A



Collier County Property Appraiser

<p>Exhibit Created On: 2015-08-26</p>	<p>COLLIER COUNTY, FL</p>	<p> Application</p> <p>Permit No: 11-02031-P</p> <p>Application Number: 150702-16</p> 
<p align="center">REGULATION DIVISION</p> <p align="center">Project Name: ESPLANADE GOLF AND COUNTRY CLUB OF NAPLES</p>  <p align="center">0 0.325 0.65</p> <p align="center"> Miles</p>		<p>Created by</p>  <p>South Florida Water Management District</p>

SURFACE WATER MANAGEMENT ERP MODIFICATION PLANS FOR

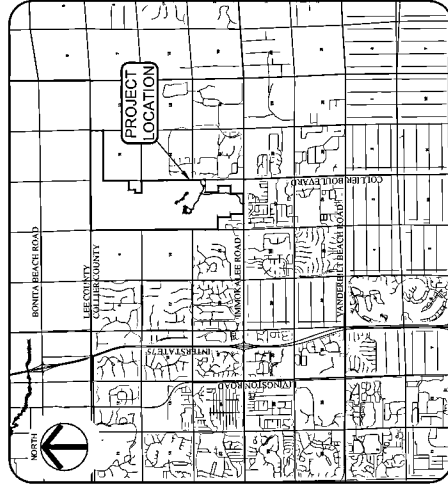
ESPLANADE

(F.K.A. MIRASOL)

GOLF AND COUNTRY CLUB OF NAPLES

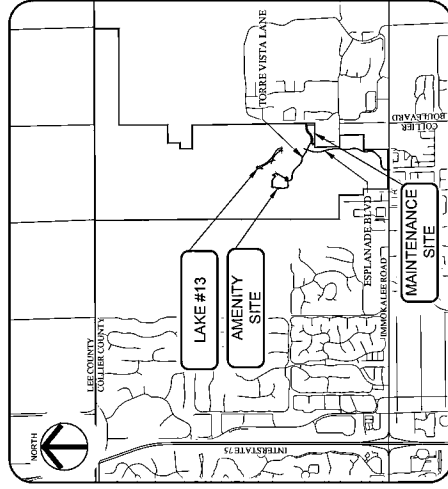
PART OF SECTIONS 10, 11, 15 & 22 TOWNSHIP 48 SOUTH, RANGE 26 EAST

COLLIER COUNTY, FLORIDA



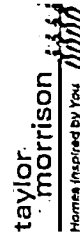
PROJECT LOCATION MAP
NO SCALE

SHEET INDEX	
1	COVER SHEET
2	OVERALL MASTER SITE PLAN
3	AMENITY MASTER GEODETIC PLAN
4	AMENITY MASTER PAVING, GRADING, AND DRAINAGE PLAN
5	AMENITY MASTER UTILITIES PAVING, GRADING, AND DRAINAGE PLAN
6	GOLF AND COUNTRY CLUB OF NAPLES PAVING, GRADING, AND DRAINAGE PLAN
7	AMENITY CROSS SECTIONS (LA)
8	AMENITY CROSS SECTIONS (LA)
9	LAKE #13 AMENITY UTILITIES, CROSS SECTIONS
10	PAVING AND DRAINAGE DETAILS
11	ERUP MODIFICATION DETAILS AND REFLECT PLAN



PROJECT SITE MAP
NO SCALE

DEVELOPED BY:



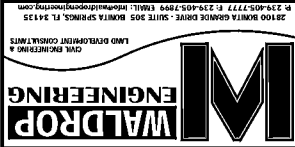
551 NORTH CATTLEMEN ROAD - SUITE 200
SARASOTA, FLORIDA 34232
PHONE: (941) 554-2852

28100 NORTH GRAND DRIVE - SUITE 305 BONTA SPRINGS, FL 34135
P: 239-405-7777 F: 239-405-7899 EMAIL: info@waldropengineering.com

ERP MODIFICATION PLANS
ESPLANADE
(F.K.A. MIRASOL)
CLIENT: TAYLOR MORRISON OF FLORIDA, INC.
COVER SHEET

NO.	DATE	DESCRIPTION
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EXHIBIT A



ERP MODIFICATION PLANS
ESPANADE
(F.K.A. MIRASOL)
CLIENT: TAYLOR MORISON OF FLORIDA, INC.
PAVING AND DRAINAGE DETAILS

NO.	REVISIONS	DATE
1	ISSUE FOR PERMITS	
2	REVISED PER COMMENTS	
3	REVISED PER COMMENTS	
4	REVISED PER COMMENTS	
5	REVISED PER COMMENTS	
6	REVISED PER COMMENTS	
7	REVISED PER COMMENTS	
8	REVISED PER COMMENTS	
9	REVISED PER COMMENTS	
10	REVISED PER COMMENTS	

PROJECT NO.	2700 S. GARDNER
DATE	08/11/2011
SCALE	AS SHOWN
DRAWN BY	WALDROP ENGINEERING
CHECKED BY	WALDROP ENGINEERING
DATE	08/11/2011
PROJECT NO.	2700 S. GARDNER
DATE	08/11/2011
SCALE	AS SHOWN
DRAWN BY	WALDROP ENGINEERING
CHECKED BY	WALDROP ENGINEERING
DATE	08/11/2011

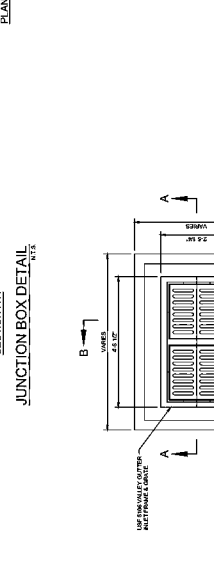
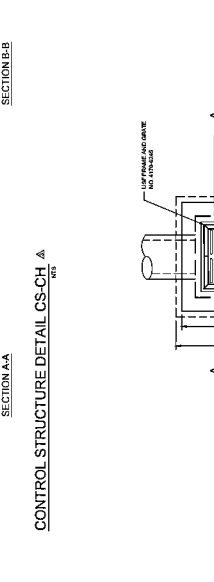
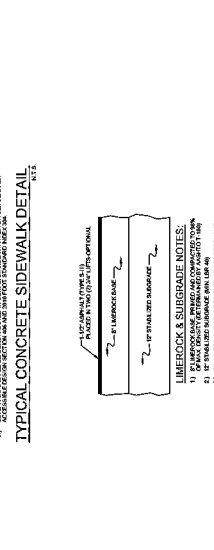
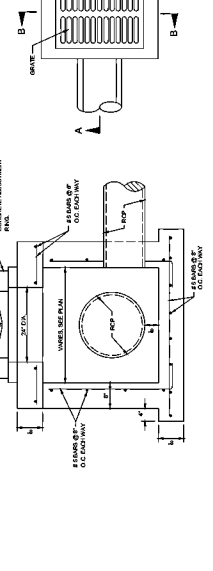
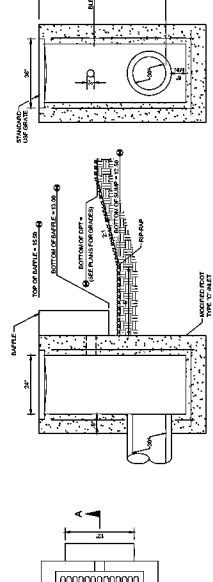
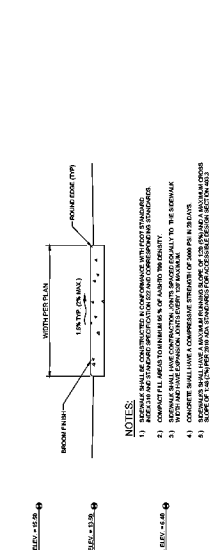
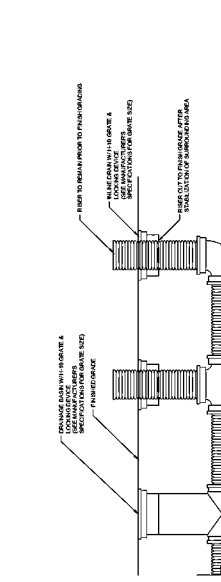
MINIMUM DIMENSIONS FOR DRAINAGE STRUCTURES

PIPE SIZE	MINIMUM STRUCTURE WIDTH
18"	3'-0"
24"	3'-6"
30"	4'-0"
36"	4'-6"
42"	5'-0"
48"	5'-6"
54"	6'-0"
60"	6'-6"

- GENERAL STRUCTURE DESIGN NOTES**
1. ALL STRUCTURES SHALL HAVE A MINIMUM 2" INCHES OF COVER.
 2. ALL CONCRETE SHALL HAVE COMPRESSIVE STRENGTH OF 4000 PSI.
 3. FOR PRECAST DRAINAGE STRUCTURES WALL THICKNESS MAY BE REDUCED PERMANUFACTURER'S SPECIFICATIONS.

DRAINAGE STRUCTURE TABLE

TYPE OF STRUCTURE	REFERENCE	CASTING
FLARED INLET	FIGURE 1	18" DIA. CONCRETE
WALKWAY INLET	FIGURE 2	18" DIA. CONCRETE
JUNCTION	FIGURE 3	18" DIA. CONCRETE
VALLEY GUTTER INLET	FIGURE 4	18" DIA. CONCRETE
CONTROL STRUCTURE	FIGURE 5	18" DIA. CONCRETE
YARD DRAIN	FIGURE 6	18" DIA. CONCRETE
GRATE INLET	FIGURE 7	18" DIA. CONCRETE
TYPICAL VALLEY GUTTER INLET	FIGURE 8	18" DIA. CONCRETE



ALL INVERTS AND ELEVATIONS ARE IN FEET NGVD-29

EXHIBIT A

STAFF REPORT DISTRIBUTION LIST

ESPLANADE GOLF AND COUNTRY CLUB OF NAPLES

Application No: 150702-16

Permit No: 11-02031-P

INTERNAL DISTRIBUTION

- X Carmen Quan, P.E.
- X Justin M.Hojnacki
- X Laura Layman
- X Brian Rose, P.E.
- X A. Waterhouse

EXTERNAL DISTRIBUTION

- X Permittee - Taylor Morrison Esplanade Naples, L L C
- X Engr Consultant - Waldrop Engineering

GOVERNMENT AGENCIES

- X City Engineer, City of Naples
- X Div of Recreation and Park - District 4 - Chris Becker, FDEP

OTHER INTERESTED PARTIES

- X Audubon of Florida - Charles Lee

EXHIBIT A

STAFF REPORT DISTRIBUTION LIST

ADDRESSES

Taylor Morrison Esplanade Naples, L L C
501 North Cattlemen Rd Suite 100
Sarasota FL 34232
jasher@taylormorrison.com

Waldrop Engineering
28100 Bonita Grande Dr. Ste. 305
Bonita Springs FL 34135
vince.miller@waldropengineering.com

City Engineer, City of Naples
295 Riverside Circle
Naples
Naples FL 34102
gstrakaluse@naplesgov.com, aholland@naplesgov.com

Div of Recreation and Park - District 4 - Chris Becker,
FDEP
1843 South Tamiami Trail
Osprey FL 34229
chris.becker@dep.state.fl.us

Audubon of Florida - Charles Lee
1101 Audubon Way
Maitland FL 32751
chlee2@earthlink.net



EXHIBIT A
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE PERMIT NO. 11-02031-P
DATE ISSUED: April 6, 2017

PERMITTEE: TAYLOR MORRISON ESPLANADE NAPLES LLC
551 NORTH CATTLEMEN ROAD SUITE 200
SARASOTA, FL 34232

PROJECT DESCRIPTION: This Environmental Resource Permit Modification (Permit) authorizes construction and operation of a stormwater management system (SWMS) serving 630.70 acres of mixed-use residential and golf course development known as Esplanade Golf and Country Club of Naples.

PROJECT LOCATION: COLLIER COUNTY SEC 10,11,15 and 22 TWP 48S RGE 26E

PERMIT DURATION: See Special Condition No:1.

This is to notify you of the District's agency action for Permit Application No. 170210-6, dated February 10, 2017. This action is taken pursuant to the provisions of Chapter 373, Part IV, Florida Statutes (F.S).

Based on the information provided, District rules have been adhered to and an Environmental Resource Permit is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes, administrative hearing.
2. the attached 18 General Conditions (See Pages : 2 - 4 of 5),
3. the attached 10 Special Conditions (See Pages : 5 - 5 of 5) and
4. the attached 2 Exhibit(s)

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights," we will assume that you concur with the District's action.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT this written notice has been mailed or electronically transmitted to the Permittee (and the persons listed in the attached distribution list) this 6th day of April, 2017, in accordance with Section 120.60(3), F.S. Notice was also electronically posted on this date through a link on the home page of the District's website (my.sfwmd.gov/ePermitting).

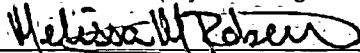
BY: 
Melissa M. Roberts, P.E.
Regulatory Administrator
Lower West Coast Service Center

EXHIBIT A

NOTICE OF RIGHTS

As required by Sections 120.569 and 120.60(3), Fla. Stat., the following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all of the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a SFWMD decision which affects or may affect their substantial interests shall file a petition for hearing with the Office of the District Clerk of the SFWMD, in accordance with the filing instructions set forth herein, within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, or posting that the SFWMD has or intends to take final agency action, or publication of notice that the SFWMD has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action which materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional Rule 28-106.111, Fla. Admin. Code, point of entry.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Fla. Stat., shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk of the SFWMD. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at SFWMD headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, 3301 Gun Club Road, West Palm Beach, Florida 33406.

EXHIBIT A

- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the SFWMD's security desk does not constitute filing. It will be necessary to request that the SFWMD's security officer contact the Office of the District Clerk. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document. A party who files a document by e-mail shall (1) represent that the original physically signed document will be retained by that party for the duration of the proceeding and of any subsequent appeal or subsequent proceeding in that cause and that the party shall produce it upon the request of other parties; and (2) be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed.

INITIATION OF AN ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Fla. Stat., and Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, SFWMD file number or any other SFWMD identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401–.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Section 120.68, Fla. Stat., and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal with the Office of the District Clerk of the SFWMD in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the clerk of the appropriate district court of appeal.

GENERAL CONDITIONS

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, Florida Administrative Code (F.A.C.). Any deviations that are not so authorized shall subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the "State of Florida Erosion and Sediment Control Designer and Reviewer Manual" (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the "Florida Stormwater Erosion and Sedimentation Control Inspector's Manual" (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice" indicating the expected start and completion dates. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex- "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit"[Form 62-330.310(3)]; or
 - b. For all other activities- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
 - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
 - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as- built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Applicant's Handbook Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
 - b. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that

GENERAL CONDITIONS

require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

9. This permit does not:
 - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
 - b. Convey to the permittee or create in the permittee any interest in real property;
 - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
 - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the Agency in writing:
 - a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other

EXHIBIT A

GENERAL CONDITIONS

uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

EXHIBIT A

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on April 6, 2022.
2. Operation and maintenance of the stormwater management system shall be the responsibility of ESPLANADE GOLF AND COUNTRY CLUB OF NAPLES, INC.
3. Discharge Facilities: Please refer to page 14 of 20 of Exhibit 2.0.
4. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
5. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
6. The following are exhibits to this permit. Exhibits noted as incorporated by reference are available on the District's ePermitting website (<http://my.sfwmd.gov/ePermitting>) under this application number.

Exhibit No. 1.0 Location Map

Exhibit No. 2.0 Plans

7. Prior to initiating construction activities associated with this Environmental Resource Permit (ERP), the permittee is required to hold a pre-construction meeting with field representatives, consultants, contractors, District Environmental Resource Compliance (ERC) staff, and any other local government entities as necessary.

The purpose of the pre-construction meeting is to discuss construction methods, sequencing, best management practices, identify work areas, staking and roping of preserves where applicable, and to facilitate coordination and assistance amongst relevant parties.

To schedule a pre-construction meeting, please contact ERC staff from the Lower West Coast Service Center at (239) 338-2929 via e-mail at: pre-con@sfwmd.gov. When sending a request for a pre-construction meeting, please include the application number, permit number, and contact name and phone number.

8. Minimum building floor elevation: please refer to page 3 of 20 of Exhibit 2.0.
9. Minimum road crown elevation: please refer to page 3 of 20 of Exhibit 2.0.
10. The exhibits and special conditions in this permit apply only to this application. They do not supersede or delete any requirements for other applications covered in Permit No. 11-02031-P unless otherwise specified herein.

EXHIBIT A

Last Date For Agency Action: June 2, 2017

INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Esplanade Golf And Country Club (F K A Mirasol) Mod

Permit No.: 11-02031-P

Application No.: 170210-6

Application Type: Environmental Resource (Construction/Operation Modification) **Location:**

Collier County, S10,11,15,22/T48S/R26E

Permittee : Taylor Morrison Esplanade Naples LLC

Operating Entity : Esplanade Golf And Country Club Of Naples Homeowner'S Association

Project Area: 630.70 acres

Permit Area: 1,818.01 acres

Project Land Use: Residential

Golf Course Development

Drainage Basin: WEST COLLIER

Sub Basin: Cocohatchee Canal

Receiving Body: Existing flowway

Class: CLASS III

Special Drainage District: NA

Mitigation Previously Permitted: Yes

Conservation Easement To District : No

Sovereign Submerged Lands: No

PROJECT SUMMARY:

This Environmental Resource Permit Modification (Permit) authorizes construction and operation of a stormwater management system (SWMS) serving 630.70 acres of mixed-use residential and golf course development known as Esplanade Golf and Country Club of Naples.

This Permit authorizes revisions to the overall project site plan based on as-built conditions and the current master site plan. The modifications consist of basin reconfiguration, land use updates, and updated flood elevations for roads and buildings. The previously permitted control elevations remain unchanged. Site plan and details are attached as Exhibit 2.0.

Issuance of this permit constitutes certification of compliance with state water quality standards in accordance with Rule 62-330.062, F.A.C..

EXHIBIT A

PROJECT EVALUATION:

PROJECT SITE DESCRIPTION:

The site is located north of Immokalee Road and approximately 2.8 miles east of I-75 in Naples, Collier County, Florida. A location map is attached as Exhibit 1.0.

There are permitted water management facilities within the project area. The project site contains existing residential homes, roadways and lakes. Please refer to the Background section of this staff report for additional information.

For information on the wetlands and surface waters within the project, please refer to the Wetlands and Other Surface Waters (OSW) section of this staff report.

BACKGROUND:

Esplanade Golf and Country Club of Naples (F.K.A. Mirasol) was originally permitted in February 2002 (Permit No. 11-02031-P, Application No. 000518-10) with two major basins, 1 and 2. Each basin was divided into multiple sub-basins. Several modifications have occurred to this permit.

LAND USE:

Construction

Project:

Total Project

Building Coverage	115.94	acres
Golf Course	84.83	acres
Impervious	89.95	acres
Lake	162.62	acres
Pervious	177.36	acres
Preserved	31.43	acres
Total:	662.13	

Basin : 1

Total Basin

Building Coverage	18.14	acres
Golf Course	21.05	acres
Impervious	17.68	acres
Lake	24.56	acres
Pervious	41.19	acres
Total:	122.62	

Basin : 2

EXHIBIT A

Basin : 2

Total Basin

Building Coverage	97.80	acres
Golf Course	63.78	acres
Impervious	72.27	acres
Lake	138.06	acres
Pervious	136.17	acres
Preserved	31.43	acres
Total:	539.51	

WATER QUANTITY :

Discharge Rate :

The project peak discharge rate of 23.47 cfs is less than the allowable limit of 25.22 cfs for the area.

Please refer to page 3 of 20 of Exhibit 2.0 for rainfall data of the 25 year/3 day and 100 year/3 day zero discharge storm events, peak stages from these storm events, and proposed minimum road crown, perimeter berm and finished floor elevations.

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NAVD 88)	WSWT Ctrl Elev (ft, NAVD 88)	Method Of Determination
1	122.62	13.4		Previously Permitted
2	539.51	13.4		Previously Permitted

WATER QUALITY :

The stormwater management system provides 52.56 acre-feet of water quality treatment, through a wet detention system, complying with Rule requirements based on one inch over the basin area. The dry detention system provides 0.73 ac-ft of dry pre-treatment, exceeding the required 0.66 ac-ft of one-half inch over the areas of the amenity center, the maintenance facility and the dog park.

Pursuant to Appendix E of Environmental Resource Permit Applicant's Handbook Volume II, the water quality treatment volume provided includes an additional 50% treatment volume above the requirements in Section 4.2 of Volume II as reasonable assurance that the project will not have an adverse impact on the quality of the downstream receiving body. The project is located within the watershed of FDEP WBID No. 3278D; the Cocohatchee (Inland Segment), which has been identified as impaired for Nutrients.

Application No. 120425-8 included site specific pollutant loading calculations to demonstrate that the SWMS reduces the post development loading of pollutants to levels less than the loadings generated under the pre-development condition. The lake area included in this Application No. 170210-6 has been increased by 17.98 acres from the one permitted in Application No. 120425-8; therefore, a revised nutrient loading analysis is not required.

Application No. 140425-12 includes implementation of a Construction Pollution Prevention Plan (Exhibit 2.1) and an Urban Stormwater Management Program (Exhibit 2.2) as additional reasonable assurance of compliance with water quality criteria during construction and operation.

EXHIBIT A

Basin	Treatment Method		Vol Req.d (ac-ft)	Vol Prov'd
1	Treatment	Wet Detention	10.22	15.33
2	Pre-Treatment	Dry Detention	.66	.73
2	Treatment	Wet Detention	42.34	63.51

WETLANDS:

Wetlands And Other Surface Waters:

Pursuant to Application No. 140425-12, there were a total of 306.22 acres of uplands and 1,511.79 acres of wetlands (1,818.01 acres total) within the overall permit area. Pursuant to Application No. 120425-8, there are a total of four preserves (Preserve Areas C, D, E, and F) which are located within the boundary of the development area and are part of the stormwater management system. In addition, there are a total of two preserves (Preserve Areas A and B) which are located outside of the development boundary, and are outside of the project's stormwater management system. These six preserve areas contain 995.96 acres of wetlands and 127.92 acres of uplands (1,123.88 acres total). These preserves have been placed under conservation easement.

This modification proposed no direct or secondary wetland impacts, and the proposed development/preserve interface has remained consistent with previous permit authorizations. Therefore, there are no changes proposed to the on-site preserve areas.

Fish And Wildlife Issues:

Pursuant to a wildlife survey conducted in March of 2014, the project site does contain significant habitat for wetland-dependent endangered or threatened wildlife species or species of special concern. The previously authorized mitigation (Application Nos. 120425-8 and 140425-12) will provide or improve habitat for wetland- dependent/ aquatic species. No aquatic or wetland- dependent listed species or species having special protection were observed to be using the uplands within the project for nesting or denning.

This permit does not relieve the applicant from complying with all applicable rules and any other agencies' requirements if, in the future, endangered/threatened species or species of special concern are discovered on the site.

CERTIFICATION, OPERATION, AND MAINTENANCE:

Pursuant to Chapter 62-330.310, F.A.C., Individual Permits will not be converted from the construction phase to the operation phase until construction completion certification of the project is submitted to and accepted by the District. This includes compliance with all permit conditions, except for any long term maintenance and monitoring requirements. It is suggested that the permittee retain the services of an appropriate professional registered in the State of Florida for periodic observation of construction of the project.

For projects permitted with an operating entity that is different from the permittee, it should be noted that until the construction completion certification is accepted by the District and the permit is transferred to an acceptable operating entity pursuant to Sections 12.1-12.3 of the Applicant's Handbook Volume I and Section 62-330.310, F.A.C., the permittee is liable for operation and maintenance in compliance with the terms and conditions of this permit.

In accordance with Section 373.416(2), F.S., unless revoked or abandoned, all SWM systems and works

EXHIBIT A

permitted under Part IV of Chapter 373, F.S., must be operated and maintained in perpetuity.

The efficiency of SWM systems, dams, impoundments, and most other project components will decrease over time without periodic maintenance. The operation and maintenance entity must perform periodic inspections to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation of projects that may endanger public health, safety, or welfare, or the water resources. If deficiencies are found, the operation and maintenance entity will be responsible for correcting the deficiencies in a timely manner to prevent compromises to flood protection and water quality. See Section 12.4 of the Applicant's Handbook Volume I for Minimum Operation and Maintenance Standards.

EXHIBIT A

RELATED CONCERNS:

Water Use Permit Status:

The applicant has indicated that groundwater wells will be used as a source for irrigation water for the project. Water Use Application No. 170316-9 has been submitted and is being reviewed concurrently with this application.

The applicant has indicated that dewatering is required for the construction of the project. Dewatering Application No. 170316-8 has been submitted and is being reviewed concurrently with this application.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Potable Water Supplier:

Collier County Utilities.

Waste Water System/Supplier:

Collier County Utilities.

Right-Of-Way Permit Status:

A District Right-of-Way Permit No. 11652 (Application No. 02-0128-5) issued in May 2003 and subsequent permit modification issued in 2013 (Application No. 12-1113-2M) authorized scalloping and reshaping of the north bank of the Cocohatchee Canal, pedestrian access and outfall culverts.

Historical/Archeological Resources:

The District has received correspondence dated March 16, 2017 from the Florida Department of State, Division of Historical Resources indicating that no significant archaeological or historical resources are recorded in the project area and the project is therefore unlikely to have an effect upon any such properties. This permit does not release the permittee from compliance with any other agencies' requirements in the event that historical and/or archaeological resources are found on the site.

DEO/CZM Consistency Review:

The issuance of this permit constitutes a finding of consistency with the Florida Coastal Management Program.

Third Party Interest:

No third party has contacted the District with concerns about this application.

Enforcement:

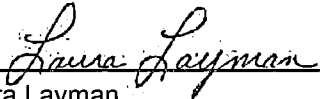
There has been no enforcement activity associated with this application.

EXHIBIT A

STAFF REVIEW:

DIVISION APPROVAL:

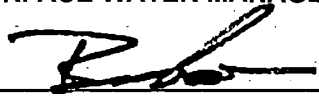
NATURAL RESOURCE MANAGEMENT:



Laura Layman

DATE: 4/4/17

SURFACE WATER MANAGEMENT:



Brian Rose, P.E.

DATE: 4/4/17

EXHIBIT A

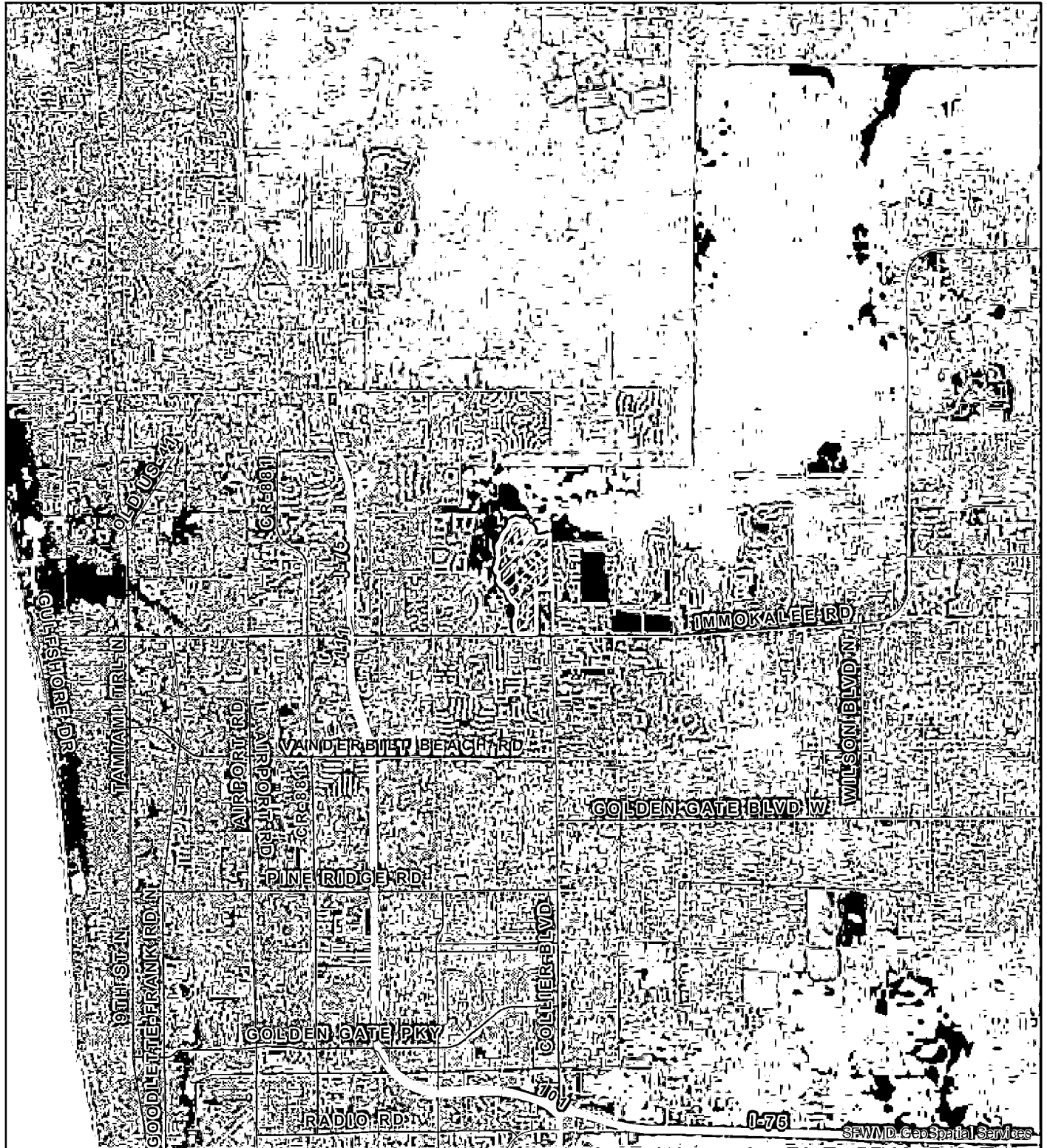






Exhibit No: 1	Exhibit Created On: 2017-02-13	COLLIER COUNTY, FL	 Application Permit No: 11-02031-P Application Number: 170210-6 
<p style="text-align: center;">REGULATION DIVISION</p> <p style="text-align: center;">Project Name: ESPLANADE GOLF AND COUNTRY CLUB (F K A MIRASOL) MOD</p> <div style="display: flex; align-items: center;">  <div style="flex-grow: 1;"> <p style="text-align: center;">0 10,500 21,000</p> <p style="text-align: center;">  Feet </p> </div> </div>			

Filing # 118908477 E-Filed 12/30/2020 04:21:48 PM



**South Florida Water Management District
Individual Environmental Resource Permit No. 11-02031-P
Date Issued: November 5, 2020**

Permittee: Taylor Morrison Esplanade Naples, LLC
Dawn Hatcher

Project: Esplanade

Application No.: 200522-3512

Location: Collier County, See Exhibit 1

Your application for an Individual Environmental Resource Permit is approved. This action is taken based on Chapter 373, Part IV, of Florida Statutes (F.S.) and the rules in Chapter 62-330, Florida Administrative Code (F.A.C.). Unless otherwise stated, this permit constitutes certification of compliance with state water quality standards under section 401 of the Clean Water Act, 33 U.S.C. 1341, and a finding of consistency with the Florida Coastal Management Program. Please read this entire agency action thoroughly and understand its contents.

This permit is subject to:

- Not receiving a filed request for a Chapter 120, F.S., administrative hearing.
- The attached General Conditions for Environmental Resource Permits.
- The attached Special Conditions.
- All referenced Exhibits.

All documents are available online through the District's ePermitting site at www.sfwmd.gov/ePermitting.

If you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

The District does not publish notices of action. If you wish to limit the time within which a person may request an administrative hearing regarding this action, you are encouraged to publish, at your own expense, a notice of agency action in the legal advertisement section of a newspaper of general circulation in the county or counties where the activity will occur. Legal requirements and instructions for publishing a notice of agency action, as well as a noticing format that can be used, are available upon request. If you publish a notice of agency action, please send a copy of the affidavit of publication provided by the newspaper to the District's West Palm Beach office for retention in this file.

If you have any questions regarding your permit or need any other information, please call us at 1-800-432-2045 or email ERP@sfwmd.gov.

Melissa M. Roberts, P.E.
Administrator, Environmental Resource Bureau

Permittees:

**Taylor Morrison Esplanade Naples, LLC
28100 Bonita Grande Drive Suite 102
Bonita Springs, FL 34135**

**Dawn Hatcher
4200 Broken Back Road
Naples, FL 34119**

**South Florida Water Management District
Individual Environmental Resource Permit No. 11-02031-P**

Date Issued: November 5, 2020

Expiration Date: December 26, 2024

Project Name: Esplanade

Permittees: Taylor Morrison Esplanade Naples, LLC
28100 Bonita Grande Drive Suite 102
Bonita Springs, FL 34135

Dawn Hatcher
4200 Broken Back Road
Naples, FL 34119

Operating Entity: Flow Way Community Development District
2900 Northeast 12th Terrace
Oakland Park, FL 33334

Esplanade Golf & Country Club Of Naples, Inc.
28100 Bonita Grande Drive, Suite 203
Bonita Grande, FL 34135

Location: Collier County

Permit Acres: 1828.02 acres

Project Land Use: Residential

Special Drainage District: N/A

Water Body Classification: CLASS III

FDEP Water Body ID: 3278D

Wetland and Surface Water Impacts: N/A

Conservation Easement to District: Yes

Sovereign Submerged Lands: No

Project Summary

This Environmental Resource Permit is for an existing stormwater management (SWM) system serving a 671.51-acre mixed-use residential and golf course development within a 1,828.02-acre site, known as Esplanade Golf and Country Club of Naples.

Current Authorization (Application No. 200522-3512)

This application authorizes the following:

- Update the co-permittee for the Hatcher addition authorized under Application No. 190726-11 from Taylor Morrison of Florida, Inc. to Taylor Morrison Esplanade Naples, LLC.

- Update the Mitigation, Monitoring, and Maintenance Plans (MMMPs) for the Internal Preserves and the Main Preserve. The Main Preserve consists of all preserves depicted on Exhibit No. 3.8.1, with the exception of the Internal Preserves. Please see the MMMPs for the Internal Preserves and the Main Preserve attached as Exhibit Nos. 3.5.1 and 3.6.1.
- Include the Collier County-required preserve areas identified when the Dilillo and Hatcher parcels were added to the Esplanade development. Please see Exhibit No. 3.8.1.

No modifications to any previously authorized construction activities are proposed under this permit modification, Application No. 200522-3512.

Site Description

The site is located north of Immokalee Road and approximately 2.8 miles east of I-75 in Naples, Collier County, Florida. A location map is attached as Exhibit No. 1.0.

There are permitted SWM facilities within the project area. The project site contains existing residential homes, roadways and lakes.

Permit Modification History

Please see Exhibit No. 5.0 for a list of previous authorizations.

Ownership, Operation and Maintenance

Taylor Morrison of Florida, Inc. submitted a purchase agreement for the Hatcher Parcel. Upon sale of the property from Dawn Hatcher to Taylor Morrison Esplanade Naples, LLC, a request for ownership transfer is required to remove Dawn Hatcher from the permit.

Perpetual operation and maintenance of the SWM system and preserves is the responsibility of the Flow Way Community Development District and/or Esplanade Golf & Country Club of Naples, Inc.

Upon completion of construction and in conjunction with submittal of the construction completion certification, a request for transfer to the operating entity and recorded copies of its governing documents must be submitted in accordance with General Condition No. 7.

Related Concerns:

Third Party Interest

District staff has been contacted by multiple third parties with concerns about this application. Please see the ePermitting file for complete details.

General Conditions for Individual Environmental Resource Permits, 62-330.350, F.A.C.

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation, June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5., F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," (October 1, 2013), (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02505>), incorporated by reference herein, indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in subsection 62-330.010(5), F.A.C., and shall be submitted electronically or by mail to the Agency. However, for activities involving more than one acre of construction that also require a NPDES stormwater construction general permit, submittal of the Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities, DEP Form 62-621.300(4)(b), shall also serve as notice of commencement of construction under this chapter and, in such a case, submittal of Form 62-330.350(1) is not required.
5. Unless the permit is transferred under rule 62-330.340, F.A.C., or transferred to an operating entity under rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms, and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex- "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
 - b. For all other activities- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
 - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
 - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as

- applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.4 of Volume I) as filed with the Florida Department of State, Division of Corporations, and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
- b. Within 30 days of submittal of the as-built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation and Maintenance Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
- a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
 - b. Convey to the permittee or create in the permittee any interest in real property;
 - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
 - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the Agency in writing:
- a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, stone tools, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section (DHR), at (850)245-6333, as well as the appropriate permitting agency office. Project activities shall not resume without verbal or written authorization from

the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and the proper authorities notified in accordance with section 872.05, F.S. For project activities subject to prior consultation with the DHR and as an alternative to the above requirements, the permittee may follow procedures for unanticipated discoveries as set forth within a cultural resources assessment survey determined complete and sufficient by DHR and included as a specific permit condition herein.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

Distribution List

Timothy Hall, Turrell, Hall & Associates

Ron Miller

Michelle Diffenderfer

Gregory N. Woods, Esq., Woods, Weidenmiller, Michetti & Rudnick, LLP

Audubon of Florida - Charles Lee

Div of Recreation and Park - District 4

US Army Corps of Engineers - Permit Section

Exhibits

The following exhibits to this permit are incorporated by reference. The exhibits can be viewed by clicking on the links below or by visiting the District's ePermitting website at <http://my.sfwmd.gov/ePermitting> and searching under this application number 200522-3512 .

[Exhibit No. 1.0 Location Map](#)

[Exhibit No. 3.5.1 Internal Preserve Mitigation, Monitoring, and Maintenance Plan](#)

[Exhibit No. 3.6.1 Main Preserve Mitigation, Monitoring, and Maintenance Plan](#)

[Exhibit No. 3.8.1 Conservation Easements Map](#)

[Exhibit No. 5.0 Permit History](#)

NOTICE OF RIGHTS

As required by Chapter 120, Florida Statutes, the following provides notice of the opportunities which may be available for administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes, or judicial review pursuant to Section 120.68, Florida Statutes, when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Some of the legal proceedings detailed below may not be applicable or appropriate for your situation. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Florida Statutes. Persons seeking a hearing on a District decision which affects or may affect their substantial interests shall file a petition for hearing in accordance with the filing instructions set forth herein within 21 days of receipt of written notice of the decision unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Florida Statutes; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Florida Statutes. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, posting, or publication that the District has taken or intends to take final agency action. Any person who receives written notice of a District decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action that materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional point of entry pursuant to Rule 28-106.111, Florida Administrative Code.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Florida Statutes, shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The District may grant the request for good cause. Requests for extension of time must be filed with the District prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and whether the District and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at the District's headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day.

Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, 3301 Gun Club Road, West Palm Beach, Florida 33406.
- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the District's security desk does not constitute filing. It will be necessary to request that the District's security officer contact the Office of the District Clerk. An employee of the District's Clerk's office will receive and process the petition.
- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document.

INITIATION OF ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Rules 28-106.201 and 28-106.301, Florida Administrative Code, initiation of an administrative hearing shall be made by written petition to the District in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other District identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner, petitioner's attorney or qualified representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the District's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the District's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the District's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the District to take with respect to the District's proposed action.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Florida Statutes, and Rules 28-106.111 and 28-106.401–.405, Florida Administrative Code. The District is not proposing mediation for this agency action under Section 120.573, Florida Statutes, at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Section 120.68, Florida Statutes, and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final District action may seek judicial review of the District's final decision by filing a notice of appeal with the Office of the District Clerk in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the appropriate district court of appeals via the Florida Courts E-Filing Portal.

/ED
DISTRICT CLERK'S OFFICE

3:08 pm Dec 15, 2020

**BEFORE THE GOVERNING BOARD OF THE
SOUTH FLORIDA WATER MANAGEMENT DISTRICT** **SOUTH FLORIDA
WATER MANAGEMENT DISTRICT**



FLOW WAY COMMUNITY
DEVELOPMENT DISTRICT,

Petitioner,

vs.

SFWMD NO. 2020-058-DAO-ERP

SOUTH FLORIDA WATER MANAGEMENT
DISTRICT and TAYLOR MORRISON
ESPLANADE OF NAPLES, LLC,

Respondents.

_____ /

AMENDED PETITION FOR ADMINISTRATIVE HEARING

COMES NOW the Petitioner, Flow Way Community Development District ("CDD"), by and through its undersigned counsel, and amends its Petition for Administrative Hearing submitted on November 23, 2020, pursuant to the Order Dismissing Petition for Administrative Hearing with Leave to Amend, dated December 8, 2020, to state as follows:

1. **Identification of Action Being Contested:** South Florida Water Management District's ("District") approval of the application for an Individual Environmental Resource Permit, relating to the Esplanade Project, Permit No. 11-02031-P, as modified by the permit modification, Application No. 200522-3512 ("Modified Permit").

2. **Contact Information for Petitioner:**

Flow Way Community Development District
c/o Gregory N. Woods, Esq.
9045 Strada Stell Ct., Ste. 400
Naples, Florida 34109
Phone: 239-325-4070; Facsimile: 239-325-4080
Email: gwoods@lawfirmnaples.com

EXHIBIT C

3. **Explanation of Substantial Interests Affected:** The CDD is currently listed as the operating entity under the Individual Environmental Resource Permit No. 11-02031-P and therefore has a substantial interest in any modifications to said permit. Further, the CDD was previously and improperly burdened with ownership of the Preserves and the maintenance obligations for said Preserves by Taylor Morrison Esplanade of Naples, LLC and/or Taylor Morrison of Florida, Inc. (collectively “TM”) while the CDD was under developer-control. The Preserves, and the CDD’s substantial interests therein, are being affected by the modification to the Modified Permit, because the Modified Permit now updates the Mitigation, Monitoring, and Maintenance Plans (“MMMPs”) to designate the CDD as the entity responsible for the long-term management and maintenance of the Preserves. Specifically, the MMMP for the Main Preserve now states that the CDD and/or the Esplanade Golf and Country Club “will be responsible for the management and maintenance of these preserves in perpetuity.” See Mitigation/Monitoring/Maintenance Plan for Main Preserve, revised October 2020, at p. 14.

4. **Petitioner’s Receipt of District’s Decision:** The CDD received notice of the agency action by letter sent from Melissa M. Roberts, P.E., dated November 5, 2020, a copy of which was distributed to Attorney Gregory N. Woods, Esq. on November 5, 2020.

5. **Statement of Disputed Issues of Material Fact:** The CDD disputes that it should be approved as a long-term maintenance and/or management entity for the Preserves, and particularly the Main Preserve. The CDD disputes that it is a qualified entity for said long-term maintenance or management and disputes that it should be responsible for the long-term funding of maintenance and/or management of these Preserves.

Special Condition No. 20 of the November 2012 Permit expressly states that “[a] mitigation program for Mirasol [now Esplanade] shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6. ***The permittee shall preserve and enhance 127.92 acres of uplands and 995.96 acres of wetlands*** (1123.88 acres total).” (emphasis supplied). As TM is, and at all

EXHIBIT C

times relevant was, the “permittee” referred to by the Special Conditions, the obligations to operate and maintain the Preserves in question should remain with TM—not the CDD.

Special Condition No. 21 further clarifies that said maintenance by TM, as referred to above, shall be “in perpetuity”. Condition No. 25 also states as follows with respect to funding:

Should the permit be transferred from the construction to operational phase prior to the completion of the mitigation and monitoring program, it will be incumbent upon the original permittee to either keep the existing financial assurance in force or provide replacement financial assurance in the name of the operational entity. The existing financial assurance cannot be released until a replacement document is received and accepted by the District.

These “financial assurances” were presumably, initially provided by TM, as permittee; and, TM should not therefore be permitted to transfer such financial obligations onto another entity, contrary to the Special Condition requirements of the District Permit.

General Condition 7 of the Permit similarly provides as follows:

The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved

responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

Alternatively, an appropriate environmental group should be proposed and ultimately approved for the long-term maintenance and management of these Preserves, with the requisite financial assurances being provided by said entity, as also required by the Special Conditions. Because these conditions have not occurred, and are not occurring, the Modified Permit should not have been approved to make the CDD a long-term maintenance entity for the Main Preserve or the long-term maintenance entity for the Internal Preserves.

6. Statement of Ultimate Facts Alleged, Including Those Warranting Reversal of the District’s Proposed Action:

The MMMP, revised as of November 26, 2012, initially provided as follows:

[o]nce the exotic vegetation has been removed and the native vegetation restored, the intent of the applicant is to donate the preserve to CREW or another

EXHIBIT C

appropriate land management entity for perpetual preservation. Until such time as that may happen however, it will be the responsibility of the CDD or homeowner's association to maintain the preserve.

See MMMP, revised November 26, 2012, at p. 8.

It then further provided as follows:

[i]n addition to meeting the success criteria of the preserve with respect to the exotic removal and native vegetation re-establishment and the future donation of the property to an appropriate land management entity, ***the applicant will also establish a non-wasting escrow fund for the long-term maintenance of the preserve. The amount of the escrow fund will be determined at the time the preserve is turned over and be based on the expected long-term maintenance requirements.*** It is felt that ***the donation of the preserve to an entity specifically charged with property maintenance and preservation, in lieu of perpetual management by a homeowners association that may not be fully equipped or experienced in preservation management techniques, will be more appropriate for a preserve of this size.***

Id. (emphasis supplied).

Contrary to the initial terms of the MMMP, TM sought, through its May 20, 2020, Modification Request to amend the MMMP to do the following:

- (i) With respect to the Internal Preserves (Exhibit 3.5 of Application No. 120425–8), identify the Flow Way Community Development District and/or Esplanade Golf and Country Club as the maintenance entities; and
- (ii) With respect to the Main Preserve (Exhibit 3.6 of Application No. 120425–8), to identify the Flow Way Community Development District to be the long-term maintenance entity.

See May 20, 2020 Correspondence, Re: District Permit No.: 11–02031–P, from Timothy Hall to Laura Layman of the SFWMD.

TM has not demonstrated that either the CDD or the Esplanade Golf and Country Club are appropriate entities to be charged with the long-term maintenance and management of the Preserves. Further, TM has presented no evidence that it offered to donate the Preserves to “another appropriate land management entity for perpetual preservation,” other than CREW as the November 2012 MMMP required. Absent such evidence being demonstrated, the Modification Request should not have been approved.

EXHIBIT C

The CDD Board is no longer developer-controlled, and any modification request submitted prior to this time was submitted by a developer-controlled Community Development District contrary to the terms and conditions of its own Permit. The CDD will no longer be acting as an arm of TM, and any such prior authorization granted to Andrew Miller, as a representative of TM, and/or to Tim Hall of Turell, Hall & Associates has since been revoked by letter to the District, dated November 20, 2020. The CDD hereby withdraws its participation in, and obligations under, the permit modification.

7. **Rules or Statutes Requiring Reversal or Modification of the District's Proposed Action:** Rule 40E-1.609(2) of the Florida Administrative Code provides that the "District may temporarily suspend or revoke a permit, in whole or in part, when it determines that the permittee or an agent of the permittee has: (a) [s]ubmitted false or inaccurate information on an application or operational report; . . . [or] (d) [v]iolated a condition of the permit." Rule 40E-1.609(3) further grants the District the authority to "revoke a permit or modify its terms and conditions when it determines such action is necessary to protect the public health, safety and welfare, prevent a public or private nuisance, or when the continued utilization of the permit becomes inconsistent with the objectives of the District."

8. **How the Alleged Facts Relate to the Above-Referenced Rules and/or Statutes:** The facts alleged in Paragraphs 5-6, above, demonstrate that TM has violated the terms and condition of Permit No. 11-02031-P, by failing to secure an appropriate long-term maintenance entity for the Preserves. Under Rules 40E-1.609(2) and 40E-1.609(3) of the Florida Administrative Code, the District has the authority to therefore revoke the Modified Permit.

9. **Statement of Relief Requested:** For the reasons stated herein, the CDD requests reversal of the District's approval of the permit modification, Application No. 200522-3512, as it relates to the Individual Environmental Resource Permit more particularly described in

EXHIBIT C

Paragraph 1, above. Alternatively, the CDD requests an administrative hearing on the issues raised herein and that an administrative law judge be assigned to conduct the hearing.

Dated: December 15, 2020.

**WOODS, WEIDENMILLER, MICHETTI &
RUDNICK, LLP**

By: /s/ Gregory N. Woods

Gregory N. Woods

Florida Bar No. 175500

Jessica F. Tolin

Florida Bar No. 124266

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Secondary Email: mdipalma@lawfirmnaples.com

Secondary Email: service@lawfirmnaples.com

Attorneys for the Petitioner Flow Way CDD

EXHIBIT C

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that the foregoing document has been served on the following via e-mail on this 15th day of December, 2020:

Office of the District Clerk
3301 Gun Club Road
West Palm Beach, Florida 33406
Email: clerk@sfwmd.gov

Julia G. Lomonico, Esq.
Office of General Counsel
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406
Email: jlomonic@sfwmd.gov

KEVIN S. HENNESSY, ESQ.
LEWIS, LONGMAN & WALKER, P.A.
100 Second Ave S., Suite 501-S
St. Petersburg, FL 33701
Tel: (727) 245-0820
Fax: (727) 290-4057
Primary Email: khennessy@llw-law.com
Secondary Email: jbissette@llw-law.com
jdavy@llw-law.com

MICHELLE DIFFENDERFER
LEWIS, LONGMAN & WALKER, P.A.
515 North Flagler Drive, Suite 1500
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Tel: (561)640-0820
Primary Email: mdiffenderfer@llw-law.com
Secondary Email: kscherette@llw-law.com

[Signature Block to Follow]

EXHIBIT C

**WOODS, WEIDENMILLER, MICHETTI &
RUDNICK, LLP**

By: /s/ Gregory N. Woods

Gregory N. Woods

Florida Bar No. 175500

Jessica F. Tolin

Florida Bar No. 124266

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Attorneys for the Petitioner Flow Way CDD

Filing # 118908477 E-Filed 12/30/2020 04:21:48 PM

EXHIBIT D**DEPARTMENT OF THE ARMY PERMIT**

Permittee: J.D. Nicewonder, Jr.
148-B Bristol East Road
Bristol, Virginia 24201

OCT 11 2007

Permit No: SAJ-2000-1926.(IP-HWB)

Issuing Office: US Army Engineer District, Jacksonville

NOTE: The term "you" and its derivatives, as used in this permit, mean the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the US Army Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Authorization for the construction of a residential development, a thirty-six (36) hole golf course and storm water management system on a 1713.45-acre site for the project known as "Mirasol". The project will require the discharge approximately 2,100,000 cubic yards of fill material into 518.67 acres of wetlands and the excavation of approximately 1,800,000 cubic yards of fill material from 126.68 acres of wetlands. The project also includes contouring the north bank of the Cocohatchee Canal. All work is to be completed in accordance with the attached plans numbered SAJ-2000-1926 (IP-HWB), 23 pages dated 12 December 2006. These drawings can be found in Attachment A, which is attached to, and becomes part of, this permit.

Project Location: The proposed project site involves freshwater-forested wetlands within the Cocohatchee watershed and is located north of Immokalee Road and east of Interstate 75 in Sections 10, 11, 15, and 22, Township 48 South, Range 26 East, Collier County, Florida.

Latitude 26°17'37" N, Longitude 81°41'51" W

EXHIBIT D

Permittee: J.D. Nicewonder, Jr.
Permit No: SAJ-2000-1926 (IP-HWB)

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **October 5, 2012**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature and mailing address of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached (see Attachment B).
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

EXHIBIT D

Permittee: J.D. Nicewonder, Jr.
Permit No: SAJ-2000-1926 (IP-HWB)

Special Conditions:

1. The permittee shall notify the Corps in writing at least 48 hours prior to commencement of the work authorized by this permit and shall provide a written status report every six months until the authorized work has been completed. This commencement notification, status reports, monitoring reports, and all other reports regarding this permit shall be submitted to the U.S. Army Corps of Engineers, Regulatory Division, Enforcement Section, P.O. Box 4970, Jacksonville, Florida 32232-0019 and shall reference the permit number. Status reports can be included with monitoring reports.

2. Interior to the development, the permittee shall preserve and enhance 54.52 acres of wetlands and 2.24 acres of uplands. This 56.76 acres of interior preserves are identified as Wetland Preserves A - F and consists of the following:

Internal Preserve	Wetlands	Uplands	Total Acreage
A	11.46 acres	0.00 acres	11.46 acres
B	8.34 acres	0.15 acres	8.49 acres
C	9.67 acres	0.0 acres	9.67 acres
D	2.74 acres	0.0 acres	2.74 acres
E	13.79 acres	0.0 acres	13.79 acres
F	8.52 acres	2.09 acres	10.61 acres

3. The permittee shall enhance, manage, maintain and preserve the 56.76 acres of interior preserves in accordance with the Interior Mitigation and Monitoring Plan (Attachment C) unless otherwise specifically stated in the Special Conditions of this permit. The 56.76 acres of interior preserves shall remain in a natural state in perpetuity and shall not be disturbed by any dredging, filling, land clearing, agricultural activities, planting, or other construction work whatsoever unless authorized in Attachment C or by the Corps of Engineers. Any additional work in the interior preserves shall require Department of the Army authorization, either as a modification to any permit issued or a separate authorization, and may require additional mitigation.

4. The permittee shall prepare a legally sufficient conservation easement for the 56.76 - acre internal preserves in accordance with Attachment D. The South Florida Water Management District (SFWMD) shall be the grantee for the conservation easement with enforcement rights to the Corps of Engineers.

EXHIBIT D

Permittee: J.D. Nicewonder, Jr.
Permit No: SAJ-2000-1926 (IP-HWB)

5. In addition to the 56.76-acre interior preserves, the permittee shall enhance and preserve 776.83 acres of wetlands and 106.88 acres of uplands identified as the main preserve. The permittee shall enhance, manage, maintain and preserve the 883.71-acre main preserve in accordance with the Main Preserve Mitigation and Monitoring Plan (Attachment E) unless otherwise specifically stated in the Special Conditions of this permit. The 883.71-acre main preserve shall remain in a natural state in perpetuity and shall not be disturbed by any dredging, filling, land clearing, agricultural activities, planting, or other construction work whatsoever unless authorized in Attachment E or by the Corps of Engineers. Any additional work in the main preserve shall require Department of the Army authorization, either as a modification to any permit issued or a separate authorization, and may require additional mitigation.
6. The permittee shall prepare a legally sufficient conservation easement for the 883.71-acre main preserve (minus 1.2 acre access easement) in accordance with Attachment D. The South Florida Water Management District (SFWMD) shall be the grantee for the conservation easement with enforcement rights to the Corps of Engineers.
7. The permittee shall monitor the 56.76-acre interior preserves and the 883.71-acre main preserve. Monitoring should consist of baseline monitoring (prior to mitigation construction), time-zero monitoring (within 30 days following completion of the mitigation work), and annual monitoring reports thereafter. Each monitoring report will include data collected on vegetation, wildlife, rainfall, and wetland water levels, and other information as described in the mitigation and monitoring plans (Attachments C and E), and must also include the following items:
 - the Department of the Army Permit number,
 - the sequence number of the report being submitted,
 - the date the next report is expected to be submitted, and
 - a brief summary of the status of the mitigation including any problems encountered and the remedial actions taken.
8. The permittee shall monitor the 56.76-acre interior preserves for a minimum of five (5) years or until the success criteria has been met for three (3) consecutive years. Success criteria are described in Attachment C and include that all interior preserves have a self-sustaining vegetation community with a minimum of 90 percent aerial coverage and less than 4 percent nuisance or exotic vegetation. A request for a final inspection shall be submitted to the Corps of Engineers and the Corps of Engineers shall make the success determination.
9. The permittee shall monitor the 883.71-acre main preserve for a minimum of five (5) years or until the success criteria has been met for three (3) consecutive years. Success criteria are described in Attachment E. A request for a final inspection shall be submitted to the Corps of Engineers and the Corps of Engineers shall make the success determination.

EXHIBIT D

Permittee: J.D. Nicewonder, Jr.
Permit No: SAJ-2000-1926 (IP-HWB)

10. The 56.76-acre interior preserves and the 883.71-acre main preserve shall be enhanced and managed in perpetuity for the control of invasive exotic vegetation, such as defined by the Florida Exotic Pest Plant Council's 2005 List of Invasive Species (Category 1 & 2)(Attachment F). There shall be no invasive exotic vegetation or nuisance plant species of seed bearing size in the mitigation area. Plants over three feet in height are considered to be seed bearing size. At no time shall the density of invasive exotic vegetation or nuisance plant species smaller than seed bearing size exceed 2% of the aerial cover in any individual stratum at any sampling point. At no time shall the total density of invasive exotic vegetation or nuisance plant species smaller than seed bearing size exceed a total of 4% for all strata at any sampling point.
11. The applicant will complete all mitigation, except for ongoing monitoring and adjustments to the mitigation authorized by the Corps, within two years of project commencement.
12. The permittee shall maintain and monitor the 883.71-acre main preserve in accordance with this permit until such time that the permittee transfers the ownership of the parcel to the Corkscrew Regional Ecosystem Watershed (CREW) Land Trust. The transfer of ownership shall include an endowment fund to ensure the perpetual maintenance and management of the main preserve as a natural area. Upon transfer of ownership, the permittee shall provide documentation to the Corps of Engineers to include a statement from CREW that, the parcel has been transferred and that an endowment fund has been provided to ensure perpetual maintenance and management of said parcel, and that CREW now assumes full responsibility for the perpetual maintenance and management of the parcel as described in these special conditions.
13. The cost per acre and total amount of the endowment fund is to be determined by CREW at the time of land transfer.
14. Prior to initiating any clearing or construction activities authorized by this permit, the permittee shall provide documentation to the Corps of Engineers that 27.38-wetland credits have been purchased from Panther Island Mitigation Bank.
15. This Corps of Engineers permit does not authorize you to take an endangered species, in particular the wood storks (*Mycteria americana*) and the Florida panther (*Puma concolor coryi*). In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., an ESA Section 10 permit, or a Biological Opinion (BO) under Section 7, with "incidental take" provisions with which you must comply). The enclosed US Fish and Wildlife (FWS) Biological Opinion (Attachment G) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this Corps of Engineers permit is conditional upon

EXHIBIT D

Permittee: J.D. Nicewonder, Jr.
Permit No: SAJ-2000-1926 (IP-HWB)

your compliance with all of the mandatory terms and conditions associated with incidental take of the attached BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps of Engineers permit. The FWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.

16. The permittee shall follow the *Standard Protection Measures for the Eastern Indigo Snake* during construction (Attachment H).

17. Within 60 days of completion of the work authorized and mitigation, the permittee shall provide to the US Army Corps of Engineers as-built drawings of the authorized work, including mitigation, and a completed As-Built Certification Form (Attachment I).

18. The Corps of Engineers reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to on-site or off-site wetlands, uplands, conservation areas or buffers, or other surface waters have occurred due to project related activities.

19. Within the 883.71-acre main preserve is a 1.2-acre access easement. The 1.2-acre access easement will not be placed under a conservation easement but will be restored and maintained in accordance with the main preserve. Department of the Army authorization will be required for any work conducted within this easement except as stated in this permit.

EXHIBIT D

Permittee: J.D. Nicewonder, Jr.
Permit No: SAJ-2000-1926 (IP-HWB)

Further Information:

1. **Congressional Authorities:** You have been authorized to undertake the activity described above pursuant to:

() Section 10 of the Rivers and Harbors Act of 1899
(33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. **Limits of this authorization.**

a. This permit does not obviate the need to obtain other Federal, State, and local authorization required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. **Limits of Federal Liability.** In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

EXHIBIT D

Permittee: J.D. Nicewonder, Jr.
Permit No: SAJ-2000-1926 (IP-HWB)

4. **Reliance on Applicant's Data:** The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. **Reevaluation of Permit Decision:** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).
- c. Significant new information surfaces, which this office did not consider in reaching the original public interest, decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. **Extensions:** General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

EXHIBIT D

Permittee: J.D. Nicewonder, Jr.
Permit No: SAJ-2000-1926 (IP-HWB)

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

J.D. Nicewonder, Jr. _____ 10/09/07 _____
(PERMITTEE) (DATE)

J.D. NICEWONDER, JR. _____ OWNER _____
(TYPE OR PRINT PERMITTEE NAME AND TITLE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Paul L. Grosskruger _____ 10-11-07 _____
(DISTRICT ENGINEER) (DATE)
PAUL L. GROSSKRUGER
Colonel, U.S. Army

THIS PERMIT CONTAINS 9 ATTACHMENTS, TOTALING 215 PAGES

- Attachment A – Development Plans (24 pages dated 12 December 2006)
- Attachment B – ERP Special Conditions (SFWMD ERP Modification No 11-02031-P Issued 12 October 2006 (6 pages)
- Attachment C – Mitigation and Monitoring: Internal Preserves (14 Pages)
- Attachment D – Conservation Easement (1 page)
- Attachment E – Mitigation and Monitoring: Main Preserve (12 Pages)
- Attachment F – Florida Exotic Pest Plant Council's 2005 List of Invasive Species (6 pages)
- Attachment G – FWS Biological Opinion dated 3 May 2007 (147 pages)
- Attachment H – Standard Protection Measures for the Eastern Indigo Snake (2 pages)
- Attachment I – As-Built Certification (3 Pages)

EXHIBIT D

Permittee: J.D. Nicewonder, Jr.
Permit No: SAJ-2000-1926 (IP-HWB)

Permit Transfer: When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(PERMITTEE – SIGNATURE AND TITLE)

J.D. Nicewonder, Jr.
148-B Bristol East Road
Bristol, Virginia 24201

(DATE)

PERMIT NUMBER: SAJ-2000-1926 (IP-HWB)

LOCATION & AUTHORIZED WORK:

This permit authorizes the construction of a residential and golf course development known as "Mirasol" and is located on a 1713.45-acre parcel in Sections 10, 11, 15, and 22, Township 48 South, Range 26 East, Collier County, Florida.
Latitude 26°17'37" N, Longitude 81°41'51"W

(TRANSFEREE - SIGNATURE)

(DATE)

(NAME AND TITLE - PRINTED/TYPED)

(NAME AND ADDRESS (CITY, STATE, AND ZIP CODE) - PRINTED/TYPED)

(TELEPHONE NUMBER)

The above transfer agreement should be completed and mailed to the local Corps of Engineers Regulatory Office or to:

U.S. Army Corps of Engineers, Jacksonville District
ATTN: Regulatory Division, Enforcement Section
P.O. Box 4970
Jacksonville, Florida 32232-0019

EXHIBIT D

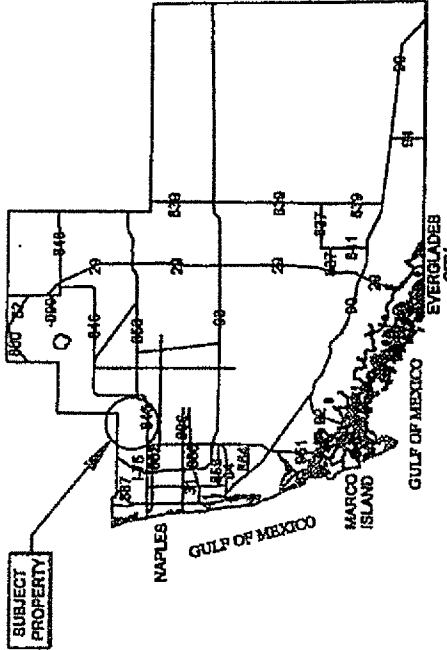
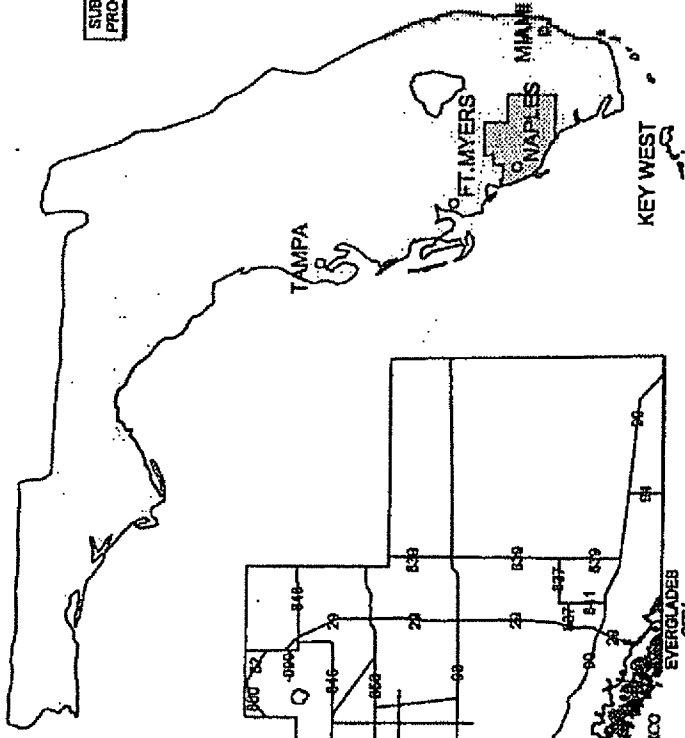
SAJ-2000-1926(IP-HWB)
Mirasol (revised)

ATTACHMENT A DEVELOPMENT PLANS

24 pages dated 12 December 2006

EXHIBIT D

STATE OF FLORIDA



COLLIER COUNTY



NOTES:
 ↔ THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY
 AND ARE NOT INTENDED FOR CONSTRUCTION USE.

ATTACHMENT A

Mirasol (Revised) (Revised)
 Development Plans

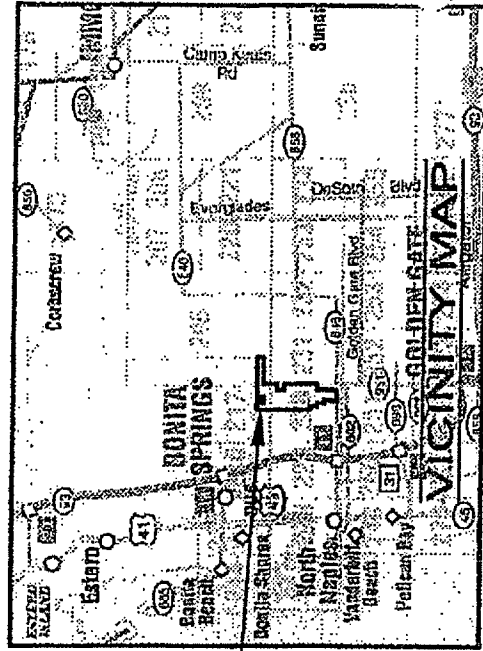
SAJ-2000-1926(IP-HWB)

12 December 2006 Page 1 of 24

Inc.
 Building
 04-3732
 43-6632

MIRASOL

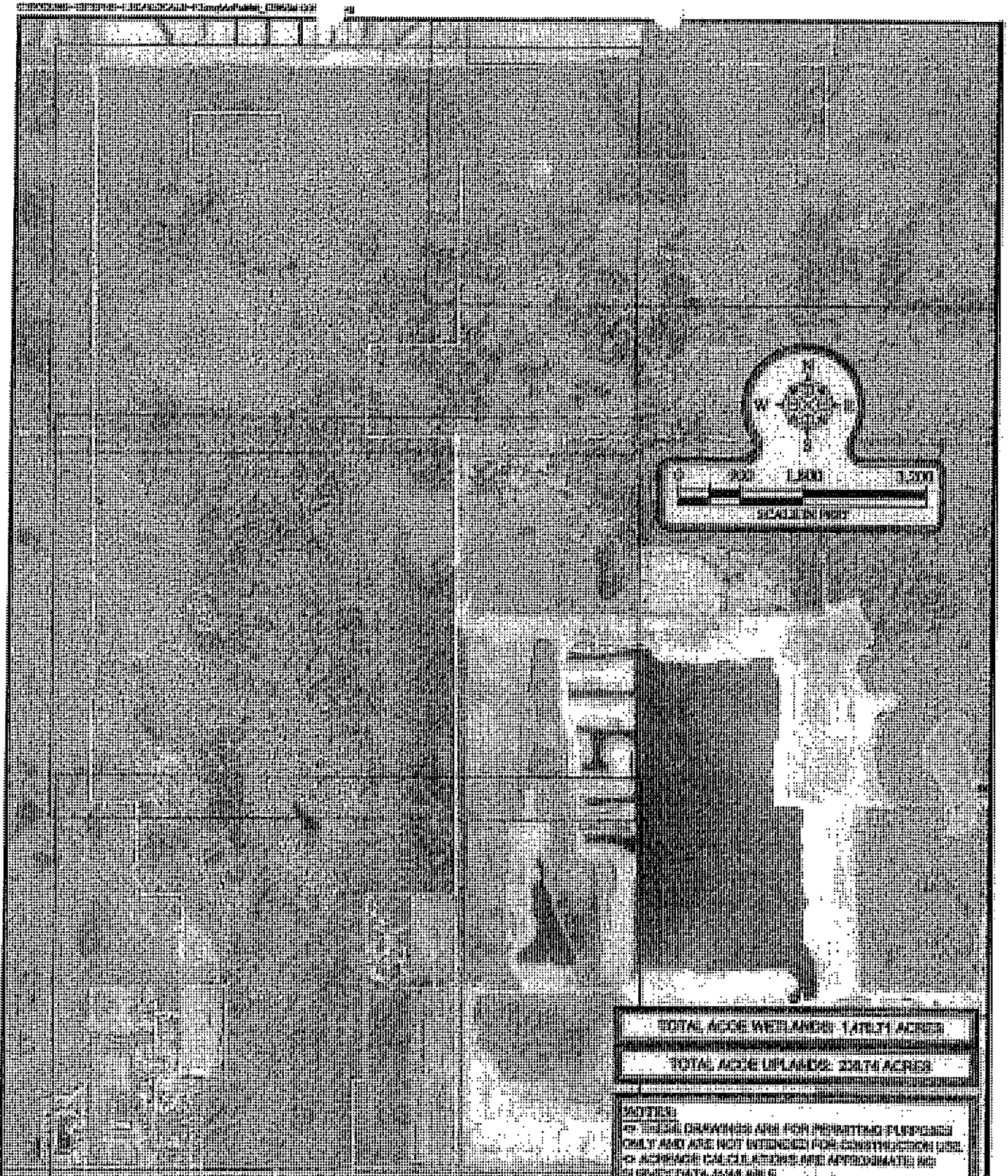
SITE LOCATION MAP



DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Location
DRAWN BY:	88	N/A	SHEET:	
CREATED:	04-25-06	N/A	SCALE:	1"=300'
JOB NO.:	0418	N/A		

SECTION-22 TOWNSHIP-48 B RANGE-28 E

EXHIBIT D



TOTAL ACRES WETLANDS: 146.71 ACRES

TOTAL ACRES UPLANDS: 224.74 ACRES

NOTES:
 * THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 * APPROXIMATE CALCULATIONS AND APPROXIMATE SURVEY DATA AVAILABLE.

ATTACHMENT A
 Mirasol (Revised)
 Development Plans
 SAJ-2000-4826(P-1-WB)
 12 December 2016 Page 2 of 24

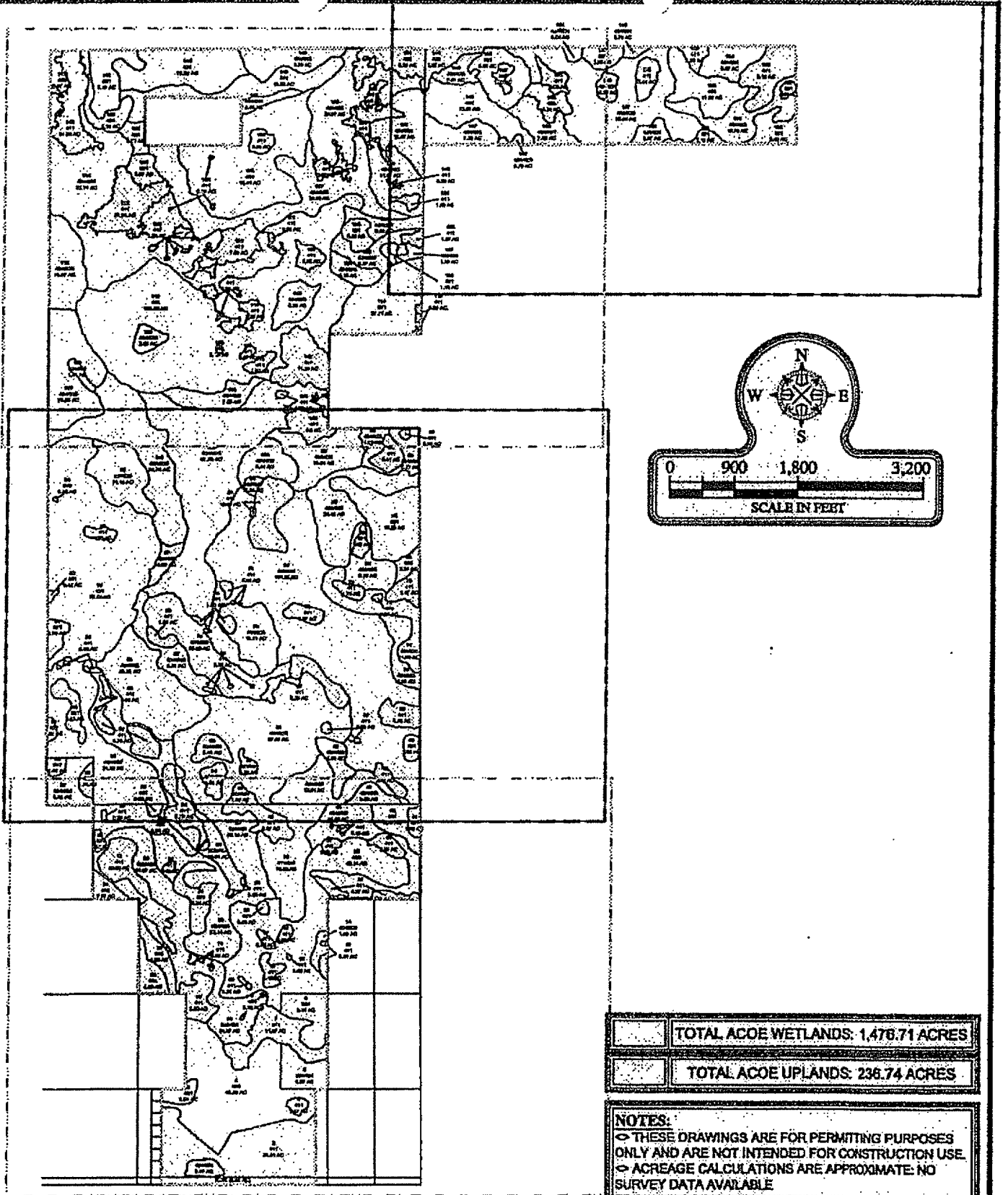
C.
 20
 750
 400

MIRASOL
 2000 SITE AERIAL

DATE	BY	REVISION	DESCRIPTION
04/03/08	SAJ	01	ISSUE FOR PERMITTING
04/03/08	SAJ	02	ISSUE FOR PERMITTING
04/03/08	SAJ	03	ISSUE FOR PERMITTING

EXHIBIT D

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TOTAL ACOE WETLANDS: 1,476.71 ACRES

TOTAL ACOE UPLANDS: 236.74 ACRES

NOTES:

⊖ THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ⊖ ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

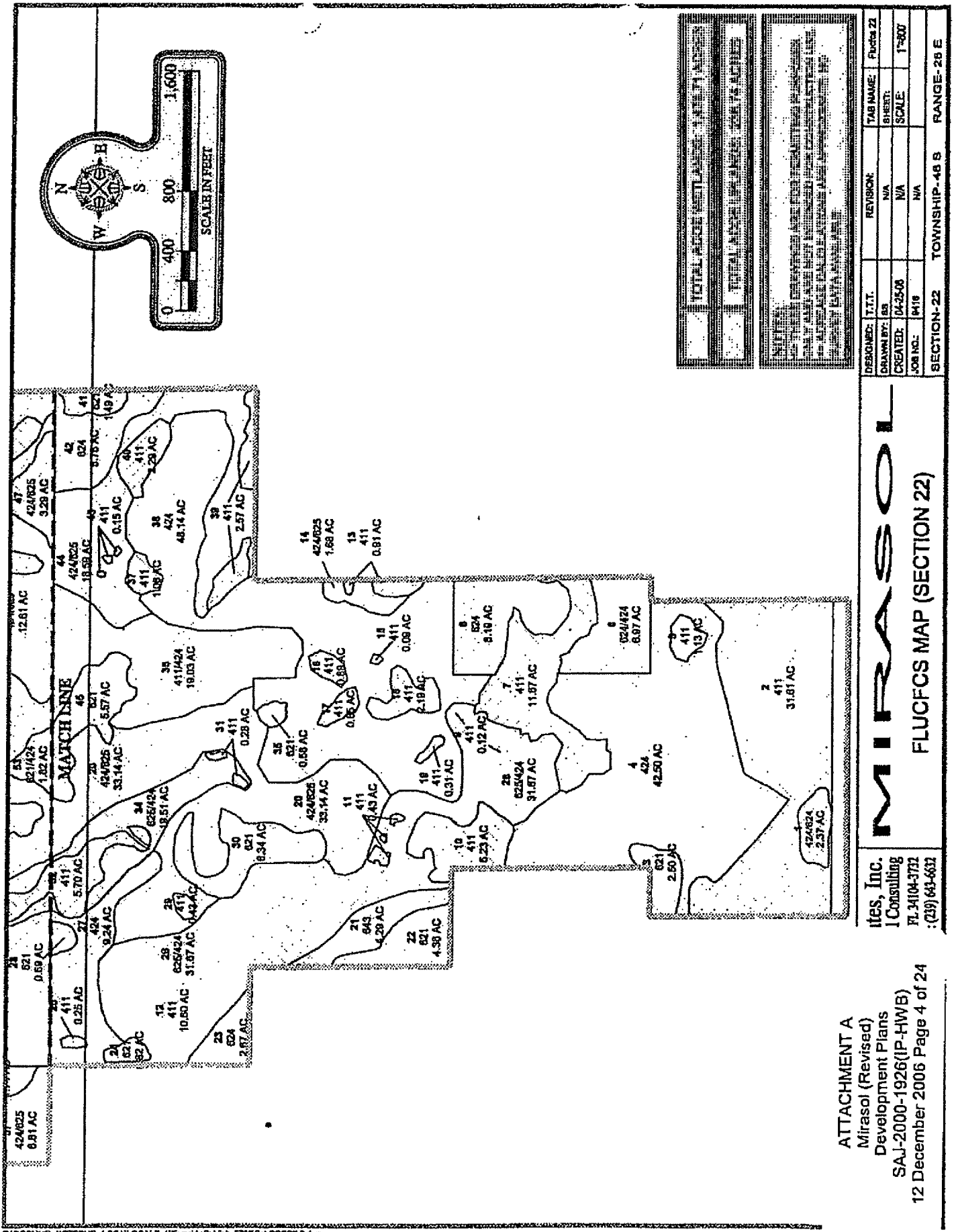
ATTACHMENT A
 Mirasol (Revised)
 Development Plans
 SAJ-2000-1926(IP-HWB)
 12 December 2006 Page 3 of 24

Inc.
 sulting
 04-3732
 943-6632

MIRASOL
 ACOE FLUCFCS MAP (ALL)

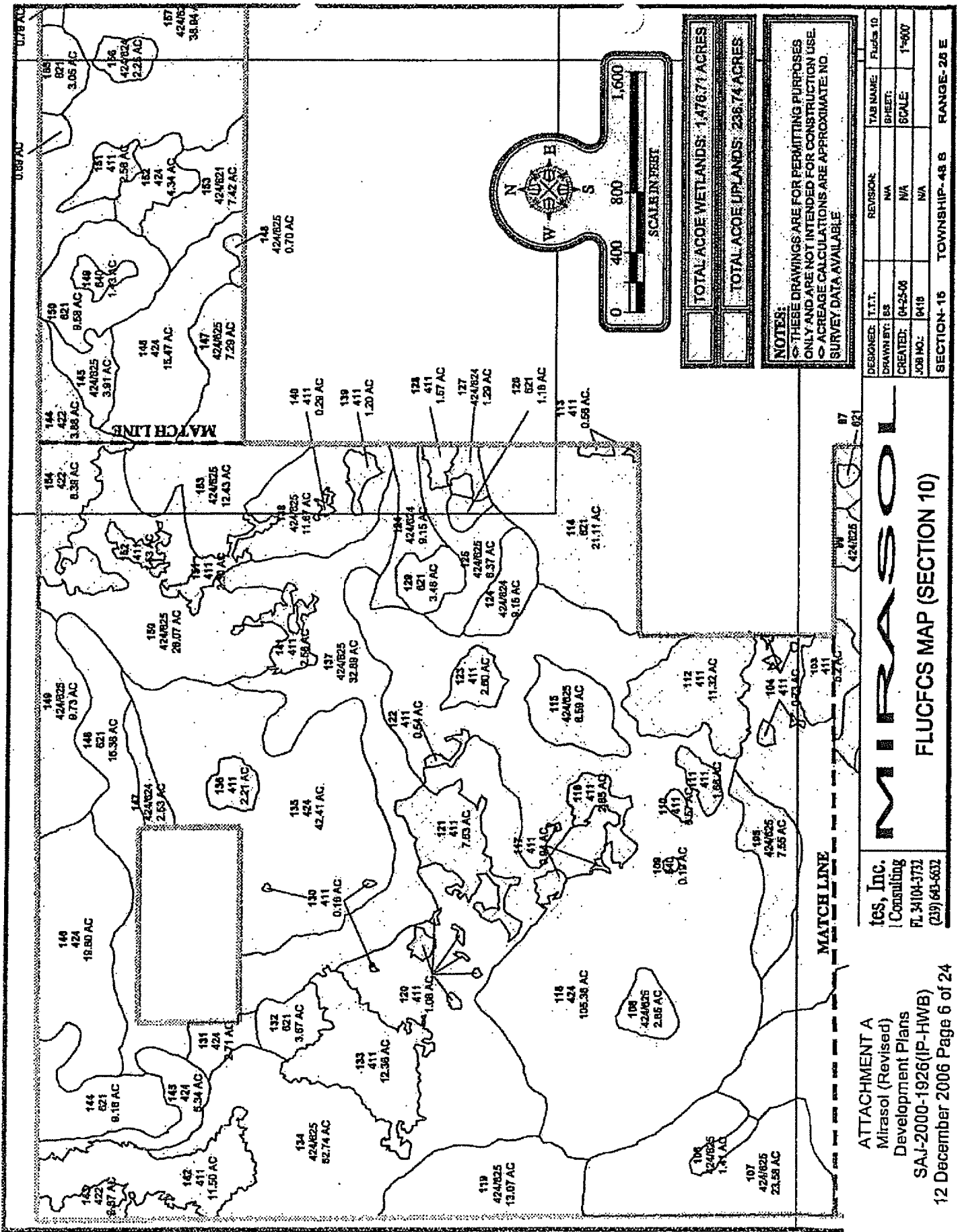
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DRAWN BY:	ES	N/A	SHEET:	
CREATED:	04-25-06	N/A	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP-48 S RANGE-28 E				

EXHIBIT D



ATTACHMENT A
Mirasol (Revised)
Development Plans
SAJ-2000-1926(IP-HWB)
12 December 2006 Page 4 of 24

EXHIBIT D



TOTAL ACCE WETLANDS: 1,476.77 ACRES

TOTAL ACCE UPLANDS: 236.74 ACRES

NOTES:
 THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

DESIGNED: T.T.T.	REVISION: N/A	TAB NAME: FLUGCS 10
DRAWN BY: BS	BY-RE: N/A	
CREATED: 04-25-06	N/A	SCALE: 1"=600'
JOB NO: 0415	N/A	
SECTION-15		TOWNSHIP-4S R
RANGE-25 E		

MIRASOL

FLUCFCS MAP (SECTION 10)

tes, Inc.
 Consulting
 FL 34104-3732
 (239) 683-6632

ATTACHMENT A
 Mirasol (Revised)
 Development Plans
 SAI-2000-1926(IP-HWB)
 12 December 2006 Page 6 of 24

EXHIBIT D

TABLE 1

December 12, 2006

MIF L ACOE FLUCCS INFORMATION SUMMARY

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
1	424/624	Melaleuca(>75%) / Cypress / Pine		2.37					0.40	1.97	2.37
2	411	Pine Flatwoods	31.61								
3	621	Cypress		2.50					0.98	1.52	2.50
4	424	Melaleuca		42.50					10.38	32.12	42.50
5	411	Pine Flatwoods	1.13								
6	624/424	Pine / Cypress / Melaleuca (>50%)		6.97					1.17	5.80	6.97
7	411	Pine Flatwoods	11.67								
8	624	Pine / Cypress		8.19					0.84	7.55	8.19
9	411	Pine Flatwoods	0.12								
10	411	Pine Flatwoods	5.23								
11	411	Pine Flatwoods	0.43								
12	411	Pine Flatwoods	10.60			0.15					
13	411	Pine Flatwoods	0.91								
14	625/424	Pine Flatwoods / Melaleuca (>50%)		1.68					0.28	1.40	1.68
15	411	Pine Flatwoods	0.09								
16	411	Pine Flatwoods	0.89								
17	411	Pine Flatwoods	0.85								
18	411	Pine Flatwoods	2.19								
19	411	Pine Flatwoods	0.31								
20	424/625	Melaleuca(>50%) / Pine Flatwoods		33.14	3.43				8.88	20.83	29.71
21	643	Disturbed Wet Prairie		4.29	0.85				0.53	2.91	3.44
22	621	Cypress		4.36	4.36						
23	624	Pine / Cypress		2.67	2.67						
24	621	Cypress		0.82						0.82	0.82
25	411	Pine Flatwoods	0.25								
26	625/424	Pine Flatwoods / Melaleuca (>25%)		31.67	0.96				6.19	24.52	30.71
27	424	Melaleuca		9.24					2.08	7.18	9.24
28	621	Cypress		0.69						0.69	0.69
29	411	Pine Flatwoods	0.43								
30	621	Cypress		6.34	6.34						
31	411	Pine Flatwoods	0.28								
32	411	Pine Flatwoods	5.70								
33	411	Pine Flatwoods	4.78								
34	625/424	Pine Flatwoods / Melaleuca (>25%)		19.51					7.24	12.27	19.51
35	621	Cypress		0.58	0.55					0.03	0.03
36	625/424	Pine Flatwoods / Melaleuca (>25%)		19.02	2.72				0.89	15.41	16.30
37	411	Pine Flatwoods	1.06								
38	424	Melaleuca		48.14	1.39				7.88	38.87	46.75
39	411	Pine Flatwoods	2.57								
40	411	Pine Flatwoods	2.29								
41	621	Cypress		1.49	1.27					0.22	0.22
42	624	Pine / Cypress		5.76	0.88				1.93	2.95	4.88
43	411	Pine Flatwoods	0.15								
44	424/625	Melaleuca(>50%) / Pine Flatwoods		18.60	0.16				3.17	15.27	18.44
45	621	Cypress		5.57	4.87					0.70	0.70
46	424/625	Melaleuca(>50%) / Pine Flatwoods		12.81	0.02				0.74	11.85	12.59
47	424/625	Melaleuca / Pine Flatwoods		3.29						3.29	3.29
48	411	Pine Flatwoods	2.01								
49	411	Pine Flatwoods	4.93								
50	424/625	Melaleuca(>75%) / Pine Flatwoods		57.55	3.17				12.81	41.57	54.38
51	411	Pine Flatwoods	0.68								
52	621	Cypress		1.31					0.48	0.83	1.31
53	621	Cypress		1.82	1.82						
54	621	Cypress		2.81	1.31				1.03	0.47	1.50
55	424/624	Melaleuca(>50%)/Cypress/Pine		3.45	0.09				0.83	2.53	3.36
56	424/621	Melaleuca(>50%)/Cypress		1.75					0.36	1.39	1.75
57	424/624	Melaleuca(>50%)/Cypress/Pine		6.80	0.53				1.79	4.48	6.27
58	617	Mixed Wetland Hardwoods		1.39	0.14					1.25	1.25
59	621	Cypress		0.88	0.88						
60	621	Cypress		3.93	3.93						
61	424/625	Melaleuca(>75%) / Pine Flatwoods		30.91	2.00				5.70	23.21	28.91
62	411	Pine Flatwoods	0.68								
63	411	Pine Flatwoods	0.48								
64	424/625	Melaleuca(>75%) / Pine Flatwoods		28.37					5.81	22.56	28.37
65	424/625	Melaleuca(>75%) / Pine Flatwoods		8.91					0.76	8.15	8.91
66	411	Pine Flatwoods	0.34								
67	411	Pine Flatwoods	8.29								
68	621	Cypress		1.66	0.84				0.02	1.00	1.02
69	411	Pine Flatwoods	4.20			0.63					
70	424/625	Melaleuca(>50%) / Pine Flatwoods		5.99	0.42				0.95	4.62	5.57

EXHIBIT D

TABLE 1

December 12, 2006

MIF LACOE FLUCCS INFORMATION SUMMARY

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
71	424/625	Melaleuca(>25%) / Pine Flatwoods		11.68	1.96		0.87		0.86	7.99	8.85
72	411	Pine Flatwoods	0.30								
73	411	Pine Flatwoods	3.48			1.46					
74	411	Pine Flatwoods	1.75								
75	411	Pine Flatwoods	2.57								
76	424/625	Melaleuca(>50%) / Pine Flatwoods		12.11					1.08	11.03	12.11
77	411	Pine Flatwoods	0.82								
78	411	Pine Flatwoods	1.43								
79	424/625	Melaleuca(>75%) / Pine Flatwoods		20.65					3.23	17.42	20.65
80	411	Pine Flatwoods	1.58								
81	621	Melaleuca(>50%)/Cypress		2.60	2.60						
82	621	Melaleuca(>50%)/Cypress		0.37	0.13					0.24	0.24
83	411	Pine Flatwoods	1.53								
84	540	Cattle Pond		0.08			0.08				
85	424	Melaleuca		74.08	1.25		17.28		10.88	44.67	55.55
86	424/625	Melaleuca(>75%) / Pine Flatwoods		14.19			10.35		1.09	2.75	3.84
87	424/625	Melaleuca(>25%) / Pine Flatwoods		2.99					0.64	2.35	2.99
88	411	Pine Flatwoods	10.00					1.67			
89	424/625	Melaleuca(>50%) / Pine Flatwoods		16.85			15.91			0.74	0.74
90	424/625	Melaleuca(>75%) / Pine Flatwoods		106.33	2.43		5.30		18.54	80.06	98.60
91	411	Pine Flatwoods	1.60					1.60			
92	424/625	Melaleuca(>25%) / Pine Flatwoods		8.13	0.13		5.78			2.22	2.22
93	625	Hydric Pine Flatwoods		2.35	0.62		1.72				
94	621	Cypress		18.57			18.57				
95	424/624	Melaleuca(>25%)/Cypress/Pine		20.43			20.43				
96	424/625	Melaleuca(>25%) / Pine Flatwoods		5.77			5.77				
97	621	Cypress		0.39			0.39				
98	411	Pine Flatwoods	3.41					3.41			
99	424/625	Melaleuca(>50%) / Pine Flatwoods		1.93			1.93				
100	424/625	Melaleuca(>50%) / Pine Flatwoods		67.73			40.24		4.33	23.16	27.49
101	424/625	Melaleuca(>50%) / Pine Flatwoods		30.64			22.84		2.13	5.67	7.80
102	424/625	Melaleuca(>75%) / Pine Flatwoods		8.41			6.27			0.14	0.14
103	411	Pine Flatwoods	5.21					5.21			
104	411	Pine Flatwoods	0.73					0.73			
105	424/625	Melaleuca(>75%) / Pine Flatwoods		7.55			7.55				
106	424/625	Melaleuca(>25%) / Pine Flatwoods		1.41			1.41				
107	424/625	Melaleuca(>50%) / Pine Flatwoods		21.33			21.33				
108	424/625	Melaleuca(>75%) / Pine Flatwoods		2.85			2.85				
109	540	Cattle Pond		0.19			0.19				
110	411	Pine Flatwoods	0.57					0.57			
111	411	Pine Flatwoods	1.66					1.66			
112	411	Pine Flatwoods	11.32					11.32			
113	411	Pine Flatwoods	0.56					0.56			
114	621	Cypress		21.11			21.11				
115	424/625	Melaleuca(>75%) / Pine Flatwoods		6.59			6.59				
116	411	Pine Flatwoods	2.85					2.85			
117	411	Pine Flatwoods	0.94					0.94			
118	424	Melaleuca		107.97			107.97				
119	424/625	Melaleuca(>25%) / Pine Flatwoods		12.63			12.63				
120	411	Pine Flatwoods	1.08					1.08			
121	411	Pine Flatwoods	7.63					7.63			
122	411	Pine Flatwoods	0.54					0.54			
123	411	Pine Flatwoods	2.60					2.60			
124	424/624	Melaleuca(>50%)/Cypress/Pine		9.14			9.14				
125	424/625	Melaleuca(>50%) / Pine Flatwoods		6.37			6.37				
126	621	Cypress		1.16			1.16				
127	424/624	Melaleuca(>50%)/Cypress/Pine		1.29			1.29				
128	411	Pine Flatwoods	1.57					1.57			
129	424/621	Melaleuca(>25%)/Cypress		3.46			3.46				
130	411	Pine Flatwoods	0.16					0.16			
131	424	Melaleuca		2.71			2.71				
132	424/621	Melaleuca(>25%)/Cypress		3.67			3.67				
133	411	Pine Flatwoods	12.36					12.36			
134	424/625	Melaleuca(>75%) / Pine Flatwoods		62.54			62.54				
135	424	Melaleuca		42.41			42.41				
136	411	Pine Flatwoods	2.21					2.21			
137	424/625	Melaleuca(>75%) / Pine Flatwoods		32.88			32.88				
138	424/625	Melaleuca(>50%) / Pine Flatwoods		11.67			11.67				
139	411	Pine Flatwoods	1.20					1.20			
140	411	Pine Flatwoods	0.29					0.29			

EXHIBIT D

TABLE 1

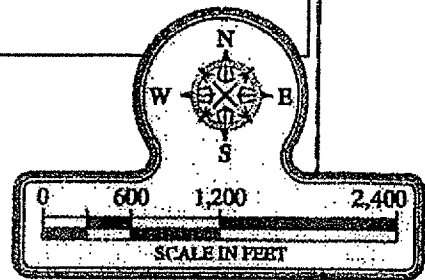
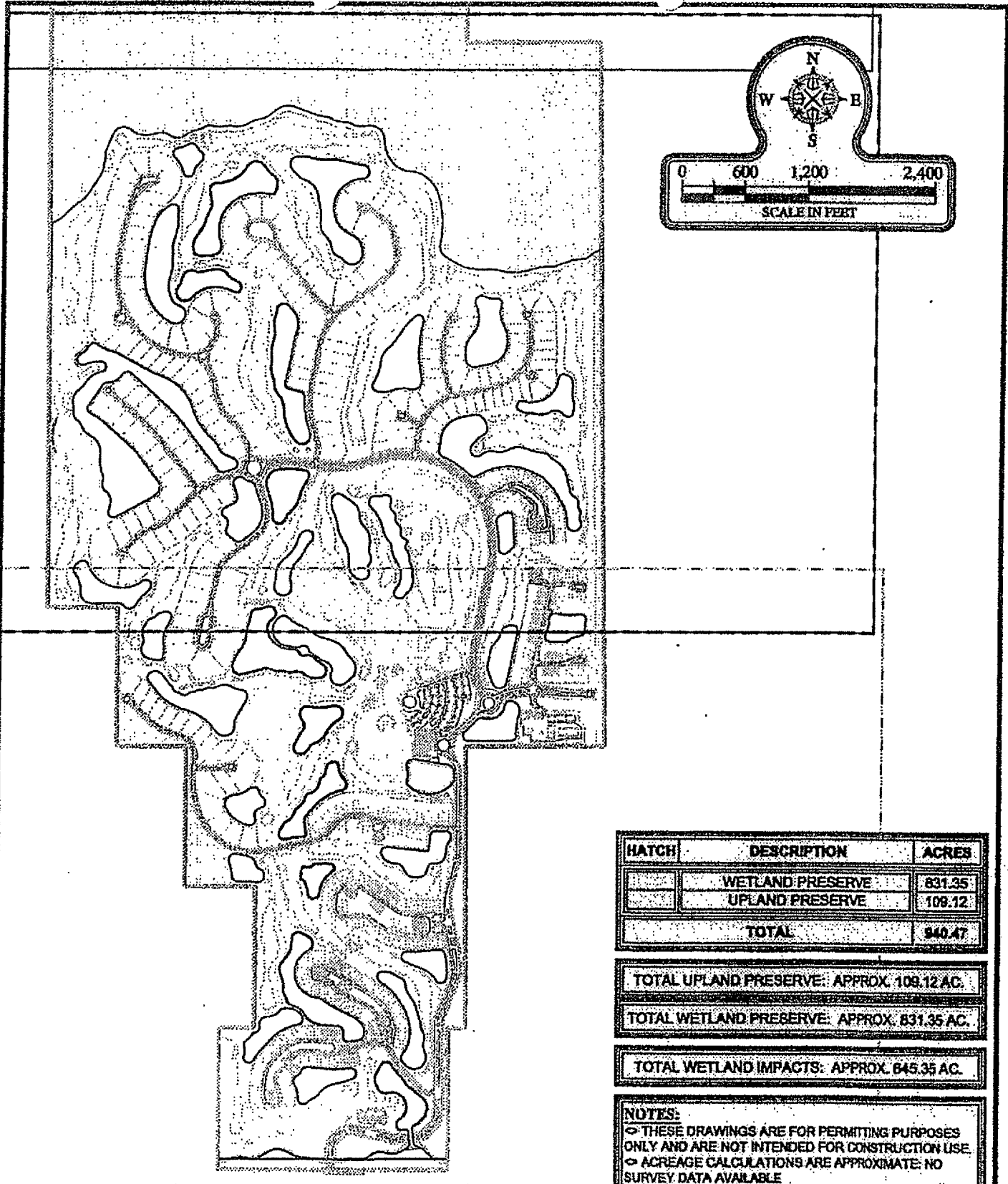
December 12, 2006

MIF, L ACOE FLUCCS INFORMATION SUMMARY

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
141	411	Pine Flatwoods	2.56					2.56			
142	411	Pine Flatwoods	11.49					11.49			
143	422	Brazilian Pepper		3.59			3.59				
144	621	Cypress		9.11			9.11				
145	424	Melaleuca		5.34			5.34				
146	424	Melaleuca		19.58			19.58				
147	424/624	Melaleuca(>50%)/ Pine / Cypress		2.53			2.53				
148	424/621	Melaleuca(>25%)/Cypress		15.38			15.38				
149	424/625	Melaleuca(>25%) / Pine Flatwoods		9.28			9.28				
150	424/625	Melaleuca(>75%) / Pine Flatwoods		25.99			25.99				
151	411	Pine Flatwoods	2.29				2.29				
152	411	Pine Flatwoods	1.53				1.53				
153	424/625	Melaleuca(>50%)/ Pine Flatwoods		12.43			12.43				
154	411	Pine Flatwoods	8.02				8.02				
155	411	Pine Flatwoods	3.88				3.88				
156	424/625	Melaleuca(>50%)/ Pine Flatwoods		3.91			3.91				
157	424	Melaleuca		15.47			15.47				
158	424/625	Melaleuca(>50%)/ Pine Flatwoods		7.29			7.29				
159	424/625	Melaleuca(>25%) / Pine Flatwoods		0.70			0.70				
160	621	Cypress		9.58			9.58				
161	640	Flag Pond		1.43			1.43				
162	424/621	Melaleuca(>50%)/Cypress/Pine		7.42			7.42				
163	424	Melaleuca		4.34			4.34				
164	411	Pine Flatwoods	2.56				2.56				
165	424/624	Melaleuca(>50%)/Cypress/Pine		0.89			0.89				
166	621	Cypress		3.05			3.05				
167	424/624	Melaleuca(>50%)/Cypress/Pine		2.25			2.25				
168	424/625	Melaleuca(>75%)/Cypress/Pine		38.94			38.94				
169	424/624	Melaleuca(>50%)/Cypress/Pine		3.07			3.07				
170	424/624	Melaleuca(>50%)/Cypress/Pine		0.79			0.79				
171	411	Pine Flatwoods	3.44				3.44				
172	621	Cypress		2.12			2.12				
173	411	Pine Flatwoods	1.76				1.76				
174	424	Melaleuca		11.86			11.86				
175	424/624	Melaleuca(>25%)/Cypress/Pine		6.67			6.67				
176	411	Pine Flatwoods	9.19				9.19				
177	621	Cypress		5.49			5.49				
178	621	Cypress		0.89			0.89				
179	625	Hydric Pine Flatwoods		12.78			12.78				
ROW	ROW	Road Right of Way	4.92								
TOTALS			236.74	1476.71	54.52	2.24	776.83	106.88	126.68	518.67	645.35

EXHIBIT D

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HATCH	DESCRIPTION	ACRES
	WETLAND PRESERVE	831.35
	UPLAND PRESERVE	109.12
	TOTAL	940.47

TOTAL UPLAND PRESERVE: APPROX. 109.12 AC.

TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.

TOTAL WETLAND IMPACTS: APPROX. 845.35 AC.

NOTES:
 ☐ THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ☐ ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

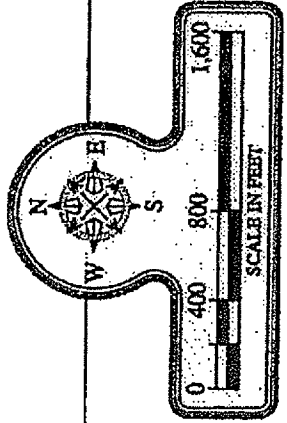
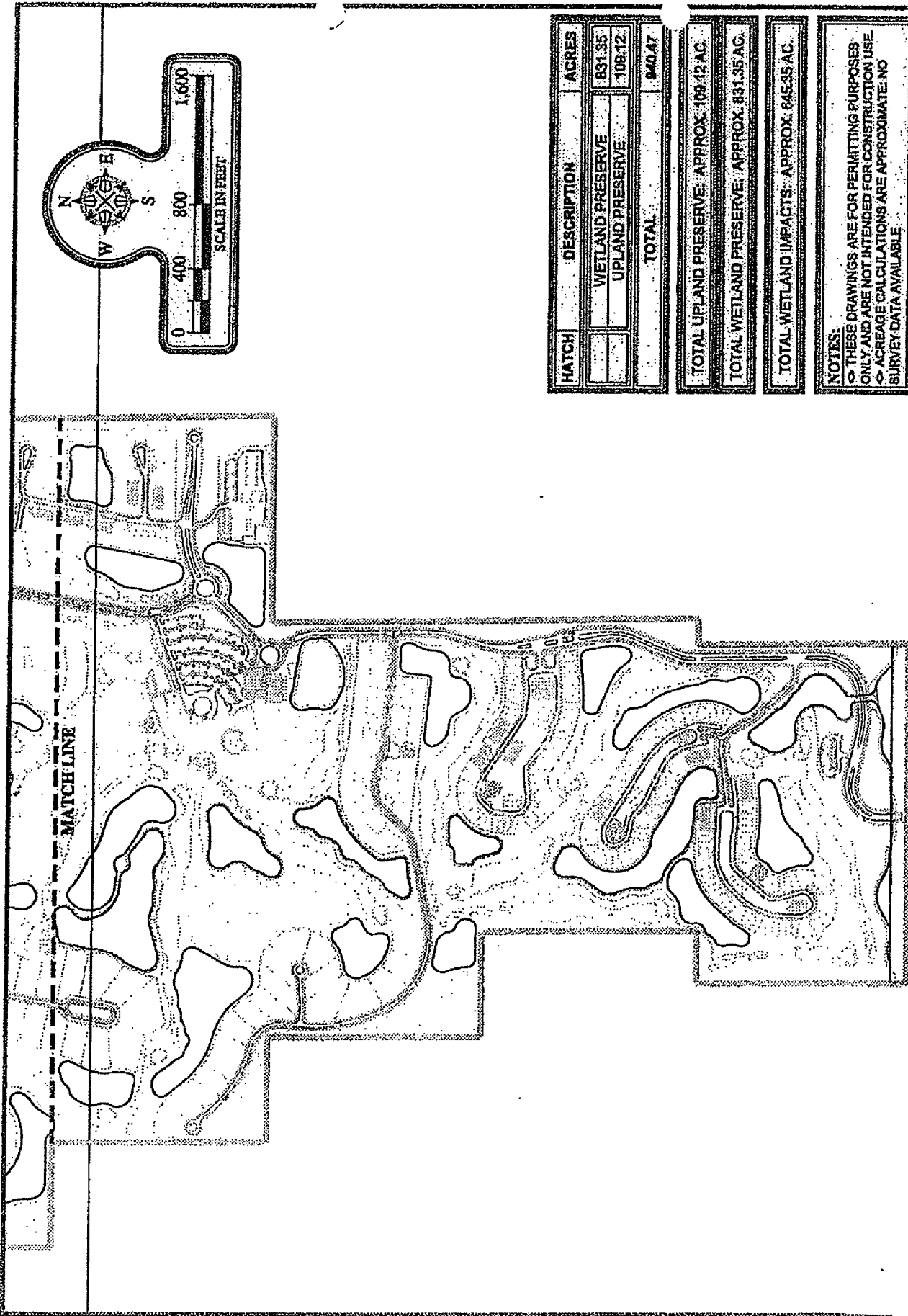
ATTACHMENT A
 Mirasol (Revised)
 Development Plans
 SAJ-2000-1926(IP-HWB)
 12 December 2006 Page 11 of 24

Inc.
 ilting
 4-3732
 3-6632

MIRASOL SITE DEVELOPMENT PLAN (ALL)

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	SOP A3
DRAWN BY:	SS	N/A	SHEET:	
CREATED:	04-25-06	N/A	SCALE:	1"=1,800'
JOB NO.:	9415	N/A		
SECTION- TOWNSHIP-48 S RANGE-28 E				

EXHIBIT D



HATCH	DESCRIPTION	ACRES
	WETLAND PRESERVE	831.35
	UPLAND PRESERVE	108.12
	TOTAL	940.47

TOTAL UPLAND PRESERVE: APPROX. 108.12 AC.
 TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.
 TOTAL WETLAND IMPACTS: APPROX. 645.35 AC.

NOTES:
 ☞ THESE DRAWINGS ARE FOR PERMITTING PURPOSES.
 ☞ ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ☞ ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

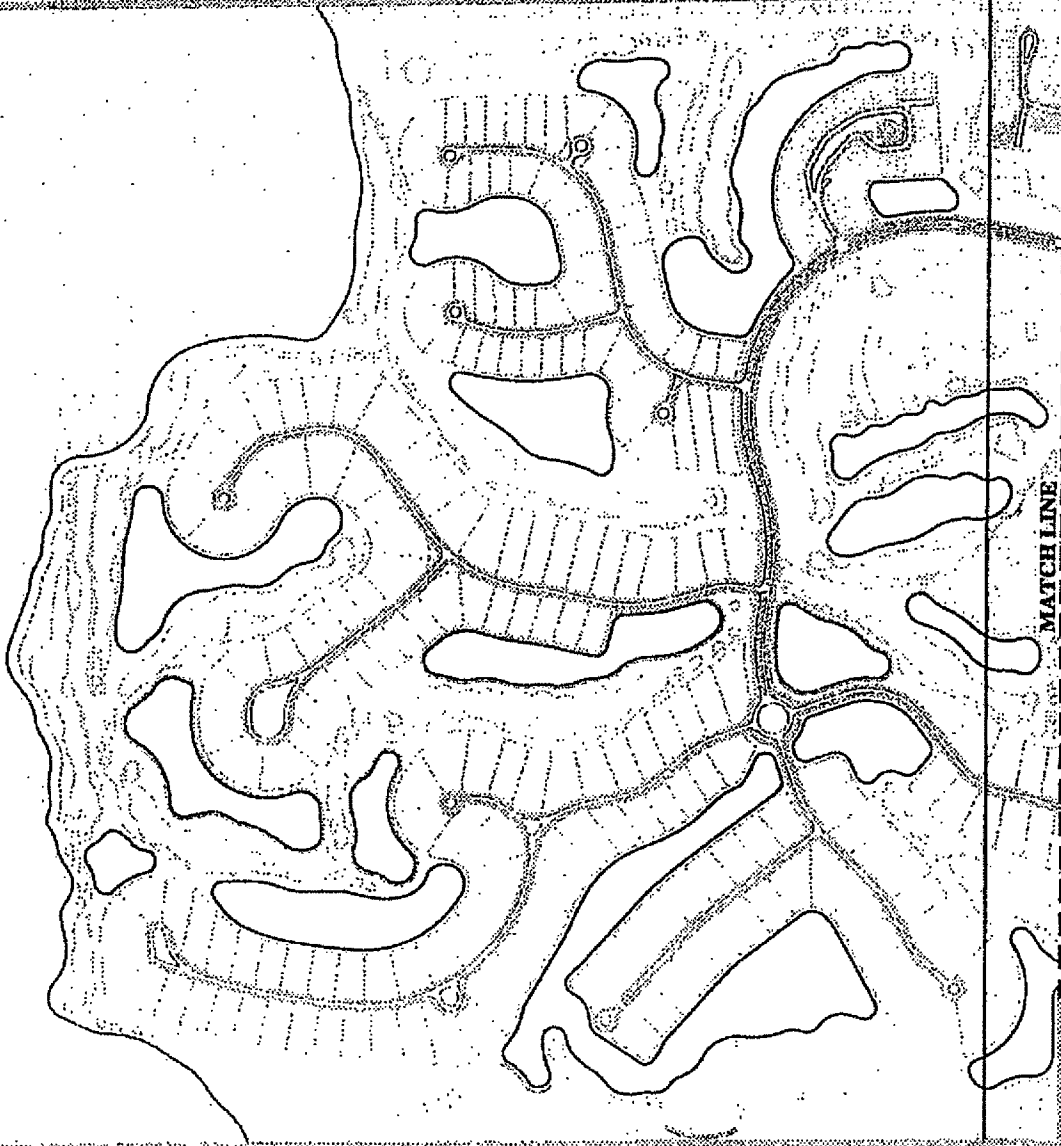
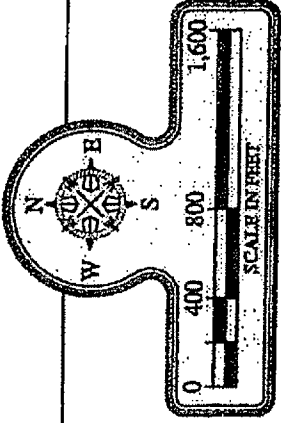
DESIGNED: T.T.T.	REVISIONS:	TAB NUMBER: SGP 22
DRAWN BY: BS	N/A	SHEET:
CREATED: 04-25-06	N/A	SCALE: 1"=300'
JOB NO.: M18	N/A	
SECTION-22	TOWNSHIP-48 S	RANGE-28 E

MIRASOL
 SITE DEVELOPMENT PLAN (SECTION 22)

Mirasol, Inc.
 Mirasol Consulting
 4 FL 34104-3732
 or (239) 643-662

ATTACHMENT A
 Mirasol (Revised)
 Development Plans
 SAJ-2000-1926(IP-HWB)
 12 December 2006 Page 12 of 24

EXHIBIT D



HATCH	DESCRIPTION	ACRES
	WETLAND PRESERVE	831.35
	UPLAND PRESERVE	109.12
	TOTAL	940.47

TOTAL UPLAND PRESERVE: APPROX. 109.12 AC.

TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.

TOTAL WETLAND IMPACTS: APPROX. 645.35 AC.

NOTES:
 - THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 - ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE.

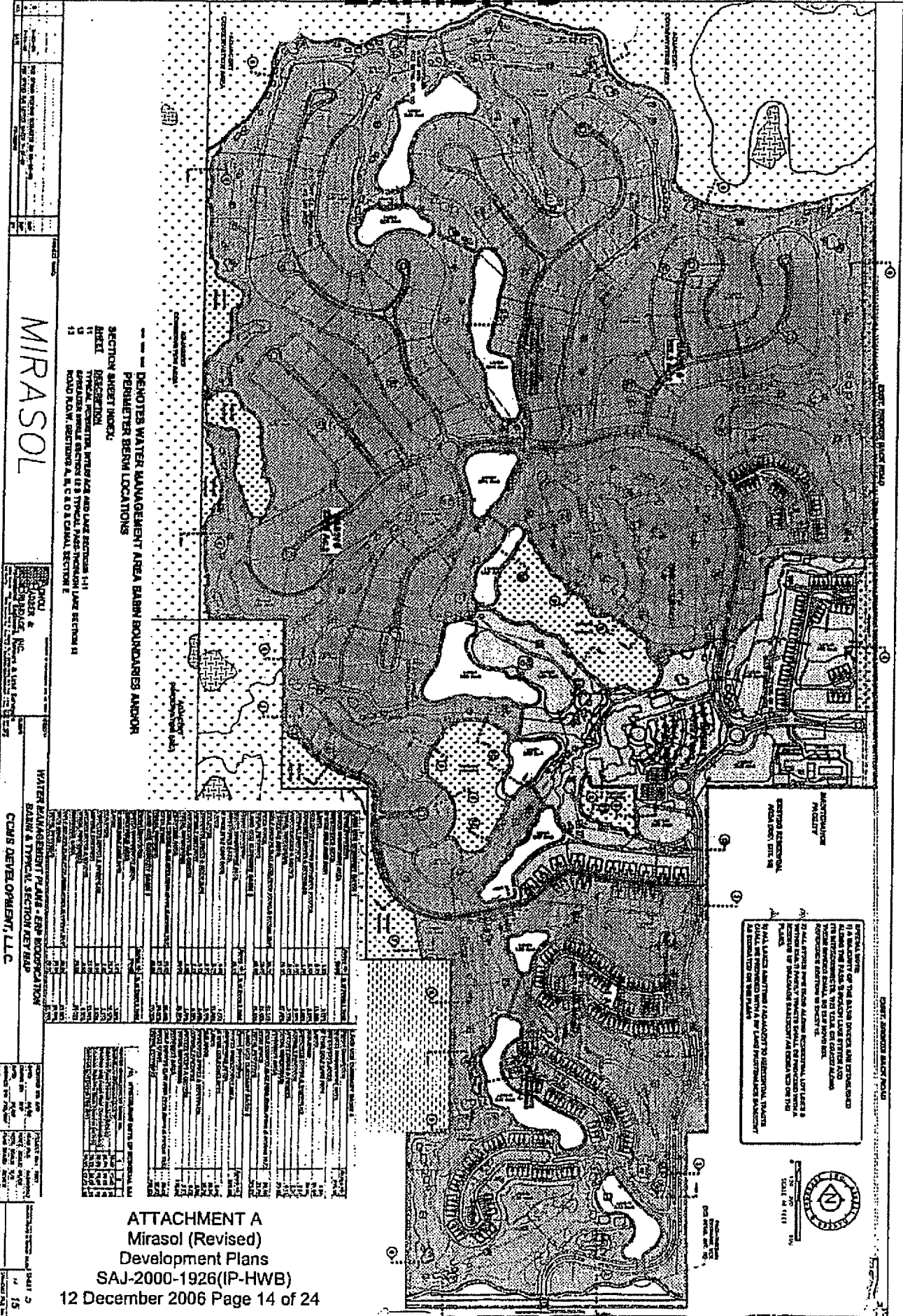
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DRAWN BY: 88	N/A	SHEET:
CREATED: 04-25-08	N/A	SCALE: 1"=800'
JOB NO: 0418	N/A	
SECTION-15	TOWNSHIP-48 S	RANGE-28 E

MIRASO
SITE DEVELOPMENT PLAN (SECTION 15)

ics, Inc.
 Consulting
 1-3104-3732
 239) 643-6632

ATTACHMENT A
 Mirasol (Revised)
 Development Plans
 SAJ-2000-1926(IP-HWB)
 12 December 2006 Page 13 of 24

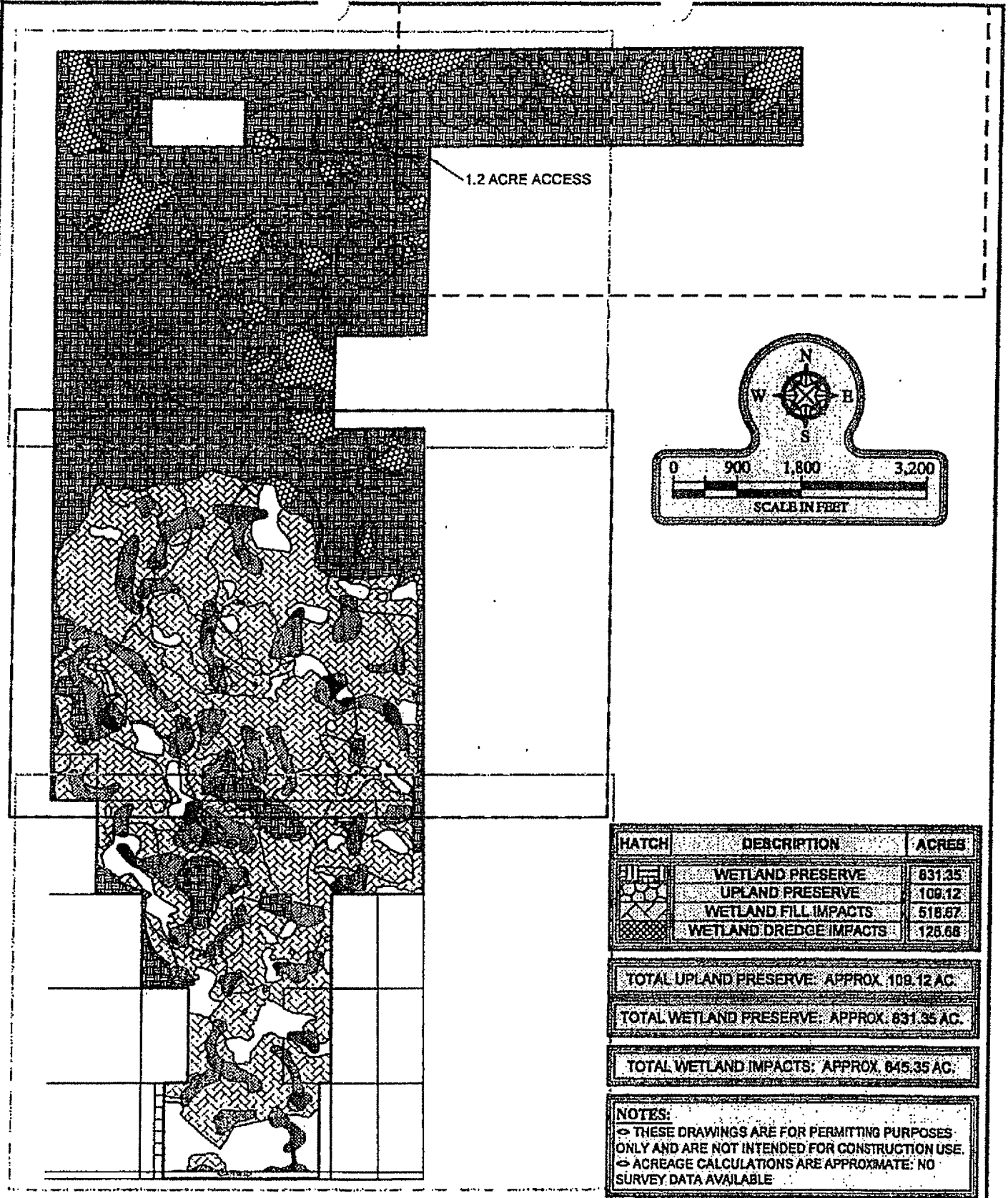
EXHIBIT D



ATTACHMENT A
 Mirasol (Revised)
 Development Plans
 SAJ-2000-1926(IP-HWB)
 12 December 2006 Page 14 of 24

EXHIBIT D

M:\EMPLOYEE FILES (Tom) SAJ CORPS 1.dwg



HATCH	DESCRIPTION	ACRES
	WETLAND PRESERVE	631.35
	UPLAND PRESERVE	109.12
	WETLAND FILL IMPACTS	518.87
	WETLAND DREDGE IMPACTS	125.68

TOTAL UPLAND PRESERVE: APPROX 109.12 AC.

TOTAL WETLAND PRESERVE: APPROX 631.35 AC.

TOTAL WETLAND IMPACTS: APPROX 645.35 AC.

NOTES:
 ☐ THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ☐ ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE



Email:

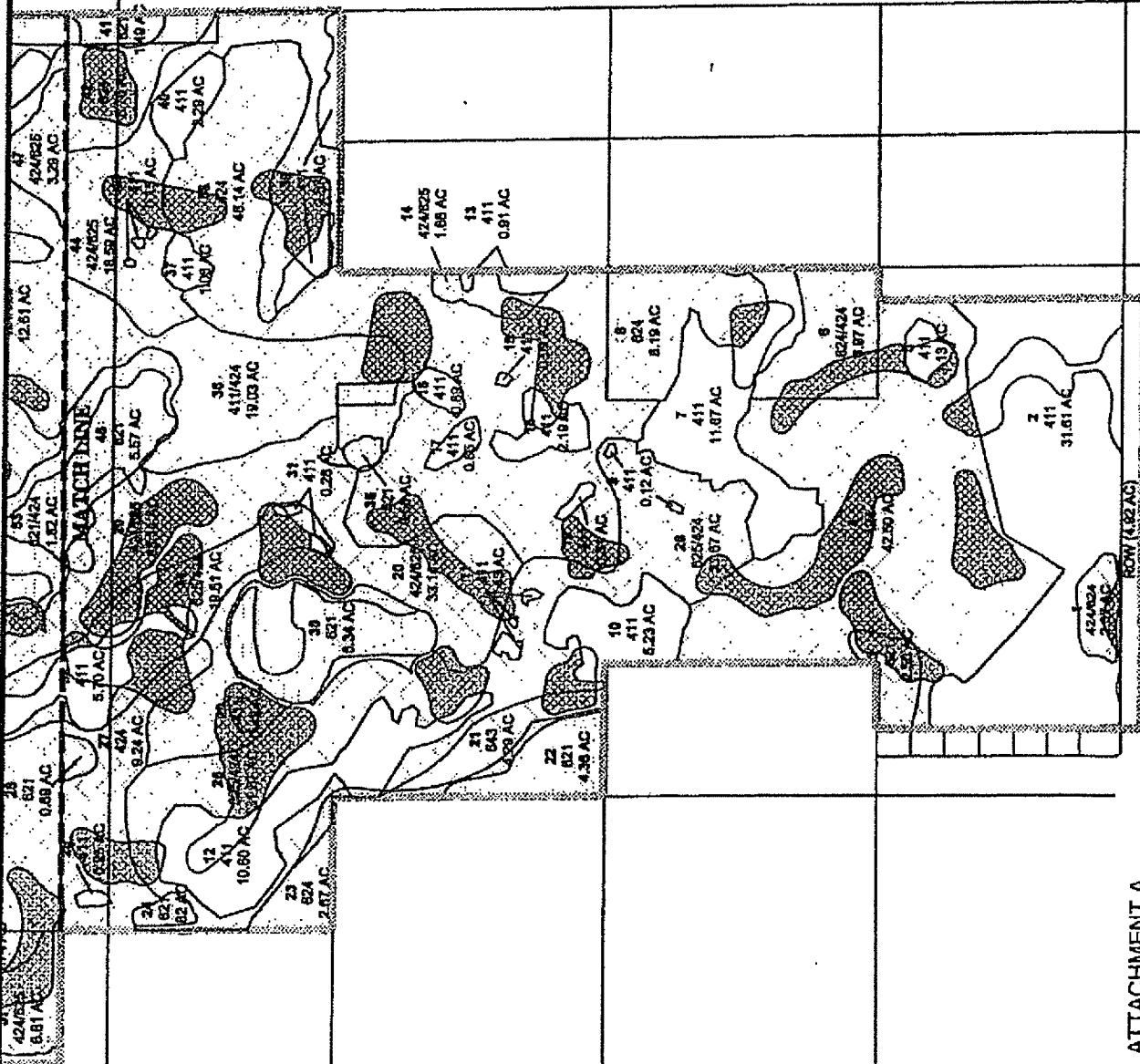
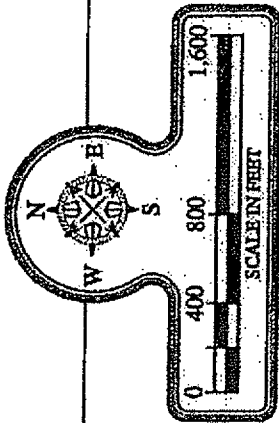
ATTACHMENT A
 Mirasol (Revised)
 Development Plans
 SAJ-2000-1926(IP-HWB)
 12 December 2006 Page 15 of 24

C.
 0g
 /32
 332

MIRASOL
 IMPACTS & PRESERVES (ALL)

DESIGNED:	T.T.T.	REVISION:	TAB NAME:
DRAWN BY:	SS	N/A	SHEET:
CREATED:	04-25-00	N/A	SCALE:
JOB NO.:	6418	N/A	
SECTION-		TOWNSHIP-48 S RANGE-28 E	

EXHIBIT D



HATCH	DESCRIPTION	ACRES
[Hatched Pattern]	WETLAND PRESERVE	831.35
[Hatched Pattern]	WETLAND FILL IMPACTS	109.12
[Hatched Pattern]	WETLAND DREDGE IMPACTS	518.57
[Hatched Pattern]	WETLAND PRESERVE	125.58

TOTAL UPLAND PRESERVE: APPROX. 109.12 AC.
 TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.
 TOTAL WETLAND IMPACTS: APPROX. 645.35 AC.

NOTES:
 - THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 - ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE.

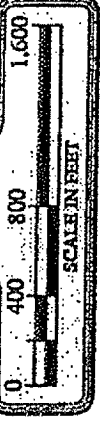
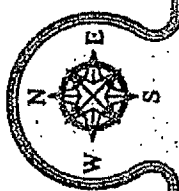
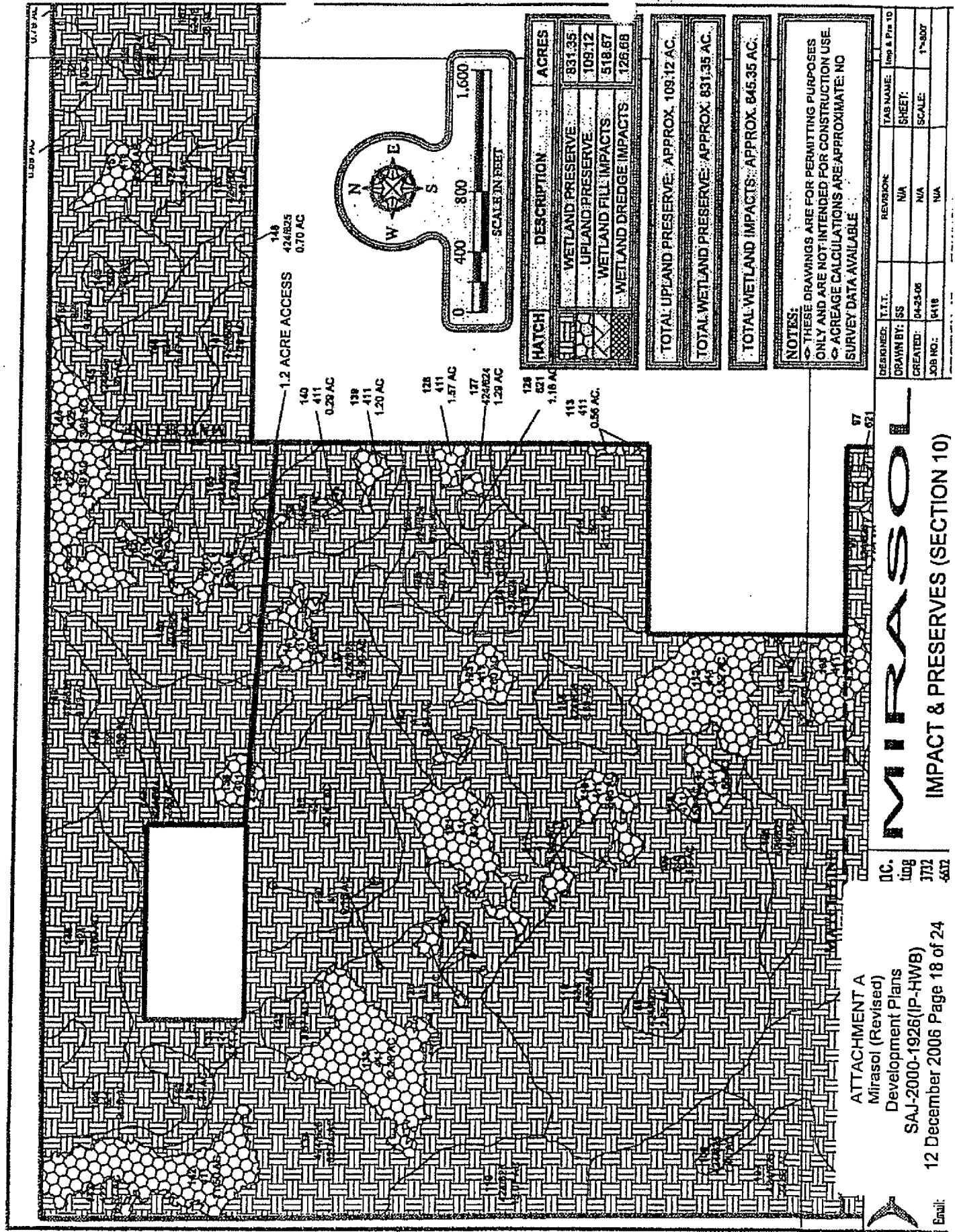
DESIGNED BY: T.T.T.	REVISION: IMP 4 P16 22
DRAWN BY: DS	DATE: N/A
CREATED: 04-25-08	SCALE: 1"=500'
JOB NO.: 9418	TOWNSHIP-4B S RANGE-28 E

MIRASOL
 IMPACT & PRESERVES (SECTION 22)

ates, Inc.
 al Consulting
 FL 34104-3732
 (239) 643-6632

ATTACHMENT A
 Mirasol (Revised)
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EXHIBIT D



HATCH	DESCRIPTION	ACRES
[Wetland Preserve Hatch]	WETLAND PRESERVE	831.35
[Upland Preserve Hatch]	UPLAND PRESERVE	109.12
[Wetland Fill Impacts Hatch]	WETLAND FILL IMPACTS	518.87
[Wetland Dredge Impacts Hatch]	WETLAND DREDGE IMPACTS	126.68

TOTAL UPLAND PRESERVE: APPROX. 109.12 AC.

TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.

TOTAL WETLAND IMPACTS: APPROX. 645.55 AC.

NOTES:
 ◊ THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ◊ ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

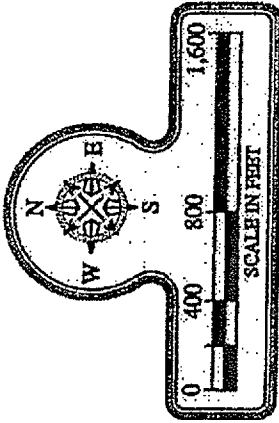
DESIGNED BY: T.T.T.	REVISION:	TAB NAME: Imp & Ptn 10
DRAWN BY: SS	N/A	SHEET:
CREATED: 04-23-06	N/A	SCALE: 1"=300'
JOB NO.: 0418	N/A	

DC. 3732 6572

ATTACHMENT A
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MIRASOL
 IMPACT & PRESERVES (SECTION 10)

EXHIBIT D



MATCH	DESCRIPTION	ACRES
	WETLAND PRESERVE	831.35
	UPLAND PRESERVE	109.12
	WETLAND FILL IMPACTS	518.87
	WETLAND DREDGE IMPACTS	126.88

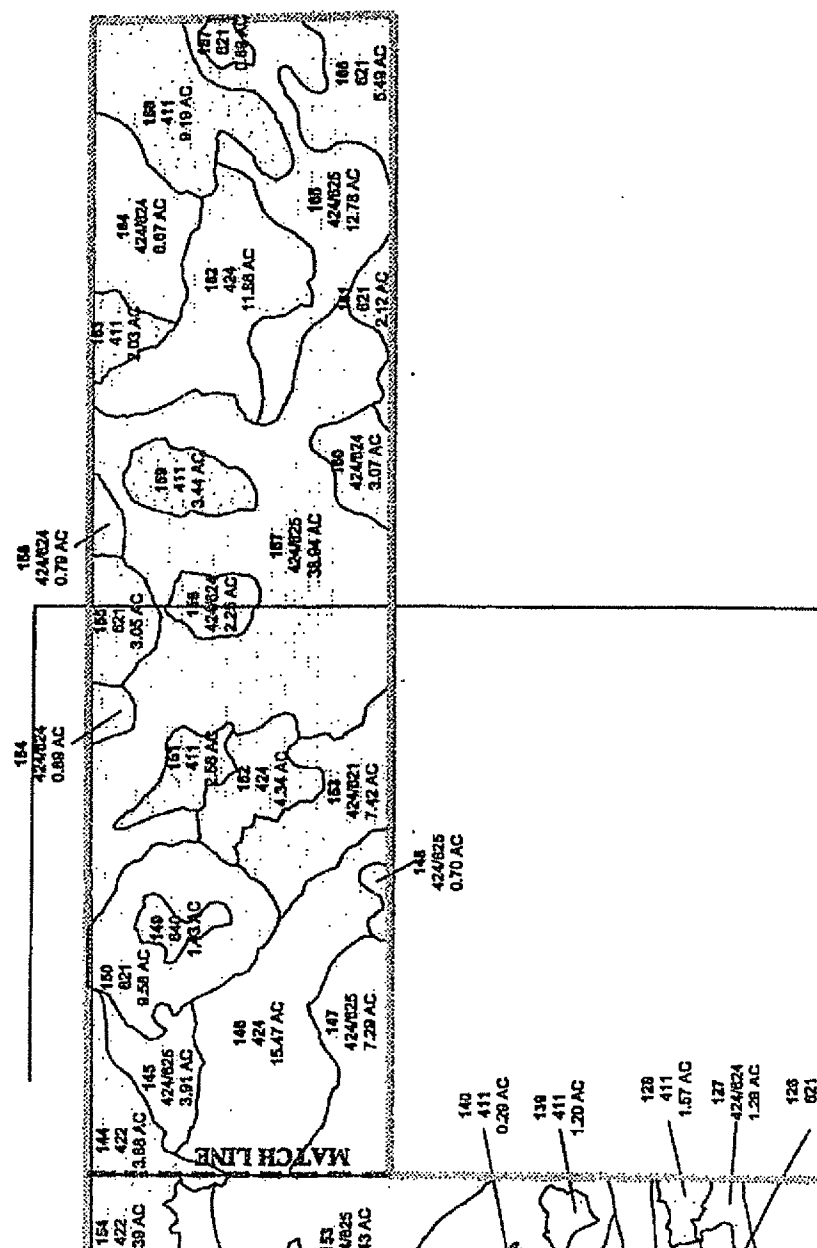
TOTAL UPLAND PRESERVE: APPROX. 109.12 AC.

TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.

TOTAL WETLAND IMPACTS: APPROX. 645.35 AC.

NOTES:
 <> THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 <> ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

DESIGNED BY:	11-11-07	REVISION:		TAB NAME:	Imp & Pres 11
DRAWN BY:	ES	DATE:	N/A	SHEET:	
CREATED:	04-23-08	SCALE:	N/A	TOWNSHIP:	48 S
JOB NO.:	0418	RANGE:	26 E		



MIRASOL

IMPACT & PRESERVES (SECTION 11)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6631
 Email: turrell@turrell-associates.com

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EXHIBIT D

ATTACHMENT A

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MIRASOL DEVELOPMENT AREA
ACOE FLUCFCS INFORMATION

TABLE 3

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Wetland Dredge Impacts	Wetland Fill Impacts
1	424/624	Melaleuca(>75%) / Cypress / Pine		2.37			0.40	1.97
2	411	Pine Flatwoods	31.61					
3	621	Cypress		2.50			0.98	1.52
4	424	Melaleuca		42.50			10.38	32.12
5	411	Pine Flatwoods	1.13					
6	624/424	Pine / Cypress / Melaleuca (>50%)		6.97			1.17	5.80
7	411	Pine Flatwoods	11.67					
8	624	Pine / Cypress		8.19			0.64	7.55
9	411	Pine Flatwoods	0.12					
10	411	Pine Flatwoods	5.23			0.15		
11	411	Pine Flatwoods	0.43					
12	411	Pine Flatwoods	10.60					
13	411	Pine Flatwoods	0.91					
14	625/424	Pine Flatwoods / Melaleuca (>50%)		1.68			0.28	1.40
15	411	Pine Flatwoods	0.09					
16	411	Pine Flatwoods	0.89					
17	411	Pine Flatwoods	0.85					
18	411	Pine Flatwoods	2.19					
19	411	Pine Flatwoods	0.31					
20	424/625	Melaleuca(>50%) / Pine Flatwoods		33.14	3.43		8.88	20.83
21	643	Disturbed Wet Prairie		4.29	0.85		0.53	2.91
22	621	Cypress		4.36	4.36			
23	624	Pine / Cypress		2.67	2.67			
24	621	Cypress		0.82				0.82
25	411	Pine Flatwoods	0.25					
26	625/424	Pine Flatwoods / Melaleuca (>25%)		31.67	0.96		6.19	24.52
27	424	Melaleuca		9.24			2.06	7.18
28	621	Cypress		0.69				0.69
29	411	Pine Flatwoods	0.43					
30	621	Cypress		6.34	6.34			
31	411	Pine Flatwoods	0.28					
32	411	Pine Flatwoods	5.70					
33	411	Pine Flatwoods	4.78					
34	625/424	Pine Flatwoods / Melaleuca (>25%)		19.51			7.24	12.27
35	621	Cypress		0.58	0.55			0.03
36	625/424	Pine Flatwoods / Melaleuca (>25%)		19.02	2.72		0.89	15.41
37	411	Pine Flatwoods	1.06					
38	424	Melaleuca		48.14	1.39		7.88	38.87
39	411	Pine Flatwoods	2.57					
40	411	Pine Flatwoods	2.29					
41	621	Cypress		1.49	1.27			0.22
42	624	Pine / Cypress		5.76	0.88		1.93	2.95
43	411	Pine Flatwoods	0.15					
44	424/625	Melaleuca(>50%) / Pine Flatwoods		18.60	0.16		3.17	15.27
45	621	Cypress		5.57	4.87			0.70
46	424/625	Melaleuca(>50%) / Pine Flatwoods		12.61	0.02		0.74	11.85
47	424/625	Melaleuca / Pine Flatwoods		3.29				3.29
48	411	Pine Flatwoods	2.01					
49	411	Pine Flatwoods						
50	424/625	Melaleuca(>75%) / Pine Flatwoods		57.55	3.17		12.81	41.57
51	411	Pine Flatwoods	0.68					
52	621	Cypress		1.31			0.48	0.89
53	621	Cypress		1.82	1.82			
54	621	Cypress		2.81	1.31		1.03	0.47
55	424/624	Melaleuca(>50%)/Cypress/Pine		3.45	0.09		0.83	2.53
56	424/621	Melaleuca(>50%)/Cypress		1.75			0.36	1.39

EXHIBIT D

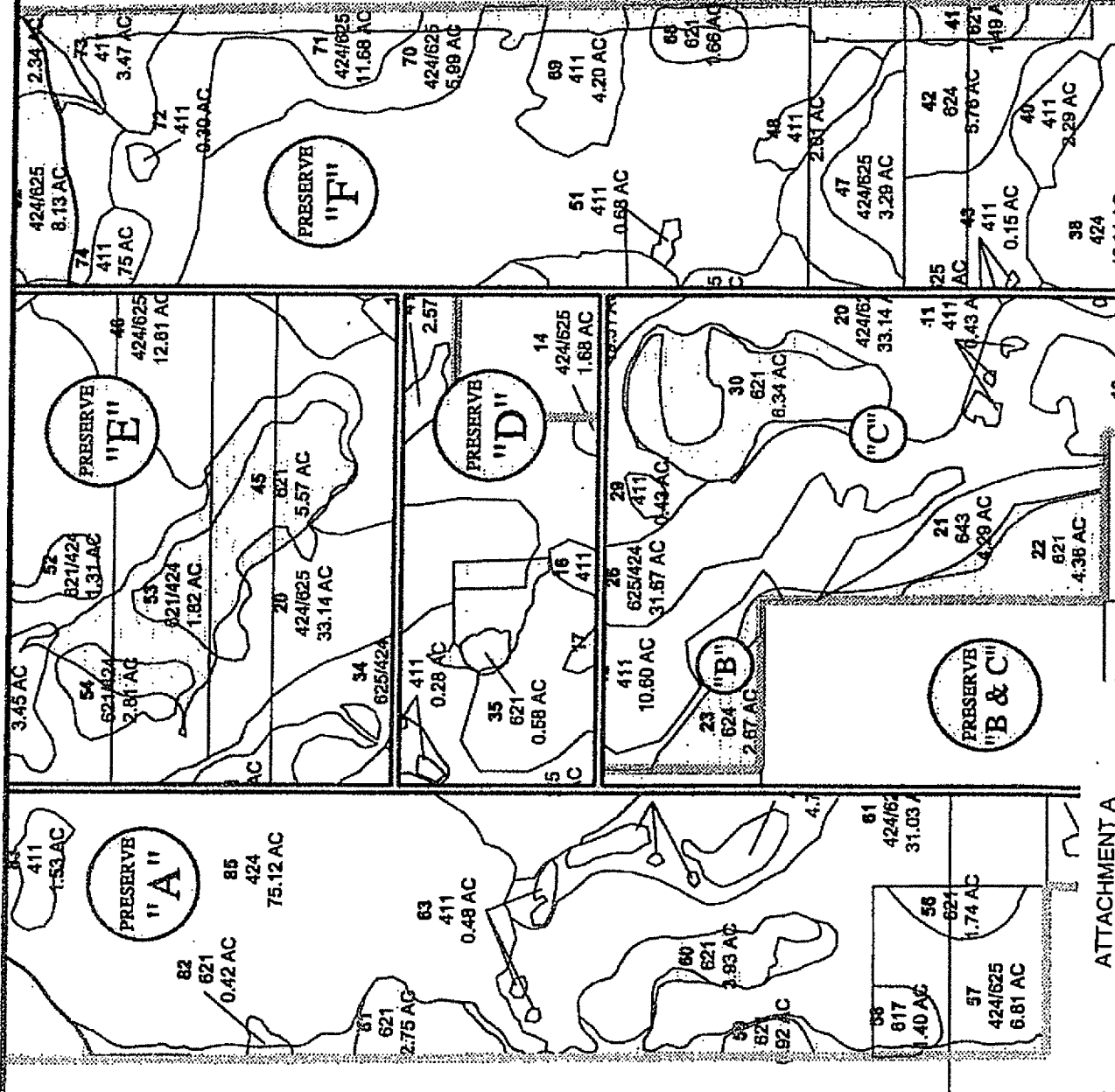
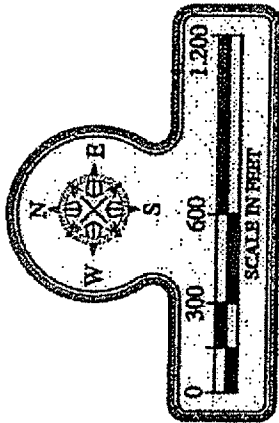
TABLE 3

December 12, 2006

MIRASOL DEVELOPMENT AREA
ACOE FLUCFCS INFORMATION

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Wetland Dredge Impacts	Wetland Fill Impacts	
57	424/624	Melaleuca(>50%)/Cypress/Pine		6.80	0.53		1.79	4.48	
58	617	Mixed Wetland Hardwoods		1.39	0.14			1.25	
59	621	Cypress		0.88	0.88				
60	621	Cypress		3.93	3.93				
61	424/625	Melaleuca(>75%) / Pine Flatwoods		30.91	2.00		5.70	23.21	
62	411	Pine Flatwoods	0.68						
63	411	Pine Flatwoods	0.48						
64	424/625	Melaleuca(>75%) / Pine Flatwoods		28.37			5.81	22.56	
65	424/625	Melaleuca(>75%) / Pine Flatwoods		8.91			0.76	8.15	
66	411	Pine Flatwoods	0.34						
67	411	Pine Flatwoods	6.29						
68	621	Cypress		1.66	0.64		0.02	1.00	
69	411	Pine Flatwoods	3.57			0.63			
70	424/625	Melaleuca(>50%) / Pine Flatwoods		5.99	0.42		0.95	4.62	
71	424/625	Melaleuca(>25%) / Pine Flatwoods		10.81	1.96		0.86	7.99	
72	411	Pine Flatwoods	0.30						
73	411	Pine Flatwoods	2.02			1.46			
74	411	Pine Flatwoods	1.75						
75	411	Pine Flatwoods	2.57						
76	424/625	Melaleuca(>50%) / Pine Flatwoods		12.11			1.08	11.03	
77	411	Pine Flatwoods	0.82						
78	411	Pine Flatwoods	1.43						
79	424/625	Melaleuca(>75%) / Pine Flatwoods		20.65			3.23	17.42	
80	411	Pine Flatwoods	1.58						
81	621	Melaleuca(>50%)/Cypress		2.60	2.60				
82	621	Melaleuca(>50%)/Cypress		0.37	0.13			0.24	
83	411	Pine Flatwoods	1.53						
85	424	Melaleuca		56.80	1.25		10.88	44.67	
86	424/625	Melaleuca(>75%) / Pine Flatwoods		3.84			1.09	2.75	
87	424/625	Melaleuca(>25%) / Pine Flatwoods		2.99			0.64	2.35	
88	411	Pine Flatwoods	8.33						
89	424/625	Melaleuca(>50%) / Pine Flatwoods		0.74				0.74	
90	424/625	Melaleuca(>75%) / Pine Flatwoods		101.03	2.43		18.54	80.06	
92	424/625	Melaleuca(>25%) / Pine Flatwoods		2.35	0.13			2.22	
93	625	Hydric Pine Flatwoods		0.62	0.62				
100	424/625	Melaleuca(>50%) / Pine Flatwoods		27.49			4.33	23.16	
101	424/625	Melaleuca(>50%) / Pine Flatwoods		7.80			2.13	5.67	
102	424/625	Melaleuca(>75%) / Pine Flatwoods		0.14				0.14	
TOTALS			5.90	123.82	699.87	54.52	2.24	126.68	518.67

EXHIBIT D



INTERNAL PRESERVES			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
"A"	0.15	8.34	8.49
"B"	0.15	8.34	8.49
"C"	2.74	9.67	12.41
"D"	2.74	9.67	12.41
"E"	13.79	8.52	22.31
"F"	2.08	8.52	10.60
TOTALS	2.24	54.52	56.76

NOTES:
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 - ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE.

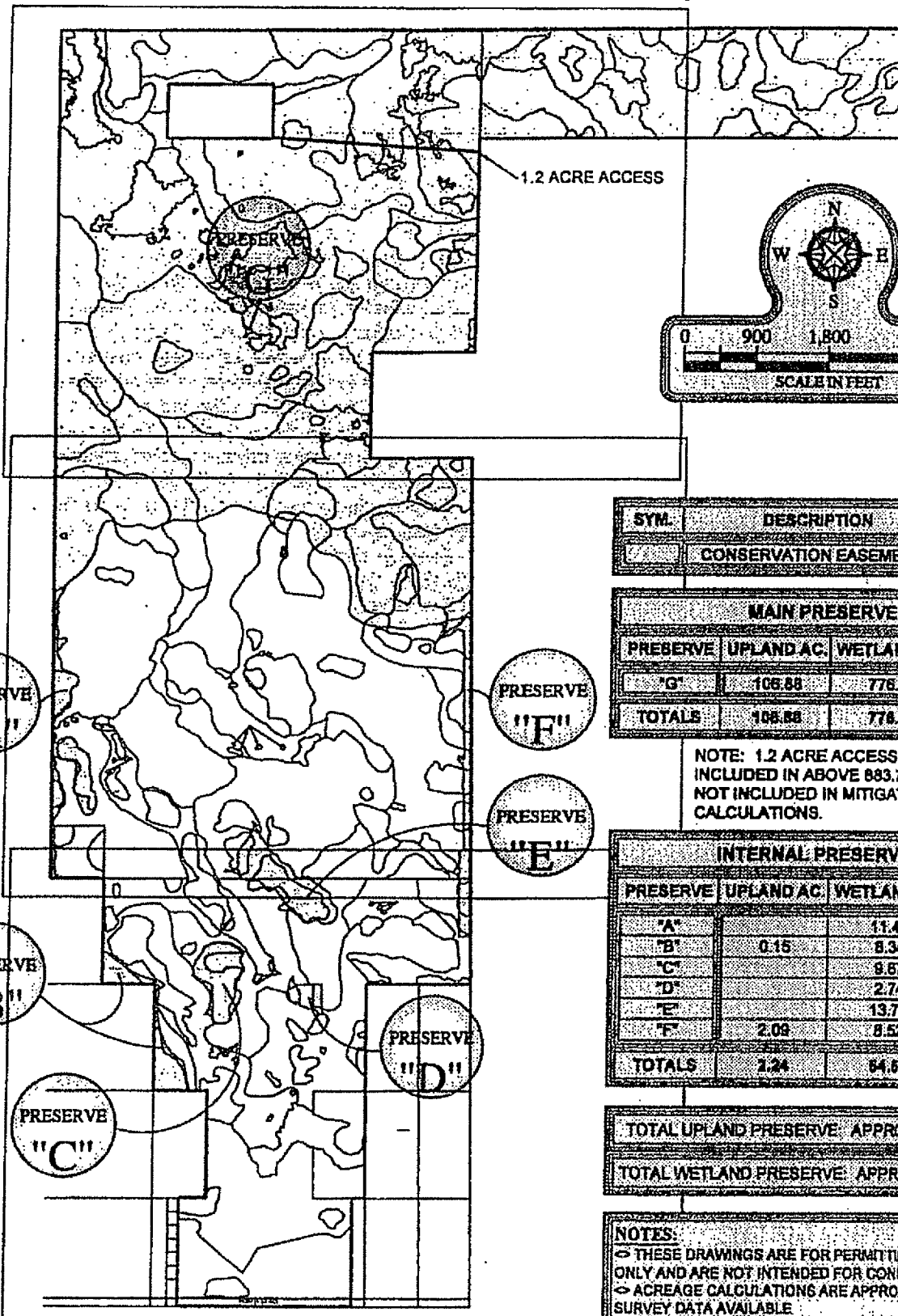
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DRAWN BY: BS	NA	DATED:	
CREATED: 04-26-06	NA	SCALE:	1"=80'
JOB NO: 0418	NA	SECTION: 15	TOWNSHIP: 48 S
			RANGE: 20 E

MIRASOL
 Inc.
 Consulting
 4104-3732
 065-6632

INTERNAL PRESERVES (DETAILED)

ATTACHMENT A
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EXHIBIT D



SYM.	DESCRIPTION	ACRES
	CONSERVATION EASEMENTS	940.47

MAIN PRESERVE			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
'G'	106.88	776.83	883.71
TOTALS	106.88	776.83	883.71

NOTE: 1.2 ACRE ACCESS EASEMENT IS INCLUDED IN ABOVE 883.71 ACRES BUT IS NOT INCLUDED IN MITIGATION CALCULATIONS.

INTERNAL PRESERVES			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
'A'		11.48	11.48
'B'	0.15	8.34	8.49
'C'		9.67	9.67
'D'		2.74	2.74
'E'		13.79	13.79
'F'	2.09	8.52	10.61
TOTALS	2.24	64.52	66.76

TOTAL UPLAND PRESERVE: APPROX. 109.12 AC.
 TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.

NOTES:
 < THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 < ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

PRESERVE "A"

PRESERVE "F"

PRESERVE "E"

PRESERVE "B"

PRESERVE "D"

PRESERVE "C"

ATTACHMENT A
 Mirasol (Revised)
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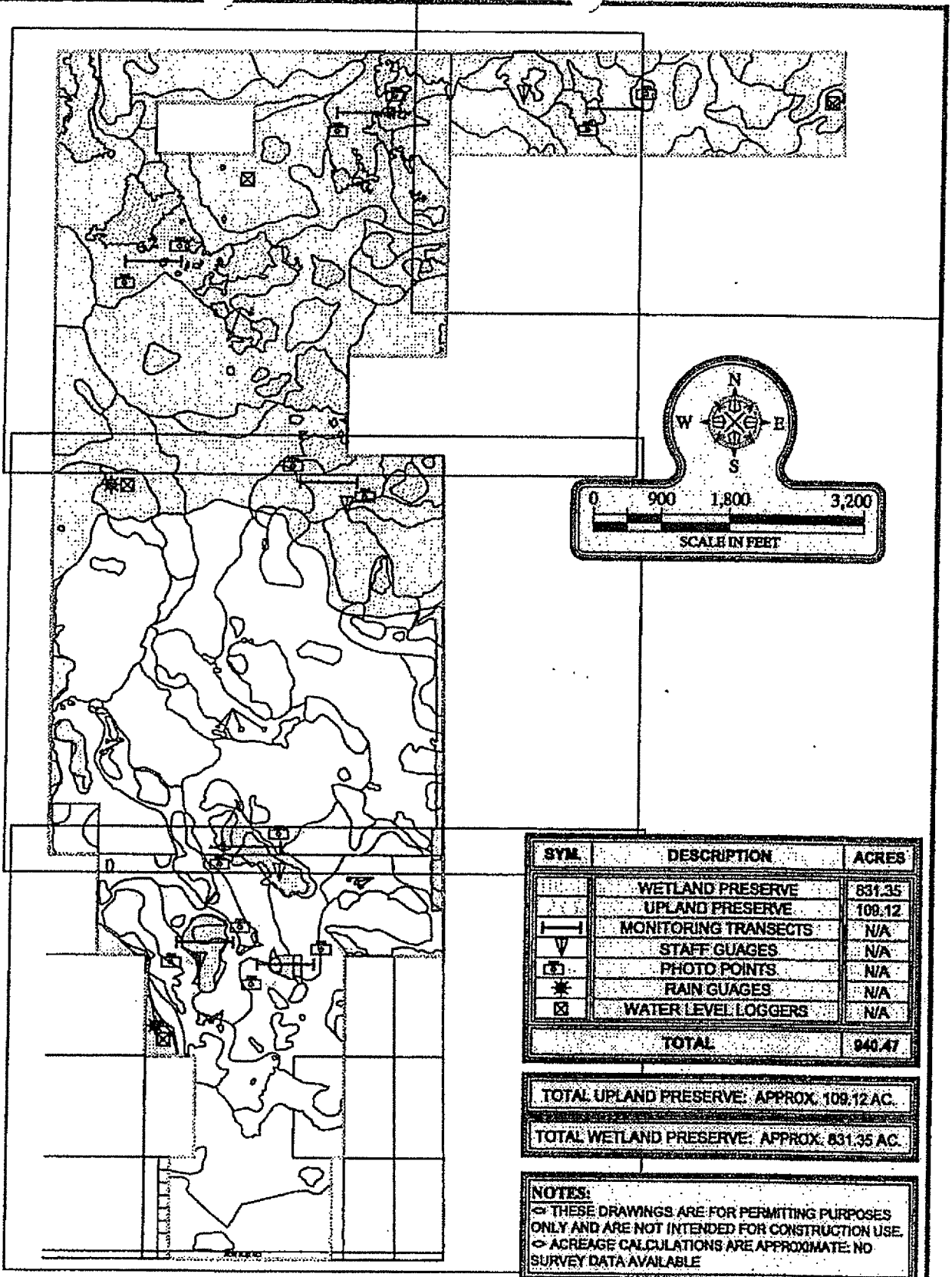
Inc.
 sulting
 04-3732
 943-6632

MIRASOL
 CONSERVATION MAP

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Conservation
DRAWN BY:	SB	N/A	SHEET:	
CREATED:	04-25-06	N/A	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 28 E				

EXHIBIT D

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SYM.	DESCRIPTION	ACRES
[Stippled Area]	WETLAND PRESERVE	831.35
[Dotted Area]	UPLAND PRESERVE	109.12
[Horizontal Line]	MONITORING TRANSECTS	N/A
[Vertical Line]	STAFF GAUGES	N/A
[Square]	PHOTO POINTS	N/A
[Star]	RAIN GAUGES	N/A
[Square with X]	WATER LEVEL LOGGERS	N/A
TOTAL		940.47

TOTAL UPLAND PRESERVE: APPROX. 109.12 AC.

TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.

NOTES:
 ☐ THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ☐ ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

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Inc.
 sulting
 04-3732
 543-6632

MIRASOL

MONITORING MAP

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Monitoring
DRAWN BY:	SS	N/A	SHEET:	
CREATED:	04-25-06	N/A	SCALE:	1"=1,500'
JOB NO.:	0418	N/A		
SECTION- TOWNSHIP-48 S RANGE-26 E				

EXHIBIT D

SAJ-2000-1926(IP-HWB)
Mirasol (revised)

ATTACHMENT B: ERP SPECIAL CONDITIONS

**South Florida Water Management District Environmental Resources Permit
Modification No. 11-02031-P
Issued 13 September 2007
33 Special Conditions on 6 pages**

EXHIBIT D



FORM #0157
Rev. 0695

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
PERMIT MODIFICATION NO. 11-02031-P
DATE ISSUED: SEPTEMBER 13, 2007**

PERMITTEE: I.M. COLLIER J.V.
(MIRASOL)
6074 LONE OAK BLVD.
NAPLES, FL 34109

ORIGINAL PERMIT ISSUED: FEBRUARY 14, 2002

ORIGINAL PROJECT DESCRIPTION: AN ENVIRONMENTAL RESOURCE PERMIT TO AUTHORIZE THE CONSTRUCTION AND OPERATION OF A SURFACE WATER MANAGEMENT SYSTEM WHICH SERVES A 1713.7 ACRE RESIDENTIAL AND GOLF COURSE DEVELOPMENT AND THE CONSTRUCTION OF A 52.76 ACRE CONVEYANCE CHANNEL WHICH EXTENDS OFF-SITE THROUGH THE ADJACENT WILDEWOOD LAKES AND OLDE CYPRESS DEVELOPMENTS. THE SYSTEM DISCHARGES TO THE COCOHATCHEE CANAL.

APPROVED MODIFICATION : MODIFICATION OF ENVIRONMENTAL RESOURCE PERMIT 11-02031-P TO AUTHORIZE A SURFACE WATER MANAGEMENT SYSTEM SERVING A 1,713.45 ACRE RESIDENTIAL AND GOLF COURSE DEVELOPMENT KNOWN AS MIRASOL, WITH DISCHARGE INTO THE COCOHATCHEE CANAL.

PROJECT LOCATION: COLLIER COUNTY, SECTION 10,15,22 TWP 48S RGE 26E

PERMIT DURATION: See Special Condition No.1. See attached Rule 40E-4.321, Florida Administrative Code.

This Permit Modification is approved pursuant to Application No. 060524-2, dated May 24, 2006. Permittee agrees to hold and save the South Florida Water Management District and its successors harmless from any and all damages, claims or liabilities which may arise by reason of the construction, operation, maintenance or use of any activities authorized by this Permit. This Permit is issued under the provisions of Chapter 373, Part IV Florida Statutes(F.S.), and the Operating Agreement Concerning Regulation Under Part IV, Chapter 373 F.S. between South Florida Water Management District and the Department of Environmental Protection. Issuance of this Permit constitutes certification of compliance with state water quality standards where necessary pursuant to Section 401, Public Law 92-500, 33 USC Section 1341, unless this Permit is issued pursuant to the net improvement provisions of Subsections 373.414(1)(b), F.S., or as otherwise stated herein.

This Permit Modification may be revoked, suspended, or modified at any time pursuant to the appropriate provisions of Chapter 373, F.S., and Sections 40E-4.351(1), (2), and (4), Florida Administrative Code (F.A.C.). This Permit Modification may be transferred pursuant to the appropriate provisions of Chapter 373, F.S., and Sections 40E-1.6107(1) and (2), and 40E-4.351(1), (2), and (4), F.A.C.

All specifications and special and limiting/general conditions attendant to the original Permit, unless specifically rescinded by this or previous modifications, remain in effect.

This Permit Modification shall be subject to the Environmental Resource Permit set forth in Rule 40E-4.381, F.A.C., unless waived or modified by the Governing Board. The Application, and Environmental Resource Permit Staff Review Summary of the Application, including all conditions, and all plans and specifications incorporated by reference, are a part of this Permit Modification. All activities authorized by this Permit Modification shall be implemented as set forth in the plans, specifications, and performance criteria as set forth and incorporated in the Environmental Resource Permit Staff Review Summary. Within 30 days after completion of construction of the permitting activity, the Permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual, pursuant to the appropriate provisions of Chapter 373, F.S. and Sections 40E-4.361 and 40E-4.381, F.A.C.

In the event the property is sold or otherwise conveyed, the Permittee will remain liable for compliance with this Permit until transfer is approved by the District pursuant to Rule 40E-1.6107, F.A.C.

SPECIAL AND GENERAL CONDITIONS ARE AS FOLLOWS:

SEE PAGES 2 - 6 OF 9 (33 SPECIAL CONDITIONS).

SEE PAGES 7 - 9 OF 9 (19 GENERAL CONDITIONS).

PERMIT MODIFICATION APPROVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ON _____ ORIGINAL SIGNED BY:

BY _____ JACKI MCGORTY

DEPUTY CLERK

EXHIBIT D

PERMIT NO: 11-02031-P
PAGE 2 OF 9

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on September 13, 2012.
2. Operation of the surface water management system shall be the responsibility of Flow Way Community Development District, established by Ordinance 2002-09, passed and adopted by the Board of County Commissioners of Collier County, on February 26, 2002 (submitted with the application and retained in the permit file as an exhibit to this permit by reference). Within one year of permit issuance or concurrent with the engineering certification of construction completion, whichever comes first, the permittee shall submit a dedication from the property owner to the CDD.
3. Discharge Facilities:
 - Basin: Basin 1
 - Structure: WCS-01
 - 1-.62' dia. CIRCULAR ORIFICE with invert at elev. 13.4' NGVD.
 - 1-3.08' W X 2' L drop inlet with crest at elev. 16.2' NGVD.
 - Receiving body : Lake 10 (pass-through system)
 - Control elev : 13.4 feet NGVD.

 - Structure: WCS-10
 - 1-.25' dia. CIRCULAR ORIFICE with invert at elev. 14' NGVD.
 - 1-3.08' W X 2' L drop inlet with crest at elev. 15.45' NGVD.
 - Receiving body : Lake 22 (Basin 1)
 - Control elev : 13.4 feet NGVD.
- Basin: Basin 2
 - Structure: WCS-02
 - 1-.69' dia. CIRCULAR ORIFICE with invert at elev. 13.4' NGVD.
 - 1-3.08' W X 2' L drop inlet with crest at elev. 16.4' NGVD.
 - Receiving body : Lake 11 (pass-through system)
 - Control elev : 13.4 feet NGVD.
- Basin: Basin 3
 - Structure: WCS-03
 - 1-1.1' W X .5' H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD.
 - 1-3.08' W X 2' L drop inlet with crest at elev. 16.1' NGVD.
 - Receiving body : Lake 6 (pass-through system)
 - Control elev : 13.5 feet NGVD.
- Structure: WCS-06
- 1-.25' dia. CIRCULAR ORIFICE with invert at elev. 14.2' NGVD.
- 1-3.08' W X 2' L drop inlet with crest at elev. 16.25' NGVD.
- Receiving body : Lake 32 (Basin 3)
- Control elev : 13.5 feet NGVD.
- Structure: WCS-07
- 1-.25' dia. CIRCULAR ORIFICE with invert at elev. 14.25' NGVD.
- 1-3.08' W X 2' L drop inlet with crest at elev. 16.2' NGVD.
- Receiving body : Lake 31 (Basin 3)
- Control elev : 13.5 feet NGVD.
- Structure: WCS-08
- 1-.25' dia. CIRCULAR ORIFICE with invert at elev. 14.25' NGVD.
- 1-3.08' W X 2' L drop inlet with crest at elev. 16.2' NGVD.
- Receiving body : Lake 35 (Basin 3)
- Control elev : 13.5 feet NGVD.

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Basin: Basin 4
Structure: WCS-04
1-2.7' W X .5' H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD.
1-3.08' W X 2' L drop inlet with crest at elev. 16.45' NGVD.
Receiving body : Lake 5 (pass-through system)
Control elev : 13.5 feet NGVD.

Basin: Basin 5
Structure: WCS-05
1-2.45' W X .5' H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD.
1-3.08' W X 2' L drop inlet with crest at elev. 16.3' NGVD.
Receiving body : Lake 4 (pass-through system)
Control elev : 13.5 feet NGVD.

4. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.
5. Measures shall be taken during construction to insure that sedimentation and/or turbidity violations do not occur in the receiving water.
6. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary due to the ongoing water quality monitoring.
7. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
8. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.
9. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
10. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.
11. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.
12. Minimum building floor elevation:
BASIN: Basin 1 - 16.85 feet NGVD.
BASIN: Basin 2 - 17.05 feet NGVD.
BASIN: Basin 3 - 16.75 feet NGVD.
BASIN: Basin 4 - 17.20 feet NGVD.
BASIN: Basin 5 - 17.20 feet NGVD.
13. Minimum road crown elevation:
Basin: Basin 1 - 16.20 feet NGVD.
Basin: Basin 2 - 16.40 feet NGVD.
Basin: Basin 3 - 16.10 feet NGVD.

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Basin: Basin 4 - 16.45 feet NGVD.
Basin: Basin 5 - 16.40 feet NGVD.

14. The Permittee shall utilize the criteria contained in the Construction Pollution Prevention Plan (Exhibit Nos. 4.0-4.9) and on the applicable approved construction drawings for the duration of the projects construction activities.
15. The Permittee shall utilize the criteria contained in the Urban Stormwater Management Program (Exhibit Nos. 5.0-5.4) for post construction activities.
16. A Water Use Permit must be obtained prior to dewatering activities.
17. Construction of the pass-through system, including Lakes 1 through 11, lake interconnections, the intake weir for Lake 1 and the outfall weir from Lake 11, shall be constructed prior to constructing the remainder of the proposed development.
18. The External and Internal Preserve Areas (designated as wetland preserves and conservation preserve areas on Exhibits 2.2 and 3.2) may in no way be altered from their natural or permitted state. Activities prohibited within the External and Internal Preserve Areas include, but are not limited to: construction or placing of buildings on or above the ground; dumping or placing soil or other substances such as trash; removal or destruction of trees, shrubs, or other vegetation - with the exception of exotic vegetation removal; excavation, dredging, or removal of soil materials; diking or fencing; and any other activities detrimental to drainage, flood control, water conservation, erosion control, or fish and wildlife habitat conservation or preservation.
19. External and Internal Preserve Areas (designated as wetland preserves and conservation preserve areas on Exhibits 2.2 and 3.2) shall be dedicated as conservation and common areas in the deed restrictions as well as on the plat if the project will be platted. Restrictions for use of the conservation/ common areas shall stipulate:

The External and Internal Preserve Areas (designated as wetland preserves and conservation preserve areas on Exhibits 2.2 and 3.2) are hereby dedicated as conservation and common areas. The conservation/common areas shall be the perpetual responsibility of the Flow Way Community Development District and may in no way be altered from their natural or permitted state as documented in South Florida Water Management District Permit No. 11-02031-P with the exception of permitted restoration activities. Activities prohibited within the conservation areas include, but are not limited to: construction or placing soil or other substances such as trash; removal or destruction of trees, shrubs, or other vegetation - with the exception of exotic/nuisance vegetation removal; excavation, dredging, or removal of soil material; diking or fencing; and any other activities detrimental to drainage, flood control, water conservation, erosion control, or fish and wildlife habitat conservation or preservation.

Copies of recorded documents shall be submitted to the District's Environmental Resource Compliance staff in the Lower West Coast Service Center concurrently with engineering certification of construction completion.
20. Endangered species, threatened species and/or species of special concern have been observed onsite and/or the project contains suitable habitat for these species. It shall be the permittee's responsibility to coordinate with the Florida Fish and Wildlife Conservation Commission and/or the U.S. Fish and Wildlife Service for appropriate guidance, recommendations and/or necessary permits to avoid impacts to listed species.
21. Prior to the commencement of construction and in conformance with the work schedule in Exhibit 3.6, the permittee shall provide an original letter of credit in the amount of \$4,687,100 and supplemental original letter of credit in the amount of \$73,700 to ensure the permittee's financial ability and commitment to complete the proposed mitigation, monitoring and maintenance plan as shown on Exhibit No. 2.2, 3.2, 3.5 and 3.6. The letter of credit shall utilize the form attached as Exhibit No. 3.7. The letter of credit shall remain in effect for the entire period of the mitigation and monitoring program. Notification of the District by the financial institution that the letter of credit will not be renewed or is no longer in effect shall constitute non-compliance with the permit.
22. A monitoring program shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6. The monitoring program shall extend for a period of 5 years with annual reports submitted to District staff. At the end of the first monitoring period the

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Internal and External preserve areas shall contain an 80% survival of planted vegetation. The 80% survival rate shall be maintained throughout the remainder of the monitoring program, with replanting as necessary. If native wetland, transitional, and upland species do not achieve an 80% coverage within the initial two years of the monitoring program, native species shall be planted in accordance with the maintenance program. At the end of the 5 year monitoring program the entire mitigation area shall contain an 80% survival of planted vegetation and an 80% coverage of desirable obligate and facultative wetland species. In addition, the monitoring program for the External Preserve area includes a plan to install three water level data loggers and two logging type rain gauges with the External Preserve boundaries. The water level data will be collected in accordance with the Mitigation, Monitoring and Maintenance Plan (Exhibit 3.5) and submitted in the annual monitoring report to the District.

23. The areas to be temporarily disturbed by the installation of control structures in wetlands will be backfilled and replanted within 30 days of installation. Monitoring of temporary impact areas shall be done concurrently with other required monitoring for the Mirasol development.
24. A mitigation program for Mirasol shall be implemented in accordance with Exhibit Nos. 2.2, 3.2 and 3.5. The permittee shall preserve and enhance a total of 830.89 acres of wetlands and 109.58 acres of uplands.
25. A maintenance program shall be implemented in accordance with Exhibit No. 3.5 for the preserved and enhanced wetlands and uplands on a regular basis to ensure the integrity and viability of those areas as permitted. Maintenance shall be conducted in perpetuity to ensure that the conservation areas are maintained free from Category I and II exotic vegetation (as defined by the Florida Exotic Pest Plant Council at the time of permit issuance) immediately following a maintenance activity. Maintenance in perpetuity shall also insure that conservation areas, including buffers, maintain the species and coverage of native, desirable vegetation specified in the permit. Coverage of exotic and nuisance plant species shall not exceed 2% of areal coverage of any one stratum or 4% areal coverage of all strata between maintenance activities. In addition, the permittee shall manage the conservation areas such that exotic/nuisance plant species do not dominate any one section of those areas.
26. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.
27. Silt screens, hay bales, turbidity screens/barriers or other such sediment control measures shall be utilized during construction. The selected sediment control measure shall be installed landward of the upland buffer zones around all protected wetlands and shall be properly "trenched" etc, in accordance with Exhibit 2 and construction best management practices. All areas shall be stabilized and vegetated immediately after construction to prevent erosion into the wetlands and upland buffer zones.
28. Activities associated with the implementation of the mitigation, monitoring and maintenance plan(s) shall be completed in accordance with the work schedule attached as Exhibit No. 3.6. Any deviation from these time frames will require prior approval from the District's Environmental Resource Compliance staff. Such requests must be made in writing and shall include (1) reason for the change, (2) proposed start/finish and/or completion dates; and (3) progress report on the status of the project development or mitigation effort.
29. A time zero monitoring report for Mirasol shall be conducted in accordance with Exhibit No. 3.5 and 3.6 for all enhanced wetlands. The plan shall include a survey of the areal extent, acreage and cross-sectional elevations of the enhanced areas and panoramic photographs for each habitat type. The report shall also include a description of planted species, sizes, total number and densities of each plant species within each habitat type as well as mulching methodology.
30. A) Prior to the commencement of construction and in accordance with the work schedule shown as Exhibit 3.6, the permittee shall submit for review and approval, two (2) copies of the following:
 1. Project map identifying conservation areas
 2. Legal description of conservation areas
 3. Signed conservation easements

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4. Sealed boundary survey of conservation area(s) by professional Land surveyor
5. Title insurance commitment for conservation easement naming District as beneficiary using approved valuation.
6. Formatting in accordance with paragraph F (below) if available.

The above information shall be submitted to the Environmental Compliance Enforcement staff in the District service center where the application was submitted.

- B) The real estate information referenced in paragraph (a) above shall be reviewed by the District in accordance with the District's real estate review requirements. The easement shall not be recorded until such approval is received.
 - C) The permittee shall record the conservation easement(s) over the real property designated as a conservation/preservation areas (identified as External and Internal Preserve Areas in this staff report) on attached Exhibits 2.2 and 3.2. The easements shall be granted free of encumbrances or interests which the District determines are contrary to the intent of the easement. The conservation easements shall be granted to the District using the forms attached as Exhibits 3.3 and 3.4. Any proposed modifications to the approved forms must receive prior written consent from the district.
 - D) The permittee shall record the conservation easements in the public records of Collier County within 14 days of receiving the District's approval of the real estate information. Upon recordation, the permittee shall submit two certified copies of the recorded conservation easements for the External and Internal Preserve Areas, and title insurance policy, to the Environmental Resource Compliance staff in the District service center where the application was submitted.
 - E) In the event the conservation easement real estate information reveals encumbrances or interests in the easement which the District determines are contrary to the intent of the easement, the permittee shall be required to provide release or subordination of such encumbrances or interests. If such are not obtained, permittee shall be required to apply for a modification to the permit for alternative acceptable mitigation.
 - F) The permittee shall submit two certified copies of each of the recorded conservation easements for the External and Internal Preserve Areas. The data should also be supplied in a digital CAD (.dxf) or GIS (ESRI Coverage) format. The files should be in the Florida State Plane coordinate system, East Zone (3601) with a data datum of NAD83, HARN with the map units in feet.
 - G) The permittee shall submit two certified copies of each of the recorded conservation easements (Internal Preserve Area and External Preserve Area). The data shall be supplied in a digital ESRI Geodatabase (mdb), ESRI Shapefile (shp) or AutoCAD Drawing Interchange (dxf) file format using Florida State Plane coordinate system, East Zone (3601), Datum NAD83, HARN with the map units in feet. This data shall be submitted as a paper map depicting the Conservation Easement over the best available satellite or aerial imagery. This data shall also reside on a CD or floppy disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted.
31. No work shall occur within the Cocohatchee Canal right-of-way until all necessary right-of-way occupancy permits are obtained authorizing the proposed work in the District's right-of-way.
 32. Prior to commencement of construction in wetlands and in accordance with the work schedule in Exhibit No. 3.6, the permittee shall submit documentation that 11.36 freshwater forested credits have been deducted from the ledger for Panther Island Mitigation Bank.
 33. The permittee shall implement the Mirasol Water Quality Monitoring Plan, attached as Exhibit 6. Any deviation from these testing and monitoring procedures will require prior approval from the District Environmental Compliance Staff. Such requests must be made in writing and shall include (1) reason for the change and (2) an outline of the proposed change.

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SAJ-2000-1926(IP-HWB)
Mirasol (revised)

ATTACHMENT C: MITIGATION AND MONITORING: Internal Preserves

(14 pages dated 12 December 2006)

EXHIBIT D

MIRASOL
SEC. 10, 11, 15, 22 TWP 48S RNG 26E COLLIER COUNTY
MITIGATION/MONITORING/MAINTENANCE PLAN FOR INTERNAL PRESERVES
December 12, 2006

I. INTRODUCTION:

The purpose of this report is to document the proposed mitigation activities for preserves internal to the development project known as *Mirasol*. A Mitigation and Monitoring Plan for the large preserve that is proposed outside of the development footprint is presented in its own, independent document.

The proposed project encompasses a total of approximately 1,713 acres (1,713.45) in four sections of northern Collier County north of CR 846 and east of Interstate 75. A residential and golf course community is planned, with access to be provided from Immokalee Road (CR 846) along the southern property boundary. Most of the southern two sections were historically mowed and these two Sections (15 & 22) in addition to the northern Section (10) were used as cattle pasture. Altered sheet flows from further north and east currently flow across the property and because of constricted and limited outfall, the property is abnormally flooded (to increased depths) on an annual basis.

The historic use of the property as cattle pasture coupled with the annual flooding now occurring has contributed to unchecked proliferation of melaleuca across the entire property. A majority of the site has melaleuca densities of greater than 50% coverage. This infestation in conjunction with the flooding has led to a degradation of the uplands and severely depressed the functional values for the entire area. Native vegetation, wildlife forage value, and actual wildlife utilization have all suffered drastic reductions due to the existing conditions of the site.

To characterize surrounding land use, active farm fields exist to the north of the property while lands to the east consist of undeveloped parcels, a mitigation parcel, and several single-family home-sites. The properties to the west of the subject parcel consist of the proposed Parklands (north) and Terafina (central) developments, and the existing Olde Cypress (south) development. The southern property boundary abuts the drainage easement and Cocohatchee canal alongside of Immokalee Road (CR 846).

The development site plan proposes to directly impact approximately 645 acres of jurisdictional wetlands. The plan also proposes to preserve approximately 777 acres of wetlands and 107 acres of uplands to the north of the development area. Within the development area the project proposes to preserve 55 acres of wetlands and 2 acres of uplands.

II. EXISTING CONDITIONS:

The project site consists of 1713 acres located in four sections of northern Collier County north of CR 846 and east of Interstate 75. There are limited upland (236.74 acres) and substantial wetland (1476.71 acres) communities present on the site, which have all been heavily impacted by melaleuca infestation and altered hydrology.

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Habitat Descriptions:

The following paragraphs outline the basic composition of species assemblages found on-site. While many more species are present than presented in this report, the following gives a brief description of the vegetative communities.

411 - Pine Flatwoods

This is the predominant upland habitat present on the property. The canopy component of this area consists of mature slash pines (*Pinus elliottii*) and melaleuca (*Melaleuca quinquenervia*). Melaleuca concentrations vary in these upland areas but some areas exhibit densities approaching 70%. Wax myrtle (*Myrica cerifera*) and small melaleuca form the midstory. These uplands exist as remnant islands throughout the site, most likely due to the altered, elevated water levels present. Understory species include saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*) and wild grape vine (*Vitis rotundifolia*).

422 - Brazilian Pepper

These two small areas are present in the northeast and northwest corners of the property. There are both upland and wetland areas present. Brazilian pepper (*Schinus terebinthifolius*) dominates this vegetative community.

617 - Disturbed Mixed Hydric Hardwoods

This small community in the southwestern corner of Section 15 is the only example of this community on the site. The dominant plant species are bald cypress (*Taxodium distichum*), melaleuca, wax myrtle, swamp bay (*Persea palustris*), saltbush (*Baccharis halimifolia*), and live oak (*Quercus virginiana*). A few cabbage palms (*Sabal palmetto*) are also present. Herbaceous understory vegetation consists of sawgrass (*Cladium jamaicense*) and swamp fern (*Blechnum serrulatum*).

621 - Cypress Swamp

This habitat contains predominately bald cypress with scattered dahoon holly (*Ilex cassine*), wax myrtle, and rare swamp bays. Ground covers are sparse but consist mainly of swamp fern.

424 - Hydric Melaleuca

These areas are dominated by melaleuca (*Melaleuca quinquenervia*) with minimal groundcover of swampfern, sawgrass and several grasses. Melaleuca concentrations are 90 to 100 % of the canopy cover.

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624 – Cypress / Pine / Cabbage palm

This habitat contains predominately bald cypress with scattered slash pine, wax myrtle, and rare cabbage palms. Ground covers are limited but consist mainly of swamp fern and assorted grasses and sedges.

643 - Disturbed Wet Prairie

This community appears as a disturbed area alongside a road in western Section 22 and in the northeast corner of Section 10. Little to no canopy is present and groundcovers include red root (*Lachnocaulon caroliniana*), Crinum lily (*Crinum americanum*), Broomsedge (*Andropogon spp.*), Pipeworts (*Eriocaulon spp.*), Hat pins (*Eriocaulon spp.*), Yellow-eyed grass (*Xyris spp.*), dog fennel (*Eupatorium leptophyllum*), etc.

640 - Flag Pond

This community appears in only one small area within the 160-acre adjacent mitigation parcel in Section 11. No canopy is present and the area is dominated by emergent vegetation, mostly alligator flag (*Thalia geniculata*).

424 / 411 – Mixed Melaleuca / Pine flatwoods

These areas contain vegetation from both communities as listed above. Areas are differentiated by the concentration of melaleuca found in each. The majority of the site contains melaleuca concentrations close to or over 50 % of canopy cover. Concentrations of individual areas are shown on the FLUCCS map that are a part of the permit submittal.

621(624) / 424 – Cypress or Cypress / Pine and Melaleuca

As above, these areas are a mix of the different communities differentiated by Melaleuca concentration.

534 – Ponds

These are small areas excavated as watering holes for the cattle kept on-site.

WETLAND IMPACT AREAS:

Please reference the attached wetland impact table and map for these values. As can be seen, the development plan proposes to directly impact approximately 645 acres and preserve within the development about 55 acres of ACOE jurisdictional wetlands. The aerial extent of impacts is high but the vast majority of wetlands impacted are highly disturbed, and in some cases, newly created by the elevated water levels now occurring on-site.

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III. MITIGATION ACTIVITIES

Conservation areas within the project site are identified with two (2) different labels; Development preserves, and the Main preserve. This distinction was made in order to outline the proposed mitigation activities for each individual preserve. This report details the activities planned for the development preserves while the mitigation and monitoring activities planned for the Main preserve is presented under separate cover.

The development preserves are identified as six distinct areas on the attached map. The management activities associated with these preserve areas are outlined within this document and will be a requirement for the project.

All of the preserves shall be placed into conservation easements with the South Florida Water Management District, and enforcement rights shall be granted to the South Florida Water Management District and the US Army Corps of Engineers. Because of the difficulties associated with surveying the irregular lines around the preserves and the inevitable give and take associated with the clearing and filling development activities, the conservation easement for these areas will be filed and recorded after the initial development activities are completed.

As stated above, there are six areas included within the development as preserves. These areas combined are approximately 57 acres in size and are identified individually on the attached map.

Preserve A

This preserve is located linearly along the western boundary of Section 15. The preserve is 11.46 acres in size and is composed entirely of wetlands. The wetlands are a mix of cypress and hydric pine with widely varying melaleuca concentrations. This preserve is outside of the water management berm and will be hydrated from the wetlands adjacent to the west of the property. Because of the narrow shape of this preserve, there was some concern that secondary impacts to the wetlands adjacent to the property could be a possibility. In order to minimize the potential for this, golf course holes have been located between the preserve and the proposed residences. The golf course will act as a buffer for the preserve and minimize potential secondary impacts.

As with all the preserves areas, all exotic vegetation will be removed from the preserve area and the boundary will be clearly delineated as a preserve.

Preserve B

This is the southernmost internal preserve. It is located in two corners along the western boundary of Section 22. It is 8.48 acres in size and is composed of 8.33 acres of wetlands and 0.15 acres of uplands. This preserve lies between an internal roadway and the

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property boundary. It is composed primarily of cypress and prairie wetlands with some melaleuca infestation. The prairie area has limited vegetation present most likely due to the super-elevated water levels that occur during the wet season. The preserve is located outside of the stormwater management berm and will continue to be hydrated from the adjacent off-site wetlands. All exotic vegetation will be cut by hand and the debris removed from the preserve area. The boundary will be clearly delineated as a preserve.

Preserve C

This is a predominately cypress preserve located in the north central portion of Section 22. It is 9.67 acres in size all of which are wetlands. This preserve contains some hydric pine flatwoods around the central cypress area that have been heavily infested by melaleuca. All of the exotic vegetation will be cut by hand and removed from the preserve area. The hydrology will be maintained by a direct connection to the adjacent lake. Water from the lake will be able to enter the preserve as the water level rises but only after it has undergone treatment within the lake. The boundary will be clearly delineated as a preserve.

Preserve D

This is a small preserve located immediately east of Preserve C in the central portion of Section 22. It is 2.74 acres in size all of which are wetlands. This preserve also contains hydric pine flatwoods around the central cypress dome that have been heavily infested by melaleuca. All of the exotic vegetation will be cut by hand and removed from the preserve area. The hydrology will be maintained by a direct connection to the adjacent lake. Water from the lake will be able to enter the preserve as the water level rises but only after it has undergone treatment within the lake. The boundary will be clearly delineated as a preserve.

Preserve E

This is the largest preserve area within the development footprint. It is 13.79 acres in size all of which are wetlands. This preserve is located along the border of Sections 22 and 15. It is composed of two cypress areas surrounded by hydric pine flatwoods. Melaleuca has extensively infested this preserve area. All of the exotic vegetation will be cut and removed from the preserve. Because of the density of melaleuca, a portion of this preserve area may be mechanically cleared. If it is mechanically cleared, the cleared portion will be immediately planted according to the planting plan outlined below in this report. Like Preserves C and D, this preserve will have a direct connection to the lake system and will receive water from the lakes once it has been treated. Since this is the largest internal preserve it offers the best opportunity to help educate the residents about the preserves and about wetlands in general. The owner will explore the possibility of constructing an elevated, hand-railed boardwalk into this preserve to facilitate this. Any such proposal would be presented to and coordinated with the South Florida Water

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Management District and the Corps of Engineers prior to implementation. The boundary will be clearly delineated as a preserve.

Preserve F

This preserve is similar to preserve A except that it is located linearly along the eastern boundary of Section 15. The preserve is 10.61 acres in size and is composed of 8.52 acres of wetlands and 2.09 acres of uplands. The wetlands are a mix of cypress and hydric pine with widely varying melaleuca concentrations. All exotic vegetation will be removed from the preserve area and the boundary will be clearly delineated as a preserve.

Exotic Vegetation Eradication

Melaleuca infestation is rampant throughout the site and an extensive eradication program will be implemented to eliminate this noxious plant from all preserve spaces. This program will include predominately hand clearing within all the preserves internal to the development. All hand cleared debris will be removed from the preserves.

Mechanical clearing is currently proposed in an attempt to remove exotics where no existing native vegetation is present in the most economical and efficient manner possible. Ground elevations will be determined prior to any mechanical clearing activities. This will allow for restoration of current elevations before replanting is undertaken.

Quarterly maintenance inspections and treatments will be necessary to eliminate the melaleuca that has already gained a stranglehold on the property. Once the removal efforts have been successful, annual maintenance treatments should be sufficient to control future exotic growth. The preserve areas will be exotic free immediately following a maintenance activity. At no time shall the density of exotic and nuisance plant species exceed 5% of the total aerial cover.

Replanting Plans

Most areas will be left to regenerate naturally for at least a year before deciding if replanting is necessary. In areas that are more than 75% melaleuca or that are mechanically cleared, replanting will be done immediately following the exotic eradication activities. No immediate seed sources are available in these areas so immediate replanting helps to re-establish the denuded areas more rapidly. Appropriate plant palettes will be applied for the affected areas that will be dependant on existing ground elevations, anticipated high water elevations, and historic vegetative cover. Also, all areas disturbed as part of the construction or mitigation activities will be replanted according to South Florida Water Management District guidelines.

Cypress: Cypress areas will be planted with sapling cypress, dahoon holly and scattered red maple trees with minimum heights of 4 feet. Depending on the size of the area being planting and the density of the adjacent vegetation, planting will be done on 10

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foot or 15 foot centers. It is anticipated that adjacent ground cover vegetation will rapidly colonize the areas so no ground cover planting will be done until a full growing season has passed. If ground cover colonization has not occurred, sawgrass, broomsedge, and other appropriate, available vegetation will be planted in those areas. These plantings will be done on 3 foot centers.

Flatwoods : Pine flatwood areas will be planted with sapling slash pine on 15 foot centers. Trees will be from 4' to 6' in height. In very hydric areas, a few cypress saplings may also be used. No midstory plantings are proposed because of the future management plan for the areas as potential fox squirrel habitat. As above, no ground cover plantings will be done for a full growing season. Wiregrass, cordgrass, broomsedge, and other appropriate vegetation will be used if no regeneration is seen within the first year. These will be planted on 3 foot centers to fill in open areas.

All planting will be coordinated with the wet season so that expected rains will serve to keep the new plantings hydrated and no outside irrigation source will be needed.

Educational Displays

The applicant has contracted with a local artist to create two (2) wildlife displays for the proposed preserve areas. They will feature 'Cypress Domes of Southwest Florida' and 'Pine Flatwoods of Southwest Florida' along with their associated flora and fauna. They briefly describe the uniqueness of these communities, while highlighting plant and animal species which are typical of these habitats. Several 3' x 4' displays will be installed in prominent locations throughout the development. Additional 8.5" x 11" copies will also be available in the club house.

The proposed mitigation activities shall offset unavoidable, adverse wetland impacts and achieve mitigation success by providing viable and sustainable ecological and hydrological functions.

MITIGATION CALCULATIONS:

Pre and post development WRAP analysis were conducted. The proposed development consists of 645 acres of wetland impacts. The functional assessment depicting the mitigation credits and deficits associated with the preserve areas has been provided as part of the permit application.

IV. MONITORING / MAINTENANCE / MANAGEMENT:

The goals and objectives of this monitoring plan will be to provide for ongoing progress and ultimate success of preserved and enhanced areas in a series of scheduled monitoring reports. The reports will quantify and describe conditions within the managed areas, comparing observations with the proposed standards and offering advice for corrective actions if needed.

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MITIGATION/MONITORING/MAINTENANCE PLAN FOR INTERNAL PRESERVES
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In areas of heavy vegetation, a visual inspection for exotic plant invasion will be made and all exotic vegetation found will be flagged, mapped and reported for treatment. Meandering transects will be followed in the preserve areas for vegetative inventory and observation of wildlife during regular monitoring. Photo points will be established along with plot sampling stations to determine percent survival and percent coverage of planted and recruited plant species. Transect and plot sampling station locations will be determined at time zero, after exotic eradication and plantings are installed. The mitigation efforts shall be deemed successful when the area contains a minimum of 80% coverage of native vegetation, with less than 5% exotic and nuisance vegetation for a period of 2 years. The preserve areas will be maintained in this exotic-free state in perpetuity. Once restoration and enhancement activities are deemed successful, the internal preserve areas will continue to be maintained in perpetuity and the homeowner's association or the Community Development District will be responsible for this perpetual maintenance.

A Baseline Monitoring Report will describe the existing conditions of the conservation areas prior to exotic eradication and supplemental planting. The Time Zero Monitoring Report will describe the aerial extent of exotic removal and other mitigation work, i.e. revegetation, photographs from referenced locations, qualitative observations of wildlife usage and other information such as climatic and hydrological conditions and health of existing vegetation. Annual Monitoring reports shall document changes from the baseline conditions the success of the exotic eradication and identifies ways to maintain or improve these conditions.

Baseline, Time Zero and Annual Reports will include the following:

- quantification of any revegetation of exotic species and recommendations for remedial actions.
- quantification of revegetation of cleared areas by native species including dominant species and % cover by species.
- percent coverage, open space and water depths as appropriate.
- direct and indirect wildlife observations.
- site hydrological characteristics.
- photographs from a referenced location and panoramic photographs. A photo point station will be identified with a PVC labeled stake.
- A staff gauge or constant monitoring groundwater logger will be installed with monthly readings provided in each annual monitoring report.

The maintenance and management of the preserve areas will be the responsibility of the owner/developer in perpetuity. When the property owners association or CDD acquires ownership of the property, maintenance and management responsibilities will transfer to that entity as well. At this time the said associations shall assume responsibility for the perpetual maintenance and management of the preserve and retained areas. Association

EXHIBIT D

MIRASOL
SEC. 10, 11, 15, 22 TWP 48S RNG 24E COLLIER COUNTY
MITIGATION/MONITORING/MAINTENANCE PLAN FOR INTERNAL PRESERVES
December 12, 2006

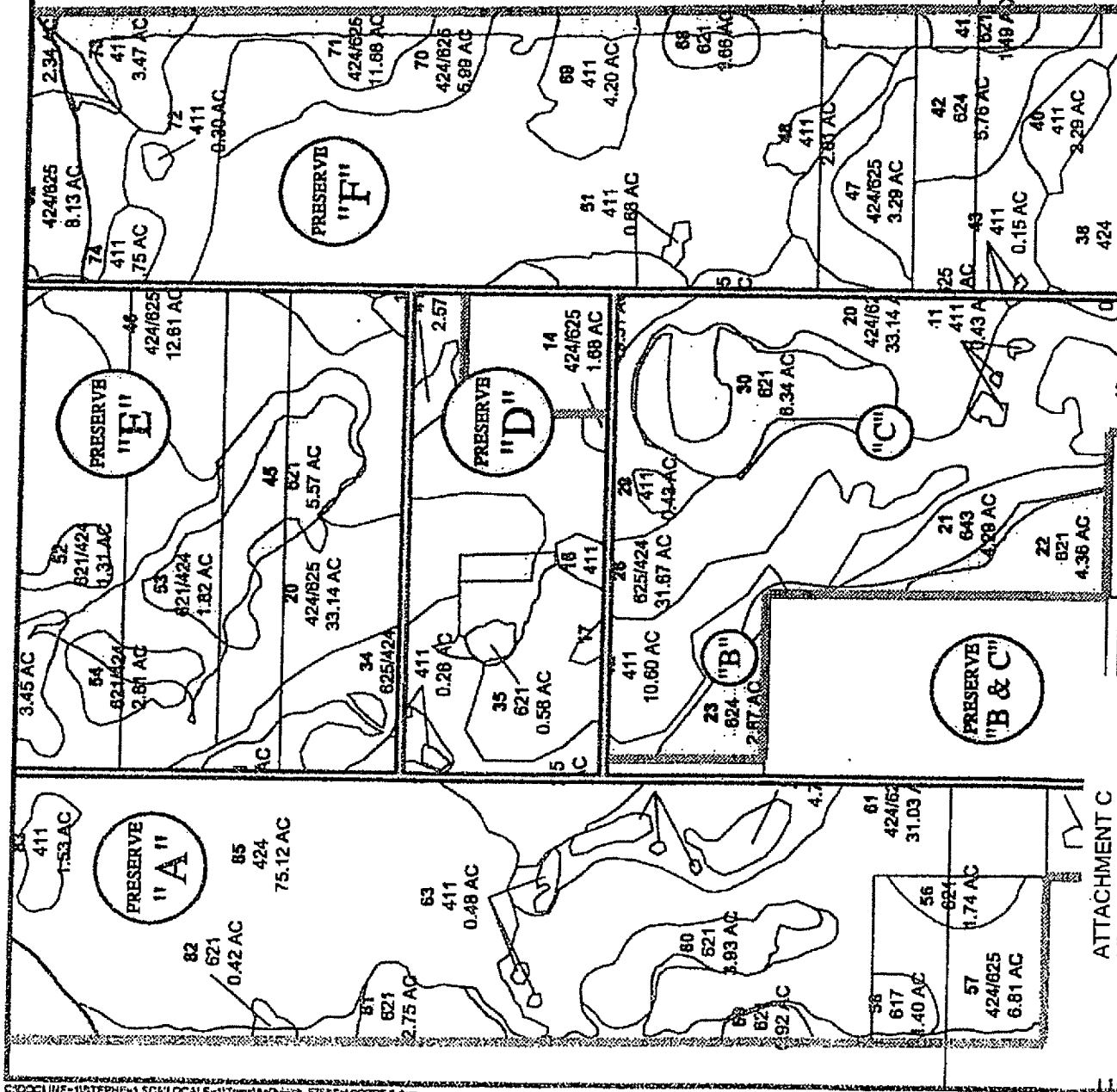
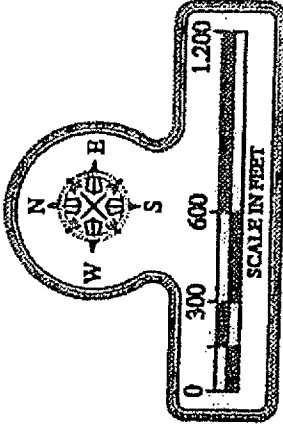
documents will indicate the responsibilities, restrictions and limitations associated with the conservation areas.

The conservation areas for *Mirasol* will require regular maintenance. The maintenance activities may include, but are not limited to the following.

- maintenance, repair and/or replacement of staff gauges,
- follow-up eradication of exotic vegetation,
- supplemental herbicidal treatment of trees/stumps to prevent re-growth after initial treatment.

The maintenance activities will be performed on a quarterly basis for the first year, then biannually for the remaining four (4) years of the monitoring period. Perpetual maintenance after the monitoring period will be on an annual basis.

EXHIBIT D



INTERNAL PRESERVES			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
"A"	11.46		11.46
"B"	0.15	8.49	8.64
"C"		9.87	9.87
"D"	2.74		2.74
"E"	13.79		13.79
"F"	8.52		8.52
TOTALS	2.24	54.82	58.76

NOTES:
 THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

DESIGNED: T.T.T.	REVISION:	TAB NAME:	INTERNAL
DRAWN BY: BS	N/A	SHEET:	
CREATED: 04-25-06	N/A	SCALE:	1"=600'
JOB NO: 9118	N/A		

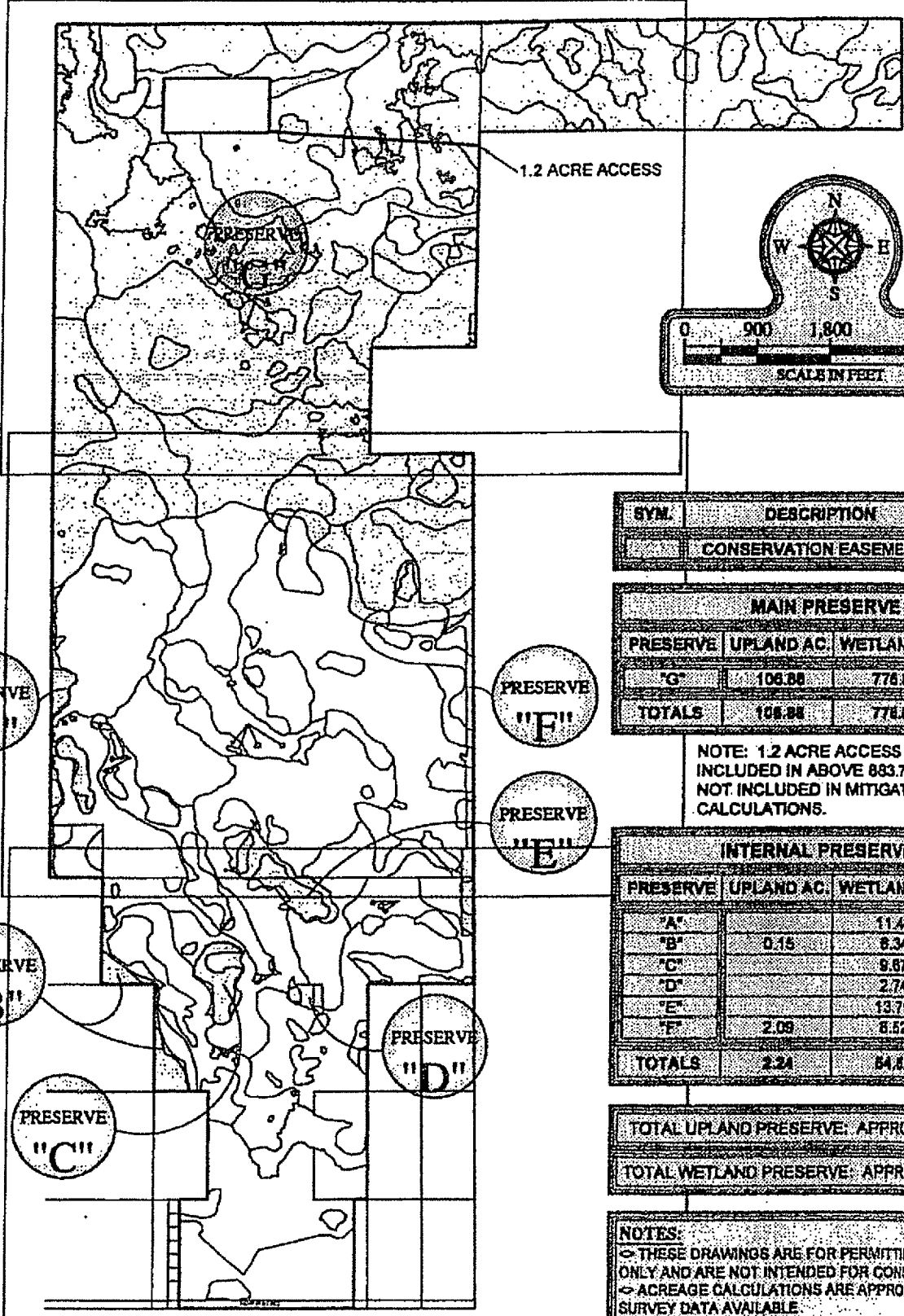
MIRASOL

INTERNAL PRESERVES (DETAILED)

Inc. Consulting
 1104-5732
 143-6332

ATTACHMENT C
 Mirasol (Revised)
 Mitigation and Monitoring Internal
 SAJ-2000-1926(IP-HWB)
 12 December 2006 Page 10 of 14

EXHIBIT D



SYM.	DESCRIPTION	ACRES
	CONSERVATION EASEMENTS	840.47

MAIN PRESERVE			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
"G"	106.88	776.83	883.71
TOTALS	106.88	776.83	883.71

NOTE: 1.2 ACRE ACCESS EASEMENT IS INCLUDED IN ABOVE 883.71 ACRES BUT IS NOT INCLUDED IN MITIGATION CALCULATIONS.

INTERNAL PRESERVES			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
"A"		11.48	11.48
"B"	0.15	8.34	8.49
"C"		9.87	9.87
"D"		2.74	2.74
"E"		13.79	13.79
"F"	2.09	8.52	10.61
TOTALS	2.24	64.82	66.78

TOTAL UPLAND PRESERVE: APPROX. 109.12 AC.
 TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.

NOTES:
 - THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 - ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE.

PRESERVE "A"

PRESERVE "F"

PRESERVE "E"

PRESERVE "B"

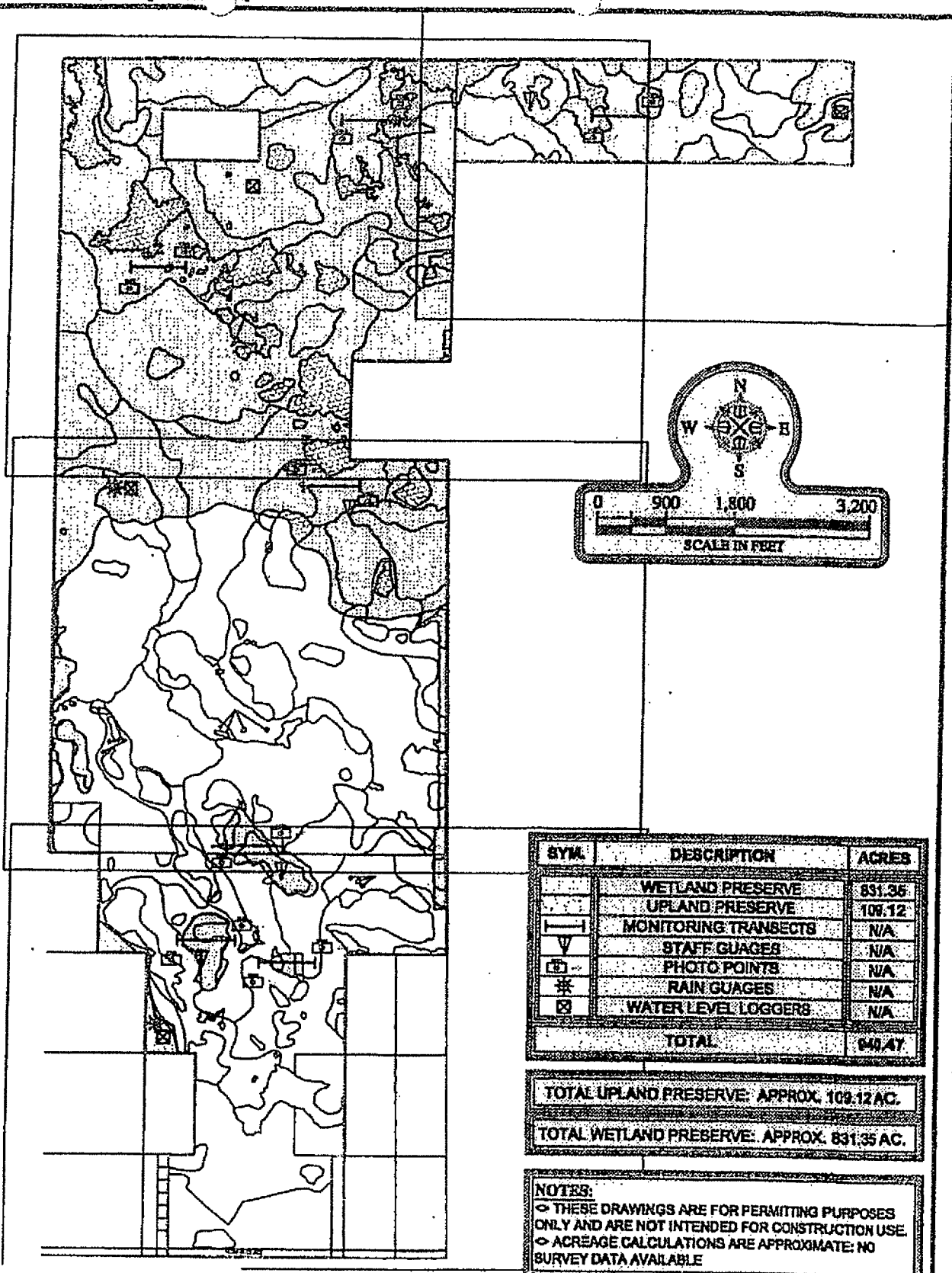
PRESERVE "D"

PRESERVE "C"

1.2 ACRE ACCESS

EXHIBIT D

C:\DOCUME~1\STEPHE~1\LOCALS~1\Temp\ACF\Map2_678554.DWG



SYM	DESCRIPTION	ACRES
	WETLAND PRESERVE	831.35
	UPLAND PRESERVE	108.12
—	MONITORING TRANSECTS	N/A
∇	STAFF GAUGES	N/A
⊠	PHOTO POINTS	N/A
⊠	RAIN GAUGES	N/A
⊠	WATER LEVEL LOGGERS	N/A
	TOTAL	940.47

TOTAL UPLAND PRESERVE: APPROX. 108.12 AC.
 TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.

NOTES:
 ◊ THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ◊ ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

ATTACHMENT C
 Mirasol (Revised)
 Mitigation and Monitoring Internal
 SAJ-2000-1926(IP-HWB)
 12 December 2006 Page 12 of 14

IC. ing 1732 5632
MIRASOL
 MONITORING MAP

DESIGNED:	T.Y.T.	REVISION:	TAB NAME:
DRAWN BY:	BS	N/A	SHEET:
CREATED:	04-25-08	N/A	SCALE:
JOB NO.:	0418	N/A	
SECTION- TOWNSHIP- 48 S RANGE- 28 E			

EXHIBIT D

TABLE 4

December 12, 2006

MIRASOL PRE-DEVELOPMENT WRAP SUMMARY
FOR DEVELOPMENT AREA

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Wetland Acreage	Wildlife	Canopy	Ground Cover	Buffer	Hydrology	W.Q.	SCORE	FUNCTIONAL SCORE
1	424/624	Melaleuca(>75%) / Cypress / Pine	2.37	0.5	0.5	0.5	1.0	1.0	3.00	0.361	0.88
3	621	Cypress	2.50	1.0	2.0	2.0	0.5	2.0	2.75	0.569	1.42
4	424	Melaleuca	42.50	0.5	0.5	0.5	1.5	1.0	3.00	0.389	18.53
6	624/424	Pine / Cypress / Melaleuca (>50%)	6.97	1.5	1.0	1.5	1.5	1.0	3.00	0.528	3.68
8	624	Pine / Cypress	8.19	2.0	2.0	2.0	1.5	1.5	3.00	0.667	5.46
14	411/424	Pine Flatwoods / Melaleuca (>50%)	1.68	1.5	1.0	1.5	1.5	1.0	3.00	0.528	0.89
20	424/625	Melaleuca(>50%) / Pine Flatwoods	33.14	1.0	1.0	1.5	1.5	1.0	3.00	0.500	16.57
21	643	Disturbed Wet Prairie	4.29	1.0	0.5	1.5	1.5	1.0	3.00	0.472	2.03
22	621	Cypress	4.36	1.5	2.0	2.0	1.5	2.5	3.00	0.604	3.03
23	624	Pine / Cypress	2.67	2.0	2.0	2.0	1.5	1.5	3.00	0.667	1.78
24	621	Cypress	0.82	1.5	2.0	2.0	1.5	2.5	3.00	0.694	0.57
26	411/424	Pine Flatwoods / Melaleuca (>25%)	31.67	1.5	1.5	2.0	1.5	1.0	3.00	0.583	16.47
27	424	Melaleuca	9.24	0.5	0.5	0.5	1.5	1.0	3.00	0.389	3.59
28	621	Cypress	0.69	1.5	2.0	2.0	1.5	2.5	3.00	0.694	0.48
30	621	Cypress	6.34	1.5	2.0	2.0	1.5	2.5	3.00	0.694	4.40
34	411/424	Pine Flatwoods / Melaleuca (>25%)	19.51	1.5	1.5	2.0	1.5	1.0	3.00	0.583	11.38
35	621	Cypress	0.58	1.5	2.0	2.0	1.5	2.5	3.00	0.694	0.40
36	411/424	Pine Flatwoods / Melaleuca (>25%)	19.02	1.5	1.5	2.0	1.5	1.0	3.00	0.583	11.10
38	424	Melaleuca	48.14	0.5	0.5	0.5	1.5	1.0	2.90	0.383	18.45
41	621	Cypress	1.49	1.5	2.0	2.0	1.5	2.5	3.00	0.694	1.03
42	624	Pine / Cypress	5.76	2.0	2.0	2.0	1.5	1.5	3.00	0.667	3.84
44	424/625	Melaleuca(>50%) / Pine Flatwoods	18.60	1.5	1.0	1.5	1.5	1.0	3.00	0.528	9.82
45	621	Cypress	5.57	1.5	2.0	2.0	1.5	2.5	3.00	0.694	3.87
46	424/625	Melaleuca(>50%) / Pine Flatwoods	12.61	1.5	1.5	2.0	1.5	2.5	3.00	0.667	8.41
47	424/625	Melaleuca (>50%) / Pine Flatwoods	3.29	1.5	1.5	2.0	1.5	2.5	3.00	0.667	2.19
49	424/625	Melaleuca(>25%) / Pine Flatwoods	0.00	1.5	2.0	2.0	1.5	2.5	3.00	0.694	0.00
50	424/625	Melaleuca(>75%) / Pine Flatwoods	57.55	0.5	0.5	0.5	1.5	1.0	3.00	0.389	22.38
52	621	Cypress	1.31	1.5	2.0	2.0	1.5	2.5	3.00	0.694	0.91
53	621	Cypress	1.82	1.0	1.0	0.5	1.5	1.0	3.00	0.444	0.81
54	621	Cypress	2.81	2.0	1.5	1.5	1.5	2.0	3.00	0.639	1.80
55	424/624	Melaleuca(>50%) / Cypress / Pine	3.45	1.0	1.0	1.0	1.5	1.5	3.00	0.500	1.73
56	424/621	Melaleuca(>50%) / Cypress	1.75	1.5	1.5	1.5	1.5	2.0	3.00	0.611	1.07
57	424/624	Melaleuca (>50%) / Cypress / Pine	8.80	1.5	1.5	1.0	1.5	1.5	3.00	0.556	3.78
58	617	Mixed Wetland Hardwoods	1.39	1.5	1.5	1.5	1.5	1.5	3.00	0.583	0.81
59	621	Cypress	0.86	1.5	2.0	2.5	1.5	2.5	3.00	0.722	0.64
60	621	Cypress	3.93	2.0	1.0	1.5	1.5	2.0	3.00	0.811	2.40
61	424/625	Melaleuca(>75%) / Pine Flatwoods	30.91	0.5	0.5	0.5	1.5	1.0	3.00	0.389	12.02
64	424/625	Melaleuca(>75%) / Pine Flatwoods	28.37	1.0	0.5	1.5	1.0	1.0	3.00	0.444	12.81
65	424/625	Melaleuca(>75%) / Pine Flatwoods	8.91	1.0	1.0	1.0	1.5	1.0	3.00	0.472	4.21
68	621	Cypress	1.86	2.0	2.0	2.0	1.5	2.0	3.00	0.694	1.15
70	424/625	Melaleuca (>50%) / Pine Flatwoods	5.99	1.0	1.5	1.5	2.0	1.0	3.00	0.556	3.33
71	424/625	Melaleuca (>25%) / Pine Flatwoods	10.81	1.5	2.0	2.0	1.5	1.5	3.00	0.667	7.21
76	424/625	Melaleuca (>50%) / Pine Flatwoods	12.11	1.0	1.5	1.5	2.0	1.0	3.00	0.556	6.73
79	424/625	Melaleuca (>75%) / Pine Flatwoods	20.65	1.0	1.0	1.5	1.5	1.0	3.00	0.500	10.33
81	621	Melaleuca (>50%) / Cypress	2.60	1.0	1.0	1.0	1.5	2.0	3.00	0.528	1.37
82	621	Melaleuca (>50%) / Cypress	0.37	1.0	1.5	1.0	1.5	2.0	3.00	0.556	0.21
85	424	Melaleuca	56.80	0.5	0.0	0.5	1.0	1.0	3.00	0.333	18.83
86	424/625	Melaleuca (>75%) / Pine Flatwoods	3.84	0.5	1.0	1.0	1.0	1.0	3.00	0.417	1.60
87	424/625	Melaleuca (>25%) / Pine Flatwoods	2.99	1.5	2.0	2.0	1.5	1.5	3.00	0.639	1.91
89	424/625	Melaleuca (>50%) / Pine Flatwoods	0.74	1.5	1.5	1.5	1.5	1.5	3.00	0.583	0.43
90	424/625	Melaleuca (>75%) / Pine Flatwoods	101.03	0.5	1.0	1.0	1.5	1.0	3.00	0.444	44.90
92	424/625	Melaleuca (>25%) / Pine Flatwoods	2.35	2.0	2.0	2.0	2.0	1.5	3.00	0.694	1.63
93	625	Hydric Pine Flatwoods	0.62	2.0	2.0	2.0	2.0	2.0	3.00	0.722	0.45
100	424/625	Melaleuca (>75%) / Pine Flatwoods	27.49	1.0	0.5	1.0	1.0	1.0	3.00	0.417	11.45
101	424/625	Melaleuca (>50%) / Pine Flatwoods	7.80	1.0	1.0	1.0	1.0	1.0	3.00	0.444	3.47
102	424/625	Melaleuca (>75%) / Pine Flatwoods	0.14	0.5	1.0	1.0	1.5	1.0	3.00	0.444	0.06
		TOTALS	699.87								330.56

EXHIBIT D

TABLE 5

December 12, 2006

MIRASOL POST-DEVELOPMENT WRAP SUMMARY
FOR DEVELOPMENT AREA PRESERVES

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Preserve Acreage	Preserve Area	Wildlife	Canopy	Ground Cover	Buffer	Hydrology	W.Q.	SCORE	FUNCTIONAL SCORE
20	424/625	Melaleuca(>50%) / Pine Flatwoods	2.84	C	0.5	2.0	2.5	0.5	2.0	2.25	0.542	1.54
20	424/625	Melaleuca(>50%) / Pine Flatwoods	0.17	D	0.5	2.0	2.5	0.5	2.0	2.25	0.542	0.09
20	424/625	Melaleuca(>50%) / Pine Flatwoods	0.42	E	0.5	2.0	2.5	0.5	2.0	2.25	0.542	0.23
21	643	Disturbed Wet Prairie	0.85	B	1.0		2.5	0.5	1.0	2.50	0.417	0.35
22	621	Cypress	4.36	B	1.5	2.5	2.5	1.5	2.5	2.50	0.722	3.16
23	624	Pine / Cypress	2.67	B	1.5	2.5	2.5	1.5	1.5	2.50	0.667	1.78
26	625/424	Pine Flatwoods / Melaleuca (>25%)	0.47	B	1.0	2.5	2.5	0.5	1.0	2.50	0.556	0.26
26	625/424	Pine Flatwoods / Melaleuca (>25%)	0.49	C	0.5	2.5	2.5	0.5	2.0	2.25	0.569	0.28
30	621	Cypress	6.34	C	1.0	2.5	2.5	1.0	2.0	2.25	0.625	3.96
35	621	Cypress	0.55	D	1.0	2.5	2.5	0.5	2.0	2.25	0.597	0.33
36	625/424	Pine Flatwoods / Melaleuca (>25%)	0.63	D	0.5	2.5	2.5	0.5	2.0	2.25	0.569	0.36
36	625/424	Pine Flatwoods / Melaleuca (>25%)	2.09	E	1.0	2.5	2.5	0.5	2.0	2.25	0.597	1.25
38	424	Melaleuca	1.39	D	0.5	2.0	2.5	0.5	2.0	2.25	0.542	0.75
41	621	Cypress	1.27	F	0.5	2.5	2.5	0.5	2.0	2.25	0.569	0.72
42	624	Pine / Cypress	0.88	F	0.5	2.5	2.5	0.5	2.0	2.25	0.569	0.50
44	424/625	Melaleuca(>50%) / Pine Flatwoods	0.16	F	0.5	2.0	2.5	0.5	2.0	2.25	0.542	0.09
45	621	Cypress	4.87	E	1.0	2.5	2.5	1.0	2.0	2.25	0.625	3.04
46	424/625	Melaleuca(>50%) / Pine Flatwoods	0.02	E	0.5	2.0	2.5	0.5	2.0	2.25	0.542	0.01
50	424/625	Melaleuca(>75%) / Pine Flatwoods	3.17	E	0.5	2.0	2.5	0.5	2.0	2.25	0.542	1.72
53	621	Cypress	1.82	E	1.0	2.5	2.5	1.0	2.0	2.25	0.625	1.14
54	621	Cypress	1.31	E	1.0	2.5	2.5	1.0	2.0	2.25	0.625	0.82
55	424/624	Melaleuca(>50%)/Cypress/Pine	0.09	E	0.5	2.0	2.5	0.5	2.0	2.25	0.542	0.05
57	424/624	Melaleuca(>50%)/Cypress/Pine	0.53	A	1.5	2.0	2.5	2.0	1.5	2.50	0.667	0.35
58	617	Mixed Wetland Hardwoods	0.14	A	1.5	2.5	2.5	2.0	1.5	2.50	0.694	0.10
59	621	Cypress	0.88	A	1.5	2.5	2.5	2.0	2.5	2.50	0.750	0.66
60	621	Cypress	3.93	A	1.5	2.5	2.5	2.0	2.0	2.50	0.722	2.84
61	424/625	Melaleuca(>75%) / Pine Flatwoods	2.00	A	1.5	2.0	2.5	2.0	1.0	2.50	0.639	1.28
68	621	Cypress	0.84	F	0.5	2.5	2.5	0.5	2.0	2.25	0.569	0.36
70	424/625	Melaleuca(>50%) / Pine Flatwoods	0.42	F	0.5	2.0	2.5	0.5	2.0	2.25	0.542	0.23
71	424/625	Melaleuca(>25%) / Pine Flatwoods	1.98	F	0.5	2.5	2.5	0.5	2.0	2.25	0.569	1.12
81	621	Melaleuca(>50%)/Cypress	2.60	A	1.5	2.0	2.5	2.0	2.0	2.50	0.894	1.81
82	621	Melaleuca(>50%)/Cypress	0.19	A	1.5	2.0	2.5	2.0	2.0	2.50	0.894	0.09
85	424	Melaleuca	1.25	A	1.5	2.0	2.5	2.0	1.0	2.50	0.639	0.80
90	424/625	Melaleuca(>75%) / Pine Flatwoods	2.43	F	0.5	2.0	2.5	0.5	2.0	2.25	0.542	1.32
92	424/625	Melaleuca(>25%) / Pine Flatwoods	0.14	F	0.5	2.5	2.5	0.5	1.5	2.25	0.542	0.09
93	625	Hydric Pine Flatwoods	0.62	F	0.5	2.5	2.5	0.5	2.0	2.25	0.569	0.35
TOTALS			54.53									33.79

EXHIBIT D

SAJ-2000-1926(IP-HWB)
Mirasol (revised)

ATTACHMENT D: CONSERVATION EASEMENT

1 page

EXHIBIT D

SAJ-2000-1926(IP-HWB)
Mirasol (revised)

1. Within 60 days of permit issuance the permittee shall submit a draft conservation easement for the subject preserve in accordance with the following:
 - a) The permittee shall prepare the proposed conservation easement, including a legal description, state-certified survey and scaled drawings, with a reference drawing indicating the location of each conservation easement within the project boundary or offsite area, and furnish the same to the Jacksonville District Office, Regulatory Division, Enforcement Section, Post Office Box 4970, Jacksonville, Florida 32232-0019, for legal review and approval.
 - b) The following paragraph must be incorporated into the CE language: Rights of U.S. Army Corps of Engineers (Corps). The Corps shall have all the rights of Grantee under this easement. The Corps shall be a party to any modification, alteration, release, or revocation of the conservation easement, and shall review and approve as necessary any additional structures or activities that require approval by Grantee.
 - c) The conservation easement must cite the Corps of Engineers permit number and reference the prohibitions set forth in F.S. §704.06, (a) through (h).
2. The permittee shall record the easement and the DOA permit in the public records of Collier County, Florida. A certified copy of the recorded document, plat, and verification of acceptance from the grantee will be forwarded to the Jacksonville District Office. The recordation and notification to the Jacksonville District Office must occur within one (1) year from the date of permit issuance.
3. The permittee must show that it has clear title to the real property and can legally place it under a conservation easement. Along with the submittal of the draft conservation commitment, the permittee shall submit a title insurance commitment, in favor of the grantee, for the property, which is being offered for preservation. Any existing liens or encumbrances on the property must be subordinated to the conservation easement. At the time of recordation of the conservation easement, a title insurance policy must be provided to the Corps of Engineers in an amount equal to the current market value of the property.
4. The permittee agrees, in the event the permit is transferred, proof of delivery of a copy of the recorded conservation easement to the subsequent permittee or permittees must be submitted to the Corps of Engineers together with the notification of permit transfer.
5. The grantee shall not assign its rights or obligations under this conservation easement except to another organization qualified to hold such interests under the applicable state and federal laws, including § 704.06 Florida Statutes, and committed to holding this conservation easement exclusively for conservation purposes. The Corps of Engineers shall be notified in writing of any intention to reassign the conservation easement to a new grantee and must approve the selection of the grantee. The new grantee must accept the assignment in writing and a copy of this acceptance delivered to the Corps of Engineers, Jacksonville District, Enforcement Section. The conservation easement must then be re-recorded and indexed in the same manner as any other instrument affecting title to real property and a copy of the recorded conservation easement furnished to the Corps of Engineers.

EXHIBIT D

SAJ-2000-1926(IP-HWB)
Mirasol (revised)

ATTACHMENT E: MITIGATION AND MONITORING: Main Preserve

(12 pages dated 12 December 2006)

EXHIBIT D

MIRASOL
SEC. 10, 11, 15, 22 TYP 48S RNG 26E COLLIER COUNTY
MITIGATION/MONITORING/MAINTENANCE PLAN FOR MAIN PRESERVE
December 12, 2006

I. INTRODUCTION:

The purpose of this report is to document the proposed mitigation activities for preserves external to the development project known as *Mirasol*.

II. EXISTING CONDITIONS:

The project site consists of 1,713.45 acres located in four sections of northern Collier County north of CR 846 and east of Interstate 75. There are limited upland (236.74 acres) and substantial wetland (1,476.71 acres) communities present on the site, which have all been heavily impacted by melaleuca infestation and altered hydrology.

The Main preserve is 883.71 acres in size and is composed of 776.83 acres of wetlands and 106.88 acres of uplands. There are no currently proposed impact areas within the main preserve but there is an access easement that has to be provided to the privately owned out parcel located in the center of Section 10. The access area is approximately 1.2 acres in size. Two other potential easements also must be provided within this preserve area. The first would be used by Collier County if CR 951 is ever extended to the north and the other is for the South Florida Water Management District if they ever contemplate the permitting and construction of the flow-way project that is no longer associated with this proposal. All of these easement areas will be enhanced as a result of this mitigation proposal and the entities utilizing the easement (if they are ever used) will be responsible for mitigating for any impacts within the easements caused by the respective projects.

III. MITIGATION ACTIVITIES

This preserve is the main preserve on the site and it is from activities conducted within this area that the majority of mitigation credit for the development impacts is achieved. Vegetation communities within the preserve include cypress swamp, hydric and mesic pine flatwoods, and wet prairie.

Exotic Vegetation Eradication

Melaleuca infestation is rampant throughout the site and an extensive eradication program will be implemented to eliminate this noxious plant from all preserve spaces. This program will include mechanical, hand clearing, and kill-in-place methods within the preserve. All hand cleared debris will be removed from the preserve where feasible. In areas where removal would cause additional, unwanted damage, the trees will be killed in place, or stacked in piles. If stacked in piles, the trunks will be cut into 3 to 6 foot sections and stacked "teepee" or "log cabin" style and the piles will be placed no closer than 100 feet from each other.

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Mechanical clearing is currently proposed in an attempt to remove exotics from those areas where no existing native vegetation is present in the most economical and efficient manner possible. Ground elevations will be determined prior to any mechanical clearing activities. This will allow for restoration of current elevations before replanting is undertaken. The areas to be mechanically cleared have not been field verified or surveyed due to the extended review process associated with the project's permitting. The areas proposed to be mechanically cleared will be field located, and delineated with surveyor tape or other appropriate marking technique so that they can be reviewed and approved by the appropriate agency personnel prior to the clearing.

In addition to melaleuca, Brazilian pepper and several other exotics are also present on the property. All Category I and Category II exotics, as defined by the Florida Pest Plant Council, are included in this eradication program.

Quarterly maintenance inspections and treatments will be necessary to eliminate the melaleuca that has already gained a stranglehold on the property. All category I and II exotic vegetation will be brought under control before any re-planting or species management techniques (i.e. fire) are employed. Once the removal efforts have been successful, annual maintenance treatments should be sufficient to control future exotic growth. The preserve areas will be exotic free immediately following a maintenance activity. At no time shall the density of exotic and nuisance plant species exceed 2% aerial coverage in any vegetative strata or 4% of the total aerial coverage in all strata.

Replanting Plans

Most hand cleared areas will be left to regenerate naturally for at least a year before deciding if complete replanting is necessary. In areas that are more than 75% melaleuca or that are mechanically cleared, replanting will be done immediately following the exotic eradication activities. No immediate seed sources are available in these areas so immediate replanting helps to re-establish the denuded areas more rapidly and contributes to the restoration of canopy components more efficiently. Appropriate plant palettes will be applied for the affected areas that will be dependant on existing ground elevations, anticipated high water elevations, and historic vegetative cover. Also, all areas disturbed as part of the construction or mitigation activities will be replanted according to South Florida Water Management District guidelines and as outlined below:

Cypress: Cypress areas will be planted with sapling cypress, dahoon holly and scattered red maple trees with minimum heights of 4 feet. Depending on the size of the area being planted and the density of the adjacent vegetation, planting will be done on 10 foot or 15 foot centers. It is anticipated that adjacent ground cover vegetation will rapidly colonize the areas so no ground cover planting will be done until a full growing season has passed. If ground cover colonization has not occurred, sawgrass, cordgrass, and other appropriate, available vegetation will be planted in those areas. These plantings will be done on 3 foot centers.

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The following table shows some of the representative species that can be considered for planting and restoration of the preserve areas.

CYPRESS PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Cypress (<i>Taxodium distichum</i>)	Button Bush (<i>Cephalanthus occidentalis</i>)	Sawgrass (<i>Cladium jamaicense</i>)
Red Maple (<i>Acer rubrum</i>)	Marlberry (<i>Ardisia escallonioides</i>)	Cinnamon Fern (<i>Osmunda cinnamomea</i>)
Dahoon Holly (<i>Ilex cassine</i>)	Pond Apple (<i>Annona glabra</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Laurel Oak (<i>Quercus laurifolia</i>)	Cocoplum (<i>Chrysobalanus icaco</i>)	Alligator Flag (<i>Thalia geniculata</i>)
Slash Pine (<i>Pinus elliotii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Crinum Lily (<i>Crinum americanum</i>)
		Yellow-eyed Grass (<i>Xyris spp.</i>)

These lists are not all inclusive and alternative appropriate native vegetation may be used.

Flatwoods: Pine flatwood areas will be planted with sapling slash pine on 15 foot centers. Trees will be from 4' to 6' in height. In very hydric areas, a few cypress saplings may also be used. Few midstory plantings are proposed because of the future management plan for the areas as potential fox squirrel and red-cockaded woodpecker habitat. As above, no ground cover plantings will be done for a full growing season unless no existing vegetation is present. Wiregrass, cordgrass, broomsedge, and other appropriate native vegetation will be used if no regeneration is seen within the first year. These will be planted on 3-foot centers to fill in open areas.

PINE FLATWOOD PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Slash Pine (<i>Pinus elliotii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Wiregrass (<i>Aristida spp.</i>)
Cypress (<i>Taxodium distichum</i>)	St. John's Wort (<i>Hypericum spp.</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Cabbage Palm (<i>Sabal palmetto</i>)		Sand Cordgrass (<i>Spartina alterniflora</i>)
		Yellow-eyed Grass (<i>Xyris spp.</i>)

These lists are not all inclusive and alternative appropriate native vegetation may be used.

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All plantings will be coordinated with the wet season so that expected rains will serve to keep the new plantings hydrated and no outside irrigation source will be needed.

Prescribed Burning

The predominate long-term management technique proposed is the use of periodic burning to control vegetation growth and promote the native pine flatwood communities desired as the result of the restoration activities. Home-owners will be made aware as part of their purchase agreements that prescribed burning will be undertaken on the preserve. Controlled burning will only be proposed for those areas where exotic vegetation has been successfully removed. These will be amended as the details are coordinated with the relevant agencies. The proposed burning will be done in coordination with the land managers of the CREW Trust preserve, Division of Forestry, and the Corkscrew Swamp Sanctuary preserve.

The CREW General Management Plan 2001-2006 (Sec. 6.3.3.1 pgs 47-51) outlines the general prescribed burn guidelines followed by CREW. It generally states that since each habitat has its own optimum fire frequency ranging from one or two years, to several decades, the systems will be monitored and prescribed burns will be conducted when it is felt that the burn would best help the target and adjacent communities. Also, the burns will be conducted when prevailing winds are in the right direction to minimize smoke impacts on the adjacent residential communities and roadways. CREW does not have any restriction for burning adjacent to residences but wind and humidity are taken into account to insure that smoke and ash side effects are minimized on adjacent developments. CREW staff have been contacted regarding this project and prescribed burns will be a management tool used on the property as needed to maintain viable healthy habitats. Following the initial exotic removal activities and prior to the transfer of the property to CREW, the owner will consult with CREW land managers regarding the need to burn all or part of the property prior to the transfer.

Homeowner Education

In addition to the prescribed burning information mentioned above, all homeowners will be given informational pamphlets regarding south Florida ecosystems and local wildlife. Preserve related information will also be included in the home-owners documents for the development so that residents are well informed that fire management techniques will be used on the property and pet controls will be required throughout the property.

Long-Term Protection

The 777 acres of wetlands and 107 acres of uplands composing the Main Preserve shall be placed into conservation easements, and enforcement right shall be granted to the South Florida Water Management District and the US Army Corps of Engineers. The

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conservation easement for this area will be filed and recorded within a year after the initial clearing activities associated with the project are started.

Once the exotic vegetation has been removed and the native vegetation restored, the preserve will be donated to CREW or another appropriate public entity for perpetual preservation. In addition to the donation of the property, the applicant will also establish an escrow fund in the amount of \$253.00 per acre for the long-term maintenance of the preserve. It is felt that the donation of the preserve to a public entity specifically charged with property maintenance and preservation, in lieu of perpetual management by a homeowners association that may not be fully equipped or experienced in preservation techniques, will be more appropriate for a preserve of this size. It is important to note that the applicant will be responsible for reaching the success criteria outlined below before donation of the preserve occurs.

Success Criteria

The restoration, enhancement, and preservation activities proposed for the preserve will generate mitigation credit that is being applied towards the project's impacts. In order to adequately gauge the appropriateness and eventual success of the mitigation, certain benchmarks must be set to compare against over time.

Vegetation

The base planting and vegetation restoration efforts shall be deemed, in part, successful when the area contains a minimum of 80% coverage of native vegetation, with less than 4% exotic and nuisance vegetation for a period of 3 years. The preserve areas will be maintained in this exotic-free state in perpetuity.

Ground cover diversity has been severely limited by the altered hydrology and exotic infestation throughout the site. It is expected that species diversity will increase as the exotic vegetation is removed. The restoration of a prescribed burning regimen will also help to restore a more natural native habitat. Monitoring of the preserves will include species composition and diversity monitoring of identified plots to document this increase.

Offsite Compensation

The proposed mitigation activities will provide mitigation credit for the proposed project. According to the calculation provided in the WRAP summary tables, the project will still be in a functional unit deficit after the mitigation activities are completed. This deficit will be compensated through the purchase of wetland mitigation credits from an approved, in-basin, mitigation bank. Proof will be provided that the credit purchase has been made prior to the start of any clearing activities.

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IV. MONITORING / MAINTENANCE / MANAGEMENT:

The goals and objectives of this monitoring plan will be to provide for ongoing progress and ultimate success of preserved and enhanced areas in a series of scheduled monitoring reports. The reports will quantify and describe conditions within the managed areas, comparing observations with the proposed standards and offering advice for corrective actions if needed.

In areas of heavy vegetation, a visual inspection for exotic plant invasion will be made and all exotic vegetation found will be flagged, mapped and reported for treatment. Meandering transects will be followed in the preserve areas for vegetative inventory and observation of wildlife during regular monitoring. Photo points will be established along with plot sampling stations to determine percent survival and percent coverage of planted and recruited plant species. Transect and plot sampling station locations will be determined at time zero, after exotic eradication and plantings are installed. The mitigation efforts shall be deemed successful when the area contains a minimum of 80% coverage of native vegetation, with less than 4% exotic and nuisance vegetation for a period of 3 years as well as meeting the other success criteria outlined above. The preserve areas will be maintained in this exotic-free state in perpetuity. Once restoration and enhancement activities are deemed successful, the preserve will be donated to CREW and an escrow fund in the amount of \$253.00 per acre will be established for the long-term maintenance of the preserve.

Water Levels and Rainfall

In order to document that hydrological impacts do not occur as a result of the project, the project will place three water level data loggers (Global Water Instrumentation WL 15 or similar) and two logging type rain gauges within the preserve boundaries. The water level loggers will be placed inside of two (2) inch PVC pipe wells and sunk to a depth of six (6) to eight (8) feet below ground level. This will place the loggers below the water table and will allow for continuous monitoring of the water levels, above and below ground, experienced on the site. The rain gauges will be set to collect and record rainfall events on a daily basis so that comparisons can be made with the on-site rainfall and water levels experienced. Locations for the loggers, both rainfall and water level, are shown on the enclosed Exhibit.

The surface water levels and rainfall data will be included in a report that will be given to the Corps of Engineers and to the SFWMD on an annual basis. This monitoring will be done in conjunction with the vegetative and exotic removal monitoring conducted within the forested preserves for the project. The reports will be produced annually for five years after the completion of the initial exotic removal.

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Wood Stork Activity

The National Audubon Society Corkscrew Sanctuary staff currently monitors the productivity of the Corkscrew wood stork colony in the form of the number of nests constructed as well as the number of young fledged.

The project will also document the utilization of the preserve areas by wood storks. This information will be useful in conjunction with the available productivity and hydrological data to determine if the project design serves to increase or decrease foraging opportunities. Since the FWS estimated potential incidental take based on forage production the project will implement a monitoring program to estimate the forage fish production on the project site.

Forage Fish Monitoring

Sampling sites will be established along transects that will incorporate the different wetland communities on the site. The four main habitats to be sampled are hydric pine flatwoods, pine/cypress flatwoods, hypericum prairie, and cypress. The sampling devices will consist of, 1m² throw traps, seines, and acrylic Breder traps. All fish caught will be identified and counted. Results will be presented in the annual report to the agencies.

Reports

A Baseline Monitoring Report will describe the existing conditions of the conservation areas prior to exotic eradication and supplemental planting. The Time Zero Monitoring Report will describe the aerial extent of exotic removal and other mitigation work, i.e. revegetation, photographs from referenced locations, qualitative observations of wildlife usage and other information such as climatic and hydrological conditions and health of existing vegetation. The Time Zero Report will be completed within 30 days of the completion of the initial exotic removal work. Annual Monitoring reports shall document changes from the baseline conditions the success of exotic eradication and identifies ways to maintain or improve these conditions.

Baseline, Time Zero and Annual Reports will include the following:

- Quantification of any re-growth of exotic species and recommendations for remedial actions.
- Quantification of restoration of cleared areas by native species including dominant species and % cover by species.
- Percent coverage, open space and diversity as appropriate of restored vegetation.

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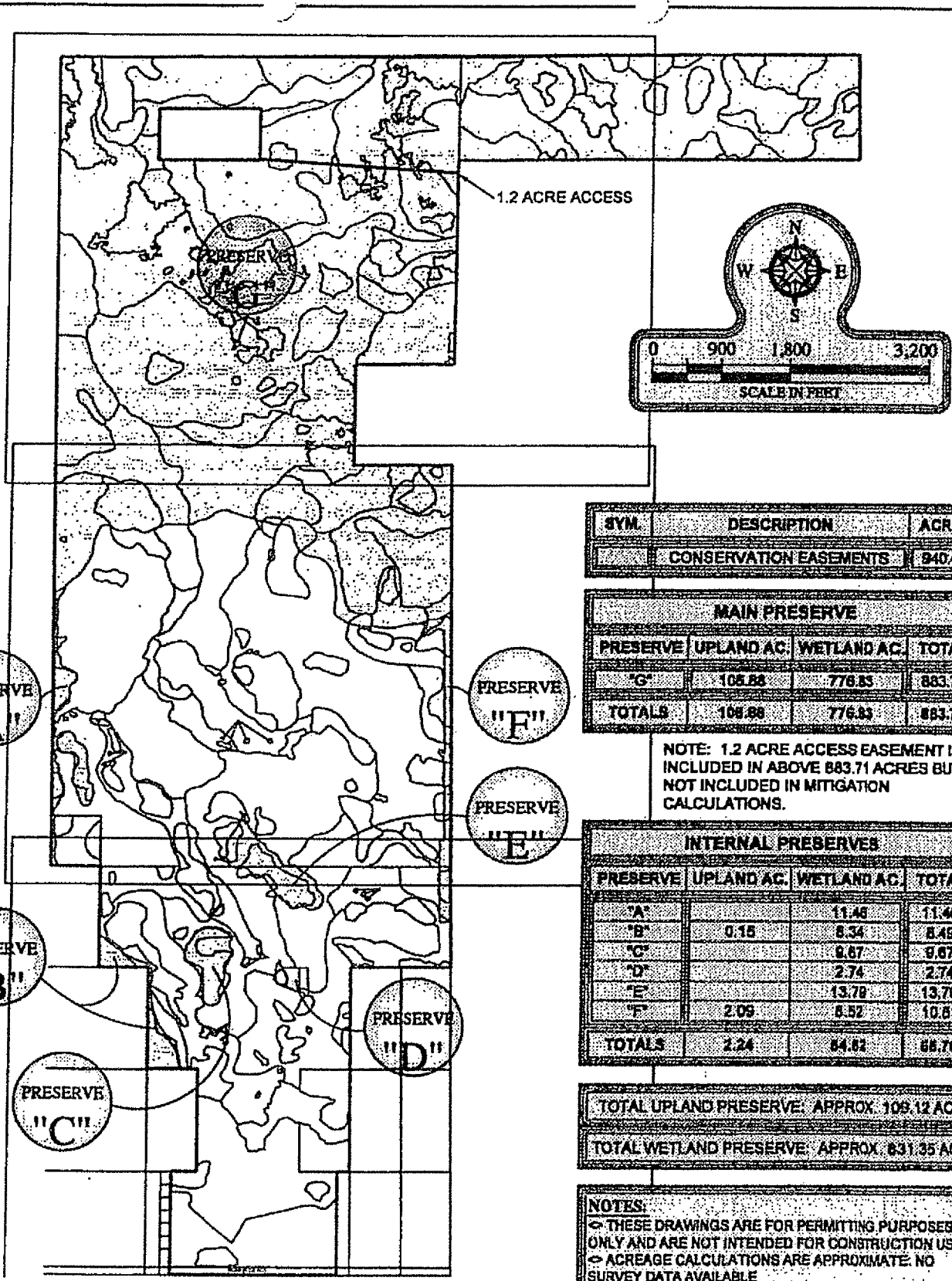
- Direct and indirect wildlife observations.
- Photographs from a referenced location and panoramic photographs. A photo point station will be identified with a PVC labeled stake.
- The current status of the construction of the project as well as any construction phases or milestones that have been completed.
- A summary of the rainfall data collected on-site as well as data from the other agency rainfall monitoring stations identified in the report.
- A summary of the on-site water level data as well as the off-site data available from the other agency monitoring stations.
- Current status of the plantings and exotic removal as well as regeneration of the native vegetation throughout the preserve area.
- Ongoing results of the forage fish sampling including species diversity and densities broken down by habitat types and water depths.
- Any observed on-site foraging by wood storks. Included in this information will be, number of storks observed, habitat or general area observed, number of days or duration of observation, and estimated foraging efficiency.

The maintenance and management of the preserve areas will be the responsibility of the owner/developer in perpetuity. The responsibility for the preserve maintenance can be transferred to the property owners association or CDD once the project is "turned-over" to the appropriate association. The transfer will include all documentation associated with the restoration and enhancement activities as well as the long term responsibilities associated with the preserves. The Corps of Engineers must be notified in writing if or when any transfer of the preserve responsibilities occurs.

This may entail the property owner's association or CDD acquiring ownership of the preserve prior to the CREW transfer. The maintenance and management responsibilities for the preserves will transfer to that entity. At this time the said associations shall assume responsibility for the perpetual maintenance and management of the preserve and retained areas. Association documents will indicate the responsibilities, restrictions and limitations associated with the conservation areas. Once the restoration activities have met the success criteria, the Preserve will be turned over to CREW (or another suitable public entity) along with the escrow funds to perpetually maintain the preserve.

The maintenance activities will be performed on a quarterly basis for the first year, then biannually or annually as needed for the remaining five (5) years of the monitoring period. Monitoring may continue past the 5 year time period if additional time is needed to meet the success criteria for the preserve. The Corps of Engineers will release the annual monitoring requirement once the success criteria have been met for a period of three consecutive years. Perpetual maintenance after the monitoring period will be on an annual or as needed basis.

EXHIBIT D



SYM.	DESCRIPTION	ACRES
	CONSERVATION EASEMENTS	840.47

MAIN PRESERVE			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
"G"	105.88	776.83	883.71
TOTALS	105.88	776.83	883.71

NOTE: 1.2 ACRE ACCESS EASEMENT IS INCLUDED IN ABOVE 883.71 ACRES BUT IS NOT INCLUDED IN MITIGATION CALCULATIONS.

INTERNAL PRESERVES			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
"A"		11.46	11.46
"B"	0.15	8.34	8.49
"C"		9.67	9.67
"D"		2.74	2.74
"E"		13.79	13.79
"F"	2.09	8.52	10.61
TOTALS	2.24	64.62	66.76

TOTAL UPLAND PRESERVE: APPROX. 109.12 AC.
 TOTAL WETLAND PRESERVE: APPROX. 631.35 AC.

NOTES:
 < THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 < ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

PRESERVE
"A"

PRESERVE
"F"

PRESERVE
"E"

PRESERVE
"B"

PRESERVE
"D"

PRESERVE
"C"

ATTACHMENT E
 Mirasol (Revised)
 Mitigation and Monitoring Main
 SAJ-2000-1926(IP-HWB)
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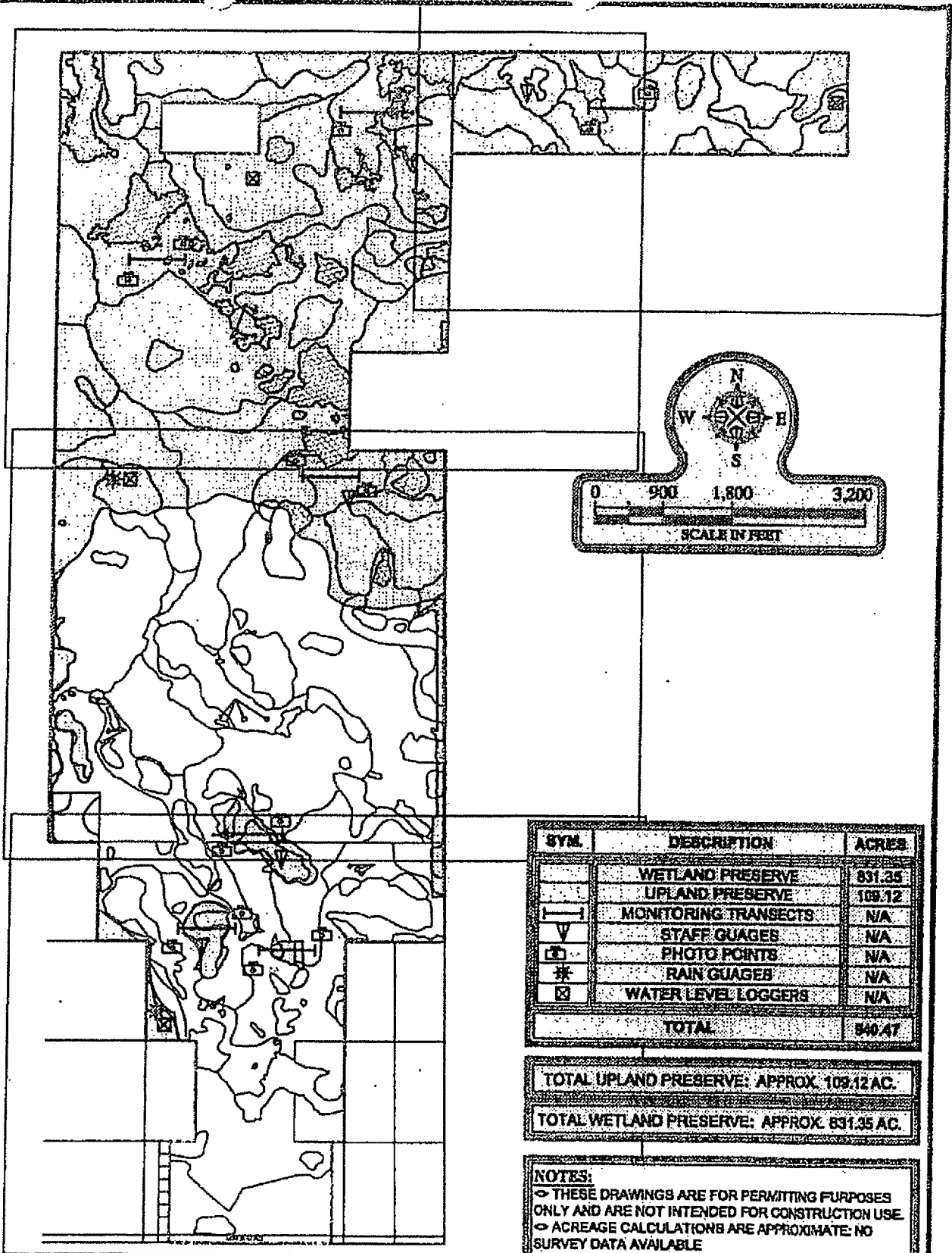
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 lting
 -3732
 -6632

MIRASOL
 CONSERVATION MAP

DESIGNED BY:	T.T.T.	REVISION:	TAB NAME:	Conservation
DRAWN BY:	ES	N/A	SHEET:	
CREATED:	04-25-06	N/A	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 20 E				

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C:\DOCUME~1\STEPHE~1\CAV\LOCALS~1\Temp\AcPublish_5705\Ed DC



SYM.	DESCRIPTION	ACRES
	WETLAND PRESERVE	831.35
	UPLAND PRESERVE	109.12
— —	MONITORING TRANSECTS	N/A
∇	STAFF GAUGES	N/A
⊠	PHOTO POINTS	N/A
⊠	RAIN GAUGES	N/A
⊠	WATER LEVEL LOGGERS	N/A
	TOTAL	940.47

TOTAL UPLAND PRESERVE: APPROX. 109.12 AC.
 TOTAL WETLAND PRESERVE: APPROX. 831.35 AC.

NOTES:
 <> THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 <> ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

ATTACHMENT E
 Mirasol (Revised)
 Mitigation and Monitoring Main
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Inc.
 sulting
 04-3732
 43-6632

MIRASOL
 MONITORING MAP

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Monitoring
DRAWN BY:	SS	N/A	SHEET:	
CREATED:	04-25-06	N/A	SCALE:	1"=1,600'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP-48 S RANGE-26 E				

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TABLE 6

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MIRASOL PRE-PROJECT WRAP SUMMARY
FOR MAIN PRESERVE

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Wetland Acreage	Wildlife	Canopy	Ground Cover	Buffer	Hydrology	W.Q.	SCORE	FUNCTIONAL SCORE
71	424/625	Melaleuca(>25%) / Pine Flatwoods	0.87	1.5	2.0	2.0	2.0	1.5	3.00	0.667	0.58
84	540	Cattle Pond	0.08	0.0	0.0	0.0	0.0	0.0	0.00	0.000	0.00
85	424	Melaleuca	17.28	0.5	0.0	0.5	1.0	1.0	3.00	0.333	5.76
88	424/625	Melaleuca(>75%) / Pine Flatwoods	10.35	0.5	1.0	1.0	1.0	1.0	3.00	0.417	4.31
89	424/625	Melaleuca(>50%) / Pine Flatwoods	15.91	1.5	1.5	1.5	1.5	1.5	3.00	0.583	9.28
90	424/625	Melaleuca(>75%) / Pine Flatwoods	5.30	0.5	1.0	1.0	1.5	1.0	3.00	0.444	2.36
92	424/625	Melaleuca(>25%) / Pine Flatwoods	5.78	2.0	2.0	2.0	2.0	1.5	3.00	0.694	4.01
93	625	Hydric Pine Flatwoods	1.72	2.0	2.0	2.5	1.5	2.0	3.00	0.722	1.24
94	621	Cypress	18.57	2.0	2.5	2.5	1.5	2.5	3.00	0.778	14.44
95	424/624	Melaleuca(>25%)Cypress/Pine	20.43	2.0	2.0	2.0	2.0	2.0	3.00	0.722	14.76
96	424/625	Melaleuca(>25%) / Pine Flatwoods	5.77	2.0	2.0	1.5	1.5	1.5	3.00	0.639	3.69
97	621	Cypress	0.39	2.0	2.0	2.0	2.0	2.5	3.00	0.750	0.29
99	424/625	Melaleuca(>50%) / Pine Flatwoods	1.93	1.5	1.5	1.5	1.5	1.5	3.00	0.583	1.19
100	424/625	Melaleuca(>75%) / Pine Flatwoods	40.24	1.0	0.5	1.0	1.0	1.0	3.00	0.417	16.77
101	424/625	Melaleuca(>50%) / Pine Flatwoods	22.84	1.0	1.0	1.0	1.0	1.0	3.00	0.444	10.15
102	424/625	Melaleuca(>75%) / Pine Flatwoods	6.27	0.5	1.0	1.0	1.5	1.0	3.00	0.444	3.68
105	424/625	Melaleuca(>75%) / Pine Flatwoods	7.55	0.5	1.0	1.0	1.5	1.0	3.00	0.444	3.36
106	424/625	Melaleuca(>25%) / Pine Flatwoods	1.41	2.0	1.5	1.5	1.5	1.5	3.00	0.611	0.86
107	424/625	Melaleuca(>50%) / Pine Flatwoods	21.33	1.0	1.5	1.5	1.5	1.0	3.00	0.528	11.28
108	424/625	Melaleuca(>75%) / Pine Flatwoods	2.85	1.0	1.0	1.0	1.5	1.0	3.00	0.472	1.35
109	540	Cattle Pond	0.19	0.0	0.0	0.0	0.0	0.0	0.00	0.000	0.00
114	621	Cypress	21.11	2.0	2.0	2.0	1.0	2.5	3.00	0.694	14.66
115	424/625	Melaleuca(>75%) / Pine Flatwoods	6.59	1.0	1.0	1.0	1.5	1.0	3.00	0.472	3.11
118	424	Melaleuca	107.97	0.5	0.0	0.5	1.5	1.0	3.00	0.361	38.99
119	424/625	Melaleuca(>25%) / Pine Flatwoods	12.63	1.5	2.0	2.0	1.5	1.5	2.75	0.625	7.89
124	424/624	Melaleuca(>50%)Cypress/Pine	9.14	1.5	1.5	1.5	2.0	2.0	3.00	0.639	5.84
125	424/625	Melaleuca(>50%) / Pine Flatwoods	0.37	2.0	1.5	2.0	2.0	2.0	3.00	0.694	4.42
126	621	Cypress	1.18	2.0	2.5	2.0	2.0	2.5	3.00	0.778	0.90
127	424/624	Melaleuca(>50%)Cypress/Pine	1.29	2.0	1.5	2.0	2.0	2.0	3.00	0.639	0.90
129	424/621	Melaleuca(>25%)Cypress	3.46	2.0	2.0	2.0	2.0	2.5	3.00	0.750	2.60
131	424	Melaleuca	2.71	0.5	0.0	0.5	1.5	1.0	3.00	0.361	0.98
132	424/621	Melaleuca(>25%)Cypress	3.67	2.0	2.0	2.0	1.5	2.5	3.00	0.722	2.65
134	424/625	Melaleuca(>75%) / Pine Flatwoods	62.54	1.0	0.5	1.0	1.0	1.0	2.75	0.403	25.19
135	424	Melaleuca	42.41	0.5	0.5	1.0	1.5	1.0	3.00	0.417	17.67
137	424/625	Melaleuca(>75%) / Pine Flatwoods	32.88	1.0	1.0	1.0	1.5	1.0	3.00	0.472	15.53
138	424/625	Melaleuca(>50%) / Pine Flatwoods	11.67	1.5	1.5	1.5	1.5	1.0	3.00	0.556	6.48
143	422	Brazilian Pepper	3.59	0.5	0.5	0.5	1.5	1.0	2.00	0.333	1.20
144	621	Cypress	9.11	1.5	2.0	2.0	1.0	2.5	2.75	0.653	5.95
145	424	Melaleuca	5.34	0.5	0.0	0.5	2.0	1.0	2.90	0.383	2.05
146	424	Melaleuca	19.58	0.5	0.5	0.5	1.0	1.0	2.00	0.306	5.98
147	424/624	Melaleuca(>50%) / Pine / Cypress	2.53	1.5	1.5	1.5	2.0	1.5	3.00	0.611	1.55
148	424/621	Melaleuca(>25%)Cypress	15.38	1.0	1.5	1.5	1.0	2.0	2.90	0.550	8.46
149	424/625	Melaleuca(>25%) / Pine Flatwoods	9.28	2.0	2.0	2.0	1.0	1.5	2.00	0.583	5.41
150	424/625	Melaleuca(>75%) / Pine Flatwoods	25.99	1.0	1.0	1.5	1.5	1.0	2.50	0.472	12.27
153	424/625	Melaleuca(>50%) / Pine Flatwoods	12.43	1.5	1.5	1.0	1.5	1.0	2.75	0.514	6.39
158	424/625	Melaleuca(>50%) / Pine Flatwoods	3.91	1.5	1.5	1.5	1.5	1.0	3.00	0.556	2.17
157	424	Melaleuca	15.47	0.5	0.5	0.5	2.0	1.0	3.00	0.417	6.45
158	424/625	Melaleuca(>50%) / Pine Flatwoods	7.29	1.5	1.5	1.5	1.5	1.0	3.00	0.556	4.06
159	424/625	Melaleuca(>25%) / Pine Flatwoods	0.70	2.0	1.5	2.0	2.0	1.5	3.00	0.667	0.47
160	621	Cypress	9.58	2.0	2.5	2.0	1.0	2.5	2.75	0.708	6.79
161	640	Flag Pond	1.43	2.0	n/a	2.5	2.5	3.0	3.00	0.722	1.03
162	424/621	Melaleuca(>50%)Cypress/Pine	7.42	1.5	1.5	1.5	2.0	1.5	3.00	0.611	4.53
163	424	Melaleuca	4.34	1.0	0.5	0.5	2.0	1.0	3.00	0.444	1.93
165	424/624	Melaleuca(>50%)Cypress/Pine	0.89	1.5	2.0	1.5	1.0	1.5	2.50	0.556	0.49
166	621	Cypress	3.05	2.0	2.5	1.5	1.5	2.5	2.00	0.667	2.03
167	424/624	Melaleuca(>50%)Cypress/Pine	2.25	2.0	1.5	1.5	2.0	1.5	3.00	0.639	1.44
168	424/625	Melaleuca(>75%)Cypress/Pine	38.94	1.0	0.5	0.5	1.5	1.0	2.75	0.403	15.68
169	424/624	Melaleuca(>50%)Cypress/Pine	3.07	1.5	1.5	1.5	2.0	1.5	3.00	0.611	1.88
170	424/624	Melaleuca(>50%)Cypress/Pine	0.79	1.5	1.5	1.5	2.0	1.5	2.50	0.583	0.46
172	621	Cypress	2.12	2.5	2.5	2.0	2.5	2.5	2.50	0.806	1.71
174	424	Melaleuca	11.86	1.0	0.5	0.5	1.5	1.0	3.00	0.417	4.94
175	424/624	Melaleuca(>25%)Cypress/Pine	6.67	2.0	2.0	2.0	1.5	2.0	2.50	0.667	4.45
177	621	Cypress	5.49	2.5	2.5	2.0	2.0	2.5	3.00	0.806	4.42
178	621	Cypress	0.89	2.5	2.5	2.0	2.0	2.5	3.00	0.806	0.72
179	625	Hydric Pine Flatwoods	12.78	2.5	2.5	2.0	2.0	2.0	3.00	0.778	9.94
TOTALS			776.83								381.90

ATTACHMENT E

Mirasol (Revised)

Mitigation and Monitoring Main
SAJ-2000-1926(IP-HWB)

EXHIBIT D

TABLE 7

December 12, 2006

MIRASOL POST-PROJECT WRAP SUMMARY
FOR MAIN PRESERVE

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Wetland Acreage	Wildlife	Canopy	Ground Cover	Buffer	Hydrology	W.O.	SCORE	FUNCTIONAL SCORE
71	424/625	Melaleuca(>25%) / Pine Flatwoods	0.87	2.5	2.5	2.5	3.0	1.5	3.00	0.833	0.73
84	540	Cattle Pond	0.08	2.5	2.0	2.5	3.0	3.0	3.00	0.889	0.07
85	424	Melaleuca	17.28	2.0	2.0	2.5	2.5	1.0	3.00	0.722	12.48
86	424/625	Melaleuca(>75%) / Pine Flatwoods	10.35	2.0	2.0	2.5	3.0	1.0	3.00	0.750	7.76
89	424/625	Melaleuca(>50%) / Pine Flatwoods	15.91	2.5	2.5	2.5	3.0	1.5	3.00	0.833	13.26
90	424/625	Melaleuca(>75%) / Pine Flatwoods	6.30	2.0	2.0	2.5	2.5	1.0	3.00	0.722	3.83
92	424/625	Melaleuca(>25%) / Pine Flatwoods	5.78	2.5	2.5	2.5	3.0	1.5	3.00	0.833	4.82
93	625	Hydric Pine Flatwoods	1.72	2.0	2.5	2.5	2.0	2.0	3.00	0.778	1.34
94	621	Cypress	18.57	2.5	2.5	2.5	2.5	2.5	3.00	0.861	15.99
95	424/624	Melaleuca(>25%) / Cypress/Pine	20.43	2.5	2.5	2.5	3.0	2.0	3.00	0.861	17.59
96	424/625	Melaleuca(>25%) / Pine Flatwoods	5.77	2.5	2.5	2.5	2.5	1.5	3.00	0.806	4.65
97	621	Cypress	0.39	2.5	2.5	2.5	2.5	2.5	3.00	0.861	0.34
99	424/625	Melaleuca(>50%) / Pine Flatwoods	1.93	2.5	2.5	2.5	3.0	1.5	3.00	0.833	1.81
100	424/625	Melaleuca(>75%) / Pine Flatwoods	40.24	2.5	2.5	2.5	3.0	1.0	3.00	0.806	32.42
101	424/625	Melaleuca(>50%) / Pine Flatwoods	22.84	2.5	2.5	2.5	3.0	1.0	3.00	0.806	18.40
102	424/625	Melaleuca(>75%) / Pine Flatwoods	8.27	2.5	2.0	2.5	3.0	1.0	3.00	0.778	6.43
105	424/625	Melaleuca(>75%) / Pine Flatwoods	7.55	2.5	2.0	2.5	3.0	1.0	3.00	0.778	5.67
106	424/625	Melaleuca(>25%) / Pine Flatwoods	1.41	2.5	2.5	2.5	3.0	1.5	3.00	0.833	1.18
107	424/625	Melaleuca(>50%) / Pine Flatwoods	21.33	2.5	2.5	2.5	3.0	1.0	3.00	0.806	17.18
108	424/625	Melaleuca(>75%) / Pine Flatwoods	2.85	2.5	2.0	2.5	3.0	1.0	3.00	0.778	2.22
109	540	Cattle Pond	0.19	2.5	2.5	2.5	3.0	3.0	3.00	0.917	0.17
114	621	Cypress	21.11	2.5	2.5	2.5	3.0	2.5	3.00	0.889	18.76
115	424/625	Melaleuca(>75%) / Pine Flatwoods	6.59	2.5	2.0	2.5	3.0	1.0	3.00	0.778	5.13
118	424	Melaleuca	107.97	2.5	2.0	2.5	3.0	1.0	3.00	0.778	83.98
119	424/625	Melaleuca(>25%) / Pine Flatwoods	12.63	2.0	2.5	2.5	2.5	1.5	2.75	0.764	9.65
124	424/624	Melaleuca(>50%) / Cypress/Pine	9.14	2.5	2.5	2.5	3.0	2.0	3.00	0.881	7.87
125	424/625	Melaleuca(>50%) / Pine Flatwoods	6.37	2.5	2.5	2.5	3.0	2.0	3.00	0.861	5.49
126	621	Cypress	1.16	2.5	2.5	2.5	3.0	2.5	3.00	0.889	1.03
127	424/624	Melaleuca(>50%) / Cypress/Pine	1.29	2.5	2.5	2.5	2.5	2.0	3.00	0.833	1.08
129	424/621	Melaleuca(>25%) / Cypress	3.46	2.5	2.5	2.5	2.5	2.5	3.00	0.861	2.98
131	424	Melaleuca	2.71	2.5	2.0	2.5	2.5	1.0	3.00	0.750	2.03
132	424/621	Melaleuca(>25%) / Cypress	3.87	2.5	2.5	2.5	3.0	2.5	3.00	0.889	3.28
134	424/625	Melaleuca(>75%) / Pine Flatwoods	62.54	2.5	2.0	2.5	3.0	1.0	2.75	0.764	47.77
135	424	Melaleuca	42.41	2.5	2.0	2.5	2.5	1.0	3.00	0.750	31.81
137	424/625	Melaleuca(>75%) / Pine Flatwoods	32.88	2.5	2.0	2.5	2.5	1.0	3.00	0.750	24.66
138	424/625	Melaleuca(>50%) / Pine Flatwoods	11.67	2.5	2.5	2.5	3.0	1.0	3.00	0.806	9.40
143	422	Brazilian Pepper	3.59	2.0	2.0	2.5	2.5	1.0	2.00	0.667	2.30
144	621	Cypress	9.11	2.0	2.5	2.5	2.0	2.5	2.75	0.792	7.21
145	424	Melaleuca	5.34	2.5	2.0	2.5	3.0	1.0	2.90	0.772	4.12
146	424	Melaleuca	19.58	2.0	2.0	2.5	2.0	1.0	2.00	0.839	12.51
147	424/624	Melaleuca(>50%) / Pine / Cypress	2.53	2.0	2.0	2.5	2.0	1.0	3.00	0.694	1.76
148	424/621	Melaleuca(>25%) / Cypress	15.38	2.5	2.5	2.5	2.0	2.0	2.90	0.800	12.30
149	424/625	Melaleuca(>25%) / Pine Flatwoods	9.28	2.0	2.5	2.5	2.0	1.5	2.00	0.684	8.44
150	424/625	Melaleuca(>75%) / Pine Flatwoods	25.99	2.5	2.0	2.5	3.0	1.0	2.50	0.750	19.49
153	424/625	Melaleuca(>50%) / Pine Flatwoods	12.43	2.5	2.5	2.5	2.5	1.0	2.75	0.764	9.50
156	424/625	Melaleuca(>50%) / Pine Flatwoods	3.91	2.5	2.5	2.5	3.0	1.0	3.00	0.806	3.15
157	424	Melaleuca	15.47	2.5	2.0	2.5	2.5	1.0	3.00	0.750	11.60
158	424/625	Melaleuca(>50%) / Pine Flatwoods	7.29	2.5	2.5	2.5	2.5	1.0	3.00	0.778	5.67
159	424/625	Melaleuca(>25%) / Pine Flatwoods	0.70	2.5	2.5	2.5	2.5	1.5	3.00	0.806	0.56
160	621	Cypress	9.58	2.0	2.5	2.5	2.0	2.5	2.75	0.792	7.58
161	640	Flag Pond	1.43	2.0	2.5	2.5	3.0	3.0	3.00	0.889	1.27
162	424/621	Melaleuca(>50%) / Cypress/Pine	7.42	2.5	2.5	2.5	2.5	1.5	3.00	0.806	5.98
163	424	Melaleuca	4.34	2.5	2.0	2.5	3.0	1.0	3.00	0.778	3.38
165	424/624	Melaleuca(>50%) / Cypress/Pine	0.89	2.0	2.5	2.5	2.0	1.5	2.50	0.722	0.64
166	621	Cypress	3.05	2.5	2.5	2.5	2.5	2.5	2.00	0.806	2.46
167	424/624	Melaleuca(>50%) / Cypress/Pine	2.25	2.5	2.5	2.5	3.0	1.5	3.00	0.833	1.88
168	424/625	Melaleuca(>75%) / Cypress/Pine	38.94	2.5	2.0	2.5	2.5	1.0	2.75	0.736	28.66
169	424/624	Melaleuca(>50%) / Cypress/Pine	3.07	2.5	2.5	2.5	2.5	1.5	3.00	0.806	2.47
170	424/624	Melaleuca(>50%) / Cypress/Pine	0.79	2.0	2.5	2.5	2.5	1.5	2.50	0.750	0.59
172	621	Cypress	2.12	2.5	2.5	2.5	3.0	2.5	2.50	0.961	1.83
174	424	Melaleuca	11.88	2.5	2.0	2.5	3.0	1.0	3.00	0.778	9.22
175	424/624	Melaleuca(>25%) / Cypress/Pine	6.67	2.0	2.5	2.5	2.5	2.0	2.50	0.778	5.19
177	621	Cypress	5.49	2.5	2.5	2.5	3.0	2.5	3.00	0.889	4.88
178	621	Cypress	0.89	2.5	2.5	2.5	2.5	2.5	3.00	0.861	0.77
179	625	Hydric Pine Flatwoods	12.78	2.5	2.5	2.5	3.0	2.0	3.00	0.861	11.01
TOTALS			776.83								607.73

EXHIBIT D

SAJ-2000-1926(IP-HWB)
Mirasol (revised)

ATTACHMENT F

**Florida Exotic Pest Plant Council's
2005
List of Invasive Species
(6 pages)**

EXHIBIT D

SAJ-2000-1926(IP-HWB)
Mirasol (revised)

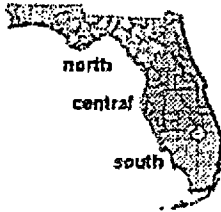
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Florida Exotic Pest Plant Council's 2005

List of Invasive Species

Purpose of the List: *To focus attention on --*

- the adverse effects exotic pest plants have on Florida's biodiversity and plant communities,
- the habitat losses from exotic pest plant infestations,
- the impacts on endangered species via habitat loss and alteration,
- the need to prevent habitat losses through pest-plant management,
- the socio-economic impacts of these plants (e.g., increased wildfires in certain areas),
- changes in the seriousness of different pest plants over time,
- the need to provide information that helps managers set priorities for control programs.



DEFINITIONS: *Exotic*—a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida. *Native*—a species whose natural range included Florida at the time of European contact (1500 AD). *Naturalized exotic*—an exotic that sustains itself outside cultivation (it is still exotic; it has not "become" native). *Invasive exotic*—an exotic that not only has naturalized but is expanding on its own in Florida plant communities.

Abbreviations used:

for "Gov. list": P = Prohibited by Fla. Dept. of Environmental Protection, N = Noxious weed listed by Fla. Dept. of Agriculture & Consumer Services, U = Noxious weed listed by U.S. Department of Agriculture.
for "Reg. Dis.": N = north, C = central, S = south, referring to each species' current distribution in general regions of Florida (not its potential range in the state). See following map.

For additional information on distributions of particular species by county, visit the University of South Florida's Atlas of Florida Vascular Plants web site, www.plantatlas.usf.edu. Many of those species entries also have habit and close-up pictures of the species.

Additional images for some species may be found at the "Introduced Species" page on the Univ. of Florida Herbarium website, at Fairchild Tropical Garden's Virtual Herbarium, and the Godfrey Herbarium database, Florida State University.

For other additional information on plants included in this list, see related links and pages at this web site on the home page menu.

EXHIBIT D

SAJ-2000-1926(IP-HWB)
Mirasol (revised)

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Category I - Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. *This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.*

Scientific Name	Common Name	EPPC Cat.	Gov. list	Reg. Dist.
<i>Abrus precatorius</i>	rosary pea	I		C, S
<i>Acacia auriculiformis</i>	earleaf acacia	I		S
<i>Albizia julibrissin</i>	mimosa, silk tree	I		N, C
<i>Albizia lebbek</i>	woman's tongue	I		C, S
<i>Ardisia crenata</i> (= <i>A. crenulata</i>)	coral ardisia	I		N, C
<i>Ardisia elliptica</i> (= <i>A. humilis</i>)	shoebutton ardisia	I		S
<i>Asparagus aethiopicus</i> (= <i>A. sprengeri</i> ; <i>A. densiflorus</i> misapplied)	asparagus-fern	I		C, S
<i>Bauhinia variegata</i>	orchid tree	I		C, S
<i>Bischofia javanica</i>	bischofia	I		C, S
<i>Calophyllum antillanum</i> (= <i>C. calaba</i> ; <i>C. inophyllum</i> misapplied)	santa maria (names "mast wood," "Alexandrian laurel" used in cultivation)	I		S
<i>Casuarina equisetifolia</i>	Australian pine	I	P	N, C, S
<i>Casuarina glauca</i>	suckering Australian pine	I	P	C, S
<i>Cinnamomum camphora</i>	camphor-tree	I		N, C, S
<i>Colocasia esculenta</i>	wild taro	I		N, C, S
<i>Colubrina asiatica</i>	lather leaf	I		S
<i>Cupaniopsis anacardioides</i>	carrotwood	I	N	C, S
<i>Dioscorea alata</i>	winged yam	I	N	N, C, S
<i>Dioscorea bulbifera</i>	air-potato	I	N	N, C, S
<i>Eichhornia crassipes</i>	water-hyacinth	I	P	N, C, S
<i>Eugenia uniflora</i>	Surinam cherry	I		C, S
<i>Ficus microcarpa</i> (<i>F. nitida</i> and <i>F. retusa</i> var. <i>nitida</i> misapplied)	laurel fig	I		C, S
<i>Hydrilla verticillata</i>	hydrilla	I	P, U	N, C, S
<i>Hygrophila polysperma</i>	green hygro	I	P, U	N, C, S
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	I		C, S
<i>Imperata cylindrica</i> (<i>I. brasiliensis</i> misapplied)	cogon grass	I	N, U	N, C, S
<i>Ipomoea aquatica</i>	waterspinach	I	P, U	C
<i>Jasminum dichotomum</i>	Gold Coast jasmine	I		C, S
<i>Jasminum fluminense</i>	Brazilian jasmine	I		C, S
<i>Lantana camara</i>	lantana, shrub verbena	I		N, C, S
<i>Ligustrum lucidum</i>	glossy privet	I		N, C

EXHIBIT D

SAJ-2000-1926(IP-HWB)
Mirasol (revised)

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<i>Ligustrum sinense</i>	Chinese privet, hedge privet	I		N,C,S
<i>Lonicera japonica</i>	Japanese honeysuckle	I		N,C,S
<i>Lygodium japonicum</i>	Japanese climbing fern	I	N	N,C,S
<i>Lygodium microphyllum</i>	Old World climbing fern	I	N	C,S
<i>Macfadyena unguis-cati</i>	cat's claw vine	I		N,C,S
<i>Manilkara zapota</i>	sapodilla	I		S
<i>Melaleuca quinquenervia</i>	melaleuca, paper bark	I	P, N, U	C, S
<i>Mimosa pigra</i>	catclaw mimosa	I	P, N, U	C, S
<i>Nandina domestica</i>	nandina, heavenly bamboo	I		N, C
<i>Nephrolepis cordifolia</i>	sword fern	I		N,C,S
<i>Nephrolepis multiflora</i>	Asian sword fern	I		C, S
<i>Neyraudia reynaudiana</i>	Burma reed, cane grass	I	N	S
<i>Paederia cruddasiana</i>	sewer vine, onion vine	I	N	S
<i>Paederia foetida</i>	skunk vine	I	N	N,C
<i>Panicum repens</i>	torpedo grass	I		N,C,S
<i>Pennisetum purpureum</i>	Napier grass	I		C, S
<i>Pistia stratiotes</i>	waterlettuce	I	P	N,C,S
<i>Psidium cattleianum</i> (=P. littorale)	strawberry guava	I		C, S
<i>Psidium guajava</i>	guava	I		C, S
<i>Pueraria montana</i> var. <i>lobata</i> (=P. <i>lobata</i>)	kudzu	I	N, U	N,C, S
<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle	I	N	C, S
<i>Rhoeo spathacea</i> (see <i>Tradescantia spathacea</i>)				
<i>Rhynchelytrum repens</i>	Natal grass	I		N, C, S
<i>Ruellia tweediana</i> (= <i>R. brittoniana</i>)	Mexican petunia	I		N, C, S
<i>Sapium sebiferum</i> (= <i>Triadeca sebifera</i>)	popcorn tree, Chinese tallow tree	I	N	N, C, S
<i>Scaevola taccada</i> (= <i>Scaevola sericea</i> , <i>S. frutescens</i>)	scaevola, half-flower, beach naupaka	I		C, S
<i>Schefflera actinophylla</i> (= <i>Brassaia actinophylla</i>)	schefflera, Queensland umbrella tree	I		C, S
<i>Schinus terebinthifolius</i>	Brazilian pepper	I	P, N	N, C, S
<i>Senna pendula</i> var. <i>glabrata</i> (= <i>Cassia coluteoides</i>)	climbing cassia, Christmas cassia, Christmas senna	I		C, S
<i>Solanum tampicense</i> (= <i>S. houstonii</i>)	wetland night shade, aquatic soda apple	I	N, U	C, S
<i>Solanum viarum</i>	tropical soda apple	I	N, U	N, C, S
<i>Syngonium podophyllum</i>	arrowhead vine	I		C, S
<i>Syzygium cumini</i>	jambolan, Java plum	I		C, S
<i>Tectaria incisa</i>	incised halberd fern	I		S

EXHIBIT D

SAJ-2000-1926(IP-HWB)
Mirasol (revised)

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<i>Thespesia populnea</i>	seaside mahoe	I		C, S
<i>Tradescantia fluminensis</i>	white-flowered wandering jew	I		N, C
<i>Tradescantia spathacea</i> (= <i>Rhoeo spathacea</i> , <i>Rhoeo discolor</i>)	oyster plant	I		S
<i>Urochloa mutica</i> (= <i>Brachiaria mutica</i>)	Pará grass	I		C, S

Category II - Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. *These species may become ranked Category I, if ecological damage is demonstrated.*

Scientific Name	Common Name	EPPC Cat.	Gov. list	Reg. Dist.
<i>Adenanthera pavonina</i>	red sandalwood	II		S
<i>Agave sisalana</i>	sisal hemp	II		C, S
<i>Aleurites fordii</i> (= <i>Vernicia fordii</i>)	tung oil tree	II		N, C
<i>Alstonia macrophylla</i>	devil-tree	II		S
<i>Alternanthera philoxeroides</i>	alligator weed	II	P	N, C, S
<i>Antigonon leptopus</i>	coral vine	II		N, C, S
<i>Aristolochia littoralis</i>	calico flower	II		N, C
<i>Asystasia gangetica</i>	Ganges primrose	II		C, S
<i>Begonia cucullata</i>	wax begonia	II		N, C
<i>Blechnum pyramidatum</i>	green shrimp plant, Brown's blechnum	II		N, C, S
<i>Broussonetia papyrifera</i>	paper mulberry	II		N, C
<i>Callisia fragrans</i>	inch plant, spironema	II		C, S
<i>Casuarina cunninghamiana</i>	Australian pine	II	P	C, S
<i>Cecropia palmata</i>	trumpet tree	II		S
<i>Cestrum diurnum</i>	day jessamine	II		C, S
<i>Chamaedorea seifrizii</i>	bamboo palm	II		S
<i>Clematis terniflora</i>	Japanese clematis	II		N, C
<i>Cryptostegia madagascariensis</i>	rubber vine	II		C, S
<i>Cyperus involucratus</i> (C. <i>alternifolius</i> misapplied)	umbrella plant	II		C, S
<i>Cyperus prolixifolius</i>	dwarf papyrus	II		C
<i>Dalbergia sissoo</i>	Indian rosewood, sissoo	II		C, S
<i>Elaeagnus pungens</i>	thorny eleagnus	II		N, C
<i>Epipremnum pinnatum</i> cv. Aureum	pothos	II		C, S

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<i>Ficus altissima</i>	false banyan, council tree	II		S
<i>Flacourtia indica</i>	governor's plum	II		S
<i>Hemarthria altissima</i>	limpo grass	II		C, S
<i>Hibiscus tiliaceus</i>	mahoe, sea hibiscus	II		C, S
<i>Ipomoea fistulosa</i> (= <i>I. carnea</i> ssp. <i>fistulosa</i>)	shrub morning-glory	II	P	C, S
<i>Jasminum sambac</i>	Arabian jasmine	II		S
<i>Kalanchoe pinnata</i>	life plant	II		C, S
<i>Koelreuteria elegans</i> ssp. <i>formosana</i> (= <i>K. formosana</i> ; <i>K. paniculata</i> misapplied)	flamegold tree	II		C, S
<i>Leucaena leucocephala</i>	lead tree	II		N, C, S
<i>Limnophila sessiliflora</i>	Asian marshweed	II	P	N, C, S
<i>Livistona chinensis</i>	Chinese fan palm	II		C, S
<i>Melia azedarach</i>	Chinaberry	II		N, C, S
<i>Merremia tuberosa</i>	wood-rose	II		S
<i>Murraya paniculata</i>	orange-jessamine	II		S
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil	II	P	N, C, S
<i>Nymphoides cristata</i>	snowflake	II		C, S
<i>Panicum maximum</i>	Guinea grass	II		C, S
<i>Passiflora biflora</i>	two-flowered passion vine	II		S
<i>Pennisetum setaceum</i>	green fountain grass	II		S
<i>Phoenix reclinata</i>	Senegal date palm	II		C, S
<i>Pittosporum pentandrum</i>	Philippine pittosporum, Taiwanese cheesewood	II		S
<i>Phyllostachys aurea</i>	golden bamboo	II		N, C
<i>Pteris vittata</i>	Chinese brake fern	II		N, C, S
<i>Ptychosperma elegans</i>	solitary palm	II		S
<i>Ricinus communis</i>	castor bean	II		N, C, S
<i>Sansevieria hyacinthoides</i>	bowstring hemp	II		C, S
<i>Scleria lacustris</i>	Wright's nutrush	II		C, S
<i>Sesbania punicea</i>	purple sesban, rattlebox	II		N, C, S
<i>Solanum diphyllum</i>	Two-leaf nightshade	II		N, C, S
<i>Solanum jamaicense</i>	Jamaica nightshade	II		C
<i>Solanum torvum</i>	susumber, turkey berry	II	N, U	N, C, S
<i>Sphagneticola trilobata</i> (= <i>Wedelia trilobata</i>)	wedelia	II		N, C, S
<i>Stachytarpheta urticifolia</i> (= <i>S. cayennensis</i>)	nettle-leaf porterweed	II		S
<i>Syagrus romanzoffiana</i> (= <i>Arecastrum romanzoffianum</i>)	queen palm	II		C, S
<i>Syzygium jambos</i>	rose-apple	II		C, S
<i>Terminalia catappa</i>	tropical almond	II		C, S

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<i>Terminalia muelleri</i>	Australian almond	II		C, S
<i>Tribulus cistoides</i>	puncture vine, burr-nut	II		N, C, S
<i>Urena lobata</i>	Caesar's weed	II		N, C, S
<i>Vitex trifolia</i>	simple-leaf chaste tree	II		C, S
<i>Washingtonia robusta</i>	Washington fan palm	II		C, S
<i>Wedelia</i> (see <i>Sphagneticola</i> above)				
<i>Wisteria sinensis</i>	Chinese wisteria	II		N, C
<i>Xanthosoma</i> <i>sagittifolium</i>	malanga, elephant ear	II		N, C, S

Citation example:

FLEPPC. 2005. List of Florida's Invasive Species. Florida Exotic Pest Plant Council. Internet:
<http://www.fleppc.org/list/05list.htm>

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Mirasol

ATTACHMENT G U.S. FISH AND WILDLIFE SERVICE BIOLOGICAL OPINION

EXHIBIT D



United States Department of the Interior



FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

May 3, 2007

Colonel Paul L. Grosskruger
District Commander
U.S. Army Corps of Engineers
701 San Marco Boulevard, Room 372
Jacksonville, Florida 32207-8175

Service Federal Activity Code: 41420-2006-FA-1500
Service Consultation Code: 41420-2006-F-0674
Corps Application No.: SAJ-2000-1926 (IP-HWB)(Revised)
Date Received: July 21, 2004
Formal Consultation Initiation Date: July 21, 2006
Biological Opinion Date: March 1, 2007
Applicant: J.D. Nicewonder, Jr.
Project: Mirasol
County: Collier

Dear Colonel Grosskruger:

This document transmits the Fish and Wildlife Service's (Service) amended biological opinion for the construction of the Mirasol development project and its effects on the endangered Florida panther (*Puma concolor coryi*) and endangered wood stork (*Mycteria americana*) in accordance with section 7 of the Endangered Species Act of 1973 as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*). The original biological opinion was issued on March 1, 2007. This amended biological opinion is being issued to clarify levels of incidental take associated with the endangered wood stork. This biological opinion also clarifies text associated with wet and dry fish biomass calculations, National Wetland Inventory and Florida Land Use Codes and Forms Classification Systems, and prey size selection of wood storks. The project site is located north of Immokalee Road and east of Interstate 75 (I-75) in Sections 10, 11, 15, and 22, Township 48 South, Range 26 East, Collier County, Florida (Figure 1).

This biological opinion is based on information provided by the U.S. Army Corps of Engineers (Corps) in their August 9, 2006, Public Notice, July 21, 2006, letter to the Service, information provided by Turrell & Associates, Incorporated (Turrell) dated February 5, 2007, and June 20, 2006; various meetings and phone conversations with Turrell; information provided by Agnolli Barber and Brundage (ABB); information provided by Johnson Engineering; information provided by WilsonMiller; and meetings, telephone conversations, electronic mail, and other sources of information. A complete administrative record of this consultation is on file at the Service's South Florida Ecological Services Office, Vero Beach, Florida.

In the Public Notice and letter to the Service, the Corps determined the Mirasol project "may affect" the endangered Florida panther and wood stork. The Corps also determined the project

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"may affect, but is not likely to adversely affect" the threatened eastern indigo snake (*Drymarchon corais couperi*) and the endangered red-cockaded woodpecker (RCW) (*Picoides borealis*). Based on the information provided by the applicant and the Corps, and the applicant's agreement to follow the draft *Standard Protection Measures for the Eastern Indigo Snake* (Service 2004), the Service concurs with the Corps' determinations for the eastern indigo snake and the RCW. The Service also concurs with the Corps' request to initiate formal consultation for project effects to the Florida panther and wood stork.

The Corps Public Notice represented an application for fill and excavation in 652 acres of wetlands and other surface waters and to alter 116.58 acres of uplands, impacting 769 acres. The project site is 1,714 acres and consists of 1,486 acres of jurisdictional wetlands and 228 acres of uplands. Subsequent information received from the applicant indicates that the project is actually for fill and excavation in 645 acres of wetlands and other surface waters and to alter 127.62 acres of uplands on the 1,714-acre site, for a total project impact of 773 acres. The purpose of the project is to construct a residential and golf course community in the northern Collier County vicinity.

The majority of the project site was historically used for cattle pasture. Land use and habitat cover types include 219.92 acres of pine (*Pinus* spp.) flatwoods uplands, 11.90 acres of Brazilian pepper (*Schinus terebinthifolius*) uplands, 4.92 acres of road right-of-way, 4.29 acres of wet prairie, 0.27 acre of cattle pond, 1.43 acres of flag (*Iris* sp.) pond, 3.59 acres of Brazilian pepper wetlands, 1.39 acres of mixed hardwood forest, 383.64 acres of melaleuca (*Melaleuca quinquernervia*), 819.01 acres of pine flatwood wetlands, 140.88 acres of cypress, and 122.21 acres of mixed cypress (*Taxodium distichum*) /pine flatwoods. The invasive exotic, melaleuca, has encroached into the entire project site, with large portions of the site supporting densities greater than 75 percent coverage. Over 85 percent of the project site has melaleuca densities of greater than 50 percent coverage.

The project is bounded on the north by a series of farms and agricultural fields and a recently permitted residential development known as Bonita Beach Road RPD and bounded on the west by two permitted proposed developments, Parklands and Terafina, and an existing development called Olde Cypress. The southern property boundary abuts the Cocohatchee or Immokalee Road Canal. The northeast property boundary is undeveloped while the southeast boundary is adjacent to numerous small farms and out-parcels. Immediately to the east of these out-parcels is a former rock and gravel mine known as Mule Pen Quarry that has been converted into a residential development known as Heritage Bay (Figure 2).

For the originally proposed project, the Corps determined, in the Public Notice dated May 25, 2001, the Mirasol project "may affect" the endangered Florida panther, the endangered wood stork, the endangered red-cockaded woodpecker, and the threatened eastern indigo snake. The Corps provided a listed species analysis completed by Turrell and a revised determination by letter dated March 11, 2002, that the project "may affect, but is not likely to adversely affect" the Florida panther, the wood stork, the red-cockaded woodpecker, and the eastern indigo snake. By email response to the Corps dated April 29, 2002, the Service did not concur with these determinations. After reviewing information received from the Corps and the applicant's agent, Turrell, the Service provided the Corps with a letter dated July 11, 2002, concurring with the

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Corps' revised determination of "may affect, but is not likely to adversely affect" for the red-cockaded woodpecker and eastern indigo snake but not concurring with the Corps' revised determination of "may affect, but not likely to adversely affect" for the wood stork or the Florida panther. By letter dated January 22, 2003, the Service stated it had received all information necessary to initiate formal consultation on both the endangered Florida panther and the endangered wood stork and stated a biological opinion would be provided to the Corps. The Service reviewed the original proposal (4-1-01-F-607) and issued a biological opinion on February 21, 2003, which was later revised on March 9, 2005. The Corps denied the permit for the project on December 7, 2005.

The applicant has modified the project design and has reduced impacts by eliminating wetland alterations associated with the proposed construction of the external flow way. Secondary impacts have also been reduced by relocating golf holes so that they act as buffers between the development and adjacent wetlands. The Mirasol project revisions will result in less impact to habitat and more benefits in terms of compensation.

Total development footprint, including both wetlands and uplands, will be approximately 830 acres on the Mirasol development site, of which 773 acres are development and 57 are preserves. The 57 acres of preserves include 55 acres of wetlands and 2 acres of uplands. The project is within the boundaries of the Primary Zone (Kautz et al. 2006) (Figure 3). The project is within the Service's Panther Focus Area for the Florida panther (Figure 4) and provides habitat suitable for use for foraging and dispersal.

The applicant is proposing to preserve 941 acres, 831 acres are wetlands and 110 acres are uplands. About 55 acres of forested wetlands and 2 acres of forested uplands would be enhanced and preserved within the developed portions of the project. The remaining 884 acres, which are adjacent to the development acreage, will be preserved and form a contiguous preserve with adjacent preserved lands. The 884 acres include 776 acres of wetlands and 108 acres of uplands. These lands are situated to the south and west of the National Audubon Society Corkscrew Swamp Sanctuary (Corkscrew) and are connected through other preservation lands to the Corkscrew Regional Ecosystem Watershed (CREW) project (Figure 2). Restoration of wetlands and uplands in this preserve will consist of the removal of exotic vegetation, ranging from 5 to 100 percent coverage, averaging 65 to 70 percent and the restoration of more diverse and appropriate native communities and placed under a conservation easement granted to the South Florida Water Management District (District). The on-site preserve is currently a mixture of hydric and mesic pine and pine/cypress flatwoods, with extensive levels of infestation of the invasive exotic melaleuca. This preserve will be contiguous to preserves for other projects totaling more than 1,400 acres. Total project footprint is 1,714 acres with 941 acres of preservation and 773 acres of development.

The applicant is also proposing the purchase of 27.68 wetland credits from Panther Island Mitigation Bank (estimated at 82 acres) and 750 panther habitat units (estimated at 8 PHUs per acre or 94 acres) from a yet-to-be determined preservation-site in the Primary Zone of the Panther Focus Area (Figure 4). The location of the proposed off-site compensation-site will be determined and lands secured prior to any site clearing. The applicant's proposed preservation acreage is estimated at 1,117 acres, which consist of 941 acres on-site, 82 acres in Panther Island Mitigation Bank, and 94 acres in a location to be determined in the primary zone.

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The proposed compensation plan provides habitat preservation and restoration in Collier County, and benefits the survival and recovery of the Florida panther as referenced in the draft Panther Recovery Plan (Service 2006) goal 1.1.1.2.3. This goal recommends habitat preservation and restoration within the Primary Zone be provided in situations where land use intensification can not be avoided. The applicant has proposed equivalent habitat protection and restoration, to compensate for both the quantity and functional value of the lost habitat.

The Use of Best Scientific and Commercial Information by the Service

The Service uses the most current and up-to-date scientific and commercial information available. The nature of the scientific process dictates that information is constantly changing and improving as new studies are completed. The scientific method is an iterative process that builds on previous information. As the Service becomes aware of new information, we will ensure it is fully considered in our decisions, evaluations, reviews, and analyses as it relates to the base of scientific knowledge and any publications cited in our documents.

Specifically, there is one such document cited in this biological opinion the Service acknowledges has been affected in its cited form by new scientific information. The Service has taken these new sources of information into account when using this document to help guide our analysis and decisions. This document is the South Florida Multi-Species Recovery Plan (MSRP) of 1999 (Service 1999). In addition, the Service has examined Kautz et al. (2006) for its scientific validity, specifically with regards to comments and recommendations by other reviewers.

South Florida Multi-Species Recovery Plan

The MSRP was designed to be a living document and it was designed to be flexible to accommodate the change identified through ongoing and planned research and would be compatible with adaptive management strategies. These principals are set forth in both the transmittal letter from the Secretary of the Interior and in the document itself. As predicted, this is what indeed occurred in the intervening years since the MSRP was published. The Service uses the MSRP in the context it still presents useful information when taken in conjunction with all the new scientific information developed subsequent to its publication.

Kautz et al. (2006)

The Florida Panther Subteam was charged with developing a landscape-level strategy for the conservation of the Florida panther population in south Florida. The Subteam produced the draft Landscape Conservation Strategy for the Florida Panther in South Florida in December 2002 and provided it to the Service. Upon receipt, the Service began to use the information in the draft Landscape Conservation Strategy in its decision making processes and documents since it was part of the best scientific information available to the Service at the time. Since then some portions of the science and findings in the draft Landscape Conservation Strategy have been challenged. Many, but not all, of the Subteam members have refined the methodology, further analyzed the data, and better defined the results of the Landscape Conservation Strategy into the publication, referred to here as Kautz et al. (2006). Therefore, Kautz et al. (2006) and the analyses contained therein, along with all other best scientific and commercial data available, is referred to in this document and will be used in our decision making process until or unless new information suggests revisions are necessary.

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Consultation History

The previous project was circulated under a Public Notice on May 25, 2001. The proposal was to construct an upscale residential and golf course community with an external flow way, as required by the District, to convey excess flood waters from upstream, around the project, to the Cocohatchee Canal. The previous proposal was to impact 659 acres of wetlands which were heavily infested with exotics. During the permitting process the applicant offered on-site restoration, enhancement and preservation of 792 acres of wetlands and 105 acres of uplands as mitigation for the proposed impacts.

On July 11, 2002, the Service concurred with the Corps' determination that the proposed project "may affect, not likely to adversely affect" the red-cockaded woodpecker and eastern indigo snake.

The Service issued their biological opinion on project impacts to wood storks and panthers in February 2003.

After revisions to the panther assessment methodologies and the collection of more site-specific forage fish production data, the Corps reinitiated consultation with the Service and the Service issued their revised biological opinion for the project on March 9, 2005, in which the Service concluded the proposed project was not likely to jeopardize the survival and recovery of the Florida panther or the wood stork.

On December 8, 2005, the Corps denied a Department of the Army permit for the project.

The applicant modified the project purpose and further reduced wetland impacts by eliminating the external flow way, amending the development footprint, and relocating golf holes to be adjacent to the wetland preserve. Flood plain impacts will be mitigated by an internal pass-through system of lakes that maintains the upstream stage at predevelopment levels during a 25 year 3 day storm event. The modified project plan reduces wetland impacts and increases the size of the wetland preserves.

On August 9 and August 24, 2006, the Corps issued public notices for a residential community to be known as "Mirasol."

On February 5, 2007, the Service received a revised species and habitat analysis for the wood stork.

On March 1, 2007, the Service provided the Corps with a biological opinion evaluating project effects to the wood stork and Florida panther. Following issuance of the biological opinion, the Service noted that the levels of incidental take associated with the endangered wood stork need clarification. The Service also noted that text associated with wet and dry fish biomass calculations, National Wetland Inventory and Florida Land Use Codes and Forms Classification Systems, and prey size selection of wood storks also needed clarification. The Service is providing this clarification in this document.

The Corps has made a determination the project "may affect, but is not likely to affect" the RCW, and the eastern indigo snake. After reviewing information received from the Corps and the applicant's agent, Turrell, the Service concurs with the Corps' determinations for the

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endangered RCW and the threatened eastern indigo snake. The Corps also determined the project "may affect" the Florida panther, and the wood stork and reinitiated formal consultation with the Service for these two species.

The Service has reviewed all information received pertinent to the Florida panther and the wood stork for the modified Mirasol project and concurs with the Corps' determination that this proposed project "may affect" the Florida panther and the wood stork. As of November 6, 2006, we received all information necessary for initiation of formal consultation on the Florida panther and the wood stork for this project as required in the regulations governing interagency consultations (50 CFR § 402.14). The Service is providing this biological opinion in conclusion of formal consultation.

BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

Proposed Action

The applicant has modified its project design and has further reduced wetland impacts from the May 2005 project plan by eliminating the external flow-way, modifying the site development plan, and relocating golf holes to be adjacent to the wetland preserve as a buffer. Compensating storage for flood plain impacts will be addressed by an internal pass-through system of lakes that maintains the upstream stage at predevelopment levels during a 25 year 3 day storm event. The revised application proposes to construct an upscale residential and golf course community to be known as "Mirasol." The proposed development would consist of residential areas (234 acres), lakes (148 acres), road right of way (52 acres), clubhouse/maintenance/sales buildings (22 acres), 36-hole golf course and paths (222 acres), open space within the development (95 acres), and preserves (941 acres). The project site is 1,713.45 acres and consists of 1,476.71 acres of jurisdictional wetlands and 236.74 acres of uplands. Jurisdictional areas consist of melaleuca, disturbed hydric pine, pine-cypress, and cypress communities. The project includes the discharge of approximately 2,100,000 cubic yards of fill material into 519 acres of wetlands and the excavation of 1,800,000 cubic yards of material from 127 acres of wetlands. Over 85 percent of the project site has melaleuca densities of greater than 50 percent coverage.

The project is bounded on the north by a series of farms and agricultural fields and a recently permitted residential development known as Bonita Beach Road RPD, and on the west by two permitted proposed developments, Parklands and Terafina, and an existing development called Olde Cypress. The southern property boundary abuts the Cocohatchee or Immokalee Road Canal. The northeast property boundary is undeveloped while the southeast boundary is adjacent to numerous small farms and out-parcels. Immediately to the east of these out-parcels is a former rock and gravel mine known as Mule Pen Quarry that has been converted into a residential development known as Heritage Bay (Figure 2).

The project will result in the direct loss of 773 acres of habitat suitable for foraging and dispersal by the Florida panther (see discussion under Wildlife Assessment). The remaining 941 acres on the 1,713-acre will be enhanced and preserved. The habitat loss represents 3,756 PHUs with a recommended compensation of 7,512 PHUs (see discussion under Habitat Assessment Methodology). The project is within the Florida panther Primary Zone (Kautz et al. 2006)

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(Figure 3) and within the Service's Panther Focus Area (Figure 4). The applicant proposes to provide on-site compensation for project effects to the panther through the restoration and preservation of 941 acres on the project site (57 acres within project development and 884 acres within adjacent onsite preserve). The applicant is also proposing to purchase and protect the equivalent of 750 PHUs (about 94 acres) within the panther Primary Zone, and the purchase of 27.68 credits (about 82 acres) at PIMB in Collier County (Figure 6). All compensation-sites are located in the panther Primary Zone and provide compensation for the loss of 773 acres of lower quality habitat for foraging and dispersal presently available to the Florida panther. The total compensation proposal through both on-site and off-site protection and restoration is about 1,117 acres of higher quality panther habitat in areas surrounded by higher quality panther habitat (941 acres on-site 82 acres in PIMB, and 94 acres in primary zone).

The proposed compensation plan provides habitat preservation and restoration within and near the project area, and benefits the survival and recovery of the Florida panther as referenced in the draft Panther Recovery Plan (Service 2006) goal 1.1.1.2.3. This goal recommends habitat preservation and restoration within the Primary Zone be provided in situations where land use intensification can not be avoided. The applicant has proposed equivalent habitat protection and restoration, to compensate for both the quantity and functional value of the lost habitat.

Action Area

The Service's Panther Focus Area for the Florida panther includes lands in Charlotte, Glades, Hendry, Lee, Collier, Palm Beach, Broward, Miami-Dade, and Monroe Counties, as well as the southern portion of Highlands County (Figure 4). Developed urban coastal areas in eastern Palm Beach, Broward, and Miami-Dade Counties, and in western Charlotte, Lee, and Collier Counties were excluded because they contain little or no panther habitat and it is unlikely that panthers would use such areas.

Movements of Florida panthers are much larger than the project site and, therefore, the Service's action area is larger than the proposed action area identified by the Corps' public notice. The action area, which is a subset of the current panther range, includes those lands where the Service believes panthers may experience direct and indirect effects from the proposed development. Maehr et al. (1990a) monitored five solitary panthers continuously for 130-hour periods seasonally from 1986 to 1989, rarely observing measurable shifts in location during the day, but nocturnal shifts in location exceeding 20.0 kilometers (km) (12.4 miles) were not unusual. Maehr et al. (2002a) in a later report documented a "mean maximum dispersal distance" of 68.1 km (42.3 miles) for subadult males and 20.3 km (12.6 miles) for subadult females. In the same report Maehr et al. (2002a) documented a "mean dispersal distance" of 37.3 km (23.1 miles) for subadult males. Comiskey et al. (2002) documented a "mean dispersal distance" for subadult male panthers as an average distance of 40.1 km (24.9 miles) from their natal range, which is similar to the dispersal distance referenced by Maehr et al. (2002a).

Therefore, for both direct and indirect effects, the Service defined the action area (Figure 7) as all lands within a 25-mile radius of the Mirasol project, which is slightly greater than the mean dispersal distance for subadult males. This action area does not include urban lands or lands west of I-75. This action area includes areas anticipated to sustain direct and indirect effects, such as roadways experiencing increased traffic, areas with increased human disturbance (project

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area and periphery of project), and areas in which habitat fragmentation and intraspecific aggression may be felt.

STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

Florida Panther

Status - Panther Biology/Ecology

The Florida panther, is the last subspecies of *Puma* (also known as mountain lion, cougar, painter, or catamount) still surviving in the eastern U.S. Historically occurring throughout the southeastern U.S. (Young and Goldman 1946), today the panther is restricted to less than 5 percent of its historic range in one breeding population of less than 100 animals, located in south Florida.

When Europeans first came to this country, pumas roamed most all of North, Central, and South America. Early settlers attempted to eradicate pumas by every means possible. By 1899, it was felt that Florida panthers had been restricted to peninsular Florida (Bangs 1899). By the late 1920s to mid 1930s it was thought by many that the Florida panther had been completely eliminated (Tinsley 1970). In 1935, Dave Newell, a Florida sportsman, hired Vince and Ernest Lee, Arizona houndsmen, to hunt for panthers in Florida. They killed eight in the Big Cypress Swamp (Newell 1935). Every survey conducted since then has confirmed that a panther population occurs in southern Florida south of the Caloosahatchee River, and no survey since then has been able to confirm a panther population outside of southern Florida.

Attempts to eradicate panthers and a decline in panther prey (primarily white-tailed deer) resulted in a panther population threatened with extinction. Prior to 1949, panthers could be killed in Florida at any time of the year. In 1950, the Florida Game and Freshwater Fish Commission (now the Florida Fish and Wildlife Conservation Commission [FWC]) declared the panther a regulated game species due to concerns over declining numbers. The FWC removed panthers from the game animal list in 1958 and gave them complete legal protection. On March 11, 1967, the Service listed the panther as endangered (32 FR 4001) throughout its historic range, and these animals received Federal protection under the passage of the Act. Also, the Florida Panther Act (State Statute 372.671), a 1978 Florida State law, made killing a panther a felony. The Florida panther is listed as endangered by the States of Florida, Georgia, Louisiana, and Mississippi.

Since the panther was designated as an endangered species prior to enactment of the Act, there was no formal listing package identifying threats to the species as required by section 4(a)(1) of the Act. However, the technical/agency draft of the Florida Panther Recovery Plan, third revision, addressed the five factor threats analysis (Service 2006). No critical habitat has been designated for the panther.

Taxonomy

The Florida panther was first described by Charles B. Cory in 1896 as *Felis concolor floridana* (Cory 1896). The type specimen was collected in Sebastian, Florida. Bangs (1899), however, believed the Florida panther was restricted to peninsular Florida and could not intergrade with

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other *Felis* spp. Therefore, he assigned it full specific status and named it *Felis coryi* since *Felis floridana* had been used previously for a bobcat (*Lynx rufus*).

The taxonomic classification of the *Felis concolor* group was revised and described by Nelson and Goldman (1929) and Young and Goldman (1946). These authors differentiated 30 subspecies using geographic and morphometric (measurement of forms) criteria and reassigned the Florida panther to subspecific status as *Felis concolor coryi*. This designation also incorporated *F. arundivaga* which had been classified by Hollister (1911) from specimens collected in Louisiana into *F. c. coryi*. Nowell and Jackson (1996) reviewed the genus *Felis* and placed mountain lions, including the Florida panther, in the genus *Puma*.

Culver et al. (2000) examined genetic diversity within and among the described subspecies of *Puma concolor* using three groups of genetic markers and proposed a revision of the genus to include only six subspecies, one of which encompassed all puma in North America including the Florida panther. However, Culver et al. (2000) determined that the Florida panther was one of several smaller populations that had unique features, the number of polymorphic microsatellite loci and amount of variation were lower, and it was highly inbred (eight fixed loci). The degree to which the scientific community has accepted the results of Culver et al. (2000) and the proposed change in taxonomy is not resolved at this time. The Florida panther remains listed as a subspecies and continues to receive protection pursuant to the Act.

Species Description

An adult Florida panther is unspotted and typically rusty reddish-brown on the back, tawny on the sides, and pale gray underneath. There has never been a melanistic (black) puma documented in North America (Tinsley 1970, 1987). Adult males can reach a length of 7 feet (ft) (2.1 meters [m]) from their nose to the tip of their tail and may exceed 161 pounds (lbs) (73 kilograms [kg]) in weight; but, typically adult males average around 116 lbs (52.6 kg) and stand about 24-28 inches (in) (60-70 centimeters [cm]) at the shoulder (Roelke 1990). Female panthers are smaller with an average weight of 75 lbs (34 kg) and length of 6 ft (1.8 m) (Roelke 1990). The skull of the Florida panther is unique in that it has a broad, flat, frontal region, and broad, high-arched or upward-expanded nasal bones (Young and Goldman 1946).

Florida panther kittens are gray with dark brown or blackish spots and five bands around the tail. The spots gradually fade as the kittens grow older and are almost unnoticeable by the time they are 6 months old. At this age, their bright blue eyes slowly turn to the light-brown straw color of the adult (Belden 1988).

Three external characters—a right angle crook at the terminal end of the tail, a whorl of hair or cowlick in the middle of the back, and irregular, white flecking on the head, nape, and shoulders—not found in combination in other subspecies of *Puma* (Belden 1986), were commonly observed in Florida panthers through the mid-1990s. The kinked tail and cowlicks were considered manifestations of inbreeding (Seal 1994); whereas the white flecking was thought to be a result of scarring from tick bites (Maehr 1992, Wilkins et al. 1997). Four other abnormalities prevalent in the panther population prior to the mid-1990s included cryptorchidism (one or two undescended testicles), low sperm quality, atrial septal defects (the opening between two atria in the heart fails to close normally during fetal development), and immune deficiencies and were also suspected to be the result of low genetic variability (Roelke et al. 1993a).

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A plan for genetic restoration and management of the Florida panther was developed in September 1994 (Seal 1994) and eight non-pregnant adult female Texas panthers (*Puma concolor stanleyana*) were released in five areas of south Florida from March to July 1995. Since this introgression, rates of genetic defects, including crooked tails and cowlicks, have dramatically decreased (Land et al. 2004). In addition, to date neither atrial septal defects nor cryptorchidism have been found in introgressed panthers (M. Cunningham, FWC, pers. comm. 2005). As of January 27, 2003, none of the eight female Texas panthers introduced in 1995 remain in the wild.

Population Trends and Distribution

The Florida panther once ranged throughout the southeastern U.S. from Arkansas and Louisiana eastward across Mississippi, Alabama, Georgia, Florida, and parts of South Carolina and Tennessee (Young and Goldman 1946). Historically, the panther intergraded to the north with *P. c. cougar*, to the west with *P. c. stanleyana*, and to the northwest with *P. c. hippolestes* (Young and Goldman 1946).

Although generally considered unreliable, sightings of panthers regularly occur throughout the Southeast. However, no populations of panthers have been found outside of south Florida for at least 30 years despite intensive searches (Belden et al. 1991, McBride et al. 1993, Clark et al. 2002). Survey reports and more than 70,000 locations of radio-collared panthers recorded between 1981 and 2004 clearly define the panther's current range. Reproduction is known only in the Big Cypress Swamp/Everglades physiographic region in Collier, Lee, Hendry, Miami-Dade, and Monroe Counties south of the Caloosahatchee River (Belden et al. 1991). Although the breeding segment of the panther population occurs only in south Florida, panthers have been documented north of the Caloosahatchee River over 125 times since February 1972. This has been confirmed through field sign (e.g., tracks, urine markers, scats), camera-trap photographs, seven highway mortalities, four radio-collared animals, two captured animals (one of which was radiocollared), and one skeleton. From 1972 through 2004, panthers have been confirmed in 11 counties (Flagler, Glades, Highlands, Hillsborough, Indian River, Okeechobee, Orange, Osceola, Polk, Sarasota, Volusia) north of the river (Belden et al. 1991, Belden and McBride 2005). However, no evidence of a female or reproduction has been documented north of the Caloosahatchee River since 1973 (Nowak and McBride 1974, Belden et al. 1991, Land and Taylor 1998, Land et al. 1999, Shindle et al. 2000, McBride 2002, Belden and McBride 2005).

Puma are wide ranging, secretive, and occur at low densities. However, their tracks, urine markers, and scats are readily found by trained observers, and resident populations are easily located. Van Dyke (1986a) determined that all resident puma, 78 percent of transient puma, and 57 percent of kittens could be detected by track searches in Utah. In south Florida, the Florida panther's limited range and low densities may make the population count derived from track searches more accurate than in Utah. During two month-long investigations – one late in 1972 and early 1973 and another in 1974 – funded by the World Wildlife Fund to determine if panthers still existed in Florida, McBride searched for signs of panthers in portions of south Florida. In 1972, McBride authenticated a road-killed male panther in Glades County and a female captured and released from a bobcat trap in Collier County (R. McBride, Livestock

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Protection Company, pers. comm. 2005). In 1973, McBride captured one female in Glades County (Nowak and McBride 1974). Based on this preliminary evidence, Nowak and McBride (1974) estimated the “population from the Lake Okeechobee area southward to be about 20 or 30 individuals.” In 1974, McBride found evidence of only two additional panthers in the Fakahatchee Strand and suggested that “there could be not more than ten individual panthers in the area around Lake Okeechobee and southward in the state” (Nowak and McBride 1975). This initial survey, while brief in nature, proved that panthers still existed in Florida and delineated areas where a more exhaustive search was warranted. After this initial investigation, more comprehensive surveys on both public and private lands were completed (Reeves 1978; Belden and McBride 1983a, b; Belden et al. 1991). Thirty individual panthers were identified during a wide-ranging survey in 1985 in south Florida (McBride 1985).

Maehr et al. (1991) provides the only published population estimate based on a substantial body of field data (Beier et al. 2003). Maehr et al. (1991) estimated a density of 1 panther/27,520 acres [11,137 hectares (ha)] based on 17 concurrently radiocollared and four uncollared panthers. They extrapolated this density to the area occupied (1,245,435 acres [504,012 ha]) by radiocollared panthers during the period 1985-1990 to achieve a population estimate of 46 adult panthers for southwest Florida (excluding Everglades National Park [ENP], eastern Big Cypress National Preserve [BCNP], and Glades and Highlands Counties). Beier et al. (2003), however, argued this estimate of density, although “reasonably rigorous,” could not be extrapolated to other areas because it was not known whether densities were comparable in those areas.

More recently, McBride (2000, 2001, 2002, 2003) obtained minimum population counts (*i.e.*, number known alive) based on panthers treed with hounds, physical evidence (*e.g.*, tracks where radio-collared panthers were not known to occur), documentation by trail-camera photos, and sightings of uncollared panthers by a biologist or pilot from a monitoring plane or via ground telemetry. He counted adults and subadult panthers but not kittens at the den. The population estimate in 2000 was 62 panthers (McBride 2000), with estimates of 78 in 2001 (McBride 2001), 80 in 2002 (FWC 2002), 87 in 2003 (FWC 2003), 78 in 2004 (R. McBride, Personal Communication, 2006), 82 in 2005 (R. McBride, Personal Communication, 2006), and 96 in 2006 (R. McBride, Personal Communication, 2006).

Life History

Reproduction: Male Florida panthers are polygynous, maintaining large, overlapping home ranges containing several adult females and their dependent offspring. The first sexual encounters for males normally occur at about three years based on 26 radio-collared panthers of both sexes (Maehr et al. 1991). Based on genetics work, some males may become breeders as early as 17 months (W. Johnson, National Cancer Institute, pers. comm. 2005). Breeding activity peaks from December to March (Shindle et al. 2003). Litters ($n = 82$) are produced throughout the year, with 56-60 percent of births occurring between March and June (Jansen et al. 2005, Lotz et al. 2005). The greatest number of births occurs in May and June (Jansen et al. 2005, Lotz et al. 2005). Female panthers have bred as young as 18 months (Maehr et al. 1989) and successful reproduction has occurred up to 11 years old. Mean age of denning females is 4.6 ± 2.1 (standard deviation [sd]) years (Lotz et al. 2005). Age at first reproduction for 19 known-

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aged female panthers averaged 2.2 ± 0.246 (sd) years and ranged from 1.8-3.2 years. Average litter size is 2.4 ± 0.91 (sd) kittens. Seventy percent of litters are comprised of either two or three kittens. Mean birth intervals (elapsed time between successive litters) are 19.8 ± 9.0 (sd) months for female panthers ($n = 56$) (range 4.1-36.5 months) (Lotz et al. 2005). Females that lose their litters generally produce another more quickly; five of seven females whose kittens were brought into captivity successfully produced another litter an average of 10.4 months after the removal of the initial litter (Land 1994).

Den sites are usually located in dense, understory vegetation, typically saw palmetto (*Serenoa repens*) (Maehr 1990, Shindle et al. 2003). Den sites are used for up to two months by female panthers and their litters from birth to weaning. Independence and dispersal of young typically occurs at 18 months, but may occur as early as one year (Maehr 1992).

Survivorship and Causes of Mortality: Mortality records for uncollared panthers have been kept since February 13, 1972, and for radio-collared panthers since February 10, 1981. One-hundred eighty-nine mortalities have been documented through October 30, 2006, with 86 (46 percent) of known deaths occurring in the past 5 years (FWC 2006a, FWC unpublished data). Overall, documented mortality averaged 3.6 per year through June 2001, and 16.0 per year from July 2001 through June 2006. Of the 189 total mortalities, 100 were radio-collared panthers that have died since 1981 (FWC 2006a, FWC unpublished data). From 1990-2004, mean annual survivorship of radio-collared adult panthers was greater for females (0.894 ± 0.099 sd) than males (0.779 ± 0.125 sd) (Lotz et al. 2005). Except for intraspecific aggression, the causes of mortality were found to be independent of gender (Lotz et al. 2005).

Intraspecific aggression was the leading cause of death for radio-collared panthers, accounting for 42 percent (Jansen et al. 2005, Lotz et al. 2005). Most intraspecific aggression occurs between male panthers; but, aggressive encounters between males and females, resulting in the death of the female, have occurred. Defense of kittens and/or a kill is suspected in half (5 of 10) of the known instances through 2003 (Shindle et al. 2003).

Unknown causes and collisions with vehicles accounted for 24 and 19 percent of radio-collared panther mortalities, respectively. From February 13, 1972, through June 30, 2006, Florida panther vehicular trauma ($n=96$), averaged 2.8 per year for radio-collared and uncollared panthers (FWC 2006a). Ten of the collisions were not fatal. Three additional panthers were killed by vehicles from July 1, 2006, through November 30, 2006 (FWC, unpublished data), bringing the total to 99 panthers killed or injured by vehicles.

Female panthers are considered adult residents if they are older than 18 months, have established home ranges and bred (Maehr et al. 1991). Land et al. (2004) reported that 23 of 24 female panthers first captured as kittens survived to become residents and 18 (78.3 percent) produced litters; one female was too young to determine residency. Male panthers are considered adult residents if they are older than three years and have established a home range that overlaps with females. Thirty-one male panthers were captured as kittens and 12 (38.7 percent) of these cats survived to become residents (Jansen et al. 2005, Lotz et al. 2005). "Successful male recruitment appears to depend on the death or home-range shift of a resident adult male" (Maehr et al. 1991).

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Turnover in the breeding population is low with documented mortality in radio-collared panthers being greatest in subadults and non-resident males (Maehr et al. 1991, Shindle et al. 2003).

Den sites of female panthers have been visited since 1992 and the number of kittens that survived to 6 months for 38 of these litters has been documented. Florida and introgressed panther kitten survival to six months were estimated to be 52 and 72 percent, respectively, but were not significantly different ($P = 0.2776$) (Lotz et al. 2005). Survival of kittens greater than six months old was determined by following the fates of 55 radio-collared dependent-aged kittens, including 17 introgressed panthers from 1985 - 2004. Only 1 of these 55 kittens died before reaching independence, resulting in a 98.2 percent survival rate (Lotz et al. 2005). The FWC and NPS are continuing to compile and analyze existing reproductive and kitten data.

Dispersal: Panther dispersal begins after a juvenile becomes independent from its mother and continues until it establishes a home range. Dispersal distances are greater for males ($n = 18$) than females ($n = 9$) (42.5 mi [68.4 km] vs. 12.6 mi [20.3 km], respectively) and the maximum dispersal distance recorded for a young male was 139.2 mi (224.1 km) over a seven-month period followed by a secondary dispersal of 145 mi (233 km) (Maehr et al. 2002a). Males disperse an average distance of 25 mi (40 km); females typically remain in or disperse short distances from their natal ranges (Comiskey et al. 2002). Female dispersers are considered philopatric because they usually establish home ranges less than one average home range width from their natal range (Maehr et al. 2002a). Maehr et al. (2002a) reported that all female dispersers ($n = 9$) were successful at establishing a home range whereas only 63 percent of males ($n = 18$) were successful. Young panthers become independent at 14 months on average for both sexes, but male dispersals are longer in duration than for females (9.6 months and 7.0 months, respectively) (Maehr et al. 2002a). Dispersing males usually go through a period as transient (non-resident) subadults, moving through the fringes of the resident population and often occupying suboptimal habitat until an established range becomes vacant (Maehr 1997).

Most panther dispersal occurs south of the Caloosahatchee River with only four radio-collared panthers crossing the river and continuing north since 1981 (Land and Taylor 1998, Land et al. 1999, Shindle et al. 2000, Maehr et al. 2002a, Belden and McBride 2005). Western subspecies of *Puma* have been documented crossing wide, swift-flowing rivers up to a mile in width (Seidensticker et al. 1973, Anderson 1983). The Caloosahatchee River, a narrow (295-328 ft [90-100 m]), channelized river, probably is not a significant barrier to panther movements, but the combination of the river, State Route (SR) 80, and land uses along the river seems to have restricted panther dispersal northward (Maehr et al. 2002a). Documented physical evidence of at least 15 other uncollared male panthers have been confirmed north of the river since 1972, but no female panthers nor reproduction have been documented in this area since 1973 (Belden and McBride 2005).

Home Range Dynamics and Movements: Panthers require large areas to meet their needs. Numerous factors influence panther home range size including habitat quality, prey density, and landscape configuration (Belden 1988, Comiskey et al. 2002). Home range sizes of 26 radio-collared panthers monitored between 1985 and 1990 averaged 128,000 acres (51,800 ha) for resident adult males and 48,000 acres (19,425 ha) for resident adult females; transient males had

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a home range of 153,599 acres (62,160 ha) (Maehr et al. 1991). Comiskey et al. (2002) examined the home range size for 50 adult panthers (residents greater than 1.5 years old) monitored in south Florida from 1981-2000 and found resident males had a mean home range of 160,639 acres (65,009 ha) and females had a mean home range of 97,920 acres (39,627 ha). Beier et al. (2003) found home range size estimates for panthers reported by Maehr et al. (1991) and Comiskey et al. (2002) to be reliable. Annual minimum convex polygon home range sizes of 52 adult radio-collared panthers monitored between 1998 and 2002 ranged from 15,360 – 293,759 acres (6,216 – 118,880 ha), averaging 89,600 acres (36,260 ha) for 20 resident adult males and 44,160 acres (17,871 ha) for 32 resident adult females (Land et al. 1999, Shindle et al. 2000, Shindle et al. 2001, Land et al. 2002). The most current estimate of home-range sizes (minimum convex polygon method) for established, non-dispersing, adult, radio-collared panthers averaged 29,056 acres (11,759 ha) for females ($n = 11$) and 62,528 acres (25,304 ha) for males ($n = 11$) (Lotz et al. 2005). The average home range was 35,089 acres (14,200 ha) for resident females ($n = 6$) and 137,143 acres (55,500 ha) ($n = 5$) for males located at BCNP (Jansen et al. 2005). Home ranges of resident adults tend to be stable unless influenced by the death of other residents; however, several males have shown significant home range shifts that may be related to aging (D. Jansen, National Park Service [NPS], pers. comm. 2005). Home-range overlap is extensive among resident females and limited among resident males (Maehr et al. 1991).

Activity levels for Florida panthers are greatest at night with peaks around sunrise and after sunset (Maehr et al. 1990a). The lowest activity levels occur during the middle of the day. Female panthers at natal dens follow a similar pattern with less difference between high and low activity periods.

Telemetry data indicate panthers typically do not return to the same resting site day after day, with the exception of females with dens or panthers remaining near kill sites for several days. The presence of physical evidence such as tracks, scats, and urine markers confirm that panthers move extensively within home ranges, visiting all parts of the range regularly in the course of hunting, breeding, and other activities (Maehr 1997, Comiskey et al. 2002). Males travel widely throughout their home ranges to maintain exclusive breeding rights to females. Females without kittens also move extensively within their ranges (Maehr 1997). Panthers are capable of moving large distances in short periods of time. Nightly panther movements of 12 mi (20 km) are not uncommon (Maehr et al. 1990a).

Intraspecific Interactions: Interactions between panthers occur indirectly through urine markers or directly through contact. Urine markers are made by piling ground litter using a backwards-pushing motion with the hind feet. This pile is then scent-marked with urine and occasionally feces. Both sexes make urine markers. Apparently males use them as a way to mark their territory and announce presence while females advertise their reproductive condition.

Adult females and their kittens interact more frequently than any other group of panthers. Interactions between adult male and female panthers last from one to seven days and usually result in pregnancy (Maehr et al. 1991). Aggressive interactions between males often result in serious injury or death. Independent subadult males have been known to associate with each other for several days and these interactions do not appear to be aggressive in nature.

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Aggression between males is the most common cause of male mortality and an important determinant of male spatial and recruitment patterns based on radio-collared panthers (Maehr et al. 1991, Shindle et al. 2003). Aggressive encounters between radio-collared males and females also have been documented (Shindle et al. 2003, Jansen et al. 2005).

Food Habits: Primary panther preys are white-tailed deer (*Odocoileus virginianus*) and feral hog (*Sus scrofa*) (Maehr et al. 1990b, Dalrymple and Bass 1996). Generally, feral hogs constitute the greatest biomass consumed by panthers north of the Alligator Alley section of I-75, while white-tailed deer are the greatest biomass consumed to the south (Maehr et al. 1990b). Secondary prey includes raccoons (*Procyon lotor*), nine-banded armadillos (*Dasypus novemcinctus*), marsh rabbits (*Sylvilagus palustris*) (Maehr et al. 1990b) and alligators (*Alligator mississippiensis*) (Dalrymple and Bass 1996). No seasonal variation in diet has been detected. A resident adult male puma generally consumes one deer-sized prey every 8-11 days; this frequency would be 14-17 days for a resident female; and 3.3 days for a female with three 13-month-old kittens (Ackerman et al. 1986). Maehr et al. (1990b) documented domestic livestock infrequently in scats or kills, although cattle were readily available on their study area.

Infectious Diseases, Parasites, and Environmental Contaminants: *Viral Diseases*—Feline leukemia virus (FeLV) is common in domestic cats (*Felis catus*), but is quite rare in non-domestic felids. Routine testing for FeLV antigen (indicating active infection) in captured and necropsied panthers has been negative since testing began in 1978 to the fall of 2002. Between November 2002 and February 2003, however, two panthers tested FeLV antigen positive (Cunningham 2005). The following year, three more cases were diagnosed. All infected panthers had overlapping home ranges in the Okaloacoochee Slough ecosystem. Three panthers died due to suspected FeLV-related diseases (opportunistic bacterial infections and anemia) and the two others died from intraspecific aggression. Testing of serum samples collected from 1990-2005 for antibodies (indicating exposure) to FeLV indicated increasing exposure to FeLV beginning in the late 1990s and concentrated north of I-75. There was apparently minimal exposure to FeLV during this period south of I-75. Positive antibody titers in different areas at different times may indicate that multiple introductions of the virus into the panther population may have occurred. These smaller epizootics were apparently self-limiting and did not result in any known mortalities. Positive antibody titers, in the absence of an active infection (antigen positive), indicate panthers can be exposed and overcome the infection (Cunningham 2005). Management of the disease includes vaccination as well as removal of infected panthers to captivity for quarantine and supportive care. As of June 1, 2005, about one-third of the population had received at least one vaccination against FeLV (FWC and NPS, unpublished data). No new positive cases have been diagnosed since July 2004.

Pseudorabies virus (PRV) (Aujeszky's disease) causes respiratory and reproductive disorders in adult hogs and mortality in neonates, but is a rapidly fatal neurologic disease in carnivores. At least one panther died from PRV infection presumably through consumption of an infected feral hog (Glass et al. 1994). At least one panther has also died of rabies (Taylor et al. 2002). This panther was radiocollared but not vaccinated against the disease.

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Feline immunodeficiency virus (FIV) is a retrovirus of felids that is endemic in the panther population. About 28 percent of Florida panthers were positive for antibodies to the puma lentivirus strain of FIV (Olmstead et al. 1992); however, the prevalence may be increasing. Between November 2004 and April 2005, 13 of 17 (76 percent) were positive (M. Cunningham, FWC, unpublished data). The cause of this increase is unknown but warrants continued monitoring and investigation. There is also evidence of exposure to Feline panleukopenia virus (PLV) in adult panthers (Roelke et al. 1993b) although no PLV-related mortalities are known to have occurred.

Serological evidence of other viral diseases in the panther population includes feline calicivirus, feline herpes virus, and West Nile virus (WNV). However these diseases are not believed to cause significant morbidity or mortality in the population. All panthers found dead due to unknown causes are tested for alphaviruses, flaviviruses (including WNV), and canine distemper virus. These viruses have not been detected in panthers by viral culture or polymerase chain reaction (FWC, unpublished data).

Other Infectious Diseases--Bacteria have played a role in free-ranging panther morbidity and mortality as opportunistic pathogens, taking advantage of pre-existing trauma or FeLV infections (FWC, unpublished data). Dermatophytosis (ringworm infection) has been diagnosed in several panthers and resulted in severe generalized infection in at least one (Rotstein et al. 1999). Severe infections may reflect an underlying immunocompromise, possibly resulting from inbreeding depression or immunosuppressive viral infections.

Parasites--The hookworm, *Ancylostoma pluriidentatum*, is found in a high prevalence in the panther population. Other parasites identified from live-captured or necropsied panthers include eight arthropod species, eight nematode species, three cestode species, two trematode species, and three protozoa species (Forrester et al. 1985, Forrester 1992, Wehinger et al. 1995, Rotstein et al. 1999, Land et al. 2002). Of these only an arthropod, *Notoedres felis*, caused significant morbidity in at least one panther (Maehr et al. 1995).

Environmental Contaminants--Overall, mercury in south Florida biota has decreased over the last several years (Frederick et al. 2002). However, high mercury concentrations are still found in some panthers. At least one panther is thought to have died of mercury toxicosis and mercury has been implicated in the death of two other panthers in ENP (Roelke 1991). One individual panther had concentrations of 150 parts per million (ppm) mercury in its hair (Land et al. 2004). Elevated levels of p, p'-DDE were also detected in fat from that panther. The role of mercury and/or p, p'-DDE in this panther's death is unknown and no cause of death was determined despite extensive diagnostic testing. Elevated mercury concentrations have also been found in panthers from Florida Panther National Wildlife Refuge (FPNWR). Two sibling neonatal kittens from this area had hair mercury concentrations of 35 and 40 ppm. Although other factors were believed to have been responsible, these kittens did not survive to leave their natal den. Consistently high hair mercury values in ENP and FPNWR and the finding of elevated values in some portions of BCNP warrant continued monitoring (Land et al. 2004). Other environmental contaminants found in panthers include polychlorinated biphenyls (Arochlor 1260) and organochlorines (p, p'-DDE) (Dunbar 1995, Land et al. 2004).

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Habitat Characteristics/Ecosystem

Landscape Composition: Noss and Cooperrider (1994) considered the landscape implications of maintaining viable panther populations. Assuming a male home range size of 137,599 acres (55,685 ha) (Maehr 1990), an adult sex ratio of 50:50 (Anderson 1983), and some margin of safety, they determined that a reserve network as large as 15,625–23,438 mi² (40,469–60,703 km²) would be needed to support an effective population size of 50 individuals (equating to an actual adult population of 100–200 panthers [Ballou et al. 1989]). However, to provide for long-term persistence based on an effective population size of 500 individuals (equating to 1,000 – 2,000 adult panthers [Ballou et al. 1989]), could require as much as 156,251–234,376 mi² (404,687–607,031 km²). This latter acreage corresponds to roughly 60–70 percent of the Florida panther's historical range. Although it is uncertain whether this much land is needed for panther recovery, it does provide some qualitative insight into the importance of habitat conservation across large landscapes for achieving a viable panther population (Noss and Cooperrider 1994).

Between 1981 and 2003, more than 55,000 locations on more than 100 radio-collared panthers were collected. Belden et al. (1988), Maehr et al. (1991), Maehr (1997), Kerkoff et al. (2000), and Comiskey et al. (2002) provide information on habitat use based on various subsets of these data. Since almost all data from radio-collars have been collected during daytime hours (generally 0700–1100), and because panthers are most active at night (Maehr et al. 1990a), daytime radio locations are insufficient to describe the full range of panther habitat use (Beyer and Haufler 1994, Comiskey et al. 2002, Beier et al. 2003, Dickson et al. 2005, Beier et al. 2006).

A landscape-level strategy for the conservation of the panther population in south Florida was developed using a Florida panther potential habitat model based on the following criteria: (1) forest patches greater than 4.95 acres (2 ha); (2) non-urban cover types within 656 ft (200m) of forest patches; and (3) exclusion of lands within 984 ft (300m) of urban areas (Kautz et al. 2006). In developing the model, data from radio-collared panthers collected from 1981 through 2000 were used to evaluate the relative importance of various land cover types as panther habitat, thus identifying landscape components important for panther habitat conservation. Those components were then combined with a least cost path analysis to delineate three panther habitat conservation zones for south Florida: (1) Primary Zone – lands essential to the long-term viability and persistence of the panther in the wild; (2) Secondary Zone - lands which few panthers use contiguous with the Primary Zone, but given sufficient habitat restoration could accommodate expansion of the panther population south of the Caloosahatchee River; and (3) Dispersal Zone - the area which may facilitate future panther expansion north of the Caloosahatchee River (Kautz et al. 2006) (Figure 3). The Primary Zone is currently occupied and supports the breeding population of panthers. Although panthers move through the Secondary and Dispersal Zones, they are not permanently occupied. The Secondary Zone could support panthers with sufficient restoration.

These zones vary in size, ownership, and land cover composition. The Primary Zone is 2,270,711 acres (918,928 ha) in size, 73 percent of which is publicly owned (R. Kautz, Dennis, Breedlove, and Associates, pers. comm. 2005), and includes portions of the BCNP, ENP, Fakahatchee Strand Preserve State Park (FSPSP), FPNWR, Okaloacoochee Slough State Forest, and Picayune Strand State Forest. This zone's composition is 45 percent forest, 41 percent

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freshwater marsh, 7.6 percent agriculture lands, 2.6 percent prairie and shrub lands, and 0.52 percent urban lands (Kautz et al. 2006). The Secondary Zone is 812,157 acres (328,670 ha) in size, 38 percent of which is public land (R. Kautz, pers. comm. 2005). This zone's composition is 43 percent freshwater marsh, 36 percent agriculture, 11 percent forest, 6.1 percent prairie and shrub lands, and 2.3 percent low-density residential areas and open urban lands (Kautz et al. 2006). The Dispersal Zone is 28,160 acres (11,396 ha) in size, 12 percent of which is either publicly owned or in conservation easement. This zone's composition is 49 percent agriculture (primarily improved pasture and citrus groves), 29 percent forest (wetland and upland), 8.8 percent prairie and shrub land, 7.5 percent freshwater marsh, and 5.1 percent barren and urban lands (Kautz et al. 2006).

As part of their evaluation of occupied panther habitat, in addition to the average density estimate of one panther per 27,181 acres (11,000 ha) developed by Maehr et al. (1991), Kautz et al. (2006) estimated the present average density during the timeframe of the study, based on telemetry and other occurrence data, to average 1 panther per 31,923 acres (12,919 ha). In the following discussions of the number of panthers that a particular zone may support, the lower number is based on the 31,923 acres (12,919 ha) value (Kautz et al. 2006) and the higher number is based on the 27,181 acres (11,000 ha) value (Maehr et al. 1991).

Based on these average densities, the Primary Zone could support 71 to 84 panthers; the Secondary Zone 8 to 10 panthers without habitat restoration and 25 to 30 panthers with habitat restoration (existing high quality panther habitat currently present in the Secondary Zone is estimated at 32 percent of the available Secondary Zone lands); and the Dispersal Zone, 0 panthers. Taken together, the three zones in their current condition apparently have the capacity to support about 79 to 94 Florida panthers.

Kautz et al.'s (2006) assessment of available habitat south of the Caloosahatchee River determined non-urban lands in the Primary, Secondary, and Dispersal Zones were not sufficient to sustain a population of 240 individuals south of the Caloosahatchee River. However, Kautz et al. (2006) determined sufficient lands were available south of the Caloosahatchee River to support a population of 79 to 94 individuals (although not all lands are managed and protected).

Even though some suitable panther habitat remains in south-central Florida, it is widely scattered and fragmented (Belden and McBride 2005). Thatcher et al. (2006) used a statistical model in combination with a geographic information system to develop a multivariate landscape-scale habitat model based on the Mahalanobis distance statistic (D^2) to evaluate habitats in south central Florida for potential expansion of the Florida panther population. They identified 4 potential habitat patches: the Avon Park Bombing Range area, Fisheating Creek/Babcock-Webb Wildlife Management Area, eastern Fisheating Creek, and the Duette Park/Manatee County area. These habitat patches are smaller and more isolated compared with the current Florida panther range, and the landscape matrix where these habitat patches exist provides relatively poor habitat connectivity among the patches (Thatcher et al. 2006). Major highways and urban or agricultural development isolate these habitat patches, and they are rapidly being lost to the same development that threatens southern Florida (Belden and McBride 2005).

Diurnal Habitat Use: Diurnal panther locations appear to be within or closer to forested cover types, particularly cypress swamp, pinelands, hardwood swamp, and upland hardwood forests

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(Belden 1986, Belden et al. 1988, Maehr 1990, Maehr et al. 1991, Maehr 1992, Smith and Bass 1994, Kerkhoff et al. 2000, Comiskey et al. 2002). Dense understory vegetation comprised of saw palmetto provides some of the most important resting and denning cover for panthers (Maehr 1990). Shindle et al. (2003) show that 73 percent of panther dens were in palmetto thickets.

Radio-collar data and ground tracking indicate panthers use the mosaic of habitats available to them as resting and denning sites, hunting grounds, and travel routes. These habitats include cypress swamps, hardwood hammocks, pine flatwoods, seasonally flooded prairies, freshwater marshes, and some agricultural lands. Although radio-collar monitoring indicates forest is a preferred cover type, panthers also utilize non-forest cover types (Belden et al. 1988, Maehr et al. 1991, Comiskey et al. 2002). Compositional analyses by Kautz et al. (2006) confirmed previous findings that forest patches comprise an important component of panther habitat in south Florida, but other natural and disturbed cover types are also present in the large landscapes that support panthers (Belden et al. 1988, Maehr et al. 1991, Comiskey et al. 2002). Kautz et al. (2006) found the smallest class of forest patches (*i.e.*, 9-26 acres [3.6-10.4 ha]) were the highest ranked forest patch sizes within panther home ranges; this indicates that forest patches of all sizes appear to be important components of the landscapes inhabited by panthers, not just the larger forest patches.

Nocturnal Habitat Use: Maehr et al. (1990a) provide the only descriptions of panther nocturnal activities and represent the available radiocollar data collected during night time hours. However, this paper does not provide analyses of nocturnal habitat use. Dickson et al. (2005) examined the movements of 10 female and 7 male puma at 15-minute intervals during 44 nocturnal periods of hunting or traveling in southern California. They found that traveling puma monitored over nocturnal periods used a broader range of habitats than what they appeared to use based on diurnal locations alone. The use of Global Positioning System (GPS) radiocollars is now being investigated to determine if this technology will be suitable to answer questions regarding Florida panther nocturnal habitat use.

Prey Habitat Use: Panther habitat selection is related to prey availability (Janis and Clark 1999, Dees et al. 2001) and, consequently, prey habitat use. Adequate cover and the size, distribution, and abundance of available prey species are critical factors to the persistence of panthers in south Florida and often determine the extent of panther use of an area. Duever et al. (1986) calculated a deer population of 1,760 in BCNP, based on Harlow (1959) deer density estimates of 1/210 acres (85 ha) in pine forest, 1/299 acres (121 ha) in swamps, 1/1,280 acres (518 ha) in prairie, 1/250 acres (101 ha) in marshes, and 1/111 acres (45 ha) in hammocks. Schortemeyer et al (1991) estimated deer densities at 1/49-247 acres (20-100 ha) in three management units of BCNP based on track counts and aerial surveys. Labisky et al. (1995) reported 1/49 acres (20 ha) in southeastern BCNP. Using track counts alone, McCown (1994) estimated 1/183-225 acres (74-91 ha) on the FPNWR and 1/133-200 acres (54-81 ha) in the FSPSP.

Hardwood hammocks and other forest cover types are important habitat for white-tailed deer and other panther prey (Harlow and Jones 1965, Belden et al. 1988, Maehr 1990, Maehr et al. 1991, Maehr 1992, Comiskey et al. 1994, Dees et al. 2001). Periodic understory brushfires (Dees et al. 2001) as well as increased amounts of edge (Miller 1993) may enhance deer use of hardwood hammocks, pine, and other forest cover types. However, wetland and other vegetation types can support high deer densities. In the Everglades, for example, deer appear to be adapted to a

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mosaic of intergrading patches comprised of wet prairie, hardwood tree islands, and peripheral wetland habitat (Fleming et al. 1994, Labisky et al. 2003). High-nutrient deer forage, especially preferred by females, includes hydrophytic marsh plants, white waterlily (*Nymphaea odorata*), and swamp lily (*Crinum americana*) (Loveless 1959, Labisky et al. 2003). Wetland willow (*Salix spp.*) thickets provide nutritious browse for deer (Loveless 1959, Labisky et al. 2003).

Marshes, rangeland, and low-intensity agricultural areas support prey populations of deer and hogs. The importance of these habitat types to panthers cannot be dismissed based solely on use or lack of use when daytime telemetry are the only data available (Comiskey et al. 2002, Beier et al. 2003, Comiskey et al. 2004, Beier et al. 2006).

Travel and Dispersal Corridors: In the absence of direct field observations/measurements, Harrison (1992) suggested that landscape corridors for wide-ranging predators should be half the width of an average home range size. Following Harrison's (1992) suggestion, corridor widths for Florida panthers would range 6.1-10.9 mi (9.8-17.6 km) depending on whether the target animal was an adult female or a transient male. Beier (1995) suggested corridor widths for transient male puma in California could be as small as 30 percent of the average home range size of an adult. For Florida panthers, this would translate to a corridor width of 5.5 mi (8.8 km). Without supporting empirical evidence, Noss (1992) suggests regional corridors connecting larger hubs of habitat should be at least 1.0 mi (1.6 km) wide. Beier (1995) makes specific recommendations for very narrow corridor widths based on short corridor lengths in a California setting of wild lands completely surrounded by urban areas; he recommended corridors with a length less than 0.5 mi (0.8 km) should be more than 328 ft (100 m) wide, and corridors extending 0.6-4 mi (1-7 km) should be more than 1,312 ft (400 m) wide. The Dispersal Zone encompasses 44 mi² (113 km²) with a mean width of 3.4 mi (5.4 km). Although it is not adequate to support even one panther, the Dispersal Zone is strategically located and expected to function as a critical landscape linkage to south-central Florida (Kautz et al. 2006). Transient male panthers currently utilize this Zone as they disperse northward into south-central Florida.

Panther Recovery Objectives

The recovery objectives identified in the draft third revision of the Florida Panther Recovery Plan (Service 2006) are to (1) maintain, restore, and expand the Florida panther population and its habitat in south Florida and, if feasible, expand the known occurrence of Florida panthers north of the Caloosahatchee River to maximize the probability of the long-term persistence of this metapopulation; (2) identify, secure, maintain, and restore habitat in potential reintroduction areas within the panther's historic range, and to establish viable populations of the panther outside south and south-central Florida; and (3) facilitate panther conservation and recovery through public awareness and education.

Panther Management and Conservation

Habitat Conservation and Protection

Panthers, because of their wide-ranging movements and extensive spatial requirements, are particularly sensitive to habitat fragmentation (Harris 1984). Mac et al. (1998) defines habitat fragmentation as: "The breaking up of a habitat into unconnected patches interspersed with other

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habitat which may not be inhabitable by species occupying the habitat that was broken up. The breaking up is usually by human action, as, for example, the clearing of forest or grassland for agriculture, residential development, or overland electrical lines." The reference to "unconnected patches" is a central underpinning of the definition. For panther conservation, this definition underscores the need to maintain contiguous habitat and protected habitat corridors in key locations in south Florida and throughout the panther's historic range. Habitat fragmentation can result from road construction, urban development, and agricultural land conversions.

Habitat protection has been identified as being one of the most important elements to achieving panther recovery. While efforts have been made to secure habitat (Figure 8 and Table 1), continued action is needed to obtain additions to and inholdings for public lands, assure linkages are maintained, restore degraded and fragmented habitat, and obtain the support of private landowners for maintaining property in a manner that is compatible with panther use. Conservation lands used by panthers are held and managed by a variety of entities including FWS, NPS, Seminole Tribes of Florida, Miccosukee Tribe of Indians of Florida, FWC, Florida Department of Environmental Protection (FDEP), Florida Division of Forestry (FDOF), Water Management Districts (WMD), non-governmental organizations (NGO), counties, and private landowners.

Public Lands: Public lands in south Florida that benefit the panther are listed below and shown in Figure 8:

1. In 1947, ENP was established with 1,507,834 acres (610,201 ha) and in 1989 was expanded with the addition of 104,320 acres (42,217 ha).
2. In 1974, Congress approved the purchase and formation of BCNP, protecting 570,238 acres (230,768 ha); later 145,919 acres (59,052 ha) were added.
3. In 1974, the State of Florida began acquiring land for the FSPSP, which encompasses over 80,000 acres (32,375 ha). Efforts are underway to acquire about 16,640 acres (6,734 ha).
4. In 1985, acquisition of Picayune Strand State Forest and Wildlife Management Area (WMA) began with the complex Golden Gate Estates subdivision buyouts and now comprises over 76,160 acres (30,821 ha). The Southern Golden Gate Estates buyout through State and Federal funds is complete. The South Belle Meade portion of Picayune Strand is about 90 percent purchased and although the State is no longer purchasing in South Belle Meade, Collier County's Transfer of Development Rights program is helping to secure the inholdings.
5. In 1989, FPNWR was established and now protects 26,240 acres (10,619 ha).
6. In 1989, the Corkscrew Regional Ecosystem Watershed Land and Water Trust, a public/private partnership, was established and to date has coordinated the purchase of 42,268,880 acres (10,878 ha).

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7. In 1996, the South Florida WMD, purchased the 32,000 acres (12,950 ha) Okaloacoochee Slough State Forest.
8. In 2002 Spirit of the Wild WMA, consisting of over 7,040 acres (2,849 ha), was taken into public ownership by the State of Florida and is managed by FDOF.
9. In 2003, Dinner Island Ranch WMA consisting of 21,760 acres (8,806 ha) in southern Hendry County was taken into public ownership by the State of Florida and is managed by FDOF.

Tribal Lands: Lands of the Seminole Tribes of Florida and Miccosukee Tribe of Indians of Florida encompass over 350,079 acres (141,673 ha) in south Florida. Of these, 115,840 acres (46,879 ha) are used by panthers, and comprise 5 percent of the Primary Zone (R. Kautz, pers. comm. 2005). These lands are not specifically managed for the panther and are largely in cultivation.

Private Lands: A variety of Federal, State, and private incentives programs are available to assist private landowners and other individuals to protect and manage wildlife habitat. Voluntary agreements, estate planning, conservation easements, land exchanges, and mitigation banks are methods that hold untapped potential for conserving private lands. In 1954, the National Audubon Society established the nearly 10,880 acres (4,403 ha) Corkscrew Swamp Sanctuary. However, little additional private land has been protected south of the Caloosahatchee River for panther conservation. A number of properties identified by the State Acquisition and Restoration Council (ARC) for purchase by the Florida Forever Program are used by panthers (e.g., Devil's Garden, Half Circle F Ranch, Pal Mal, Panther Glades). North of the Caloosahatchee River, Fisheating Creek Conservation Easement, 41,600 acres (16,835 ha) in Glades County is a private holding used by dispersing male panthers. Also, 73,235 acres of the 90,845 acres Babcock Ranch were purchased in 2006 by the State of Florida and Lee County for conservation and agriculture. An additional 2,000 acres of this ranch were put into a conservation easement.

Habitat and Prey Management

Land management agencies in south Florida are implementing fire programs that mimic a natural fire regime through the suppression of human-caused wildfires and the application of prescribed natural fires. No studies have been conducted to determine the effects of invasive plant management on panthers. However invasive vegetation may reduce the panther's prey base by disrupting natural processes such as water flow and fire and by significantly reducing available forage for prey (Fleming et al. 1994). All public lands in south Florida have active invasive plant treatment programs. Management for panther prey consists of a variety of approaches such as habitat management and regulation of hunting and off-road vehicle (ORV) use.

Response to Management Activities

Few studies have examined the response of panthers to various land/habitat management activities. Dees et al. (2001) investigated panther habitat use in response to prescribed fire and found that panther use of pine habitats was greatest for the first year after the area had been burned and declined thereafter. Prescribed burning is believed to be important to panthers because prey species (e.g., deer and hogs) are attracted to burned habitats to take advantage of

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changes in vegetation structure and composition, including exploiting hard mast that is exposed and increased quality or quantity of forage (Dees et al. 2001). Responses of puma to logging activities (Van Dyke et al. 1986b) indicate that they generally avoid areas within their home range with intensification of disturbance.

There is the potential for disturbance to panthers from recreational uses on public lands. Maehr (1990) reported that indirect human disturbance of panthers may include activities associated with hunting and that panther use of Bear Island (part of BCNP) is significantly less during the hunting season. Schortemeyer et al. (1991) examined the effects of deer hunting on panthers at BCNP between 1983 and 1990. They concluded that, based on telemetry data, panthers may be altering their use patterns as a result of hunting.

Janis and Clark (2002) compared the behavior of panthers before, during, and after the recreational deer and hog hunting season (October through December) on areas open (BCNP) and closed (FPNWR, FSPSP) to hunting. Variables examined were: (1) activity rates, (2) movement rates, (3) predation success, (4) home range size, (5) home range shifts, (6) proximity to ORV trails, (7) use of areas with concentrated human activity, and (8) habitat selection. Responses to hunting for variables most directly related to panther energy intake or expenditure (*i.e.*, activity rates, movement rates, predation success of females) were not detected (Janis and Clark 2002). However, panthers reduced their use of Bear Island, an area of concentrated human activity, and were found farther from ORV trails during the hunting season, indicative of a reaction to human disturbance (Janis and Clark 2002). Whereas the reaction to trails was probably minor and could be related to prey behavior, decreased use of Bear Island most likely reflects a direct reaction to human activity and resulted in increased use of adjacent private lands (Janis and Clark 2002).

Transportation Planning and Improvements

Construction of highways in wildlife habitat typically results in loss and fragmentation of habitat, traffic related mortality, and avoidance of associated human development. Roads can also result in habitat fragmentation, especially for females who are less likely to cross them (Maehr 1990).

There are presently 28 wildlife underpasses with associated fencing suitable for panther use along I-75 (Figure 9). There are four underpasses suitable for panther use currently existing, and two additional underpasses presently proposed by the Florida Department of Transportation (FDOT) along State Road 29 (SR 29) (Department of the Army Public Notice SAI-2004-778) (Figure 9). Several additional panther/wildlife crossings are proposed along roadways in rural Lee and Collier Counties (Shindle et al. 2001). In addition, Collier County, in cooperation with the National Wildlife Federation and the Florida Wildlife Federation, is coordinating a study of the segment of CR 846 east of Immokalee and the section of Oil Well Road where the road crosses Camp Kies Strand by Dr. Reed Noss and Dr. Daniel Smith to determine the optimum location for wildlife crossing construction (WilsonMiller 2005). An additional crossing of Camp Kies Strand on CR 846 west of Immokalee is also being evaluated. However, vehicular trauma still occurs on outlying rural roads and the FWC is conducting a study to determine the impacts of vehicular collisions to panthers and studying ways to minimize panther vehicle collisions (Swanson et al. 2006).

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No panther-vehicle collisions have been recorded in the immediate vicinity of wildlife crossings, with the exception of one collision in December 2005 on SR 29. There have been no collisions on east-west I-75 in the vicinity of crossings since installation in 1991. Prior to 1991, there were five recorded deaths from collisions. FDOT has also identified the location of and constructed wildlife crossings on SR 29. Proposed crossings A and B (Figure 9) will be in an area of 10 documented collisions from 1980 to 2004. Crossings C and D, north of I-75, were installed in 1995. There were two recorded collisions in the vicinity of crossing D from 1979 to 1990, but none at either C or D since crossing installation. Crossing E was installed in 1997. There has been one collision about 1 mile to the north in 2002. Crossing F was installed in 1999. There was one documented collision in the immediate vicinity in 1981, two collisions about 1.5 miles to the north since crossing installation, and one collision about 0.5 mile to the south in December 2005.

Agriculture, Development, and Mining

The Service developed a draft Panther Habitat Assessment methodology and refugia design in 2003 to help guide the agency in evaluating permit applications for projects that could affect panther habitat (see discussion below). This draft methodology was a way to assess the level of impacts to panthers expected from a given project, and to evaluate the effect of any proposed compensation offered by the project applicant. Prior to development of the methodology, the Service from March 1984 through July 2003 concluded consultation on 42 projects involving the panther and habitat preservation (Table 2). The minimum expected result of these projects is impacts to 76,919 acres and the preservation of 15,479 acres of panther habitat. Of the 76,919 acres of impacts, 38,932 acres are due to agricultural conversion and 37,982 acres to development and mining. Portions (10,370 acres) of the largest agricultural conversion project, the 28,700 acres by U.S. Sugar Corporation, were re-acquired by the Federal Government as a component of the Talisman Land Acquisition (Section 390 of the Federal Agricultural Improvement and Reform Act of 1996 [Public Law 104-127] Farm Bill Cooperative Agreement, FB4) for use in the Comprehensive Everglades Restoration Project. The non-agriculture impacts are permanent land losses, whereas the agricultural conversions may continue to provide some habitat functional value to panthers, depending on the type of conversion.

From August 2003 to February, 2007, the Service concluded consultations on 58 projects affecting 17,169 acres with preservation of 18,334 acres (Table 2). Following our refugia design assessment approach, the projects affected 7,287 acres in the Primary Zone, 5,911 acres in the Secondary Zone, and 3,965 acres in the Other Zone. Compensation provided included 15,118 acres in the Primary Zone, 652 acres in the Dispersal Zone, 2 acres in the Secondary Zone, and 1,410 acres in the Other Zone. The project affected lands were primarily agricultural fields consisting of row crops and citrus groves and natural lands with varying degrees of exotic vegetation. Functional habitat value of these lands to the Florida panther, following our Panther Habitat Assessment methodology provided a PHU loss from development of 74,505 PHUs, with a corresponding PHU preservation and enhancement complement of 143,133 PHUs. The preservation lands were generally native habitat lands or disturbed lands that included restoration components. Restoration components included exotic species removal, fire management, wetland hydrology improvement, improved forest management practices, and full habitat restoration from agriculture uses to native habitats.

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Panther Habitat Evaluation and Compensation

Population Viability Analysis

Population Viability Analysis (PVA) has emerged as a key component of endangered species conservation. This process is designed to incorporate demographic information into models that predict if a population is likely to persist in the future. PVAs incorporate deterministic and stochastic events including demographic and environmental variation, and natural catastrophes. PVAs have also been criticized as being overly optimistic about future population levels (Brook et al. 1997) and should be viewed with caution; however, they are and have been shown to be surprisingly accurate for managing endangered taxa and evaluating different management practices (Brook 2000). They are also useful in conducting sensitivity analyses to determine where more precise information is needed (Hamilton and Moller 1995, Beissinger and Westphal 1998, Reed et al. 1998, Fieberg and Ellner 2000).

As originally defined by Shaffer (1981), "a minimum viable population for any given species in any given habitat is the smallest isolated population having a 99 percent chance of remaining extant for 1,000 years despite the foreseeable effects of demographic, environmental and genetic stochasticity, and natural catastrophes." However, the goal of 95 percent probability of persistence for 100 years is the standard recommended by population biologists and is used in management strategies and conservation planning, particularly for situations where it is difficult to accurately predict long-term effects (Shaffer 1978, 1981, 1987, Sarkar 2004).

Since 1981, 139 Florida panthers have been radio-collared and monitored on public and private lands throughout south Florida (Lotz et al. 2005). These data were used by researchers to estimate survival rates and fecundity and were incorporated into PVA models previously developed for the Florida panther (Seal et al. 1989, 1992, Cox et al. 1994, Kautz and Cox 2001, Maehr et al. 2002b). These models incorporated a range of different model parameters such as general sex ratios, kitten survival rates, age distributions, and various levels of habitat losses, density dependence, and intermittent catastrophes or epidemics. The outputs of these models predicted a variety of survival scenarios for the Florida panther and predicted population levels needed to ensure the survival of the species.

Root (2004) developed an updated set of PVA models for the Florida panther based on RAMAS GIS software (Akçakaya 2002). These models were used to perform a set of spatially explicit PVAs. Three general single-sex (i.e., females only) models were constructed using demographic variables from Maehr et al. (2002b) and other sources. A conservative model was based on Seal and Lacy (1989), a moderate model was based on Seal and Lacy (1992), and an optimistic model was based on the 1999 consensus model of Maehr et al. (2002b). In each model, first-year kitten survival was set at 62 percent based on recent information from routine panther population monitoring (Shindle et al. 2001). All models assumed a 1:1 sex ratio, a stable age distribution, 50 percent of females breeding in any year, and an initial population of 41 females (82 individuals including males), the approximate population size in 2001-2002 (McBride 2001, 2002).

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Basic Versions: The basic versions of each model incorporated no catastrophes or epidemics, no change in habitat quality or amount, and a ceiling type of density dependence. The basic versions of the models incorporated a carrying capacity of 53 females (106 panthers - 50/50 sex ratio). Variants of the models were run with differing values for density dependence, various levels of habitat loss, and intermittent catastrophes or epidemics. Each simulation was run with 10,000 replications for a 100-year period. The minimum number of panthers needed to ensure a 95 percent probability of persistence for 100 years was estimated in a series of simulations in which initial abundance was increased until probability of extinction at 100 years was no greater than 5 percent. More detailed information concerning the PVA model parameters appears in Root (2004).

The results of these model runs predicted a probability of extinction for the conservative model of 78.5 percent in 100 years with a mean final total abundance of 3.5 females. Also, the probability of a large decline in abundance (50 percent) was 94.1 percent. The moderate model resulted in a 5 percent probability of extinction and mean final abundance of 42.3 females in 100 years. The probability of panther abundance declining by half the initial amount was 20 percent in 100 years under the moderate model. The optimistic model resulted in a 2 percent probability of extinction and mean final abundance of 51.2 females in 100 years. The probability of panther abundance declining by half the initial amount was only 9 percent in 100 years under the optimistic model. These models also provide a probability of persistence (100 percent minus probability of extinction) over a 100-year period of 95 percent for the moderate model and 98 percent for the optimistic model.

One Percent Habitat Loss: Model results were also provided by Root (2004) for probability of extinctions for 1 percent loss of habitat, within the first 25 years of the model run. The 1 percent loss of habitat equates to essentially all remaining non-urban privately owned lands in the Primary Zone and corresponds to the estimated rate of habitat loss (Root 2004) from 1986 to 1996 for the five southwest counties based on land use changes. For the moderate model, the model runs predict a probability of extinction increase of about one percent, from a probability of extinction of about 5 percent with no loss of habitat to 6 percent with 1.0 percent habitat loss per year, for the first 25 years. For the optimistic model, probability of extinction increased from about 2 percent with no loss of habitat to 3 percent with 1.0 percent habitat loss per year, for the first 25 years. These models also predicted the mean final abundance of females would decrease from 41 to 31 females, a 24.3 percent reduction for the moderate model and from 41 to 38 females, a 7.3 percent reduction for the optimistic model.

The model runs also predict a probability of persistence (100 percent minus the probability of extinction) over a 100-year period of about 94 percent for the moderate model and 97 percent for the optimistic model. The model runs, predict a mean final abundance of 62 individuals (31 females and 31 males) for the moderate model and 76 individuals (38 females and 38 males) for the optimistic model.

Population Guidelines: Kautz et al. (2006), following review of the output of Root's PVA models and those of other previous PVAs for the Florida panther, suggested a set of population guidelines for use in management and recovery of the Florida panther. These guidelines are:

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(1) populations of less than 50 individuals are likely to become extinct in less than 100 years; (2) populations of 60 to 70 are barely viable and expected to decline by 25 percent over 100 years; (3) populations of 80 to 100 are likely stable but would still be subject to genetic problems (*i.e.*, heterozygosity would slowly decline); and (4) populations greater than 240 have a high probability of persistence for 100 years and are demographically stable and large enough to retain 90 percent of original genetic diversity.

Population guidelines for populations of panthers between 50 and 60 individuals and between 70 and 80 individuals were not specifically provided in Kautz et al. (2006). However, the Service views the guidelines in Kautz et al. (2006) as a continuum. Therefore, we consider populations of 50 to 60 individuals to be less than barely viable or not viable with declines in population and heterozygosity. Similarly, we consider populations of 70 to 80 to be more than barely viable or somewhat viable with some declines in population and heterozygosity. Like other population guidelines presented in Kautz et al. (2006), these assume no habitat loss or catastrophes.

PVA Summaries and Population Guidelines: Root's (2004) moderate model runs, which have a carrying capacity 53 females (106 individuals), show final populations of 42.3 females (84 total) and 31.2 females (62 total) with extinction rates of 5 percent and 6 percent, respectively, for the basic and 1 percent habitat loss scenarios. The predicted final populations in Root (2004) are 84 and 62 panthers for no loss of habitat and 1 percent loss of habitat, respectively, over a 100-year period.

Kautz et al.'s (2006) population guidelines applied to the Root (2004) moderate models for a population of 62 to 84 panthers, with or without habitat loss, respectively, describe the "with habitat loss" population as barely viable and expected to decline by 25 percent over a 100-year period. The "without habitat loss" is likely stable but would still be subject to genetic problems.

In conclusion, the Service believes the model runs show lands in the Primary Zone are important to the survival and recovery of the Florida panther and sufficient lands need to be managed and protected in south Florida to provide for a population of 80 to 100 panthers, the range defined as likely stable over 100 years, but subject to genetic problems. As discussed in the following section, the Service has developed a south Florida panther conservation goal that, through regulatory reviews and coordinated conservation efforts with land owners and resource management partners, provides a mechanism to achieve this goal.

Model Violations: The actual likelihood of population declines and extinctions may be different than the guidelines and models suggest, depending upon the number of and severity of assumptions violated. The Service realizes that habitat loss is occurring at an estimated 0.8 percent loss of habitat per year (R. Kautz, FWC, personal communication, 2003). The Service has accounted for some habitat loss and changes in habitat quality within its regulatory program, and specifically through its habitat assessment methodology (discussed below). For example, we have increased the base ratio used within this methodology to account for unexpected increases in habitat loss. Similarly, we consider changes in habitat quality and encourage habitat restoration wherever possible.

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With regard to the assumption of no catastrophes, the Service has considered the recent outbreak of feline leukemia in the panther population at Okaloacoochee Slough as a potential catastrophe. The FWC is carefully monitoring the situation and it appears to be under control at this time due to a successful vaccination program. However, if the outbreak spreads into the population, the Service will consider this as a catastrophe and factor this into our decisions.

We acknowledge uncertainties exist, assumptions can be violated, and catastrophes can occur. The Service and the FWC, along with our partners, will continue to monitor the panther population and the south Florida landscape and incorporate any new information and changes into our decision-making process.

South Florida Panther Population Goal

The Service's goal for Florida panther conservation in south Florida is to locate, preserve, and restore sets of lands containing sufficient area and appropriate land cover types to ensure the long-term survival of a population of 80 to 100 individuals (adults and subadults) south of the Caloosahatchee River. The Service proposes to achieve this goal through land management partnerships with private landowners, through coordination with private landowners during review of development proposals, and through land management and acquisition programs with Federal, State, local, private, and Tribal partners. The acreages of lands necessary to achieve this goal, based on Kautz et al. (2006) average density of 31,923 acres (12,919 ha) per panther is 2,551,851 acres (1,032,720 ha) for 80 panthers or 3,189,813 acres (1,290,900 ha) for 100 panthers.

The principle regulatory mechanism that allows the Service to work directly with private land owners during review of development and land alteration projects is section 10 of the Act. The Service coordinates with Federal agencies pursuant to section 7 of the Act. In August 2000, the Service, to assist the Corps in assessing project effects to the Florida panther, developed the Florida panther final interim Standard Local Operating Procedures for Endangered Species (SLOPES) (Service 2000). The Florida panther SLOPES provide guidance to the Corps for assessing project effects to the Florida panther and recommends actions to minimize these effects. The Florida panther SLOPES also included a consultation area map that identified an action area where the Service believed land alteration projects may affect the Florida panther.

In the original SLOPES the consultation area map (MAP) was generated by the Service by overlaying existing and historical panther telemetry data on a profile of Florida and providing a connecting boundary surrounding most of these points. Since the development of the MAP, we have received more accurate and up-to-date information on Florida panther habitat usage. Specifically we have received two documents the Service believes reflects the most likely panther habitat usage profiles although documentation clearly shows panther use of areas outside these locations. These documents are the publications by Kautz et al. (2006) and Thatcher et al. (2006). Based on the information in these documents, we have clarified the boundaries of the MAP to better reflect areas where Florida panthers predominate (Figure 4) and refer to these areas cumulatively as the Panther Focus Area.

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The Panther Focus Area was determined from the results of recent panther habitat models south of the Caloosahatchee River (Kautz et al. 2006) and north of the Caloosahatchee River (Thatcher et al. 2006). Kautz et al. (2006) model of landscape components important to Florida panther habitat conservation was based on an analysis of panther habitat use and forest patch size. This model was used in combination with radio-telemetry records, home range overlaps, land use/land cover data, and satellite imagery to delineate primary and secondary areas that would be most important and comprise a landscape mosaic of cover types important to help support of the current panther breeding population south of the Caloosahatchee River.

Thatcher et al. (2006) developed a habitat model using Florida panther home ranges in south Florida to identified landscape conditions (land-cover types, habitat patch size and configuration, road density and other human development activities, and other similar metrics) north of the Caloosahatchee River that were similar to those associated with the current panther breeding population.

The Panther Focus Area MAP, south of the Caloosahatchee River is divided into Primary, Secondary, and Dispersal Zones; and north of the Caloosahatchee River into the Primary Dispersal/Expansion Area.

Primary Zone is currently occupied and supports the only known breeding population of Florida panthers in the world. These lands are important to the long-term viability and persistence of the panther in the wild.

Secondary Zone lands are contiguous with the Primary Zone and although these lands are used to a lesser extent by panthers, they are important to the long-term viability and persistence of the panther in the wild. Panthers use these lands in a much lower density than in the Primary Zone.

Dispersal Zone is a known corridor between the Panther Focus Area south of the Caloosahatchee River to the Panther Focus Area north of the Caloosahatchee River. This Zone is necessary to facilitate the dispersal of panthers and future panther population expansion to areas north of the Caloosahatchee River. Marked panthers have been known to use this zone.

Primary Dispersal/Expansion Area is the Fisheating Creek/Babcock-Webb Wildlife Management Area region. These are lands identified by Thatcher et al. (2006) as potential panther habitat with the shortest habitat connection to the Panther Focus Area in south Florida. Several collared and uncollared male panthers have been documented in this area since 1973, and the last female documented north of the Caloosahatchee River was found in this area.

Landscape Preservation Need and Compensation Recommendations

Land Preservation Needs: To further refine the land preservation needs of the Florida panther and to specifically develop a landscape-level program for the conservation of the Florida panther population in south Florida, the Service as previously discussed, in February 2000, appointed a Florida Panther Subteam. The Subteam in addition to the assignments discussed previously, was

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also charged with developing a landscape-level strategy for the conservation of the Florida panther population in south Florida. The results of this collaborative effort are partially presented in Kautz et al. (2006). One of the primary goals of this effort was to identify a strategically located set of lands containing sufficient area and appropriate land cover types to ensure the long-term survival of the south population of the Florida panther. Kautz et al. (2006) focused their efforts on the area south of the Caloosahatchee River, where the reproducing panther population currently exists.

Kautz et al. (2006) created an updated Florida panther potential habitat model based on the following criteria: (1) forest patches greater than 4.95 acres (2 ha); (2) non-urban cover types within 656 ft (200 m) of forest patches; and (3) exclusion of lands within 984 ft (300 m) of urban areas. The potential habitat map was reviewed in relation to telemetry data, recent satellite imagery (where available), and panther home range polygons. Boundaries were drawn around lands defined as the Primary Zone (Figure 5), defined as the most important area needed to support a self-sustaining panther population. Kautz et al. (2006) referred to these lands as essential; however, as observed in the two previous plans (Logan et al. 1993; Cox et al. 1994), lands within the boundaries of the Primary Zone included some urban areas and other lands not considered to be truly panther habitat (*i.e.*, active rock and sand mines). The landscape context of areas surrounding the Primary Zone was modeled and results were used to draw boundaries of the Secondary Zone (Figure 5), defined as the area capable of supporting the panther population in the Primary Zone, but where habitat restoration may be needed (Kautz et al. 2006).

Kautz et al. (2006) also identified, through a least cost path model, the route most likely to be used by panthers dispersing out of south Florida, crossing the Caloosahatchee River, and dispersing into south-central Florida. Kautz et al. (2006) used ArcView GIS[®] version 3.3 and ArcView Spatial Analyst[®] version 2 (Environmental Systems Research, Incorporated, Redlands, California) to construct the least-cost path models and identify optimum panther dispersal corridor(s). The least-cost path models operated on a cost surface that ranked suitability of the landscape for use by dispersing panthers with lower scores indicating higher likelihood of use by dispersing panthers. The lands within the boundaries of the least cost model prediction were defined as the Dispersal Zone (Figure 5). The preservation of lands within this zone is important for the survival and recovery of the Florida panther, as these lands are the dispersal pathways for expansion of the south Florida panther population. The Primary Zone covers 2,270,590 acres (918,895 ha); the Secondary Zone covers 812,104 acres (328,654 ha); and the Dispersal Zone covers 27,883 acres (11,284 ha); providing a total of 3,110,578 acres (1,258,833 ha) (Kautz et al. 2006).

As part of their evaluation of occupied panther habitat, in addition to the average density estimate of one panther per 27,181 acres (11,000 ha) developed by Maehr et al. (1991), Kautz et al. (2006) estimated the present average density during the timeframe of the study, based on telemetry and other occurrence data, to average 1 panther per 31,923 acres (12,919 ha). In the following discussions of the number of panthers that a particular zone may support, the lower number is based on the 31,923 acres (12,919 ha) value (Kautz et al. 2006) and the higher number is based on the 27,181 acres (11,000 ha) value (Maehr et al. 1991).

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Based on these average densities, the Primary Zone could support 71 to 84 panthers; the Secondary Zone 8 to 10 panthers without habitat restoration and 25 to 30 panthers with habitat restoration (existing high quality panther habitat currently present in the Secondary Zone is estimated at 32 percent of the available Secondary Zone lands); and the Dispersal Zone, 0 panthers. Taken together, the three zones in their current condition apparently have the capacity to support approximately 79 to 94 Florida panthers.

Kautz et al.'s (2006) assessment of available habitat south of the Caloosahatchee River determined that non-urban lands in the Primary, Secondary, and Dispersal Zones were not sufficient to sustain a population of 240 individuals south of the Caloosahatchee River. However, Kautz et al. (2006) determined sufficient lands were available south of the Caloosahatchee River to support a population of 79 to 94 individuals (although not all lands are managed and protected).

Compensation Recommendations: To achieve our goal to locate, preserve, and restore sets of lands containing sufficient area and appropriate land cover types to ensure the long-term survival of a population of Florida panthers south of the Caloosahatchee River, the Service chose the mid point (90 panthers) in Kautz et al.'s (2006) population guidelines that a population of 80 to 100 panthers is likely to be stable, although subject to genetic problems, through 100 years. In addition, a population of 90 individuals is eight individuals greater than a population of 82 individuals, which according to the best available PVA (Root 2004) is 95 percent likely to persist over 100 years (assuming a 50:50 male to female ratio). These eight individuals provide a buffer for some of the assumptions in Root's (2004) PVA. Our process to determine compensation recommendations for project affects that cannot be avoided in both our section 7 and section 10 consultations is based on the amount and quality of habitat we believe is necessary to support a population of 90 panthers in south Florida.

The Service, based on Kautz et al.'s (2006) average panther population density of 31,923 acres per panther determined 2,873,070 acres of Primary Zone "equivalent" lands need to be protected and managed. This equivalency factor is needed, since Secondary Zone lands are of less value than Primary Zone lands to the panther, to assure that additional acreage (special consideration) is required in the Secondary Zone to compensate for its lower quality panther habitat. In other words, more than 31,923 acres per panther would be needed, hypothetically, if this acreage were all in the Secondary Zone (see discussion of Primary Zone equivalent lands in the following section). The combined acreage of lands within the Primary, Dispersal, and Secondary Zones is 3,110,577 acres (1,258,833 ha) (Kautz et al. 2006). Currently, 2,073,865 acres of Primary Zone equivalent lands are preserved, so 799,205 additional acres need to be preserved to support a population of 90 panthers in south Florida (2,873,070 minus 2,073,865 equals 799,205).

The Service also consults on lands outside of the Primary, Secondary, and Dispersal zones that may affect panthers such as agricultural lands that are adjacent to the Panther Focus Area and proposals in urbanized areas that could generate traffic in or adjacent to the Panther Focus Area or have other identifiable impacts.

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Primary Zone Equivalent Lands: Kautz et al. (2006), through their habitat evaluation of lands important to the Florida panther, identified three sets of lands, *i.e.*, Primary Zone, Secondary Zone, and Dispersal Zone, and documented the relative importance of these lands to the Florida panther. These lands generally referred to as the panther core lands (Figure 5), include the majority of the home ranges of the current population of the Florida panther. The Service, in our evaluation of habitat needs for the Florida panther expanded the boundaries of the Kautz et al. (2006) lands to include those lands south of the Caloosahatchee River where additional telemetry points historically were recorded. These additional lands (about 819,995 acres), referred to as the "Other" Zone, are added to the lands in Kautz et al.'s (2006) panther core lands (Figure 5) and represent the lands within the Service's 2000 consultation area boundary south of the Caloosahatchee River as shown in Figure 4. These lands (core lands and other zone lands) together are referred to by the Service as the core area. The "Other" Zone lands, as well as the lands within the Secondary Zone, provide less landscape benefit to the Florida panther than the Primary and Dispersal Zones, but are important as a component of our goal to preserve sufficient lands to support a population of 90 panthers in South Florida.

To account for the lower landscape importance of these lands in our preservation goals and in our habitat assessment methodology, we assigned lands in the Other Zone a value of 0.33 and lands in the Secondary Zone a value of 0.69 to convert these lands to Primary Zone value, *i.e.*, Primary Zone equivalents (Table 3). Kautz et al. (2006) identifies the need for restoration in the Secondary Zone to achieve maximum benefits. To estimate the Primary Zone equivalent of Secondary Zone lands, we derived a relative habitat value (average PHU value) for each by comparing the habitat ranks estimated in Kautz et al. (2006 – Table 1) for each habitat type per zone. The average PHU value for the Primary Zone is 6.94 and for the Secondary Zone 4.79. Based on this analysis, the habitat value of the Secondary Zone is roughly 69 percent of the Primary Zone, and restoration is needed to achieve landscape function ($4.79/6.94=0.69$). Dispersal Zone lands are considered equivalent to Primary Zone lands with a 1/1 value. At-risk lands in the Other Zone total 819,995 acres. Actions on some of the Other Zone lands such as some actions in areas that have already been urbanized will not have an impact on panthers or their habitat, and these case-specific determinations will be made based on a review of the specific proposals. We estimate 80 percent of these actions will have an impact on achieving the panther population goal, and will monitor this carefully as we review proposed actions (819,995 times 0.8 equals 655,996 acres). Multiply this acreage (655,996 acres) by 0.33 to determine the acres of Primary Zone equivalent lands the Other Zone can provide (655,996 times 0.33 equals 216,479 acres of Primary Zone equivalent lands). Using this assessment, the 503,481 acres of Secondary Zone lands equate to 347,402 acres of Primary Zone equivalent lands. These equivalent values, 0.33 and 0.69, for Other and Secondary Zones, respectively, and 1/1 for Dispersal Zone, are important components in our assessment of compensation needs for a project in the panther consultation area and are components of our habitat assessment methodology as discussed below.

Habitat Assessment Methodology

To evaluate project effects to the Florida panther, the Service considers the contributions the project lands provide to the Florida panther, recognizing not all habitats provide the same functional value. Kautz et al. (2006) also recognized not all habitats provide the same habitat

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value to the Florida panther and developed cost surface values for various habitat types, based on use by and presence in home ranges of panthers. The FWC (2006b), using a similar concept, assigned likely use values of habitats to dispersing panthers. The FWC's habitats were assigned habitat suitability rank between 0 and 10, with higher values indicating higher likely use by dispersing panthers.

The Service chose to evaluate project effects to the Florida panther through a similar process. We incorporated many of the same habitat types referenced in Kautz et al. (2006) and FWC (2006b) with several adjustments to the assigned habitat use values reflecting consolidation of similar types of habitats and the inclusion of Everglades Restoration water treatment and retention areas. We used these values as the basis for habitat evaluations and the recommended compensation values to minimize project effects to the Florida panther (Table 6), as discussed below.

Base Ratio: To develop a base ratio that will provide for the protection of sufficient acreage of Primary Zone equivalent lands for a population of 90 panthers from the acreage of Primary Zone equivalent non-urban lands at risk, we developed the following approach.

The available Primary Zone equivalent lands are estimated at 3,276,563 acres (actual acreage is 4,376,444 acres [the "actual acreage" value includes acres of lands in each category in the Secondary and Other Zones as well as the lands in the Primary Zone]) (see Table 3). Currently 2,073,865 acres of Primary Zone equivalent lands (actual acreage is 2,578,152 acres) of non-urban lands are preserved. The remaining non-urban at-risk private lands are estimated at 1,202,698 acres of Primary Zone equivalent lands (actual acreage is 1,798,295 acres). To meet the protected and managed lands goal for a population of 90 panthers, an additional 799,205 acres of Primary Zone equivalent lands are needed. The base ratio is determined by dividing the primary equivalents of at-risk habitat to be secured (799,205 acres) by the result of the acres of at-risk habitat in the Primary Zone (610,935 acres) times the value of the Primary Zone (1); plus the at-risk acres in the Dispersal Zone (27,883 acres) times the value of the Dispersal Zone (1); plus the at-risk acres in the Secondary Zone (503,481 acres) times the value of the Secondary Zone (0.69); plus the at-risk acres in the Other Zone (655,996 acres) times the value of the Other Zone (0.33); minus the at-risk acres of habitat to be protected (799,205 acres). The results of this formula provide a base value of 1.98.

$$799,205 / ((610,935 \times 1.0) + (27,883 \times 1) + (503,481 \times 0.69) + (655,996 \times 0.33)) - 799,205 = 1.98$$

In evaluating habitat losses in the consultation area, we used an estimate of 0.8 percent loss of habitat per year (R. Kautz, FWC, personal communication, 2004) to predict the amount of habitat loss anticipated in south Florida during the next 5 years (*i.e.*, 6,000 ha / year; 14,820 acres / year). We conservatively assumed that we would be aware of half of these projects. We assumed that half of the projects would occur in the Primary Zone and half would occur in the Secondary Zone. We estimated that over a 5-year period that about 37,000 acres would be developed without Federal review. We adjusted the base value from 1.98 to 2.23.

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We also realize that collectively habitat losses from individual single-family residential developments will compromise the Service's goal to secure sufficient lands for a population of 90 panthers. We believe, on an individual basis, single-family residential developments by individual lot owners on lots no larger than 2.0 ha (5.0 acres) will not result in take of panthers on a lot-by-lot basis; however, collectively these losses may impact the panther. Panthers are a wide ranging species, and individually, a 2.0 ha (5.0 acre) habitat change will not have a measurable impact. Compensation for such small-scale losses on a lot-by-lot basis is unlikely to result in meaningful conservation benefits for the panther versus the more holistic landscape level conservation strategy used in our habitat assessment methodology. To account for these losses, we estimated about another 12,950 acres over a 5-year period (2,590 acres per year) would be developed through this avenue. We adjusted the base value from 2.23 to 2.48.

We also realize there is a need for road crossings in strategic locations and we believe there are projects that may not have habitat loss factors but will have traffic generation factors. The Service considers increases in traffic as an indirect effect from a project and can contribute to panther mortality. Therefore, we have added another 0.02 to the base ratio to address traffic impacts, which could provide an incentive to implement crossings in key locations. Following the same approach shown above, we adjusted the base ratio from 2.48 to the 2.5. The Service intends to re-evaluate this base ratio periodically and adjust as needed to make sure all adverse effects are adequately ameliorated and offset as required under section 7 of the Act and to achieve the Service's conservation goal for the Florida panther.

Landscape Multiplier: As discussed previously in the above section on Primary Zone Equivalent Lands, the location of a project in the landscape of the core area of the Florida panther is important. As we have previously discussed, lands in the Primary and Dispersal Zones are of the most importance in a landscape context to the Florida panther, with lands in the Secondary Zone of less importance, and lands in the Other Zone of lower importance. These zones affect the level of compensation the Service believes is necessary to minimize a project's effects to Florida panther habitat. Table 5 provides the landscape compensation multipliers for various compensation scenarios. As an example, if a project is in the Other Zone and compensation is proposed in the Primary Zone, a Primary Zone equivalent multiplier of 0.33 is applied to the PHUs (see discussion below) developed for the project. If the project is in the Secondary Zone and compensation is in the Primary Zone, then a Primary Zone equivalent multiplier of 0.69 is applied to the PHUs developed for the project.

Panther Habitat Units – Habitat Functional Value: Prior to applying the base ratio and landscape multipliers discussed above, we evaluate the project site and assign functional values to the habitats present. This is done by assigning each habitat type on-site a habitat suitability value from the habitats shown in Table 6. The habitat suitability value for each habitat type is then multiplied by the acreage of that habitat type resulting in a number representing PHUs. These PHUs are summed for a site total, which is used as a measurement of the functional value the habitat provides to the Florida panthers. This process is also followed for the compensation-sites.

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Exotic Species Assessment: Since many habitat types in south Florida are infested with exotic plant species, which affects the functional value a habitat type provides to foraging wildlife species (i.e., primarily deer and hog), we believe the presence of these species and the value these species provide to foraging wildlife needs to be considered in the habitat assessment methodology. As shown in Table 6, we have a habitat type and functional value shown for exotic species. This category includes not only the total acres of pure exotic species habitats present but also the percent-value acreages of the exotic species present in other habitat types.

For example, a site with 100 acres of pine flatwoods with 10 percent exotics would be treated in our habitat assessment methodology as 90 acres of pine flatwoods and 10 acres of exotics. Adding another 100 acres of cypress swamp with 10 percent exotics would change our site from 90 acres of pine flatwoods and 10 acres of exotics to 90 acres of pine flatwoods, 90 acres of cypress swamp, and 20 acres of exotics.

Habitat Assessment Methodology Application – Example: To illustrate the use of our habitat assessment methodology, we provide the following example. A 100-acre project site is proposed for a residential development. Plans call for the entire site to be cleared. The project site contains 90 acres of pine flatwoods and 10 acres of exotic vegetation, and is located in the “Secondary Zone.” The applicant has offered habitat compensation in the “Primary Zone” to minimize the impacts of the project to the Florida panther. To calculate the PHUs provided by the site, we multiply the habitat acreage by the “habitat suitability value” for each habitat type and add those values to obtain a value of 840 PHUs ((90 acres of pine flatwoods x 9 [the habitat suitability value for pine flatwoods] = 810 PHUs) + (10 acres of exotic vegetation x 3 [the habitat suitability value for exotics] = 30 PHUs) = 840 PHUs). The value of 840 PHUs is then multiplied by the 2.5 (the base ratio) and 0.69 (the landscape multiplier) resulting in a value of 1,149 PHUs for the project site. In this example, the acquisition of lands in the Primary Zone containing at least 1,149 PHUs are recommended to compensate for the loss of habitat to the Florida panther resulting from this project.

Analysis of the species likely to be affected

The Florida panther is an endangered animal restricted to two to three million acres of land (6 to 9 percent of the total land area of Florida) in south Florida. The panther is a wide-ranging species that requires a biotically diverse landscape to survive. Dispersing subadult males wander widely through unforested and disturbed habitat. Human population in south Florida has dramatically increased, from one million in 1950 to six million in 1990, resulting in secondary disturbances such as increased human presence and noise, light, air, and water pollution. Increasing human population has resulted in increasing impacts on native habitat and flora and fauna. Resulting threats to panthers include road mortality, habitat loss, habitat fragmentation, and human disturbance.

Wood Stork

The wood stork was federally listed under the Act as endangered on February 28, 1984. No critical habitat has been designated for the wood stork; therefore, none will be affected.

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Species Description

The wood stork is a large, long-legged wading bird, with a head to tail length of 85 to 115 cm (33 to 45 inches [in]) and a wingspan of 150 to 165 cm (59 to 65 in) (Coulter et al. 1999). The plumage is white, except for iridescent black primary and secondary wing feathers and a short black tail. Wood storks fly with their neck and legs extended. On adults, the rough scaly skin of the head and neck is unfeathered and blackish in color, the legs are dark, and the feet are dull pink. The bill color is also blackish. During courtship and the early nesting season, adults have pale salmon coloring under the wings, fluffy undertail coverts that are longer than the tail, and their toes are bright pink. Immature wood storks, up to the age of about 3 years, have yellowish or straw-colored bills and varying amounts of dusky feathering on the head and neck (Coulter et al. 1999).

Life History

Wood stork nesting habitat consists of mangroves as low as 1 m (3 ft), cypress as tall as 30.5 m (100 ft), and various other live or dead shrubs or trees located in standing water (swamps) or on islands surrounded by relatively broad expanses of open water (Palmer 1962, Rodgers et al. 1987, Ogden 1991, Coulter et al. 1999). Wood storks nest colonially, often in conjunction with other wading bird species, and generally occupy the large-diameter trees at a colony site (Rodgers et al. 1996). The same colony site will be used for many years as long as the colony is undisturbed and sufficient feeding habitat remains in surrounding wetlands. However, not all storks nesting in a colony will return to the same site in subsequent years (Kushlan and Frohring 1986). Natural wetland nesting sites may be abandoned if surface water is removed from beneath the trees during the nesting season (Rodgers et al. 1996). In response to this type of changes to nest site hydrology, wood storks may abandon that site and establish a breeding colony in managed or impounded wetlands (Ogden 1991). Wood storks that abandon a colony early in the nesting season due to unsuitable hydrological conditions may re-nest in other nearby areas (Borkhataria et al. 2004; Crozier and Cook 2004). Between breeding seasons or while foraging wood storks may roost in trees over dry ground, on levees, or large patches of open ground. Wood storks may also roost within wetlands while foraging far from nest sites and outside of the breeding season (Gawlik 2002).

While the majority of stork nesting occurs within traditional stork rookeries, a handful of new stork nesting colonies are discovered each year (Meyer and Frederick 2004, Service unpublished data). These new colony locations may represent temporary shifts of historic colonies due to changes in local conditions, or they may represent formation of new colonies in areas where conditions have improved.

Wood storks forage in a wide variety of wetland types, where prey are available to storks and the water is shallow and open enough to hunt successfully (Ogden et al. 1978; Browder 1984; Coulter 1987). Calm water, about 2 to 16 in (5 to 40 cm) in depth, and free of dense aquatic vegetation is ideal (Coulter and Bryan 1993). Typical foraging sites include freshwater marshes, ponds, hardwood and cypress swamps, narrow tidal creeks or shallow tidal pools, and artificial wetlands such as stock ponds, shallow, seasonally flooded roadside or agricultural ditches, and managed impoundments (Coulter et al. 1999; Coulter and Bryan 1993).

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Several factors affect the suitability of potential foraging habitat for wood storks. Suitable foraging habitats must provide both a sufficient density and biomass of forage fish and other prey, and have vegetation characteristics that allow storks to locate and capture prey. During nesting, these areas must also be sufficiently close to the colony to allow storks to efficiently deliver prey to nestlings. Hydrologic and environmental characteristics have strong effects on fish density, and these factors may be some of the most significant in determining foraging habitat suitability, particularly in southern Florida.

Within the wetland systems of southern Florida, the annual hydrologic pattern is very consistent, with water levels rising over 3 feet during the wet season (June-November), and then receding gradually during the dry season (December-May). Storks nest during the dry season, and rely on the drying wetlands to concentrate prey items in the ever-narrowing wetlands (Kahl 1964). Because of the continual change in water levels during the stork nesting period, any one site may only be suitable for stork foraging for a narrow window of time when wetlands have sufficiently dried to begin concentrating prey and making water depths suitable for storks to access the wetlands. Once the wetland has dried to where water levels are near the ground surface, the area is no longer suitable for stork foraging, and will not be suitable until water levels rise and the area is again repopulated with fish. Consequently, there is a general progression in the suitability of wetlands for foraging based on their hydroperiods, with the short hydroperiod wetlands being used early in the season, the mid-range hydroperiod sites being used during the middle of the nesting season, and the longest hydroperiod areas being used later in the season (Kahl 1964; Gawlik 2002).

In addition to the concentration of fish due to normal drying, several other factors affect fish abundance in potential foraging habitats. Longer hydroperiod areas generally support more fish and larger fish (Trexler et al. 2002; Jordan et al. 1998; Loftus and Ecklund 1994; Turner et al. 1999). In addition, nutrient enrichment (primarily phosphorus) within the oligotrophic Everglades wetlands generally results in increased density and biomass of fish in potential stork foraging sites (Rehage and Trexler *In Press*), and distances from dry-season refugia, such as canals, alligator holes, and similar long hydroperiod sites also affect fish density and biomass. Within the highly modified environments of southern Florida, fish availability varies with respect to hydrologic gradients, nutrient availability gradients, and it becomes very difficult to predict fish density. The foraging habitat for most wood stork colonies within southern Florida includes a wide variety of hydroperiod classes, nutrient conditions, and spatial variability.

Dense submerged and emergent vegetation may reduce foraging suitability by preventing storks from moving through the habitat and interfering with prey detection (Coulter and Bryan 1993). Some submerged and emergent vegetation does not detrimentally affect stork foraging, and may be important to maintaining fish populations. Average submerged and emergent vegetation cover at foraging sites was 26 and 29 percent, respectively, at foraging sites at a Georgia colony, and ranged from 0 to 100 percent (Coulter and Bryan 1993). These cover values did not differ significantly from random wetland sites. Similarly, densely forested wetlands may preclude storks from accessing prey within the areas (Coulter and Bryan 1993). Storks tend to select foraging areas that have an open canopy, but occasionally use sites with 50 to 100 percent canopy closure (Coulter and Bryan 1993; O'Hare and Dalrymple 1997; Coulter et al. 1999).

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Wood storks feed almost entirely on fish between 2 and 25 cm (1 to 10 in) in length (Kahl 1964; Ogden et al. 1976; Coulter 1987) but may occasionally consume crustaceans, amphibians, reptiles, mammals, birds, and arthropods. Wood storks generally use a specialized feeding behavior called tactilocation, or grope feeding, but also forage visually under some conditions (Kushlan 1979). Storks typically wade through the water with the beak immersed and open about 7 to 8 cm (2.5 to 3.5 in). When the wood stork encounters prey within its bill, the mandibles snap shut, the head is raised, and the food swallowed (Kahl 1964). Occasionally, wood storks stir the water with their feet in an attempt to startle hiding prey (Rand 1956; Kahl 1964; Kushlan 1979). This foraging method allows them to forage effectively in turbid waters, at night, and under other conditions when other wading birds that employ visual foraging may not be able to forage successfully.

Wood storks generally forage in wetlands within 50 km (31 miles) of the colony site (Bryan and Coulter 1987), but forage most frequently within 20 km (12 miles) of the colony (Coulter and Bryan 1993). Maintaining this wide range of feeding site options ensures sufficient wetlands of all sizes and varying hydroperiods are available, during shifts in seasonal and annual rainfall and surface water patterns, to support wood storks. Adults feed furthest from the nesting site prior to laying eggs, forage in wetlands closer to the colony site during incubation and early stages of raising the young, and then further away again when the young are able to fly. Wood storks generally use wet prairie ponds early in the dry season then shift to slough ponds later in the dry season thus following water levels as they recede into the ground (Browder 1984).

Gawlik (2002) characterized wood storks as "searchers" that employ a foraging strategy of seeking out areas of high density prey and optimal (shallow) water depths, and abandoning foraging sites when prey density begins to decrease below a particular efficiency threshold, but while prey was still sufficiently available that other wading bird species were still foraging in large numbers (Gawlik 2002). Wood stork choice of foraging sites was significantly related to both prey density and water depth (Gawlik 2002). Because of this strategy, wood stork foraging opportunities are more constrained than many of the other wading bird species (Gawlik 2002).

Breeding wood storks are believed to form new pair bonds every season. First age of breeding has been documented in 3- to 4-year-old birds but the average first age of breeding is unknown. Eggs are laid as early as October in south Florida and as late as June in north Florida (Rodgers 1990; Service unpublished data). A single clutch of two to five (average three) eggs is laid per breeding season but a second clutch may be laid if a nest failure occurs early in the breeding season (Coulter et al. 1999). There is variation among years in the clutch sizes, and clutch size does not appear to be related to longitude, nest data, nesting density, or nesting numbers, and may be related to habitat conditions at the time of laying. Egg laying is staggered and incubation, which lasts about 30 days, begins after the first egg is laid. Therefore the eggs hatch at different times and the nestlings vary in size (Coulter et al. 1999). The younger birds are first to die during times of scarce food.

The young fledge in about 8 weeks but will stay at the nest for 3 to 4 more weeks to be fed. Adults feed the young by regurgitating whole fish into the bottom of the nest about three to ten times per day. Feedings are more frequent when the birds are young (Coulter et al. 1999).

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Feedings are less frequent when wood storks are forced to fly great distances to locate food (Bryan et al. 1995). The total nesting period from courtship and nest-building through independence of young, lasts approximately 100 to 120 days (Coulter et al. 1999). Within a colony, nest initiation may be asynchronous, and consequently, a colony may contain active breeding wood storks for a period significantly longer than the 120 days required for a pair to raise young to independence. Adults and independent young may continue to forage around the colony site for a relatively short period following the completion of breeding.

Wood storks produce an average of 1.29 fledglings per nest and 0.42 fledglings per egg which is a probability of survivorship from egg laying to fledgling of 42 percent (Rodgers and Schwikert 1997). The probability of survivorship from egg laying to day 14 is 80 percent, to day 28 (hatching) 70 percent, to day 42 (nestling 2 weeks of age) 62 percent, to day 56 (nestling 4 weeks of age) 56 percent, to day 70 (nestling 6 weeks) 50 percent and to day 84 (fledgling) 42 percent. The greatest losses occur from egg laying to hatching with a 30 percent loss of the nest productivity. From hatching to nestlings of 2 weeks of age, nest productivity loss is an additional 8 percent. Corresponding losses for the remainder of the nesting cycles are on the average of a 6 percent per 2 week increase in age of the nestling (Rodgers and Schwikert 1997).

During the period when a nesting colony is active, storks are dependent on consistent foraging opportunities in wetlands within approximately 30 km for the nest site, with the greatest energy demands occurring during the middle of the nestling period, when nestlings are 23 to 45 days old (Kahl 1964). The average wood stork family requires 201 kg (443 pounds) of fish during the breeding season, with 50 percent of the nestling stork's food requirement occurring during the middle third of the nestling period (Kahl 1964). Receding water levels are necessary in south Florida to concentrate suitable densities of forage fish (Kahl 1964; Kushlan et al. 1975).

Many researchers (Flemming et al. 1994; Ceilley and Bortone 2000) believe that the short hydroperiod wetlands provide a more important pre-nesting foraging food source and a greater effect on early nestling survival for wood storks than the foraging base (grams of fish per square meter) that is suggested in short hydroperiod wetlands. For instance, Loftus and Eklund (1994) provide an estimate of 50 fish per square meter for long hydroperiod wetlands and 10 fish per square-meter for short hydroperiod wetlands. As a result of the consistent pattern of drying that normally occurs during the stork nesting season, the short hydroperiod wetlands would also be the ones used for foraging early in the season when long hydroperiod wetlands remain too deep for storks to forage effectively, or sufficient prey concentration has not yet occurred as a result of drying.

Although the short hydroperiod wetlands support fewer fish and lower fish biomass per unit area than long hydroperiod wetlands, these short hydroperiod wetlands were historically more extensive and provided foraging areas for storks during colony establishment, courtship and nest-building, egg-laying, incubation, and the early stages of nestling provisioning. This period corresponds to the greatest periods of nest failure (*i.e.*, 30 percent and 8 percent, respectively from egg laying to hatching and from hatching to nestling survival to two weeks) (Rodgers and Schwikert 1997).

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Based on Kahl's (1964) estimate that 201 kg are needed for the success of a nest, and that 50 percent of the foraging base is needed in the middle third of the nesting cycle when chicks are approximately 23-45 days old (Kahl 1962), it is estimated that about 50 kg are needed to meet the foraging needs of the adults and nestling in the first third of the nesting cycle. Considering the relatively low foraging values these short hydroperiod wetlands provide in relationship to corresponding long hydroperiod wetlands, a much larger acreages of these wetlands are needed to ensure survival and to sustain development of nestlings. The disproportionate reduction (85 percent) of this specific habitat loss known to have occurred from development and overdrainage has been proposed as a major cause of late colony formation and survivorship reduction in early nestling survival rates (Fleming et al. 1994b).

Storks that are not breeding do not require the same degree of fish concentration that is required to sustain successful nesting. Kahl (1964) estimated the food requirements for an individual free-flying stork to be approximately 502 g (live weight) per day. Storks that are not nesting are able to find sufficient prey to sustain themselves in many wetlands that would not be suitable to sustain adults and chicks during nesting.

Following the completion of the nesting season, both adult and fledgling wood storks generally begin to disperse away from the nesting colony. Fledglings have relatively high mortality rates within the first 6 months following fledging, most likely as a result of their lack of experience, including the selection of poor foraging locations (Hylton et al. 2006). Post-fledging survival also appears to be variable among years, probably reflecting the environmental variability that affects storks and their ability to forage (Hylton et al. 2006).

In southern Florida, both adult and juvenile storks consistently disperse northward following fledging in what has been described as a mass exodus (Kahl 1964). Storks in central Florida also appear to move northward following the completion of breeding, but generally do not move as far (Coulter et al. 1999). Many of the juvenile storks from southern Florida move far beyond Florida into Georgia, Alabama, Mississippi, and South Carolina (Coulter et al. 1999; Borkhataria et al. 2004; Borkhataria et al. 2006). Some flocks of juvenile storks have also been reported to move well beyond the breeding range of storks in the months following fledging (Kahl 1964). This post-breeding northward movement appears consistent across years.

Both adult and juvenile storks return southward in the late fall and early winter months. In a study employing satellite telemetry, Borkhataria et al. (2006) reported nearly all storks that had been tagged in the southeastern U.S moved into Florida near the beginning of the dry season, including all subadult storks that fledged from Florida and Georgia colonies. Adult storks that breed in Georgia remained in Florida until March, and then moved back to northern breeding colonies (Borkhataria et al. 2006). Overall, about 75 percent of all locations of radio-tagged wood storks occurred within Florida (Borkhataria et al. 2006). Preliminary analyses of the rangewide occurrence of wood storks in December, recorded during the annual Christmas bird surveys, suggest that the vast majority of the southeastern U.S. wood stork population occurs in central and southern Florida. Relative abundance of storks in this region was 10 to 100 times higher than in northern Florida and Georgia (Service unpublished data). As a result of these general population-level movement patterns, during the earlier period of the stork breeding

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season in southern Florida, the wetlands upon which nesting storks depend are also being heavily used by a large portion of the southeastern U.S. wood stork population, including storks that breed in Georgia and the Carolinas, and subadult storks from throughout the stork's range. In addition, these same wetlands support a wide variety of other wading bird species (Gawlik 2002).

Population Dynamics

The United States breeding population of wood storks declined from an estimated 20,000 pairs in the 1930s to about 10,000 pairs by 1960 (49 FR 7332). The total number of nesting pairs in 1995 was 7,853 with 11 percent in South Carolina, 19 percent in Georgia, and 70 percent in Florida (Service 1997).

Since the 1960s, the wood stork population has declined in southern Florida and increased in northern Florida, Georgia, and South Carolina (Ogden et al. 1987). The number of nesting pairs in the Everglades and Big Cypress ecosystems (southern Florida) declined from 8,500 pairs in 1961 to 969 pairs in 1995. During the same period, nesting pairs in Georgia increased from 4 to 1,501 and nesting pairs in South Carolina increased from 11 to 829 (Service 1996). The number of nesting pairs in northern and central Florida doubled between 1976 and 1986 (Ogden 1991). Although Ogden (1991) attributed this to an increase in the availability of altered wetland and artificial wetland nesting sites, the regional increase coincided with the northward shift of the wood stork breeding population center and the overall population decline in the southeastern U.S.

Both the size and success of a wood stork colony varies from year to year based on availability of suitable wetland foraging areas, which can be affected by local rainfall patterns, regional weather patterns, and anthropogenic hydrologic management (Service 1996). The colony site may be vacant in years of drought due to inadequate foraging conditions in the surrounding area. Traditional colony nesting sites may be abandoned completely by storks when hydrological changes occur, removing surface water from beneath the colony trees. Conversely, nesting failures and colony abandonment may occur if unseasonable rainfall causes waters to rise when they are normally receding, thus dispersing rather than concentrating forage fish.

Between 1958 and 1985, the wood stork breeding population center shifted north from Lake Okeechobee to Polk County, a distance of about 132 km (82 miles). The 1976 breeding season was the last year when more pairs nested in south Florida than in central-north Florida. Productivity is generally higher in central-north Florida than south Florida. Whereas the number of colonies in south Florida has remained relatively stable, the number of colonies in central-north Florida region continues to increase (Ogden et al. 1987). The increase in central-north Florida is associated with an increase in colony numbers and not colony size. Colonies in the north are smaller than colonies in the south. Historically colonies in the south were associated with extensive wetlands and food was abundant. The implication is that food resources may be limiting colony sizes in central-north Florida (Ogden et al. 1987). Ogden et al. (1987) suggested the population shift is the result of deteriorating feeding conditions in south Florida and better nesting success rates in central-north Florida that compound population growth in that area.

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The wood stork life history strategy has been characterized as a "bet-hedging" strategy (Hylton et al. 2006) in which high adult survival rates and the capability of relatively high reproductive output under favorable conditions allow the species to persist during poor conditions and capitalize on favorable environmental conditions. This life-history strategy may be adapted to variable environments (Hylton et al. 2006) such as the wetland systems of southern Florida.

Nest initiation date, colony size, nest abandonment, and fledging success of a wood stork colony varies from year to year based on availability of suitable wetland foraging areas, which can be affected by local rainfall patterns, regional weather patterns, and anthropogenic hydrologic management (Service 1997). A colony site may be vacant in years of drought or unfavorable conditions due to inadequate foraging conditions in the surrounding area (Kahl 1964). Traditional colony nesting sites may be abandoned completely by storks when hydrological changes occur such as removing surface water from beneath the colony trees (Service 1997; Coulter et al. 1999). Nesting failures and colony abandonment may also occur if unseasonable rainfall causes water levels to rise when they are normally receding, thus dispersing rather than concentrating forage fish (Kahl 1964; Service 1997; Coulter et al. 1999).

The annual climatological pattern that appeared to stimulate the heaviest nesting efforts by storks was a combination of the average or above-average rainfall during the summer rainy season prior to colony formation and an absence of unusually rainy or cold weather during the following winter-spring nesting season. This pattern produced widespread and prolonged flooding of summer marshes that maximized production of freshwater fishes, followed by steady drying that concentrated fish during the dry season when storks nest (Kahl 1964).

Status and Distribution

The wood stork is found from northern Argentina, eastern Peru, and western Ecuador north to Central America, Mexico, Cuba, Hispaniola, and the southeastern United States (AOU 1983). Only the population segment that breeds in the southeastern U.S. is listed as endangered. In the United States, wood storks were historically known to nest in all coastal states from Texas to South Carolina (Wayne 1910; Bent 1926; Howell 1932; Oberholser 1938; Dusi and Dusi 1968; Cone and Hall 1970; Oberholser and Kincaid 1974). Dahl (1990) estimates these states lost about 38 million acres, or 45.6 percent, of their historic wetlands between the 1780s and the 1980s. However, it is important to note wetlands and wetland losses are not evenly distributed in the landscape. Hefner et al. (1994) estimated 55 percent of the 2.3 million acres of the wetlands lost in the southeastern United States between the mid-1970s and mid-1980s were located in the Gulf-Atlantic Coastal Flats. These wetlands were strongly preferred by wood storks as nesting habitat. Currently, wood stork nesting is known to occur in Florida, Georgia, South Carolina, and North Carolina. Breeding colonies of wood storks are currently documented in all southern Florida counties except for Okeechobee County. Additional expansion of the breeding range of wood storks in the southeastern U.S. may continue in coming years, both to the north and possibly to the west along the Gulf Coast (Billy Brooks, Service, personal communication 2006).

The decline in the U.S. population of the wood stork is thought to be related to one or more of the following factors: (1) reduction in the number of available nesting sites; (2) lack of protection at nesting sites; and/or (3) loss of an adequate food base during the nesting season

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(Ogden and Nesbitt 1979). Ogden and Nesbitt (1979) indicate a reduction in nesting sites is not the cause in the population decline, because the number of nesting sites used from year to year is relatively stable. They suggest loss of an adequate food base is a cause of wood stork declines. Changes in remaining wetland systems in Florida, including drainage and impoundment, may be a larger problem for wood storks than loss of foraging habitat (Ogden and Nesbitt 1979).

The primary cause of the wood stork population decline in the United States is loss of wetland habitats or loss of wetland function resulting in reduced prey availability. Almost any shallow wetland depression where fish become concentrated, either through local reproduction or receding water levels, may be used as feeding habitat by the wood stork during some portion of the year, but only a small portion of the available wetlands support foraging conditions (high prey density and favorable vegetation structure) that storks need to maintain growing nestlings. Browder et al. (1976; Browder 1978) documented the distribution and the total acreage of wetland types occurring south of Lake Okeechobee, Florida, for the period 1900 through 1973. We combined their data for habitat types known to be important foraging habitat for wood storks (cypress domes and strands, wet prairies, scrub cypress, freshwater marshes and sloughs, and saw grass marshes) and found these habitat types have been reduced by 35 percent since 1900.

The alteration of wetlands and the manipulation of wetland hydroperiods to suit human needs have also reduced the amount of habitat available to wood storks. The decrease in wood storks nesting on Cape Sable was related to the construction of the drainage canals during the 1920s (Kushlan and Frohring 1986). Water level manipulation can facilitate raccoon predation of wood stork nests when water is kept too low (alligators deter raccoon predation when water levels are high). Artificially high water levels may retard nest tree regeneration since many wetland tree species require periodic droughts to establish seedlings. Water level manipulation may decrease food productivity if the water levels and length of inundation do not match the breeding requirements of forage fish. Dry-downs of wetlands may selectively reduce the abundance of the larger forage fish species that wood storks tend to utilize, while still supporting smaller prey fish.

Since the 1970s, wood storks have also been observed to shift their nest sites to artificial impoundments or islands created by dredging activities (Ogden 1991). The percentage of nests in artificial habitats in central and north Florida has increased from approximately 10 percent of all nesting pairs in 1959 to 1960 to 60 to 82 percent between 1976 and 1986 (Ogden 1991). Nest trees in these artificially impounded sites often include exotic species such as Brazilian pepper or Australian pine (*Casuarina* spp.). Ogden (1996) has suggested the use of these artificial wetlands indicates wood storks are not finding suitable conditions within natural nesting habitat or they are finding better conditions at the artificial wetlands. The long-term effect of these nesting areas on wood stork populations is unclear.

Human disturbance is a factor known to have a detrimental affect on wood stork nesting (Service 1997). Wood storks have been known to desert nests when disturbed by humans, thus exposing eggs and young birds to the elements and to predation by gulls and fish crows. The role of chemical contamination in the decline of the wood stork is unclear. Pesticide levels high enough to cause eggshell thinning have been reported in wood storks but decreased productivity has not yet been linked to chemical contamination (Ohlendorf et al. 1978; Fleming et al. 1984). Burger et al. (1993) studied heavy metal and selenium levels in wood storks from Florida and Costa Rica.

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Adult birds generally exhibited higher levels of contaminants than young birds. The authors attribute this to bioaccumulation in the adults who may be picking up contaminants at the colony nesting site and while foraging at other locations during the non-breeding season. There were higher levels of mercury in young birds from Florida than young birds or adults from Costa Rica. Young birds from Florida also exhibited higher levels of cadmium and lead than young birds from Costa Rica. The authors recommended the lead levels in Florida be monitored. Burger et al. (1993) drew no conclusions about the potential health effects to wood storks.

The wood stork population in the southeastern U.S. appears to be increasing. Preliminary population totals indicate that the stork population has reached its highest level since it was listed as endangered in 1984. In all, approximately 11,200 wood stork pairs nested within their breeding range in the southeastern U.S. Wood stork nesting was again recorded in North Carolina in 2006 after it was first documented there in 2005. This suggests that the northward expansion of wood stork nesting may be continuing. Several new colonies were located in 2006, including several in Florida. Of the preliminary total of 11,232 nesting pairs, 7,261 occurred within Florida. There were 1,919 nests recorded in Georgia, 1,963 in South Carolina, and 125 in North Carolina. Total nest numbers have also been over 9,000 in 2002 and 2003 (Service 2004). The number of colonies also continues to rise, and over 80 nesting colonies were reported in 2006 throughout the southeastern U.S. (Service, unpublished data), which is the highest to date in any one year.

The 2006 stork nesting season also appears to be very productive for storks throughout their range. While final productivity estimates are still not available, preliminary estimates are over 2.5 chicks per nest (Borkhataria et al. 2006). The apparent success this year is welcome news in light of the nearly complete failure of stork nesting in 2005 in southern Florida, and relatively poor nest success rates in this region that have occurred since 2002.

Recovery Goals

Measuring the biological aspect of the recovery of the wood stork is outlined in the Service's 1997 recovery plan. The plan's recovery criteria state that reclassification from endangered to threatened, could be considered when there are 6,000 nesting pairs and annual regional productivity is greater than 1.5 chicks per nest/year (calculated over a 3-year average). Delisting could be considered when there are 10,000 nesting pairs calculated over a 5-year period beginning at the time of reclassification and annual regional productivity is greater than 1.5 chicks per nest/year (calculated over a 5-year average). As a subset of the 10,000 nesting pairs, a minimum of 2,500 nesting pairs must occur in the Everglades and Big Cypress systems in south Florida. In 2001, the Service reinitiated another 5-year synoptic aerial survey effort for wood stork colonies throughout the southeast range of the species (Service 2003), and surveys have been conducted annually through 2006. Three-year averages calculated from nesting data from 2001 through 2006 indicate that the total nesting population has been consistently above the 6,000 threshold, and the averages have ranged from approximately 7,400 to over 8,700.

Wood Stork Nesting in the Southeastern U.S.

The 2006 estimate of total wood stork nesting pairs is the highest recorded since the stork was listed, and since the early 1960s (Table 7). The trend in the total nesting numbers shows a steady

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increasing trend, with some degree of variation around the trend that occurs as a result of environmental conditions, etc. The number of known stork colonies has also shown a steady increase over time (Figure 10), so the increase in nesting effort is primarily occurring as a result of nesting in more places, and not as a result of growth in known colonies.

Wood Stork Nesting in the Everglades and Big Cypress Systems

There is confusion in the definition among the Service and species experts about what constitutes the boundaries of the Everglades and Big Cypress systems. The MSRP defines the Everglades and Big Cypress systems as those colonies south of Lake Okeechobee from Lee County on the west coast to Palm Beach County on the East Coast. Nesting pairs for colonies in this region totaled have been variable, but have shown a general pattern of decline within the past 4 to 5 years (Crozier and Gawlik 2003; Service 2003; Crozier and Cook 2004, Cook and Call 2005). However, in a review of the 10-year nesting data (Table 8, Figure 11), wood stork nesting success have shown a significant increase from the mid-1990 from an average of 400 to 500 pairs to a high of 4,549 pairs in 1999, with a three-year running average over the 10-year period ranging from 507 to 3,742 pairs with considerable variability over the 10-year period. These observed fluctuations in the nesting between years and nesting sites has been attributed primarily to variable hydrologic conditions during the nesting season (Crozier and Gawlik 2003; Crozier and Cook 2004). Frequent heavy rains during nesting can cause water levels to increase rapidly. The abrupt increases in water levels during nesting, termed reversals (Crozier and Gawlik 2003), may cause nest abandonment, re-nesting, late nest initiation, and poor fledging success. Abandonment and poor fledging success was reported to have affected most wading bird colonies in southern Florida during 2004 and 2005 (Crozier and Cook 2004, Cook and Call 2005).

Analysis of the species likely to be affected

The United States breeding population of wood storks declined from an estimated 20,000 pairs in the 1930s to about 10,000 pairs by 1960 (49 FR 7332). The total number of nesting pairs in 1995 was 7,853 with 11 percent in South Carolina, 19 percent in Georgia, and 70 percent in Florida (Service 1997). However, the wood stork population in the southeastern U.S. appears to be increasing. Preliminary population totals indicate that the stork population has reached its highest level since it was listed as endangered in 1984. In all, approximately 11,200 wood stork pairs nested within their breeding range in the southeastern U.S. Wood stork nesting was again recorded in North Carolina in 2006 after it was first documented there in 2005. This suggests the northward expansion of wood stork nesting may be continuing. Several new colonies were located in 2006, including several in Florida.

The primary cause of the wood stork population decline in the United States is loss of wetland habitats or loss of wetland function resulting in reduced prey availability. The alteration of wetlands and the manipulation of wetland hydroperiods to suit human needs have also reduced the amount of habitat available to wood storks and affected the prey base availability. The altered hydrology of these systems has also fostered the invasion of these systems by the exotic plant species, melaleuca. This plant species produces a dense understory and closed canopy, limiting suitability of these wetland systems to foraging by wood storks, although sufficient prey

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base may be present in the wetlands. Increasing human population has resulted in increasing impacts on native habitat and flora and fauna. Resulting threats to wood storks include habitat loss, habitat fragmentation, and human disturbance.

ENVIRONMENTAL BASELINE – FLORIDA PANTHER

The environmental baseline includes the past and present impacts of all Federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of state or private actions, which occur simultaneously with the consultation in progress.

Status of the Species within the Action Area

As stated previously, for the purposes of this consultation, the action area includes the Corps' project area and surrounding lands frequently visited by panthers (Figure 7). The action area is a subset of the current geographic range of the panther and includes those lands that the Service believes may experience direct and indirect effects from the proposed development. Therefore, for both direct and indirect effects, the action area is defined as all lands within a 25-mile radius of the project. This action area does not include urban lands and lands west of I-75. The proposed action may have direct and indirect effects on the ability of panthers to breed, feed, and find shelter, and to disperse within the population.

The Service used current and historical radio-telemetry data, information on habitat quality, prey base, and evidence of uncollared panthers to evaluate panther use in the action area. Panther telemetry data are collected 3 days per-week from fixed-wing aircraft, usually in early to mid-morning. However, researchers have shown panthers are most active between dusk and dawn (Maehr et al. 1990a, Beier 1995) and are typically at rest in dense ground cover during daytime monitoring flights (Land 1994). Therefore, telemetry locations may present an incomplete picture of panther activity patterns and habitat use (Comiskey et al. 2002). In addition, telemetry data alone may be misleading since less than half of the panther population is currently collared.

Although telemetry data may not provide a complete picture of panther activity patterns, telemetry locations are a good indicator, due to the extensive data set, of the approximate boundaries of home ranges, panther travel corridors, and the range of Florida panthers south of the Caloosahatchee River. The FWC also uses observational data collected during telemetry flights to assess the yearly breeding activity of radio-collared panthers. Female panthers accompanied by kittens or male panthers within close proximity of an adult female were assumed to have engaged in breeding activity during that year. Documentation by McBride (Shindle et al. 2003) shows that between July 2002 and June 2003, 12-collared panthers, 4-uncollared females, and 3-uncollared males had home ranges in or home ranges that overlapped or were immediately adjacent to the same survey unit as the Mirasol project. In addition, 8 other panthers that used this same survey unit previously died during this time period (Shindle et al. 2003). This unit, designated as Unit 5, includes the Florida Panther NWR, Corkscrew Swamp Sanctuary, and CREW.

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Within the 25-mile radius action area, based on telemetry data as of January 2007, at least 27 living radio-collared panthers have overlapping home ranges. These panthers are FP 48 (female), FP 54 (male), FP 57 (female), FP 60 (male), FP 62 (male), FP 65 (male), FP 66 (female), FP 75 (female), FP 83 (female), FP 100 (female), FP 107 (female), FP 110 (female), FP 113 (male), FP 119 (male), FP 130 (male), FP 131 (male), FP 133 (male), FP 135 (male), FP 137 (male) and FP 139 (male), FP 140 (female), FP 141 (male), FP 143 (male), FP 144 (male), FP 146 (male), FP 147 (male), and FP 148 (female). In addition, McBride (2003) notes previous use of the action area by other panthers prior to their mortality. Six of these panthers are likely dispersing sub-adult males or sub-adult females without established territories. The nearest telemetry point to the site of a panther still alive as of this document, was FP 66 (female), recorded about 4 miles to the east. FP 92 (male) was documented less than 0.1 mile from the project site in July 2001; however, he died of unknown causes in September of that same year.

Historically, there have been a total of six radio-collared male and female panthers (FP 28, FP 64, FP 66, FP 92, FP 99, FP 104, and TX 101) recorded within 5 miles of the project site on 80 occasions based on telemetry data from February 1981 through June 30, 2006 (Figure 12). This translates to an average of 4.7 occurrences per year or one occurrence every 78 days. Panther 28 was documented 6 times in 1989 and died in 1992 from intraspecific aggression. Panther 64 was documented 8 times in 1998 and died in 1999 from intraspecific aggression. Panther 66 was documented 4 times and is alive with a home range in Belle Meade and FPNWR. Panther 92 was documented 19 times in 2001 and died in 2001 from unknown causes. Panther 99 was documented 37 times from 2001 to 2002 and died in 2002 from a vehicle collision. Panther 104 was documented 1 time in 2002 and died in 2006 from an infection. Texas puma 101 was documented 5 times in 1995 and died of unknown causes in 2000. No other radio-collared panthers have been documented within 5 miles of the project site since November 2002. The status and activities of uncollared Florida panthers within the action area are unknown. However, the Service believes the project site may occasionally be used by other non-collared panthers because it contains habitat types used by panthers and their prey, and the project vicinity has been used historically by panthers as indicated by telemetry locations.

Past and ongoing Federal and State actions affecting panther habitat in the action area include the issuance of Corps permits and State of Florida Environmental Resource Permits authorizing the filling of wetlands for development projects and other purposes. Since 1982, the Corps and the State have had a joint wetland permit application process, where all permit applications submitted to the State are copied to the Corps and vice versa. Within the 25-mile action area, the Service, since January 14, 1992, has formally consulted on 57 projects and informally consulted on 9 projects regarding the panther that were a result of Federal actions (database entries for formal consultations prior to 1992 are incomplete for projects in the action area). These projects have impacted or are expected to impact about 40,636 acres of panther habitat. These projects have also incorporated a total of 30,454 acres of preservation and restoration of panther habitat. The impacted lands generally are: (1) on the western fringe of occupied panther habitat; (2) vegetated with dense stands of exotic species, which may adversely affect the density of the panther prey base; and/or (3) support agricultural enterprises, *i.e.*, row crops, citrus, etc., which provide a lower quality habitat value to the Florida panther. The preserved lands, which are generally proximate to larger tracts of Federal, State, and other preserves, provide a higher

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quality habitat value for the Florida panther. The Service determined in the biological opinions issued for the 57 Federal actions requiring formal consultation, that individually and cumulatively these projects do not jeopardize the survival and recovery of the Florida panther.

From July 2000 through September 2006, the Service also engaged in informal consultation for projects under 5 acres with the Corps for about 757 projects affecting about 764.1 acres in Collier County (primarily Northern Golden Gate Estates) and about 202.8 acres in Lee County (primarily Lehigh Acres) (database entries for informal consultations prior to 2000 are incomplete for projects in the consultation area). Almost all of these projects involved the construction of single-family residences in partially developed areas, each in most cases involving less than an acre of direct impact. Although panthers have been known to cross these areas to other parts of their range, prey base and denning utilization of these areas have been affected by the level of development and the additions of these residences is not expected to significantly further impact these habitat functions. For these actions, the Service concurred with the Corps' determination of "may affect, but is not likely to adversely affect" for these individual projects. These projects have been incorporated into the Service's environmental baseline for the Florida panther.

We have received information that within the action area, the Corps has, between March 16, 2004, and August 8, 2005, issued non-jurisdictional wetland determinations (isolated wetlands) for 10 projects totaling 3,779 acres in Collier County and for 10 projects totaling 276 acres in Lee County. These determinations were issued per jurisdictional guidance provided recently in the Supreme Court decision, *Solid Waste Agency of Northern Cook County vs. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) and, therefore, they will not require a Federal Clean Water Act 404 wetland permit. These projects have been incorporated in the Service's environmental baseline for the Florida panther in this biological opinion and the Service has determined, based on the location of these projects (generally in the western fringe of the panther's geographic range), the quality of the habitat present on these project sites, and the overall status of the Florida panther, these projects individually and cumulatively do not jeopardize the survival and recovery of the Florida panther. However, since loss of panther foraging habitat may occur from construction of these projects and no Corps wetland permit is required, the Service is requesting the applicants pursue Habitat Conservation Plans in cooperation with the Service.

There have been 54 documented panther-vehicle collisions within the 25-mile action area (see Table 9 and Figure 9). The panther-vehicle collision closest to the project site (FP 99 [male]) occurred in 2002, on CR 846, about 7 miles east of the site. Another panther, UCFP 79 (female), was killed about 0.2 mile north of the FP 99 mortality on the same road in 2006. Four panther-vehicle collisions have occurred in the action area in 2006. One occurred 7 miles east of the project on CR 846; one occurred 17 miles south of the project on US 41; and, two occurred 11 miles and 25 miles north of the project on Corkscrew Road and I-75, respectively.

Activities within the action area have also benefited panthers. The issuance of Corps and State of Florida Environmental Resource Permits has preserved 30,454 acres of high quality panther habitat for permitted impacts to 40,636 acres of poor quality panther habitat (1992 to present). Installation of wildlife crossings under SR 29 and I-75 within the action area has also benefited the panther by protecting habitat connectivity and eliminating panther-vehicle collision

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mortalities. Additional benefits have resulted from the acquisition of high quality habitat through acquisition programs by the other Federal, State, and County resource agencies. Table 10 provides a summary of the State and County acquisitions within the last 5 years.

Moreover, the management of public lands, including prescribed fire and eradication of exotic vegetation in the Picayune Strand State Forest, Fakahatchee Strand State Preserve, Florida Panther NWR, ENP, and other conservation areas, is intended to improve habitat for panther prey species, which benefits panthers within these areas.

Factors Affecting Species Environment within the Action Area

Factors that affect the species environment (positively and negatively) within the action area include, but are not limited to, the presence and construction of highways and urban development, agriculture, resource extraction, public lands management (prescribed fire, public use, exotic eradication, etc.), hydrological restoration projects, public and private land protection efforts, effects of genetic inbreeding, and genetic restoration.

Development activities may result in avoidance or limited use of remaining suitable habitat by panthers as well as habitat loss, habitat fragmentation, habitat degradation, and also an increase in risk of vehicular collision (e.g., injury or death).

Public and private land management practices can have a positive, neutral, or negative effect, depending on the management goals. Land protection efforts will help to stabilize the extant population. Hunting of the panther is no longer sanctioned, although there still may be instances of intentional or unintentional shooting of individuals for various reasons.

Wildlife Value and Habitat Quality: As discussed previously in the status of the species, the Service believes the existing habitat conditions present on a site and the foraging value that a site provides to the Florida panther and panther prey species are an important parameter in assessing the importance of the project site to the Florida panther and other wildlife species. In order to assess this importance, the Service requires wildlife surveys and plant species compositions as part of the applicant's biological assessment prepared for the project.

Wildlife Value: A protected species survey was initially conducted by Turrell from June 1999 to March 2000 utilizing belt transects and drift fence and bucket trap arrays. Turrell has also provided more recent observations based on on-going wildlife surveys. A survey for white-tailed deer (*Odocoileus virginianus*) and feral hog (*Sus scrofa*) tracks was conducted and eight sets of white-tail deer tracks were observed, but no feral hog tracks were observed. Based on the track surveys, the applicant calculated a deer density of one deer per 591 acres. Evidence of armadillo, bobcat and raccoon was observed during the surveys. Other small mammals also constituting panther prey may utilize the site. Bears, which also prey on small mammals, have been documented by their tracks in the northeastern portion of Section 15 and along Broken-Back Road to the east of the project site.

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Based on the track surveys (Tyson 1952), deer densities on exotic-infested private lands in Lee County have averaged one deer per 591 acres (Turrell 2001) to one deer per 534 acres (Passarella Associates, Incorporated 2004). In comparison, deer densities on wildlife management areas average one deer per 165 acres to one deer per 250 acres (Steelman et al. 1999). Density estimates from deer tracks, however, should be viewed with caution. Track estimates are most appropriately used as long-term indicators (McCown 1991) and several factors can influence counts including weather, food abundance, population density, season, and availability of water (O'Connell et al. 1999).

The Service believes the habitats on the property provide marginal quality foraging for prey species, which directly affects value of the habitat to panthers, and specifically, the frequency and duration of use of the property by panthers. As discussed previously, white-tailed deer densities and other prey species are influenced by the quality of the foraging habitat present in an area. Monotypic stands of poor quality foraging plant species and the invasion of a site by exotic plants provide lower habitat foraging values and affect the utilization by and density of foraging species.

The habitats in the project area have also experienced similar vegetation changes. Historical vegetation on the property included a mosaic of upland and wetland habitats that provided a seasonal pattern of plant growth. However, past agricultural practices and the invasion of the habitats by the exotics, melaleuca and Brazilian pepper, have resulted in the growth of dense stands of monotypic, unpalatable plant species that provide poor quality foraging needs for resident deer populations. While the on-site preservation area, with its growth of invasive exotic plant species and altered hydrology also displays similar foraging restrictions, the proposed enhancements will result in a more diverse mosaic of plant species, which will provide an increased foraging value to panther prey species, especially resident deer populations.

Habitat Quality/Habitat Assessment Methodology Application: The application of the habitat assessment methodology including the base ratio, landscape multiplier, PHU determinations, and compensation recommendations, are presented below for the Mirasol project and compensation areas.

Table 11 illustrates the PHU calculations for the Mirasol project with impacts to 773 acres of land in the Primary Zone and compensation provided by the preservation and enhancement of about 1,117 acres of panther habitat (941 acres on-site, about 94 acres off-site, and about 82 acres at PIMB) in the Primary Zone. Table 11 shows the 773-acre impact area to presently support 3,756 PHUs. This value is multiplied by 2.0 to provide the base ratio compensation need, which is 7,512 PHUs. The Service had previously agreed, prior to the reinitiation of formal consultation with the Corps, that a base ratio of 2.0 would be the multiplier for recommended compensation for project functional habitat evaluations.

Since the project is located in the Primary Zone and compensation is in the Primary Zone, the base ratio PHUs are unaffected by the landscape compensation multiplier of 1.0.

The 1,117 acres provided by on-site (6,500) and off-site preserves (738) and credits at PIMB (750) provides for 7,988 PHUs. Therefore, the Service believes the impacts associated with the habitat lost by the proposed project will be minimized by the compensation actions proposed by

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the applicant. The lands proposed for development are on the western limits of the panther's range and panther habitat value has been diminished by exotic infestation. Lands proposed for preservation are in the Primary Zone, adjacent to other natural lands, and will be consistent with the Service's panther goal to strategically locate, preserve, and restore sets of lands containing sufficient area and appropriate land cover types to ensure the long-term survival of the Florida panther population south of the Caloosahatchee River.

Conservation Measures:

The beneficial effects of the project include preservation of 1,117 acres of Primary Zone panther habitat. The habitat quality provided to the Florida panther through preservation and restoration will be superior to that of the areas to be impacted. Though the project will result in a net loss in number of acres of habitat available to the panther, the habitat quality provided to the Florida panther through restoration and preservation will be superior to that of the areas to be impacted, and the habitat will be protected in perpetuity. The off-site panther habitat compensation parcel and surrounding area are presently providing a diverse mosaic of native plant species, which provide foraging value to resident deer populations. The site will be managed to prevent infestation by exotic vegetation in perpetuity. PIMB is in an area where panther usage has been high historically, though fewer collared panthers have been documented using this area recently. The mitigation bank, however, is in the panther Primary Zone and contains habitat valuable for breeding, foraging, and dispersal by the Florida panther. The restoration and preservation of the habitats at PIMB as a result of the credits purchased for this project will increase the overall quality of the habitats to panthers and should result in increased use by panthers.

EFFECTS OF THE ACTION

This section analyzes the direct and indirect effects of the project on the Florida panther and Florida panther habitat.

Factors to be Considered

Residential, commercial, and industrial development projects may have a number of direct and indirect effects on the Florida panther and panther habitat. Direct impacts, which are primarily habitat based, may include: (1) the permanent loss and fragmentation of panther habitat; (2) the permanent loss and fragmentation of habitat that supports panther prey; (3) roadway improvements; (4) the loss of available habitat for foraging, breeding, and dispersing panthers; (5) a reduction in the geographic distribution of habitat for the species; (6) harassment by construction activities; and (7) habitat compensation. Indirect effects may include: (1) an increased risk of roadway mortality to panthers traversing the area due to the increase in vehicular traffic; (2) increased disturbance to panthers and panther prey in the project vicinity due to human activities (human/panther interactions); (3) the reduction in value of panther habitat adjacent to the project due to habitat fragmentation; and (4) a potential increase of intraspecific aggression between panthers due to reduction of the geographic distribution of habitat of the panther. These indirect effects are habitat based, with the exception of vehicular mortality, which could result in lethal "take." Intraspecific aggression, though habitat based, could also result in lethal "take."

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This project site contains marginal quality panther habitat (see discussion under Wildlife Assessment) and is located within the western portion of the geographic range of the Florida panther. The timing of construction for this project, relative to sensitive periods of the panther's lifecycle, is unknown. Panthers have the potential to be found on and adjacent to the proposed construction footprint year-round. The project will be constructed in a single, disruptive event, and result in permanent loss and alteration of a portion of the existing ground cover on the project site. The time required to complete construction of the project is not known, but it is likely that land clearing associated with the development could be undertaken in phases over several years. The disturbance associated with the project will be permanent and result in a loss of habitat currently available to the panther.

Analyses for Effects of the Action

The 1,714-acre Mirasol project site forms essentially a cul-de-sac on the extreme western edge of the Florida panther Primary Zone as designated by Kautz et al. (2006), and is located inside the Panther Focus Area as defined by the Service. The site currently provides habitat of mostly low quality for the Florida panther (see discussion under Wildlife Assessment). The project site is located on the western fringe of occupied habitat, is adjacent to existing or previously permitted urban development, and is not located within known dispersal corridors (FWC 2006b) between larger publicly owned managed lands. The project will result in the conversion of 773 acres of marginal quality panther habitat on-site into residential development and golf course.

Compensation for the loss of 773 acres of panther habitat will be through the protection and restoration of 941 acres on-site and about 176 acres of panther habitat off-site. Lands preserved are in the Primary Zone (Kautz et al. 2006) of the panther core lands (Figure 5). Restoration will be primarily through the removal of non-native and nuisance vegetation with some hydrological enhancement. The total compensation will provide about 7,988 PHUs to minimize the impact of the loss of 3,756 PHUs.

Direct Effects

Direct effects are those effects that are caused by the proposed action, at the time of construction, are primarily habitat based, are reasonably certain to occur and include: (1) the permanent loss and fragmentation of panther habitat; (2) the permanent loss and fragmentation of habitat that supports panther prey; (3) roadway improvements; (4) the loss of available habitat for foraging, breeding, and dispersing panthers; (5) a reduction in the geographic distribution of habitat for the species; (6) harassment by construction activities; and (7) habitat compensation. The direct effects this project will have on the Florida panther within the action area are discussed below.

Permanent Loss and Fragmentation of Panther Habitat: The project will result in the loss of about 773 acres of habitat suitable for foraging and dispersal by the Florida panther. The remaining 941 acres on the 1,713-acre will be enhanced and preserved. The project lands are located inside and along the western edge of the Primary Zone. It is surrounded by existing or proposed development and agricultural activities. The land will be converted to residential development and golf course. The site offers a limited prey base and limited denning

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opportunities due to the artificially elevated water levels throughout the site. Though the habitat value of the project site to the panther is marginal, the habitat loss may adversely affect the panther by decreasing the spatial extent of lands available to the panther.

Panthers, because of their wide-ranging movements and extensive spatial requirements, are also particularly sensitive to habitat fragmentation (Harris 1984). Mac et al. (1998) defines habitat fragmentation as: "The breaking up of a habitat into unconnected patches interspersed with other habitat, which may not be inhabitable by species occupying the habitat that was broken up. The breaking up is usually by human action, as, for example, the clearing of forest or grassland for agriculture, residential development, or overland electrical lines." The reference to "unconnected patches" is a central underpinning of the definition. For panther conservation, this definition underscores the need to maintain contiguous habitat and protected habitat corridors in key locations in south Florida. Habitat fragmentation can result from road construction, urban development, and agricultural land conversions within migratory patterns of panther prey species and affect the ability of panthers to move freely throughout their home ranges. Construction of highways in wildlife habitat typically results in loss and fragmentation of habitat, traffic related mortality, and avoidance of associated human development. Roads can also result in habitat fragmentation, especially for females who are less likely to cross them (Maehr 1990).

As described above, the project site is adjacent to existing and permitted urban development and roadways and is at the extreme west edge of the Service's Panther Focus Area. The property is not located within known dispersal or connection corridors (FWC 2006b) to larger publicly owned managed lands. As a result of our analysis, we believe that fragmentation of panther habitat is not expected to result from project implementation.

Permanent Loss and Fragmentation of Habitat that Supports Panther Prey: Prey surveys documented use of the site by white-tailed deer, primary panther prey species. Melaleuca, which has infested over 85 percent of the project site at densities of greater than 50 percent coverage, is of poor foraging value to these and other prey species. The project will result in the loss of about 773 acres of habitat available for use by panther prey species on the 1,713-acre project site. It is bounded by CR 846 and existing development to the south, agricultural activity to the north, and existing and proposed development to the west. The northeast property boundary is undeveloped while the southeast boundary is adjacent to numerous small farms and out-parcels. Immediately to the east of these out-parcels is a former rock and gravel mine known as Mule Pen Quarry that has been converted into a residential development known as Heritage Bay. Although the native habitats have been degraded by high densities of exotic plants and hydrological alteration, suggesting that the foraging value of panther prey habitat is generally poor, the loss of habitat may adversely affect the panther by decreasing the spatial extent of lands available for use by panther prey. As described above however, the project site is in an area adjacent to existing and permitted urban development and roadways and is at the extreme west edge of the consultation area. The property is not located within known dispersal or connection corridors (FWC 2006b) to larger publicly owned managed lands. Therefore, as a result of our analysis, fragmentation of panther prey habitat is not expected.

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Road Way Improvements: No expansion of surrounding roads will occur as part of the Mirasol project. Some improvements may be necessary to enhance the existing lanes and drainage swales to meet public health and safety standards for ingress and egress of vehicles to the project development.

Loss of Available Habitat for Foraging, Breeding, and Dispersing Panthers: The site is bounded by existing or proposed residential development to the west and south, agricultural activity to the north, and provides limited use potential for the panther due to the exotic infestation and the distance from the more commonly used core lands of the panther. According to the FWC, an un-collared animal is known to frequent Bird Rookery Swamp approximately three miles northeast of the project, and a collared animal has been tracked north of Twin Eagles Golf Course approximately five miles to the east of the Project. Another collared animal was tracked onto the northern section of the project site in 2002 where it spent time as it progressed further north. Two living panthers, FP 146 (male) and FP 148 (female) have been documented about 8 to 9 miles south of the project on numerous occasions in 2006. Prior to that, the last animal documented within 10 miles of the project was in 2003, which was TX 106. TX 106 was last documented on January 6, 2003, and removed from the wild on January 8, 2003. Since the habitat quality of the site is generally poor, as it is primarily exotic-infested with limited foraging value for prey species, we believe panther usage of the site is limited; however, habitat loss may adversely affect the panther by decreasing the spatial extent of lands available to the panther for foraging, breeding, and dispersing.

Reduction in the Geographic Distribution of Habitat for the Species: The project will result in the loss of about 773 acres of non-developed land along the western edge of the Panther Focus Area. This loss represents only 0.04 percent of the 1,962,294 acres of available non-urban private lands in south Florida in the core area of the Florida panther (Table 3). The Service believes the habitat values lost by the development will be minimized by the preservation and restoration actions proposed by the applicant. The lands proposed for development are primarily exotic-infested native communities on the western fringe of the occupied range of the Florida panther and are adjacent to existing roads, urban areas, agriculture, and mining to the south, west, north, and east, respectively. The lands proposed for preservation are consistent with the Service's panther conservation strategy to locate, preserve, and restore sets of lands containing sufficient area, access, and appropriate cover types to ensure the long-term survival of the Florida panther south of the Caloosahatchee River.

Harassment by Construction Activities: The timing of construction for this project, relative to sensitive periods of the panther's lifecycle, is unknown. However, land clearing associated with the development will be completed in phases over several years. There are no known den sites within the project boundaries and the quality and quantity of the habitat foraging base for prey species is low. Therefore, we believe panther usage of the property is limited and we do not believe project construction will result in direct panther mortality, but may result in temporary disturbance to resident or dispersing panthers.

Compensation: The impact of the habitat lost as a result of the development will be minimized by the preservation and restoration actions proposed by the applicant. The applicant's proposed

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preservation acreage is estimated at 1,117 acres. The lands proposed for development are hydrologically disturbed, are invaded by exotic vegetation, are on the fringe of the currently occupied range of the Florida panther, are adjacent to urban areas and are adjacent to CR 846. The lands proposed for preservation are connected to other larger tracts of preserved lands and are consistent with the Service's panther goal to locate and preserve sets of lands containing sufficient area and appropriate cover types to ensure the long-term survival of the Florida panther south of the Caloosahatchee River.

Interrelated and Interdependent Actions

An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. No interrelated or interdependent actions are expected to result from the project.

Indirect Effects

Indirect effects are those effects that result from the proposed action and are reasonably certain to occur. The indirect effects this project will have on the Florida panther within the action area are discussed below and in the assessment of functional habitat values previously discussed. They include: (1) an increased risk of roadway mortality to panthers traversing the area due to the increase in vehicular traffic; (2) increased disturbance to panthers and panther prey in the project vicinity due to human activities (human/panther interactions); (3) the reduction in value of panther habitat adjacent to the project due to habitat fragmentation; and (4) a potential increase of intraspecific aggression between panthers due to reduction of the geographic distribution of habitat of the panther.

Increased Risk of Roadway Mortality: In evaluating a project's potential to increase roadway mortality to the Florida panther, we consider the location of the project in relation to surrounding native habitats, preserved lands, and wildlife corridors that are frequently used by the Florida panther. We also consider the current configuration and traffic patterns of surrounding roadways and the projected increase and traffic patterns expected to result from the proposed action. We evaluate the habitats present on-site, their importance in providing foraging needs for the Florida panther and panther prey species, and if the site development would further restrict access to surrounding lands important to the Florida panther and panther prey species.

The project will result in minor increased vehicular traffic in the project vicinity during construction and operation. Vehicular mortality and injury data (see Table 9 and Figure 9) provided by the FWC indicate collisions with motor vehicles have been increasing since 2001 in the 25-mile radius project action area. In 2003 and 2004, there were seven documented panther-vehicle collisions per year within the project action area (Table 9). These 2 years represent the most panthers killed by vehicles in single years in the action area. Four panthers per year were killed in 2005 and 2006. Of the 54 documented collisions, 47 (87 percent) have occurred more than 10 miles away from the project site and 53 (98 percent) occurred more than 5 miles from the project site. There have been no panther-vehicle collisions closer than 5 miles from the project site.

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According to traffic studies by Vanasse and Daylor, Incorporated, construction traffic will be coming from CR 846 and CR 951, which are south of the project. The access is along major roadways already heavily traveled. It is projected approximately 65 percent of the project traffic post construction will be to and from the west of the project on Immokalee Road (CR 846), 25 percent will be to/from the south of the project on CR 951, and 10 percent will be to/from the east of CR 951 on Immokalee Road. From a project average, daily traffic volume standpoint, 3,663 vehicles per day are projected on Immokalee Road to the west of the project, 1,409 vehicles per day are projected on CR 951 south of Immokalee Road, and 564 vehicles per day are projected on Immokalee Road to the east of CR 951. The projected project traffic estimated as a percentage of existing traffic represents an increase by about 9 percent of the existing traffic of Immokalee Road to the west of the project, by about 7 percent of the existing traffic on CR 951 south of Immokalee Road, and by about 3 percent of the existing traffic of Immokalee Road to the east of CR 951. From a percentage basis, the project traffic is projected to be 7 percent of the capacity of Immokalee Road to the west of the project, 3.1 percent of the capacity on CR 951 south of Immokalee Road, and 1 percent of the capacity of Immokalee Road to the east of CR 951.

The risk to the panther from collisions with vehicles as a result of the Mirasol project is difficult to quantify, the Service believes that the increase in traffic generated by the project may potentially contribute to mortality of panthers in the action area. Panthers are known to use the lands within the project vicinity and four panthers were killed within the project action area in 2006. The closest mortality was on CR 846 on-quarter mile north of the Collier County Fairgrounds on November 28, 2002, about 5 miles northeast of the proposed project site. Another panther, UCFP 79, was killed in that same vicinity on January 26, 2006. The most recent collision occurred on November 26, 2006. That panther, UCFP 88, was killed about 17 miles southwest of the project site on US 41 between Manatee Road and CR 951.

Panther and Prey Disturbance (Panther/Human Interactions): Potential increases in disturbance to the Florida panther and panther prey were evaluated. As discussed previously in our assessment of fragmentation, we considered habitat quality related factors and occurrence data for the Florida panther and panther prey species. This information is also the basis of our evaluation of disturbance to the Florida panther and to panther prey species. As discussed previously, the habitat on the project site consists of exotic-dominated wetland and upland communities that provide low quality habitat to the Florida panther. The site is primarily disturbed pine flatwoods, mixed hardwood-pine, and cypress swamp with greater than 50 percent melaleuca coverage over 85 percent of those habitat types, and thus exhibiting limited foraging value to panther prey species. Though panthers and panther prey may occasionally use the habitats within the project area, we believe panther usage of the property is infrequent and we do not believe project construction will result in a significant increase in panther/human interactions and prey disturbance.

Habitat Fragmentation: Considering our discussion of fragmentation under Direct Effects, the project site is located on the western fringe of occupied habitat, is adjacent to existing and proposed urban development, and is not located within known dispersal corridors to larger publicly owned managed lands important to the panther; therefore, fragmentation of panther habitat is not expected to result from project implementation. The project site is located on the

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western fringe of the Panther Focus Area. It is surrounded by existing or proposed development and agricultural activities. Therefore, fragmentation of panther prey species habitat is not expected.

Intraspecific Aggression: Potential increases in intraspecific aggression and disturbance to the Florida panther were evaluated. As discussed previously in our assessment of fragmentation and habitat for panther and panther prey, we considered habitat quality related factors and occurrence data for the Florida panther and panther prey species as factors affecting intraspecific aggression.

Since 1987 there has been only one documented panther mortality attributed to intraspecific aggression within 10 miles of the project site. FP 64 (male) died about 9 miles northeast of the project site in March 1999. This animal was killed by an uncollared male in Audubon's Corkscrew Sanctuary. The project area, on the other hand, is surrounded by existing and approved development and is in an area that has been previously fragmented by roads and land conversion. As previously discussed, the habitats on the property provide for low quality foraging for prey, which directly affects the frequency and duration of use of the property by panthers. However, the reduction in the geographic range of habitat for dispersal and/or escape cover may contribute to a potential increased risk of death or injury of panthers in the action area due to intraspecific aggression.

Species Response to the Proposed Action

The proposed action will result in increased human activity and noise in the project area during construction of the project. However, since panthers are not commonly known to use lands within and adjacent to the project site, activities associated with construction of the Mirasol project are not anticipated to significantly increase risk of disturbance to panthers, though some temporary disturbance may occur.

The project will result in the loss of a relatively small amount (773 acres) of potential panther habitat according to the most current home range estimates of the Florida panther (Lotz et al. 2005). This represents 2.6 percent of a female panther's average home range (29,059 acres) and 1.2 percent of a male panther's average home range (62,542 acres). The project area provides mostly poor quality panther habitat and panthers are not known to commonly use the project area; however, the loss of habitat may contribute to increases in intraspecific aggression decreasing the spatial extent of lands available to the panther for foraging, breeding, and dispersing. We anticipate any resident panthers with home ranges overlapping or in the vicinity of the project area will adjust the size and location of their ranges to account for this loss and that adjustment is anticipated to occur in concert with project construction.

Panthers are sensitive to habitat fragmentation. However, the project site is located on the western fringe of occupied habitat, is adjacent to urban development, and is not located within known dispersal corridors (FWC 2006b) between larger publicly owned managed lands. Therefore, fragmentation of panther habitat is not expected to result from project implementation.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local, or private actions reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions

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unrelated to the proposed action but located in the action area that would affect panthers are not considered in this section because they would require separate consultations pursuant to section 7 of the Act. To identify future private actions that would affect panthers and that may reasonably be certain to occur in the action area, the Service first identified the types of land alteration actions that could occur in the action area, then developed a mechanism to distinguish between those that will require future federal review and those that are not likely to be a future federal action, and thus meet the cumulative effects definition. To estimate future non-federal actions, the Service chose to identify and tabulate recent past non-federal actions and project this level of development as representative of future non-federal actions.

Within the action area, past and ongoing state and county actions affecting panther habitat include: (1) State of Florida DRI Orders (2001 to 2004); (2) Comprehensive Plan Amendments (2003 to 2004); (3) Lee and Collier County Zoning Amendments (2003 to 2004); (3) Collier County's PUDs (2001 to 2004); (4) Lee County's PUDs (2003 to April 2004); and (5) South Florida Water Management District's Environmental Resource Permits (2003 to 2004) (Figure 13). To evaluate these effects, the Service incorporated the Florida Land Use, Cover and Forms Classification System (FLUCCS) mapping to determine properties that may be exempt from Federal Clean Water Act section 404 wetland regulatory reviews by the Corps. To determine which of these projects would likely be exempt from Federal Clean Water Act section 404 wetland regulatory reviews by the Corps, we identified the percentage of the project site that was classified as wetland habitat, based on the FLUCCS mapping units. The mapping units relied on by the Service included the 600 series (wetland classifications) and the 411 and 419 pine flatwood classifications (hydric pine systems). For listing purposes, properties with less than 5 percent wetlands were considered by the Service to be generally exempt from regulatory review as these quantities of wetlands could be avoided by project design.

Within the action area, based on FLUCCS mapping, about 2,581 acres could be expected to be subject to development without Federal permit involvement through the Clean Water Act section 404 (Table 12). This level of development represents 9.0 percent of a female panther's average home range (29,059 acres) and 4.2 percent of a male panther's average home range (62,542 acres).

State and county land alteration permits in southwest Florida not part of those actions listed above, generally included single-family residential developments within Northern Golden Gate Estates and Lehigh Acres. Vacant lands within the area of Northern Golden Gate Estates (north of I-75), also within the action area, totaled about 34,028 acres as of September 2004 (Figure 14). To evaluate these effects, the Service overlaid the plat boundaries on 2004 aerials, queried the parcel data from Collier County's Property Appraisers Office, noted lots with developments, compared those to 2003 aerials, and noted the changes. Vacant lands within the area of Northern Golden Gate Estates (north of I-75) totaled about 35,768 acres as of August 2003. The breakdown of acres for August 2003 is: (1) wetlands, about 17,572 acres; (2) uplands, about 17,990 acres; and (3) water, about 210 acres. These changes were overlain on the National Wetlands Inventory (NWI) maps for presence of wetlands. This evaluation was used to estimate the acreage of properties that may be exempt from Federal Clean Water Act section 404 wetland regulatory reviews by the Corps. A comparison of the 2003 and 2004 data for Northern Golden Gate Estates indicates about 1,740 acres of land were converted from vacant to developed with the breakdown as: (1) wetlands, about 696 acres; and (2) uplands, about 1,740 acres.

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DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
1520 ROYAL PALM SQUARE BLVD., SUITE 310
FORT MYERS, FLORIDA 33919

December 7, 2012

REPLY TO
ATTENTION OF

Fort Myers Section
SAJ-2000-01926(IP-HWB)
Modification-1 to 28 July 2011 Permit

Mr. Don Milarcik
IM Collier Joint Venture
6080 Cypress Hollow Way
Naples, Florida 34109

Dear Mr. Milarcik:

The U.S. Army Corps of Engineers has completed the review and evaluation of your modification request received March 16, 2012 in which you asked to revise the plans authorized by Department of the Army permit number SAJ-2000-01926, for construction of a golf/residential development to be known as "Mirasol", dated July 28, 2011. The 1,798-acre project is located north of Immokalee Road and east of I-75 in Sections 10, 11, 15 and 22, Township 48 South, Range 26 East, Collier County, Florida.

The proposed modification has added approximately ± 84 acres to the project on the approximately 80 acres on the west and 4.92 acres on the east boundary allowing an increase in the development density from 799 units to 1,121 (322 additional units). The modification includes removing eighteen (18) holes of golf, reducing the size of lots/type of residential units condensing the development footprint to the south/west providing wider preserve connections with adjacent properties which reduced wetland impacts and increased the area of wetlands/uplands enhanced and preserved. The modification must be completed in accordance with the 22 enclosed construction drawings, eight attachments and the sixteen special conditions (which replace the nineteen special conditions of the 28 July 2011 permit), which are incorporated in, and made a part of the permit.

The project description is revised

From: Authorization for the construction of a residential development, a thirty-six (36) hole golf course and storm water management system on a 1713.45-acre site for the project known as "Mirasol". The project will require the discharge approximately 2,100,000 cubic yards of fill material into 518.67 acres of wetlands and the excavation of approximately 1,800,000 cubic yards of fill material from 126.68 acres of wetlands. The project also includes contouring the north bank of the Cocohatchee Canal. All work is to be completed in accordance with the attached plans numbered SAJ-2000-1926 (IP-HWB), 24 pages dated 12 December 2006.

To: Authorization for the construction of a residential development, an eighteen (18) hole golf course and storm water management system on a 1,798-acre site for the project known as "Mirasol". 2,560,000 cy of fill into 426.35 acres of wetlands and the excavation of approximately 2,450,000 cy of material from 135.32 acres of wetlands. The project also includes contouring the north bank of the Cocohatchee Canal and replacing the conveyance, chain of lakes internal to the project with a peripheral conveyance on the west boundary of the

EXHIBIT D

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project. All work is to be completed in accordance with the attached plans numbered SAJ-2000-01926 (IP-MJD), 22 pages dated 7 December 2012.

Special Conditions:

1. **Reporting Address:** All reports, documentation and correspondence required by the conditions of this permit shall be submitted to the following address: U.S. Army Corps of Engineers, Regulatory Division, Enforcement Section, 1520 Royal Palm Square Blvd., Suite 310, Fort Myers, FL 33919. The Permittee shall reference this permit number, SAJ-2000-01926-(IP-MJD), on all submittals.
2. **Commencement Notification:** Within 10 days from the date of initiating the authorized work, the Permittee shall provide to the Corps a written notification of the date of commencement of work authorized by this permit.
3. **Erosion Control:** Prior to the initiation of any work authorized by this permit, the Permittee shall install erosion control measures along the perimeter of all work areas to prevent the displacement of fill material outside the work area. Immediately after completion of the final grading of the land surface, all slopes, land surfaces, and filled areas shall be stabilized using sod, degradable mats, barriers, or a combination of similar stabilizing materials to prevent erosion. The erosion control measures shall remain in place and be maintained until all authorized work has been completed and the site has been stabilized.
4. **Compensatory Mitigation:** Within 12 months from the date of initiating the authorized work the Permittee shall complete the following mitigation objectives in accordance with the revised compensatory mitigation plans (Attachment C & D) as detailed on Drawings 12 through 19 of 22 of Attachment 1:
 - a. **Onsite Mitigation**
 - (1) **Wetland Enhancement:** Manually remove Category I and II invasive exotic plant species from 34.7 acres of wetlands and 2.1 acres of uplands in preserves (C-F) located within the development footprint. Only specific area depicted as "shaded" as shown on Exhibit 1 of Attachment C within Preserve Areas E & F are subject to mechanical removal if necessary. All other removal of nuisance and exotic vegetation will be accomplished by hand according to Attachment C (pages 1-10 of 10 (text), and accompanying tables, monitoring map.
 - (2) Areas of potential replanting (existing < 50% exotic vegetation) will be monitored for understory recruitment from native seedbed for one growing season prior to supplemental planting to facilitate a more diverse natural community type and natural distribution of groundcover species according to Attachment C (pages 1-10 of 10 (text)).

EXHIBIT D

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- (3) Areas requiring supplemental planting (mechanized clearing areas) to meet the minimum coverage rate for the appropriate wetland community type will be planted with species according to the tables found on page 7 & 8 of Attachment C.

b. Main Preserve Mitigation (Outside Project footprint)

- (1) Wetland Enhancement: – Manually remove Category I and II invasive exotic plant species from 932.25 acres of wetlands and 122.93 acres of uplands in preserves designated as A & B. Approximately 245.08 acres of mechanical removal of exotics is authorized if necessary within Preserve A and B in areas with a prevalence (>75%) exotic vegetation. These areas are depicted as “shaded” on Exhibits 1, 5-7 of 7, Attachment D. Exotic vegetation will be removed from all other areas of the Main Preserve by hand removal methods.
- (2) Wetland Enhancement – Wading Bird Habitat Enhancement: Enhance 17.31 acres of wet pasture (Preserve B polygon 190) to create wading bird habitat as shown on Exhibit 1 of Attachment D. These areas will be planted with appropriate wetland vegetation in Zones 1-4 according to the table on page 6 of 13 of Attachment D. The wading bird foraging areas planting density shall be appropriate for wood stork foraging rather than the 80% coverage specified in Special Condition 5(a) below.
- (3) Wetland Creation: Convert 14.55 acres of uplands (portions of polygons 2, 3 & 10) to wetlands to create wood stork foraging habitat as shown on Exhibit 2 of Attachment D. These areas will be planted with appropriate wetland vegetation in Zones 1-4 according to the table on page 6 of 13 and Exhibit 7(a) of Attachment D. The wading bird foraging area planting density shall be appropriate for wood stork foraging rather than the 80% coverage specified in Special Condition 5(a) below.
- (4) Areas where mechanized exotic removal (or selective trails used for exotic removal) will be restored to existing, natural wetland grade and all ruts removed to prevent abnormal hydrological flow through enhanced wetlands and facilitate natural sheet flow through preserve areas.
- (5) Areas of mechanized clearing or selective trail construction in mechanized clearing areas will be immediately restored to surrounding wetland grade and replanted according to the planting tables included on pages 5 & 6 of Attachment D.
- (6) Areas of replanting (existing < 50% exotic vegetation) will be monitored for understory recruitment from native seedbed for one growing season after removal of exotic vegetation prior to supplemental planting to facilitate a more diverse natural community type and natural distribution of groundcover species according to the tables on pages 4 & 6 in Attachment D (pages 1-13 of 13 (text)).
- (7) Approximately 1.2 acres of an access easement to a 20-acre outparcel in Preserve Area A will not be placed under a conservation easement and was not used for mitigation.

EXHIBIT D

Mitigation Summary Table – Main Preserve Areas A & B

Preserve	Enhance Wetlands	Wading Bird Wetland Habitat enhancement	Convert uplands to Wetlands	Enhance Uplands	Preserve area Total
A	779.76			108.79	888.55
B	152.49	17.31	14.55	14.14	198.49
Total	932.25	17.31	14.55	122.93	1087.04

These onsite and offsite compensatory mitigation areas shall be preserved in perpetuity in accordance with the **Conservation Easement Special Condition** of this permit.

5. Performance Standards: To meet the objectives of the approved compensatory mitigation plan, the Permittee shall achieve the following performance standards:

a. At least 80 percent cover by appropriate wetland species (i.e., FAC or wetter). The created wading bird habitats (31.86 acres in Preserve B) shall be evaluated as appropriate coverage to provide short-hydroperiod foraging for wood storks.

b. Cover of Category I and II invasive exotic plant species, pursuant to the most current list established by the Florida Exotic Pest Plant Council at <http://www.fleppc.org>, and the nuisance species, dogfennel (*Eupatorium capillifolium*), Bermudagrass (*Cynodon spp.*), Bahiagrass (*Paspalum notatum*), and cattail (*Typha spp.*). shall total less than 5 percent with no more than 1 % in any one strata.

c. Less than 20 percent mortality of planted wetland species.

The Permittee shall achieve the above performance standards by the end of the 5-year monitoring period, with no maintenance during the 5th year of monitoring and must meet the success criteria for three consecutive years. In the event that the above performance standards have not been achieved, the Permittee shall undertake a remediation program approved by the Corps in accordance with the **Remediation Special Condition** of this permit.

6. Monitoring and Reporting Timeframes: To show compliance with the performance standards the Permittee shall complete the following:

a. Perform a time-zero monitoring event of the wetland mitigation area(s) within 60 days of completion of the compensatory mitigation objectives identified in the **Compensatory Mitigation Special Condition** of this permit.

EXHIBIT D

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b. Submit the time-zero report to the Corps within 60 days of completion of the monitoring event. The report will include at least one paragraph depicting baseline conditions of the mitigation site(s) prior to initiation of the compensatory mitigation objectives and a detailed plan view drawing of all created, enhanced and/or restored mitigation areas.

c. Subsequent to completion of the compensatory mitigation objectives, perform semi-annual monitoring of the wetland mitigation areas for the first 3 years and annual monitoring thereafter for a total of no less than 5 years of monitoring.

d. Submit annual monitoring reports to the Corps within 60 days of completion of the monitoring event. Semi-annual monitoring will be combined into one annual monitoring report.

e. Monitor the mitigation area(s) and submit annual monitoring reports to the Corps until released in accordance with the **Mitigation Release Special Condition** of this permit.

7. **Reporting Format:** Annual monitoring reports shall follow a 10-page maximum report format for assessing compensatory mitigation sites. The Permittee shall submit all documentation to the Corps on 8½-inch by 11-inch paper, and include the following:

a. Project Overview (1 Page):

(1) Department of the Army Permit Number

(2) Name and contact information of Permittee and consultant

(3) Name of party responsible for conducting the monitoring and the date(s) the inspection was conducted

(4) A brief paragraph describing the purpose of the approved project, acreage and type of aquatic resources impacted, and mitigation acreage and type of aquatic resources authorized to compensate for the aquatic impacts.

(5) Written description of the location, any identifiable landmarks of the compensatory mitigation project including information to locate the site perimeter(s), and coordinates of the mitigation site (expressed as latitude, longitudes, UTM's, state plane coordinate system, etc.).

(6) Dates compensatory mitigation commenced and/or was completed

(7) Short statement on whether the performance standards are being met

EXHIBIT D

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(8) Dates of any recent corrective or maintenance activities conducted since the previous report submission

(9) Specific recommendations for any additional corrective or remedial actions.

b. Requirements (1 page): List the monitoring requirements and performance standards, as specified in the approved mitigation plan and special conditions of this permit, and evaluate whether the compensatory mitigation project site is successfully achieving the approved performance standards or trending towards success. A table is a recommended option for comparing the performance standards to the conditions and status of the developing mitigation site.

c. Summary Data (maximum of 4 pages): Summary data should be provided to substantiate the success and/or potential challenges associated with the compensatory mitigation project. Photo documentation may be provided to support the findings and recommendations referenced in the monitoring report and to assist the PM in assessing whether the compensatory mitigation project is meeting applicable performance standards for that monitoring period. Submitted photos should be formatted to print on a standard 8 1/2" x 11" piece of paper, dated, and clearly labeled with the direction from which the photo was taken. The photo location points should also be identified on the appropriate maps.

d. Maps and Plans (maximum of 3 pages): Maps shall be provided to show the location of the compensatory mitigation site relative to other landscape features, habitat types, locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the mitigation plan. In addition, the submitted maps and plans should clearly delineate the mitigation site perimeter(s). Each map or diagram should be formatted to print on a standard 8 1/2" x 11" piece of paper and include a legend and the location of any photos submitted for review. As-built plans may be included.

e. Conclusions (1 page): A general statement shall be included that describes the conditions of the compensatory mitigation project. If performance standards are not being met, a brief explanation of the difficulties and potential remedial actions proposed by the Permittee or sponsor, including a timetable, shall be provided. The District Commander will ultimately determine if the mitigation site is successful for a given monitoring period.

8. Remediation: If the compensatory mitigation fails to meet the performance standards 5 years after completion of the compensatory mitigation objectives, the compensatory mitigation will be deemed unsuccessful. Within 60 days of notification by the Corps that the compensatory mitigation is unsuccessful, the Permittee shall submit to the Corps an alternate compensatory mitigation proposal sufficient to create the functional lift required under this permit. The alternate compensatory mitigation proposal may be required to include additional mitigation to

EXHIBIT D

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compensate for the temporal loss of wetland function associated with the unsuccessful compensatory mitigation activities. The Corps reserves the right to fully evaluate, amend, and approve or reject the alternate compensatory mitigation proposal. Within 120 days of Corps approval, the Permittee will complete the alternate compensatory mitigation proposal.

9. **Mitigation Release:** The Permittee's responsibility to complete the required compensatory mitigation, as set forth in the **Compensatory Mitigation Special Condition** of this permit will not be considered fulfilled until mitigation success has been demonstrated and written verification has been provided by the Corps. A mitigation area which has been released will require no further monitoring or reporting by the Permittee; however the Permittee, Successors and subsequent Transferees remain perpetually responsible to ensure that the mitigation area(s) remain in a condition appropriate to offset the authorized impacts in accordance with General Condition 2 of this permit.

10. **As-Built:** Within 60 days of completion of the authorized work (and ground disturbing mitigation construction) or at the expiration of the construction authorization of this permit, whichever occurs first, the Permittee shall submit as-built drawings of the authorized work and a completed As-Built Certification Form (Attachment E) to the Corps. The drawings shall be signed and sealed by a registered professional engineer and include the following:

a. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in the same scale as the attached permit drawings (8½-inch by 11-inch). The drawing should show all "earth disturbance," including wetland impacts, water management structures, and any on-site mitigation construction such as wood stork foraging creation areas.

b. List any deviations between the work authorized by this permit and the work as constructed. In the event that the completed work deviates, in any manner, from the authorized work, describe on the As-Built Certification Form the deviations between the work authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings any deviations that have been listed. Please note that the depiction and/or description of any deviations on the drawings and/or As-Built Certification Form does not constitute approval of any deviations by the U.S. Army Corps of Engineers.

c. The Department of the Army Permit number.

d. Include pre- and post-construction aerial photographs of the project site, if available.

11. **Notice of Permit:** The Permittee shall complete and record the Notice of Department of the Army Permit (Attachment F) with the Clerk of the Circuit Court, Registrar of Deeds or other appropriate official charged with the responsibility of maintaining records of title to or interest

EXHIBIT D

in real property within the county of the authorized activity. Within 90 days from the effective date of this permit the Permittee shall provide a copy of the recorded Notice of Permit to the Corps clearly showing a stamp from the appropriate official indicating the book and page at which the Notice of Permit is recorded and the date of recording. The permittee shall record the original permit and this modification.

12. Conservation Easement: The Permittee shall have a legally sufficient conservation easement prepared to ensure to the Corps' satisfaction that the areas referenced in the **Compensatory Mitigation Special Condition** will remain in their natural state in perpetuity. The conservation easement will encompass approximately 984.31 acre(s) of wetlands, 14.55 acres of uplands converted to wetlands and 125.02 acre(s) of uplands for a total of approximately 1123.88 acres placed under conservation easements. These natural preserve areas will not be disturbed by any dredging, filling, land clearing, agricultural activities, planting, or other construction work whatsoever except as required or authorized by this permit. The Permittee agrees that the only future utilization of the preserved areas in question will be as a purely natural area. The total preserve areas A-F are shown in the following table. Preserve Areas A & B are proposed to be donated to the adjacent CREW preserve or another conservation land management agency upon meeting performance criteria and receiving release from monitoring requirements from the Corps and the SFWMD.

Preserve Area	Acres Wetland	Acres Upland	Total Acres in Preserve Area	Donated to CREW	Maintained by HOA in perpetuity
A	779.76	108.79	888.55	Yes	No
B*	184.35	14.14	198.49	Yes	No
C	9.67		9.67	No	Yes
D	2.79		2.79	No	Yes
E	13.77		13.77	No	Yes
F	8.52	2.09	10.61	No	Yes
Totals	998.86	125.02	1123.88		

*Preserve B wetland acres includes 14.55 acres of uplands converted to wetlands.

To show compliance with this condition the Permittee shall complete the following:

- a. Within 30 days from the date of initiating the authorized work submit to the Corps the draft conservation easement document with a legal description, survey, and scale drawings, of the area in question. The Corps, as a third party beneficiary, shall have the right to enforce the terms and conditions of the site protection instrument, including:

EXHIBIT D

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1. The right to take action to preserve and protect the environmental value of the Property;
2. The right to prevent any activity on or use of the Property that is inconsistent with the purpose of this Conservation Easement, and to require the restoration of areas or features of the Property that may be damaged by any inconsistent activity or use;
3. The right to enter upon and inspect the Property in a reasonable manner and at reasonable times to determine if Grantor or its successors and assigns are complying with the covenants and prohibitions contained in this Conservation Easement; and
4. The right to enforce this Conservation Easement by injunction or proceed at law or in equity to enforce the provisions of this Conservation Easement and the covenants set forth herein, to prevent the occurrence of any of the prohibited activities hereinafter set forth, and the right to require Grantor to restore such areas or features of the Property that may be damaged by any inconsistent activity or use. The Grantee and the Corps each will coordinate with the other prior to taking any enforcement action.
5. The Grantor, its successors or assigns shall provide the Corps at least 60 days advance notice in writing before any action is taken to modify, amend, release, or revoke this instrument.
 - b. Within 30 days of Corps' approval of the draft conservation easement, record the easement in the public records of Collier County, Florida. A certified copy of the recorded document, plat, and verification of acceptance from the grantee shall be forwarded to the Corps within 60 days of Corps' approval of the draft conservation easement.
 - c. Within 30 days from the date of initiating the authorized work submit to the Corps a title insurance commitment with the draft conservation easement document, **IN FAVOR OF THE GRANTEE**, for the property which is being offered for preservation to show that the Permittee has clear title to the real property and can legally place it under a conservation easement. Any existing liens or encumbrances on the property shall be subordinated to the conservation easement. At the time of recordation of the conservation easement, a title insurance policy shall be provided to the Corps in an amount equal to the current market value of the property.

EXHIBIT D

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d. In the event this permit is transferred, proof of delivery of a copy of the recorded conservation easement to the subsequent Permittee or Permittees shall be submitted to the Corps together with the notification of permit transfer.

The Grantee shall not assign its rights or obligations under this conservation easement except to another organization qualified to hold such interests under the applicable state and federal laws, including §704.06 Florida Statutes, and committed to holding this conservation easement exclusively for conservation purposes. The Corps shall be notified in writing of any intention to reassign the conservation easement to a new grantee and shall approve the selection of the grantee. The new grantee shall accept the assignment in writing and a copy of this acceptance delivered to the Corps. The conservation easement shall then be re-recorded and indexed in the same manner as any other instrument affecting title to real property and a copy of the recorded conservation easement furnished to the Corps.

13. Biological Opinion: This Corps permit does not authorize the Permittee to take an endangered species, in particular the Florida panther or the wood stork. In order to legally take a listed species, the Permittee must have separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or a BO under ESA Section 7, with "incidental take" provisions with which the Permittee must comply). The enclosed amendment (dated September 18, 2012) (Attachment G) to the US Fish and Wildlife Service (FWS) Biological Opinion dated 2 June 2011 (BO) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Authorization under this Corps permit is conditional upon compliance with all of the mandatory terms and conditions associated with incidental take of the attached BO and amendment, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with this Corps permit. The FWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.

14. Eastern Indigo Snake Protection Measures: The Permittee shall comply with U.S. Fish and Wildlife Service's "Standard Protection Measures for the Eastern Indigo Snake" dated February 12, 2004 and provided in Attachment H of this permit."

15. Fill Material: The Permittee shall use only clean fill material for this project. The fill material shall be free from items such as trash, debris, automotive parts, asphalt, construction materials, concrete block with exposed reinforcement bars, and soils contaminated with any toxic substance, in toxic amounts in accordance with Section 307 of the Clean Water Act.

16. Regulatory Agency Changes: Should any other regulatory agency require changes to the work authorized or obligated by this permit, the Permittee is advised that a modification to this

EXHIBIT D

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permit instrument is required prior to initiation of those changes. It is the Permittee's responsibility to request a modification of this permit from the Fort Myers Regulatory Office.

17. At such time as the permittee proposes to transfer Preserve Areas A & B to CREW or another acceptable land conservation entity, a permit modification application shall be submitted to the Corps for review and approval in accordance with the terms and conditions of the attached Biological Opinion (USFWS) requiring approval of the perpetual maintenance fund and management entity proposed by the permittee.

The impact of your proposal on navigation and the permit is hereby modified in a way that will be insignificant. The permit is hereby modified in a way that will be insignificant. Attach this letter to the permit. All other conditions of the permit remain in effect.

USFWS →
must approve
entity to be deleted
then

and found
you should
and effect.

If you have any questions concerning permit modification, contact
Monika Dey at the letterhead address, by telephone at 239-435-1234
at monika.j.dey@usace.army.mil.

t manager
onic mail

Thank you for your cooperation with our permit program. The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to take a few minutes to visit <http://per2.nwp.usace.army.mil/survey.html> and complete our automated Customer Service Survey. Your input is appreciated – favorable or otherwise. Please be aware this web address is case sensitive and should be entered as it appears above.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

for *Monika Dey*

Alan M. Dodd
Colonel, U.S. Army
District Commander

Enclosure

Copy/ies Furnished:

SFWMD
CESAJ-RD-PE
USFWS-Vero Beach
USEPA-West Palm Beach

Thanks to
someone
else who
walked away
→

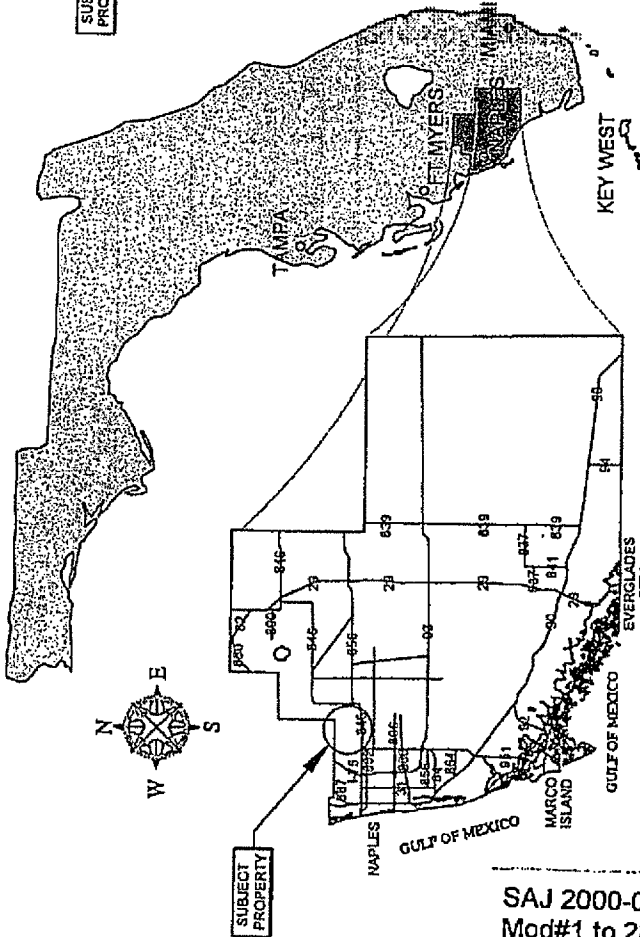
EXHIBIT D

ATTACHMENT A: Permit Drawings

Pages 1-22 of 22
Dated December 7, 2012

EXHIBIT D

STATE OF FLORIDA



SUBJECT PROPERTY



COLLIER COUNTY

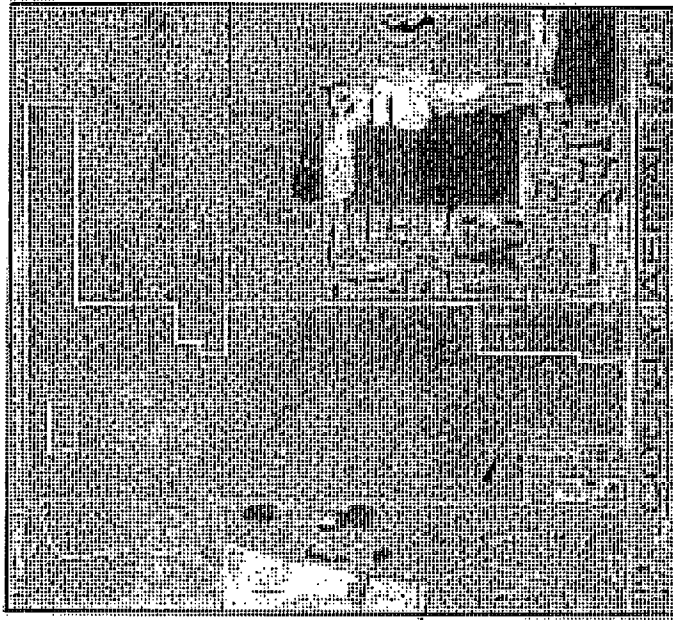
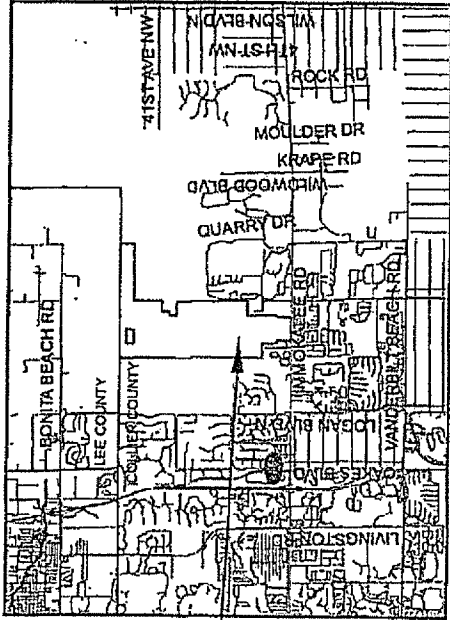
NOTES:
 <> THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY
 AND ARE NOT INTENDED FOR CONSTRUCTION USE.

<> LATITUDE: N 26° 17' 51.497"
 <> LONGITUDE: W 81° 42' 0.688"
 DIRECTIONS TO SITE:
 FROM I-75 EXIT 111 TURN EAST ONTO IMMEDIATELY
 RD (CR 840). TRAVEL APPROXIMATELY 2.5 MILES.
 PROJECT SITE IS ON NORTH SIDE OF ROAD.



Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave, Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6632
 Email: turrell@turrell-associates.com

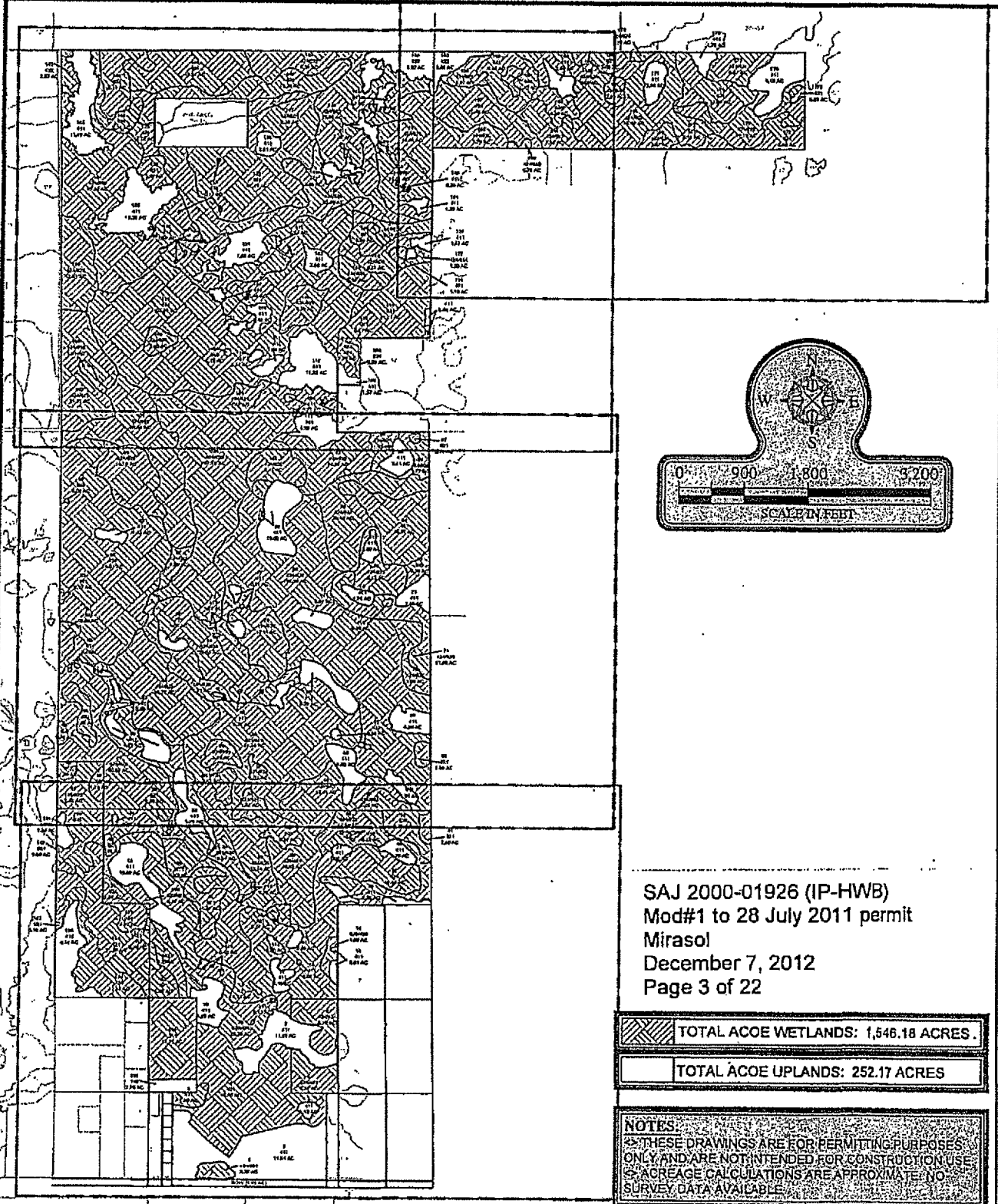
MIRASOL
 SITE LOCATION MAP



DESIGNED: T.T.T.	REVISION:	TAB NAME:	Location
DRAWN BY: SS	02-15-2012	SHEET:	
CREATED: 04-25-00	09-05-2012	SCALE:	1"=400'
JOB NO.: 0418	N/A		
SECTION- 10.11521 TOWNSHIP- 48 S			RANGE- 28 E

EXHIBIT D

P:\0418 Mirasol\02012_DRAWINGS\SCORE\02012_SUBMITTAL.dwg



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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	TOTAL ACOE WETLANDS: 1,546.18 ACRES.
	TOTAL ACOE UPLANDS: 252.17 ACRES

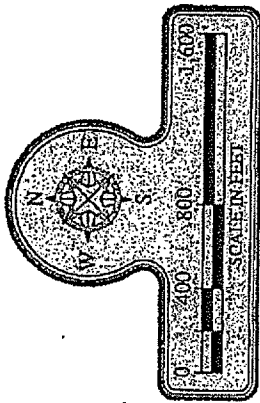
NOTES:
 THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

 **Turrell & Associates, Inc.**
 Marine & Environmental Consulting
 1584 Exchange Ave. Suite B, Naples, FL 34104-3732
 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 ACOE FLUCFCS MAP (ALL)

DESIGNED:	T.Y.T.	REVISION:	TAB NAME:	Flucfcs AB
DRAWN BY:	ES	02-15-2012	SHEET:	
CREATED:	04-25-08	08-05-2012	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 26 E				

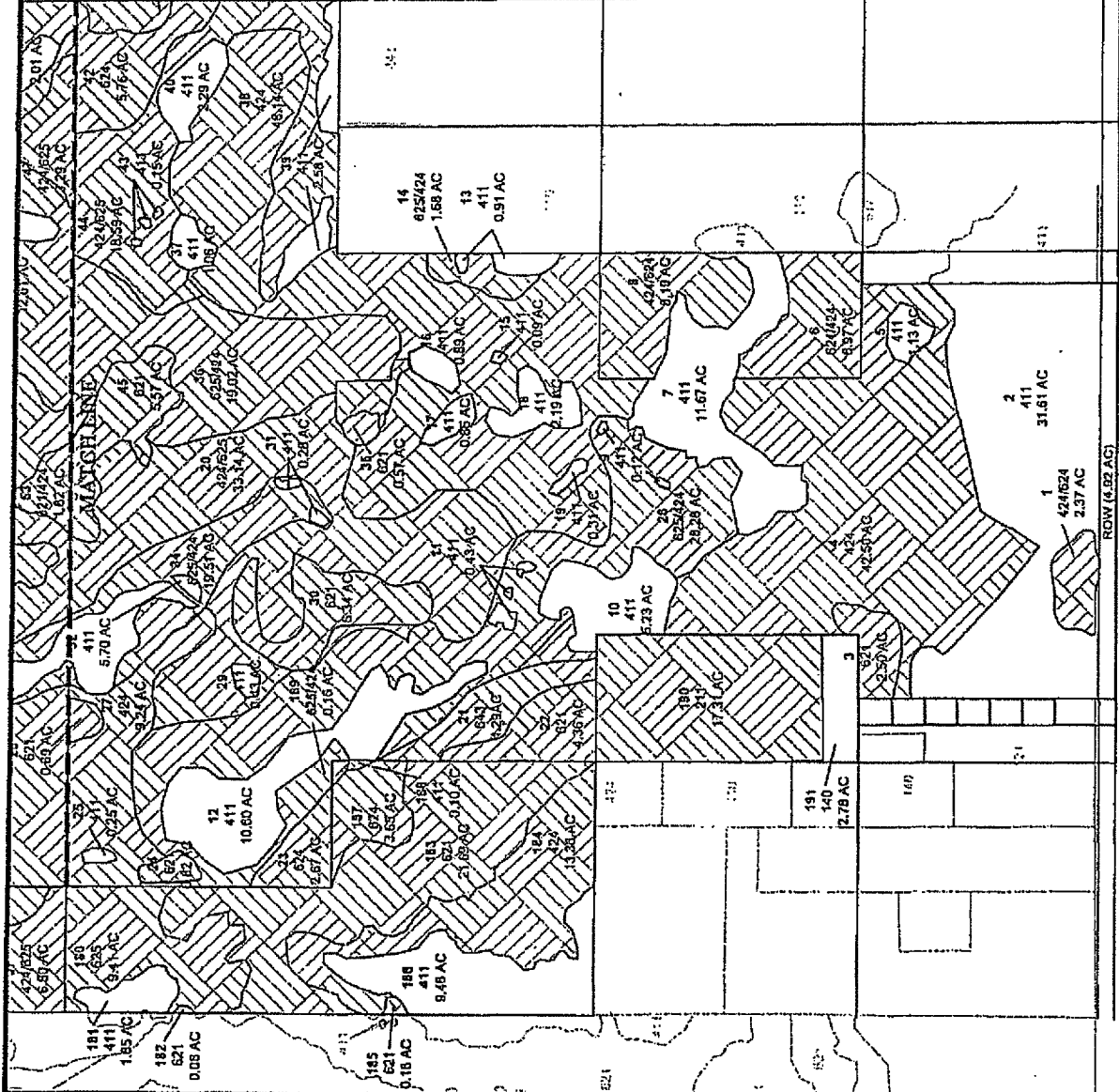
EXHIBIT D



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 4 of 22

TOTAL ACOE WETLANDS: 1,546.18 ACRES
 TOTAL ACOE UPLANDS: 252.17 ACRES

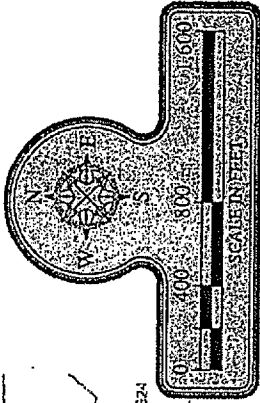
DESIGNED: T.T.T.	REVISION:	TAB NAME:	FRIDGE 22
DRAWN BY: SS	02-15-2012	SHEET:	
CREATED: 04-25-08	06-05-2012	SCALE:	1"=800'
JOB NO: 0418	N/A	TOWNSHIP:	48 S
SECTION: 22		RANGE:	26 E



MIRASOL
 FLUCFCS MAP (SECTION 22)

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 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B, Naples, FL 34104-3732
 Email: turrell@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6592

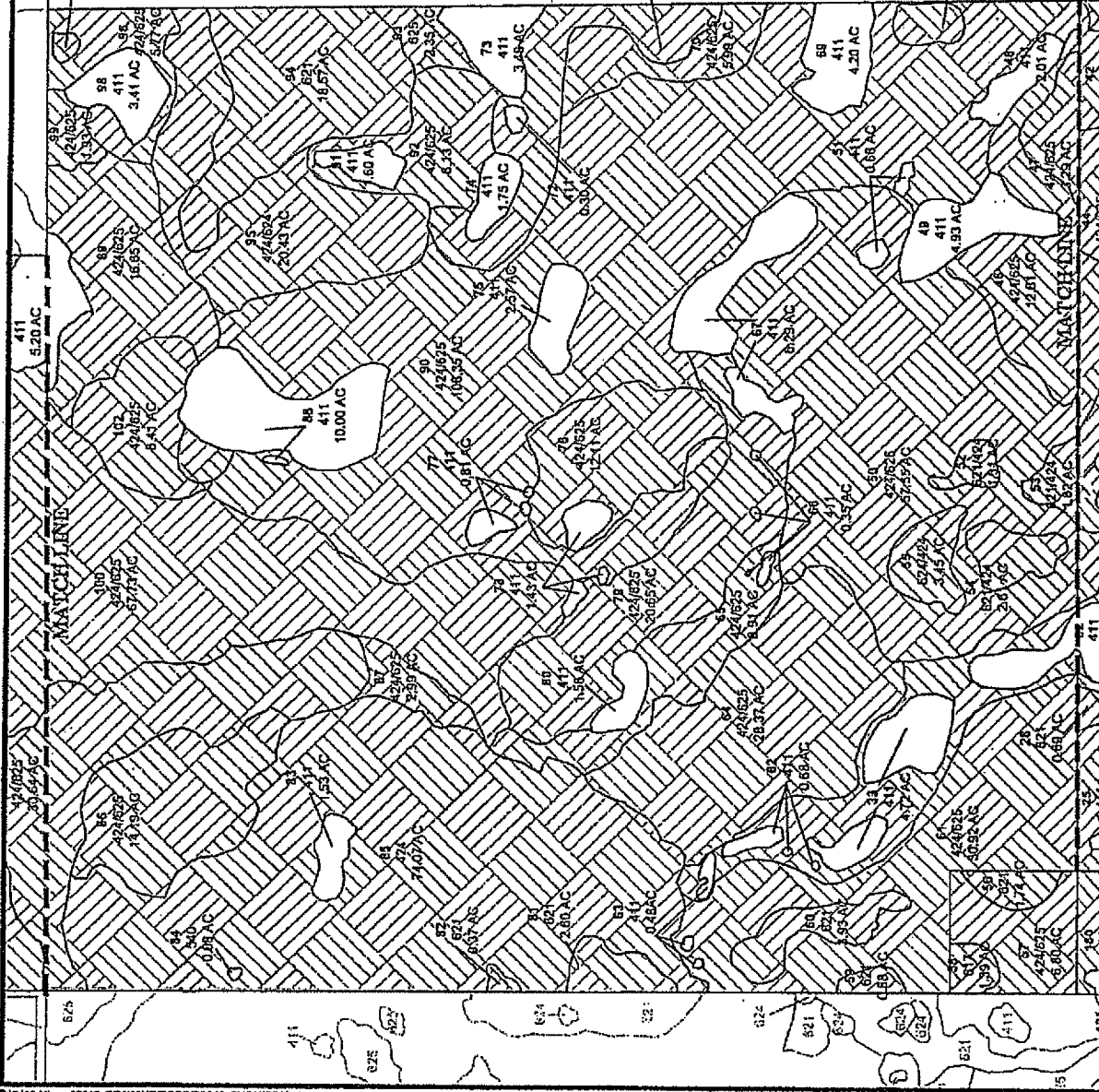
EXHIBIT D



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 5 of 22

TOTAL ACOE WETLANDS: 1,546.18 ACRES
 TOTAL ACOE UPLANDS: 252.17 ACRES

DESIGNED: T.T.T.	REVISION:	TAB NAME: Flucfcs 15
DRAWN BY: SS	02-15-2012	SHEET:
CREATED: 04-25-06	09-05-2012	SCALE: 1"=800'
JOB NO.: 9415	N/A	
SECTION-15	TOWNSHIP- 4B S	RANGE- 26 E

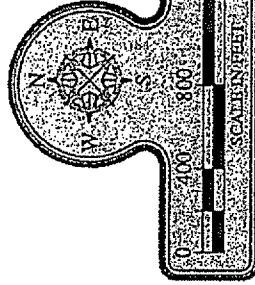


MIRASOL
 FLUCFCS MAP (SECTION 15)

Turell & Associates, Inc.
 Marine & Environmental Consulting
 3154 Exchange Ave. Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6632
 Email: turell@turell-associates.com

EXHIBIT D

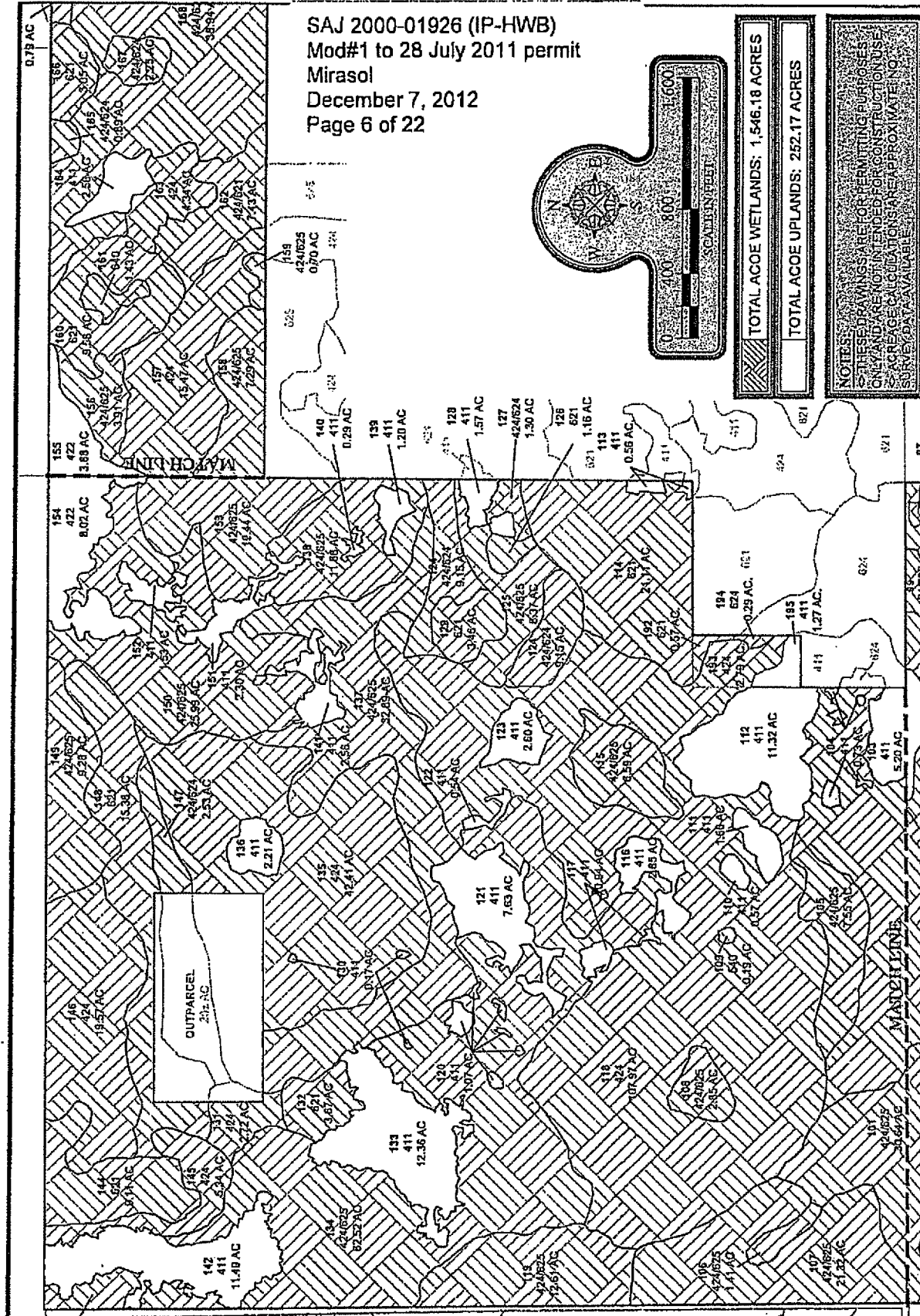
SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 6 of 22



TOTAL ACCE WETLANDS: 1,546.18 ACRES
TOTAL ACCE UPLANDS: 252.17 ACRES

NOTES:
 THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 SURFACE AREA CALCULATIONS ARE APPROXIMATE AND SUBJECT TO FIELD VERIFICATION.

DESIGNED BY: T.T.T.	REVISION: 02-15-2012	TAB NAME: Flucfcs 10
DRAWN BY: SS	CREATED: 04-25-20	SHEET: 1-1807
JOB NO.: 4118	DATE: N/A	SCALE: 1"=80'
SECTION: 16	TOWNSHIP: 48 S	RANGE: 28 E

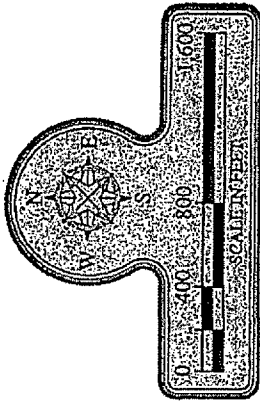


MIRASOL

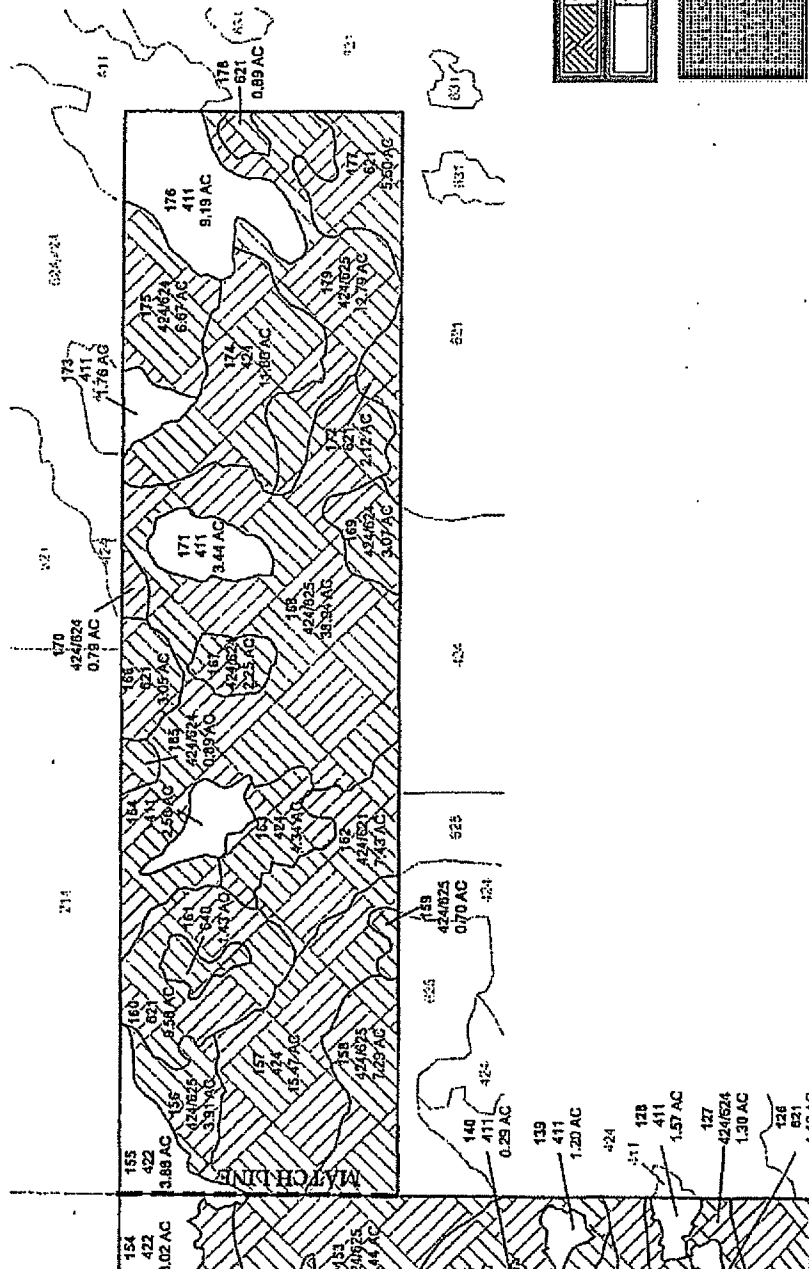
FLUCFCS MAP (SECTION 10)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave, Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6637
 Email: turrell@turrell-associates.com

EXHIBIT D



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 7 of 22



TOTAL ACOE WETLANDS: 1,546.18 ACRES
 TOTAL ACOE UPLANDS: 252.17 ACRES

DESIGNED: T.T.T.	REVISION:	TAB NAME:	Part 11
DRAWN BY: SS	02-15-2012	SHEET:	
CREATED: 04-23-08	08-05-2012	SCALE:	1"=800'
JOB NO.: 8418	N/A	TOWNSHIP-16	RANGE-26 E

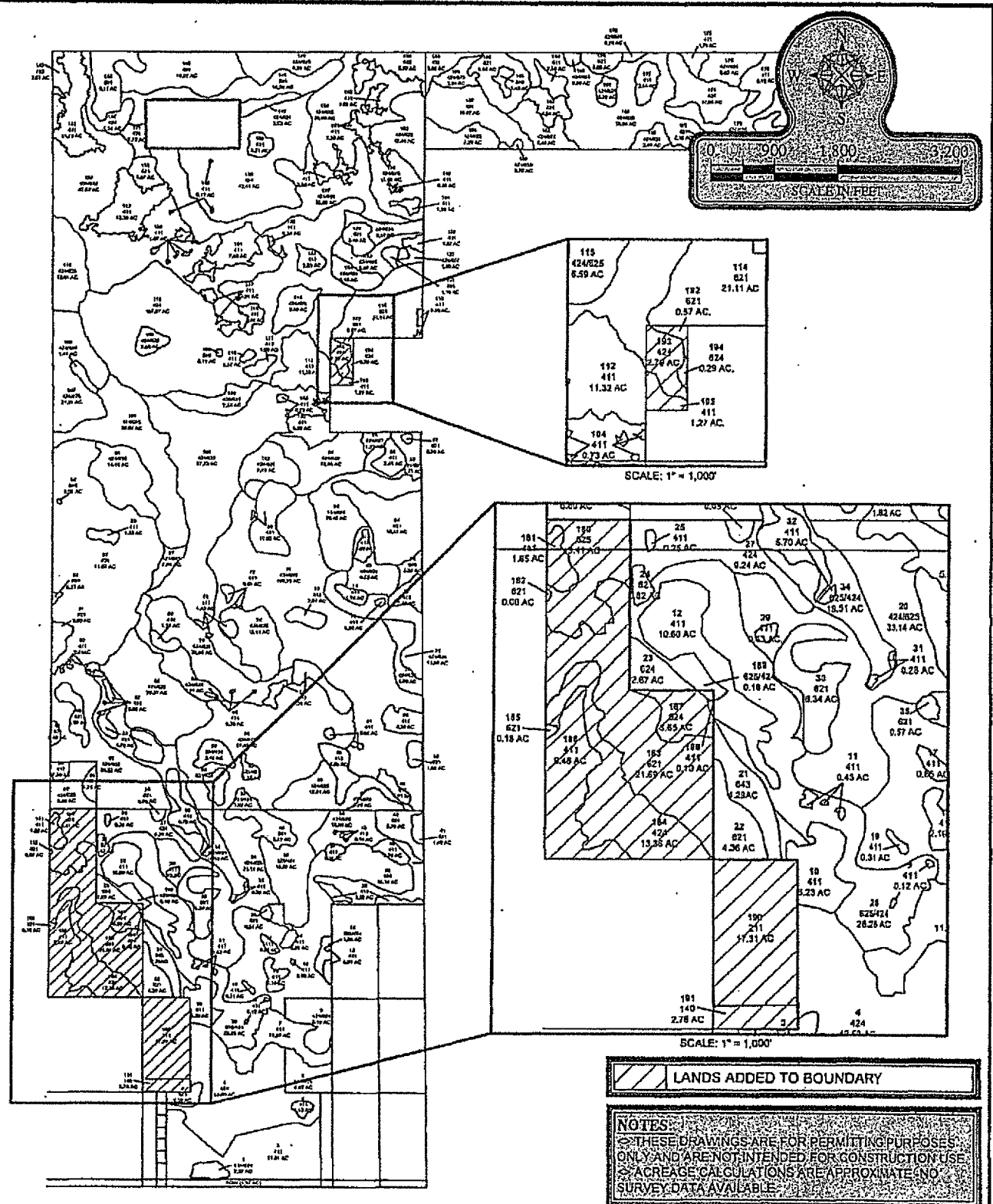
MIRASOL
 FLUCFCS MAP (SECTION 11)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 1394 Exchange Ave, Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6632
 Email: twa@turrell-associates.com



EXHIBIT D

P:\9418 Mirasol\012_DRAWINGS\CORE\2012_SUBMITTAL.dwg



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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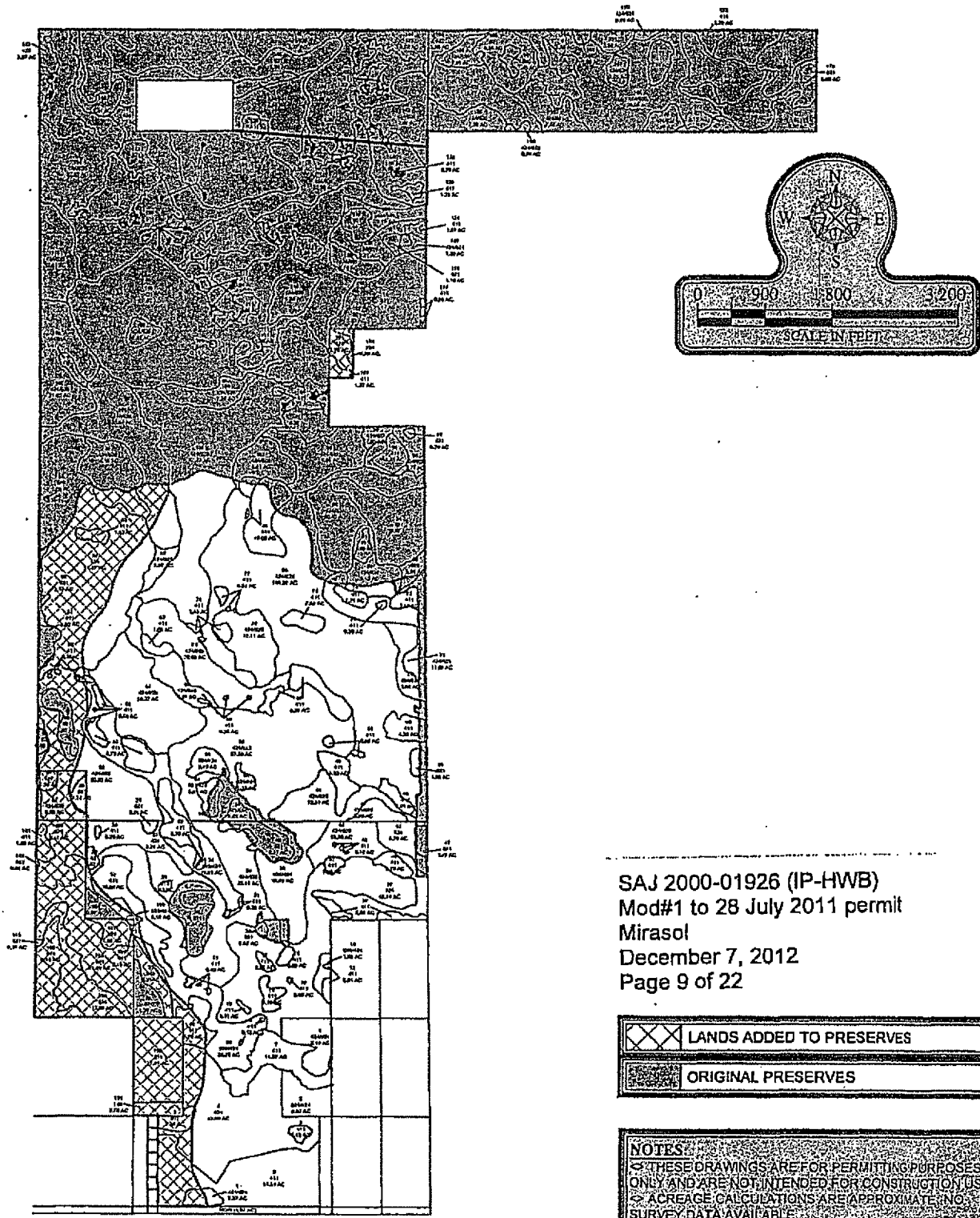
s, Inc.
 Consulting
 14104-3732
 7) 643-6632

MIRASOL
 ADDITIONAL LANDS

DESIGNED: T.T.T.	REVISION:	TAB NAME:	ADD BNDRY
DRAWN BY: GS	02-15-2012	SHEET:	
CREATED: 04-25-08	08-05-2012	SCALE:	1"=1,000'
JOB NO.: 9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 28 E			

EXHIBIT D

P:\9419 Mirasol\2012_DRAWINGS\CORE\2012_SUBMITTAL.dwg



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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	LANDS ADDED TO PRESERVES
	ORIGINAL PRESERVES

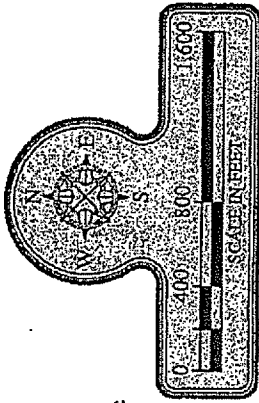
NOTES:
 < THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE
 > ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B. Naples, FL 34104-3732
 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 ADDITIONAL PRESERVES

DESIGNED:	T.Y.T.	REVISION:	TAB NAME:	ADD PRESERVE
DRAWN BY:	BS	02-15-2012	SHEET:	
CREATED:	04-23-09	03-05-2012	SCALE:	1"=1,000'
JOB NO.:	6418	N/A		
SECTION- TOWNSHIP-46 S RANGE-28 E				

EXHIBIT D

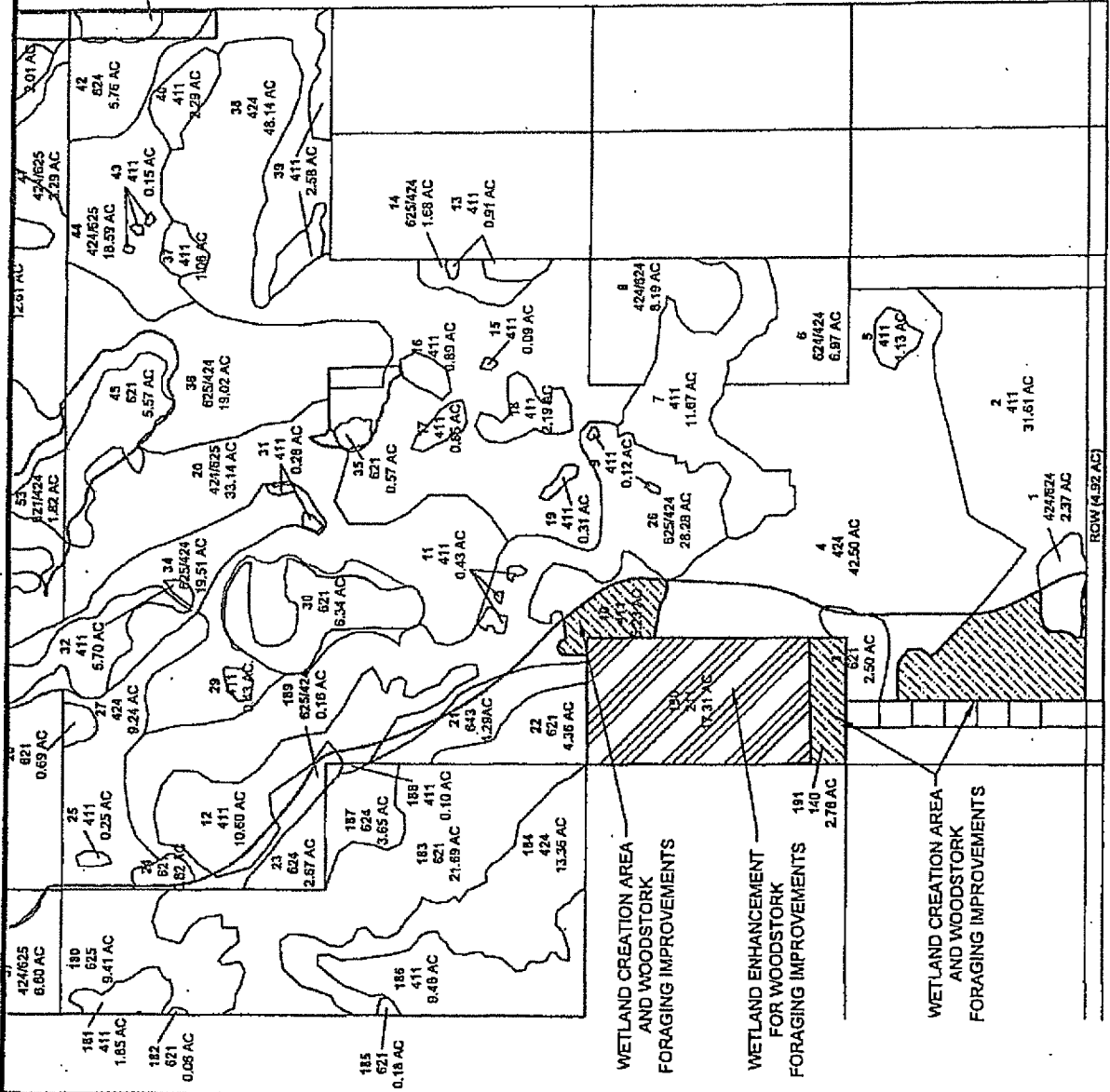


SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 10 of 22

CREATED WETLANDS:	14.55 ACRES
FARM SITE ENHANCED WETLANDS:	17.31 ACRES
TOTAL WOODSTORK FORAGING IMPROVEMENTS:	31.86 ACRES

NOTES:
 THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE. SURVEY CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

DESIGNED BY:	TTT	REVISION:	749 NAME:	MET CREATE
DRAWN BY:	RLJ	DATE:	08-05-2012	SHEET:
CREATED:	02-20-2012	SCALE:	1"=800'	
JOB NO.:	8118	SECTION:	22	TOWNSHIP:
		RANGE:	48 S	26 E



MIRASOL
 WETLAND CREATION AND ENHANCEMENTS
 FOR WOODSTORK FORAGING IMPROVEMENTS

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6632
 Email: turrell@turrell-associates.com



EXHIBIT D

SAJ 2000-01628 (IP-HWB)
Mod#1 to 29 July 2011 permit
Mirasol
December 7, 2012
Page 11 of 22

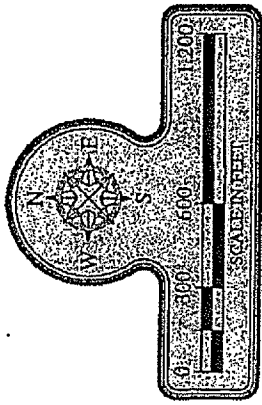
DATE	12/07/12
ISSUED BY	IP-HWB
ISSUED FOR	SAJ 2000-01628
ISSUED BY	IP-HWB
ISSUED FOR	SAJ 2000-01628
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ISSUED FOR	SAJ 2000-01628
ISSUED BY	IP-HWB
ISSUED FOR	SAJ 2000-01628

MIRASOL
FORAGING IMPROVEMENTS.

Turrell & Associates, Inc.
Marine & Environmental Consulting
1201 Exchange Ave. Suite E. Newport, RI 02840-1710
Phone: (401) 862-5100 Fax: (401) 862-5101



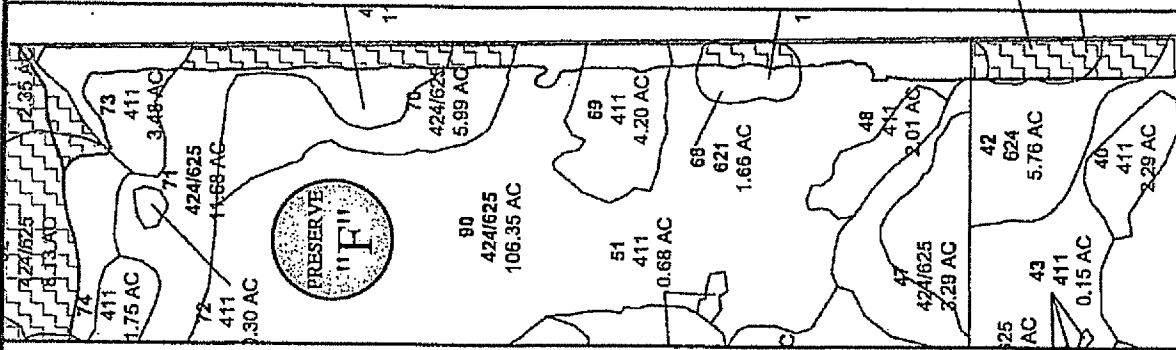
EXHIBIT D



NO.	DATE	DESCRIPTION
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2	08-05-2012	REVISED TO REFLECT CONSTRUCTION
3	08-05-2012	REVISED TO REFLECT APPROXIMATE
4	08-05-2012	REVISED TO REFLECT APPROXIMATE
5	08-05-2012	REVISED TO REFLECT APPROXIMATE
6	08-05-2012	REVISED TO REFLECT APPROXIMATE
7	08-05-2012	REVISED TO REFLECT APPROXIMATE
8	08-05-2012	REVISED TO REFLECT APPROXIMATE
9	08-05-2012	REVISED TO REFLECT APPROXIMATE
10	08-05-2012	REVISED TO REFLECT APPROXIMATE
11	08-05-2012	REVISED TO REFLECT APPROXIMATE
12	08-05-2012	REVISED TO REFLECT APPROXIMATE
13	08-05-2012	REVISED TO REFLECT APPROXIMATE
14	08-05-2012	REVISED TO REFLECT APPROXIMATE
15	08-05-2012	REVISED TO REFLECT APPROXIMATE
16	08-05-2012	REVISED TO REFLECT APPROXIMATE
17	08-05-2012	REVISED TO REFLECT APPROXIMATE
18	08-05-2012	REVISED TO REFLECT APPROXIMATE
19	08-05-2012	REVISED TO REFLECT APPROXIMATE
20	08-05-2012	REVISED TO REFLECT APPROXIMATE
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22	08-05-2012	REVISED TO REFLECT APPROXIMATE
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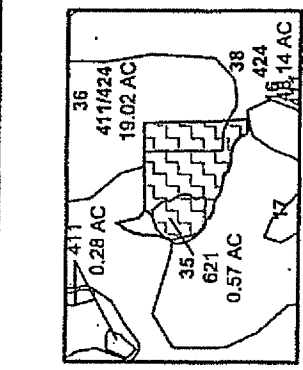
NOTES:
 1. THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION.
 2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE F.L.A.C. SURVEYING AND MAPPING ACT.
 3. SURVEY DATA AVAILABLE.

DESIGNED: T.T.T.	REVISION:	TAB NAME:	Internal
DRAWN BY: SS	02-16-2012	SHEET:	
CREATED: 04-23-00	08-05-2012	SCALE:	1"=400'
JOB NO.: 1410	N/A	TOWNSHIP:	48 S
		RANGE:	26 E

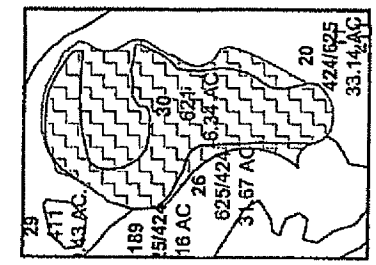


MIRASOL INTERNAL PRESERVES (DETAILED)

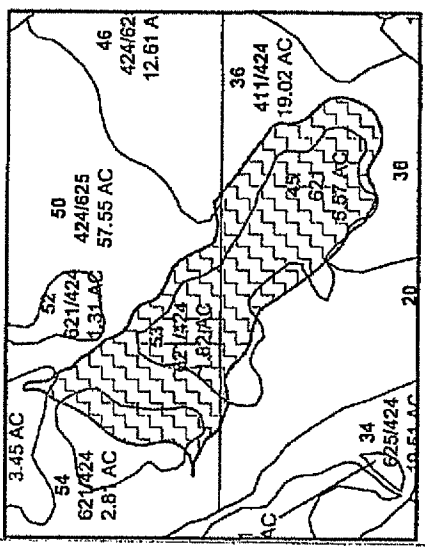
Turell & Associates, Inc.
 Marine & Environmental Consulting
 1314 Exchange Ave, Suite B, Naples, FL 34104-3732
 Email: [tarel@turell-associates.com](mailto:tare@turell-associates.com) Phone: (239) 649-0166 Fax: (239) 643-6632



PRESERVE "D"



PRESERVE "C"

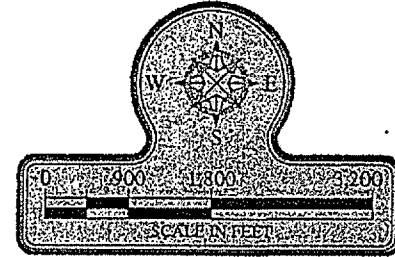
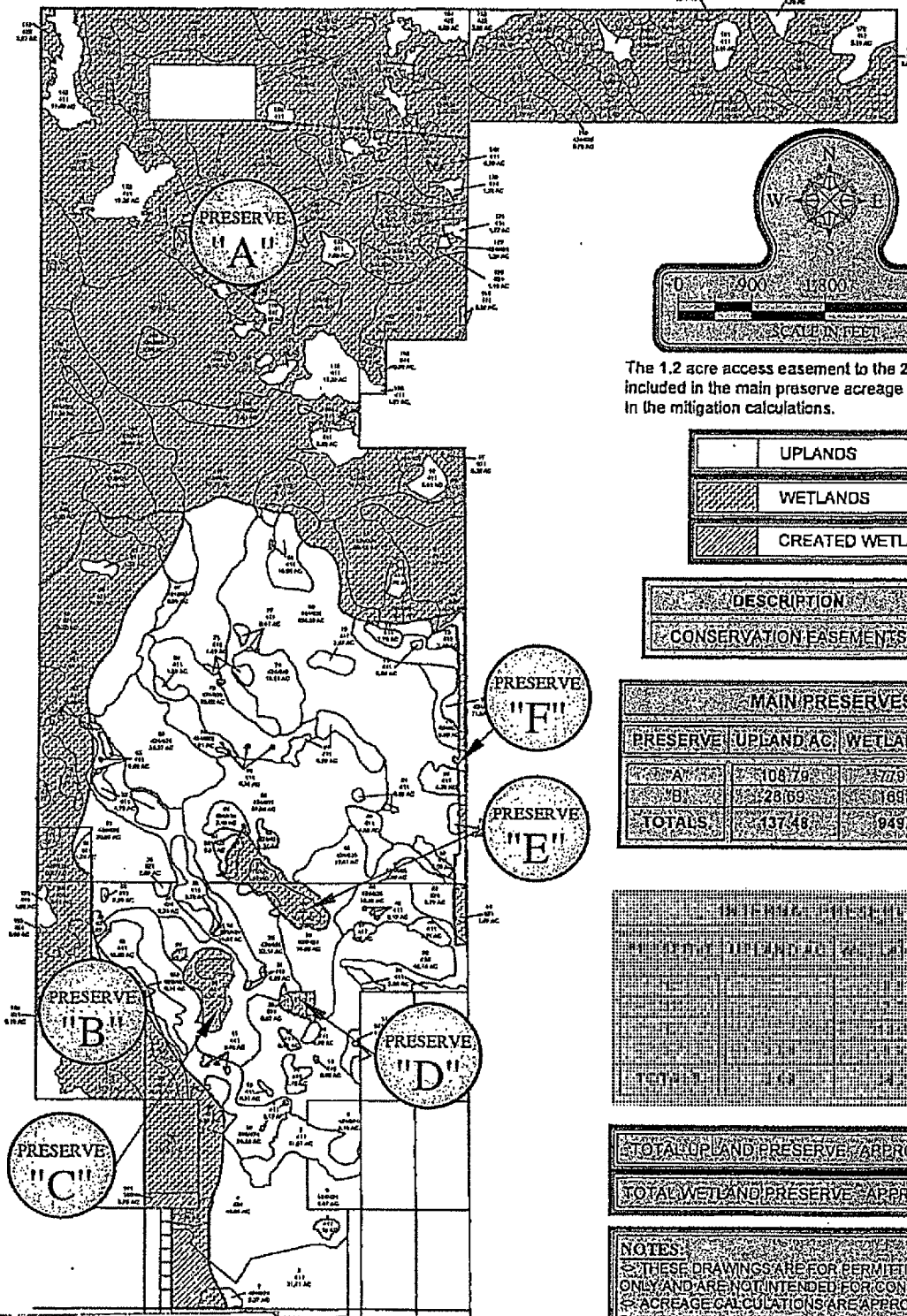


PRESERVE "E"

SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
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EXHIBIT D

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The 1.2 acre access easement to the 20 acre outparcel is included in the main preserve acreage but is not included in the mitigation calculations.

UPLANDS
WETLANDS
CREATED WETLANDS

DESCRIPTION	ACRES
CONSERVATION EASEMENTS	1,123.00

MAIN PRESERVES			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
"A"	108,779	277,976	386,755
"B"	128,609	169,800	298,409
TOTALS	237,388	447,776	685,164

TOTALS			
UPLAND AC.	WETLAND AC.	TOTAL AC.	PERCENT
237,388	447,776	685,164	100%

TOTAL UPLAND PRESERVE APPROX 237,388 AC

TOTAL WETLAND PRESERVE APPROX 447,776 AC

NOTES:
 THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
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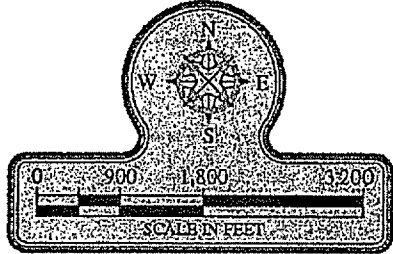
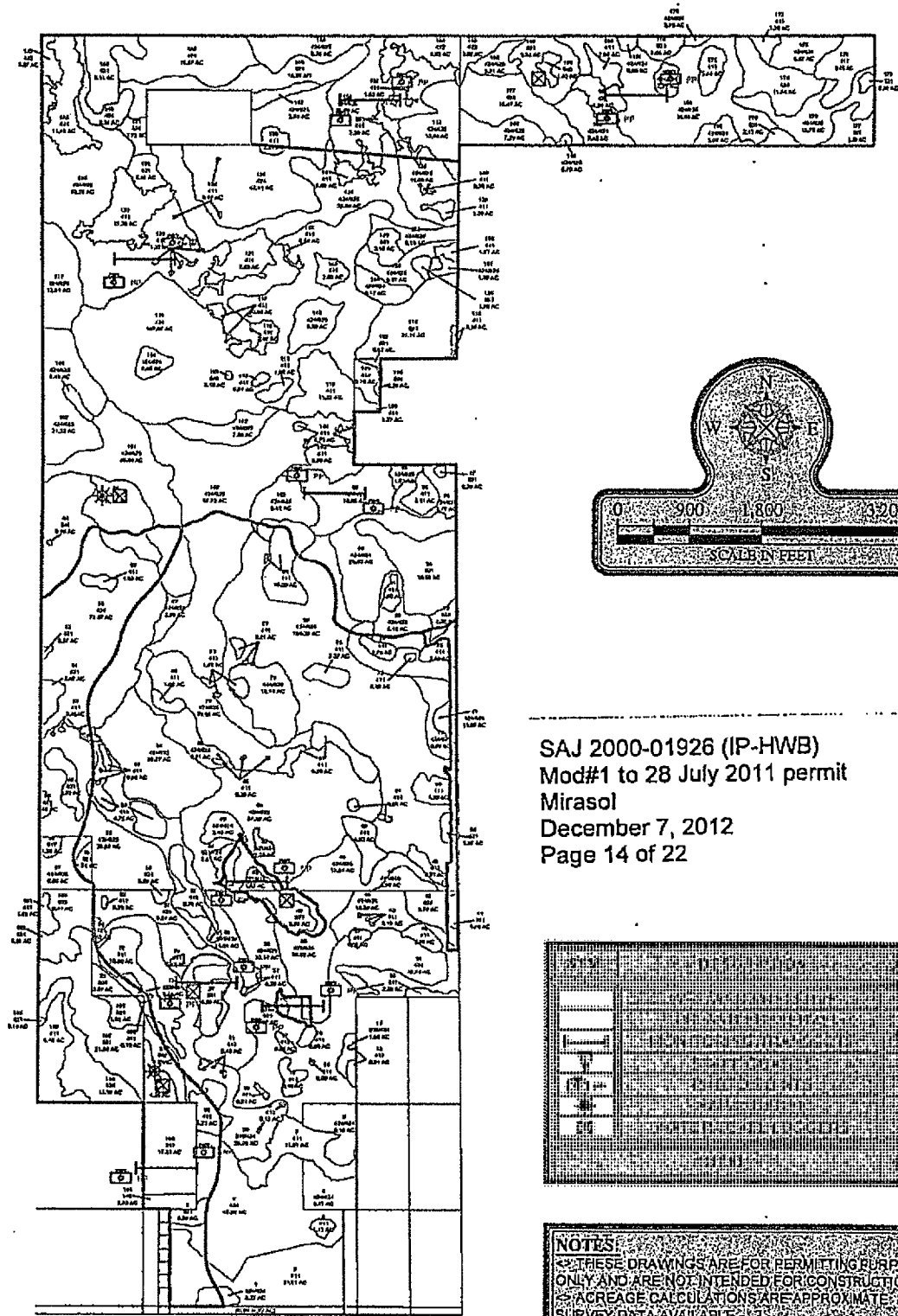
Inc.
 sulting
 104-3732
 543-6632

MIRASOL
 CONSERVATION MAP

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Conservation
DRAWN BY:	BS	02-15-2012	SHEET:	
CREATED:	04-25-08	06-09-2012	SCALE:	1"=1,500'
JOB NO.:	0418	N/A		
SECTION- TOWNSHIP-48 S RANGE-26 E				

EXHIBIT D

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SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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	<p>Legend symbols and their corresponding map features.</p>
--	---

NOTES:
 < THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 < ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE.

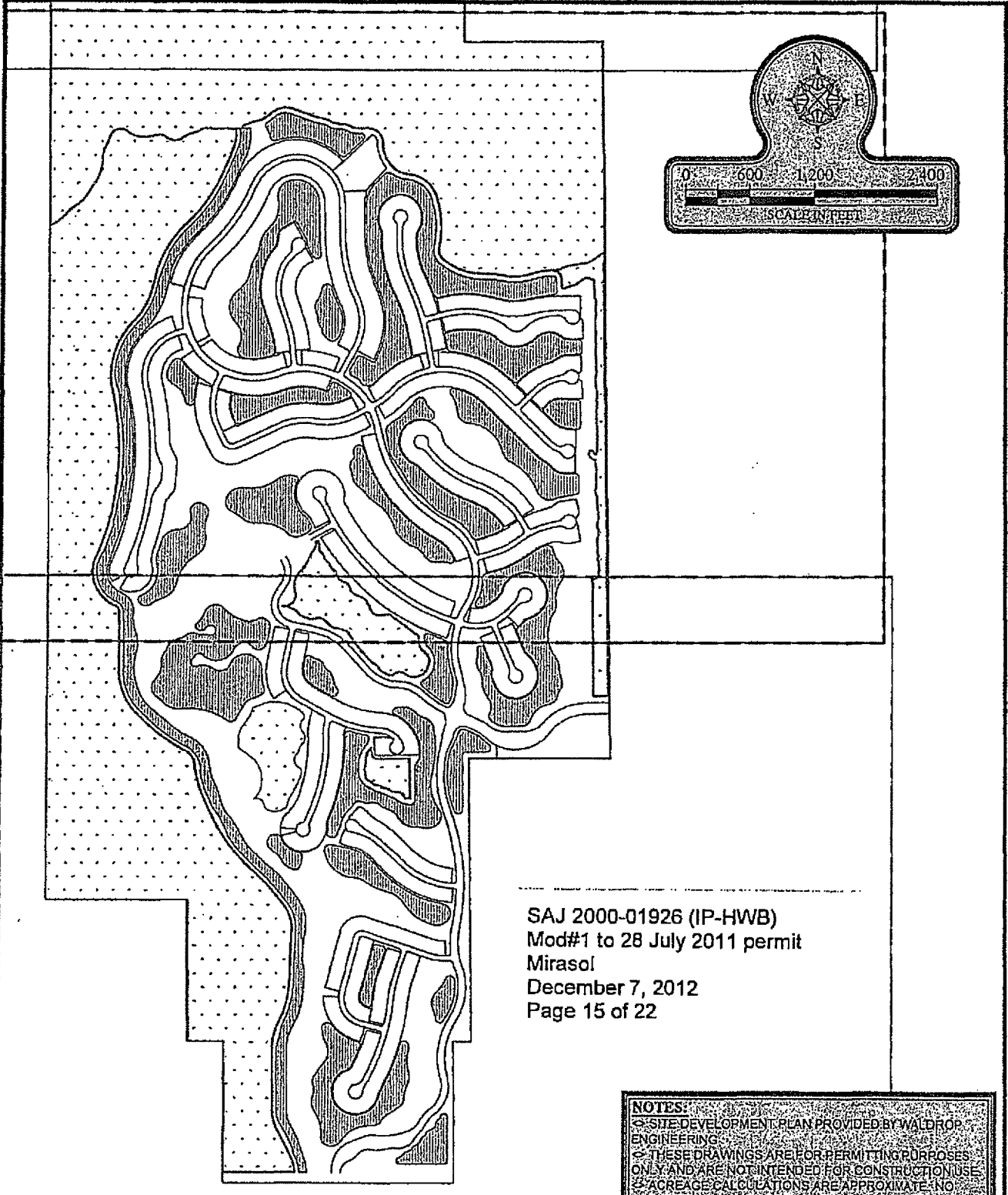
Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B. Naples, FL 34104-3732
 Email: tusa@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 MONITORING MAP

DESIGNED:	T.T.T.	REVISION:	TABNAME:	Monitoring
DRAWN BY:	SS	02-16-2012	SHEET:	
CREATED:	04-25-06	06-03-2012	SCALE:	1"=1,800'
JOB NO.:	9416	N/A		
SECTION- TOWNSHIP-48 S RANGE-26 E				

EXHIBIT D

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SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 15 of 22

NOTES:
 1. SITE DEVELOPMENT PLAN PROVIDED BY WALDROP ENGINEERING.
 2. THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 3. ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.



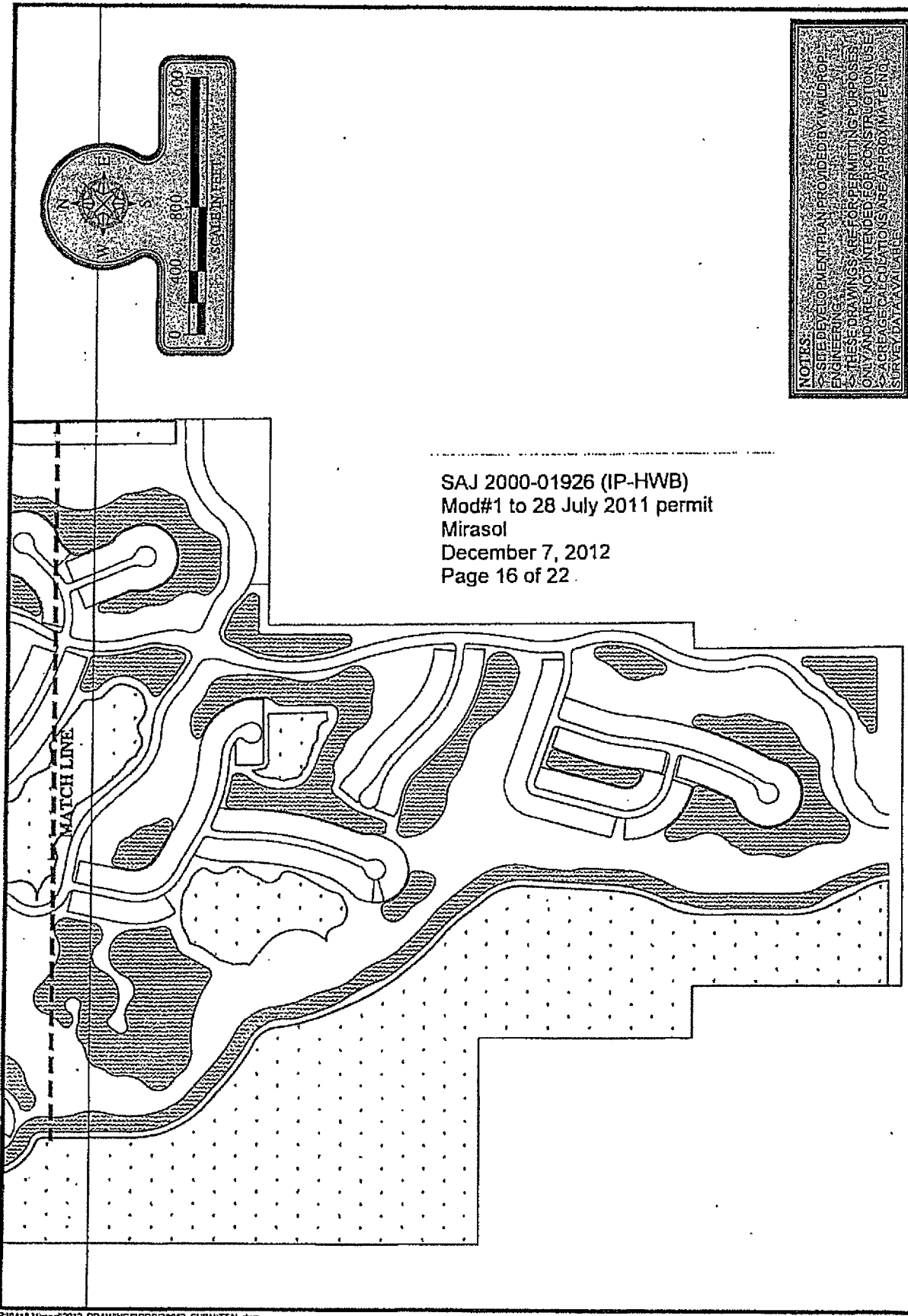
Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B, Naples, FL 34104-3732
 Email: tast@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL

SITE DEVELOPMENT PLAN (ALL)

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	SCP A1
DRAWN BY:	SS	2-22-12		SHEET:	
CREATED:	04-25-08	04-05-2012		SCALE:	1"=1,800'
JOB NO.:	6418	N/A			
SECTION- TOWNSHIP-46 S RANGE-28 E					

EXHIBIT D



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 16 of 22

NOTES:
 1. SITE DEVELOPMENT PLAN PROVIDED BY VALID PROFESSIONAL ENGINEER.
 2. THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 3. ALL AREAS NOT SHOWN ARE TO REMAIN UNCHANGED.
 4. SURVEY DATA IS AVAILABLE.

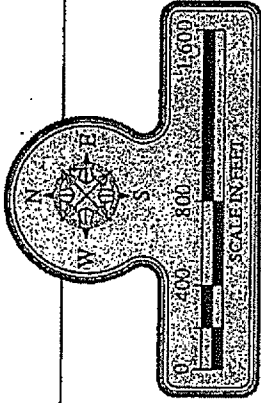
DESIGNED BY: T.T.T.	REVISION: 02-22-12	TAB NAME: SDP 22
DRAWN BY: SS	06-05-2012	SHEET: 1 of 60P
CREATED: 04-25-08	N/A	SCALE: 1"=60P
JOB NO.: B41B		
SECTION-22	TOWNSHIP-46 S	RANGE-26 E

MIRASOL

SITE DEVELOPMENT PLAN (SECTION 22)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6602
 Email: tusa@turrell-associates.com

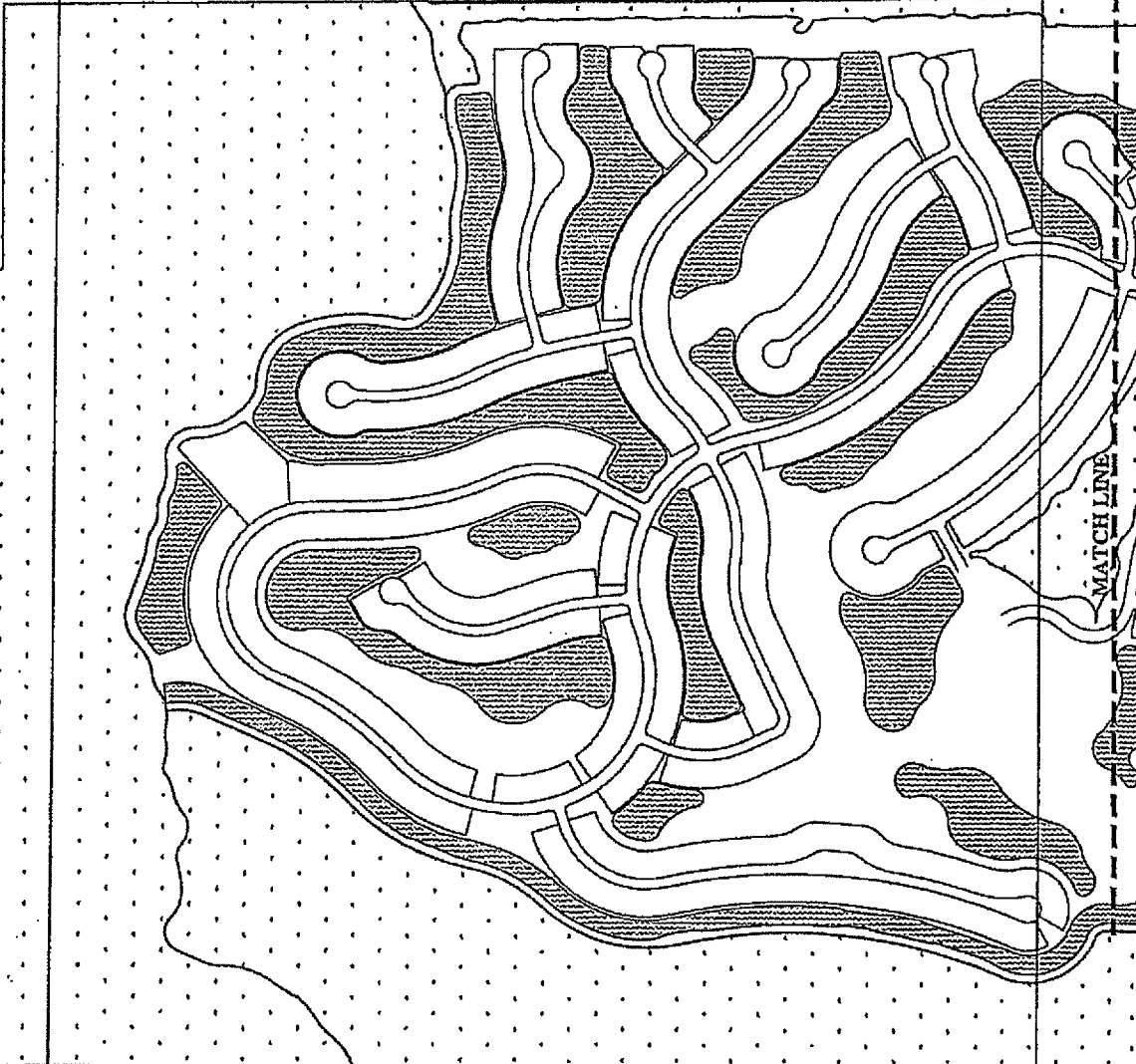
EXHIBIT D



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 17 of 22

NOTES:
 1. SITE DEVELOPMENT PLAN PROVIDED BY WALDRON ENGINEERING.
 2. THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 3. ALL CREAGS CALCULATIONS ARE APPROXIMATE AND SURVEY DATA AVAILABLE.

DESIGNED: T.T.T.	REVISION:	TAB NAME: SDP 15
DRAWN BY: SS	01-22-12	SHEET:
CREATED: 04-25-00	05-05-2012	SCALE: 1"=400'
JOB NO.: 9418	N/A	
SECTION: 15	TOWNSHIP: 48 S	RANGE: 26 E

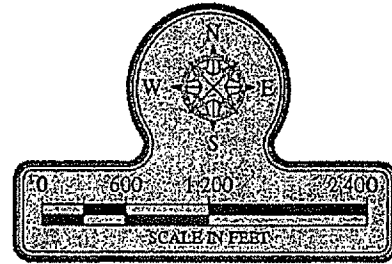
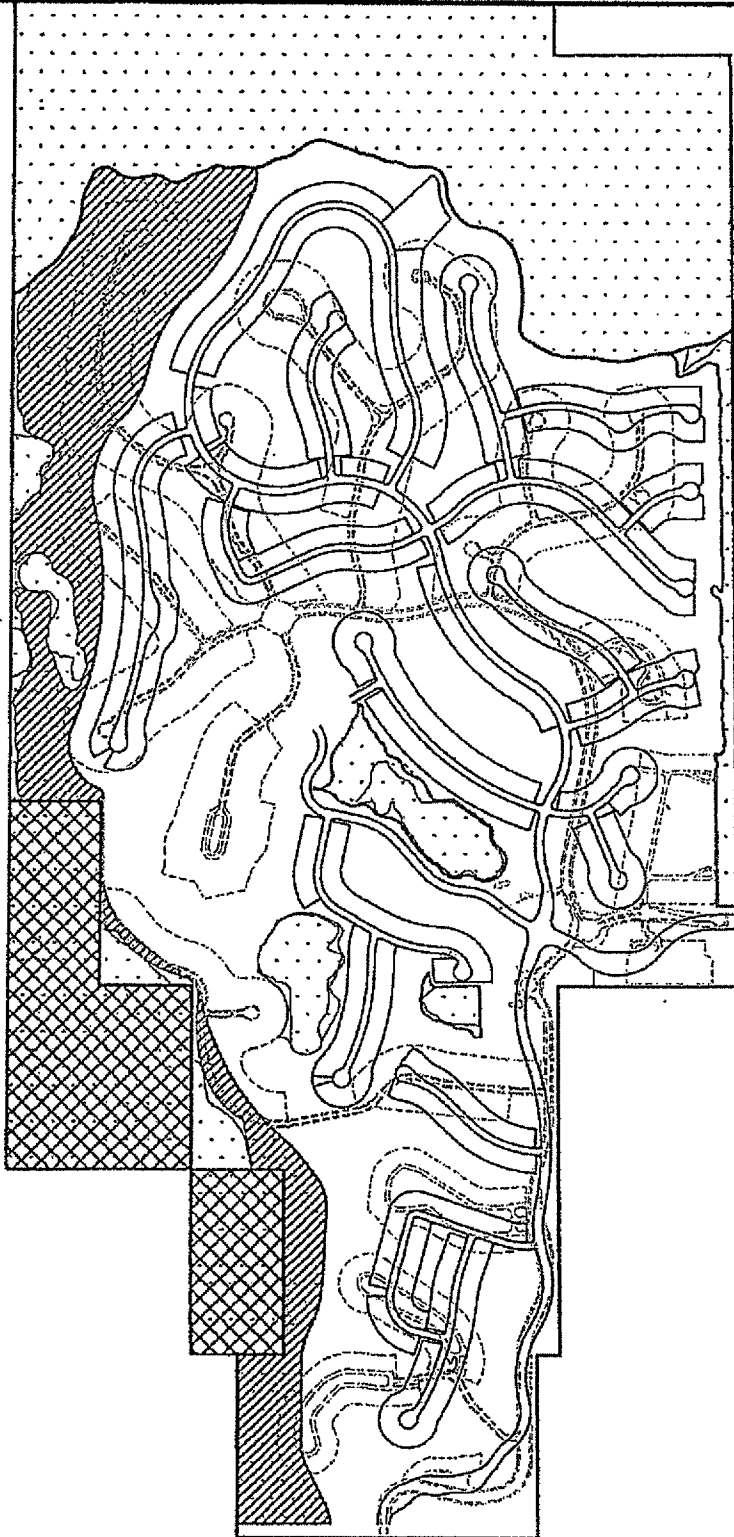


MIRASOL
 SITE DEVELOPMENT PLAN (SECTION 15)







Turrell & Associates, Inc.
 Marine & Environmental Consulting
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 Email: tara@turrell-associates.com

EXHIBIT D

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SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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	REDUCTION IN DEVELOPMENT FOOTPRINT FROM LAST PERMIT
	ADDITIONAL PRESERVE LANDS ADDED FROM LAST PERMIT
	PERMIT SDP LINEWORK
	CURRENT SDP LINEWORK
	PERMIT DEVELOPMENT LINE
	CURRENT DEVELOPMENT LINE

NOTES:
 - SITE DEVELOPMENT PLAN PROVIDED BY WALDRUP ENGINEERING
 - THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE
 - ACREAGE CALCULATIONS ARE APPROXIMATE AND SURVEY DATA AVAILABLE



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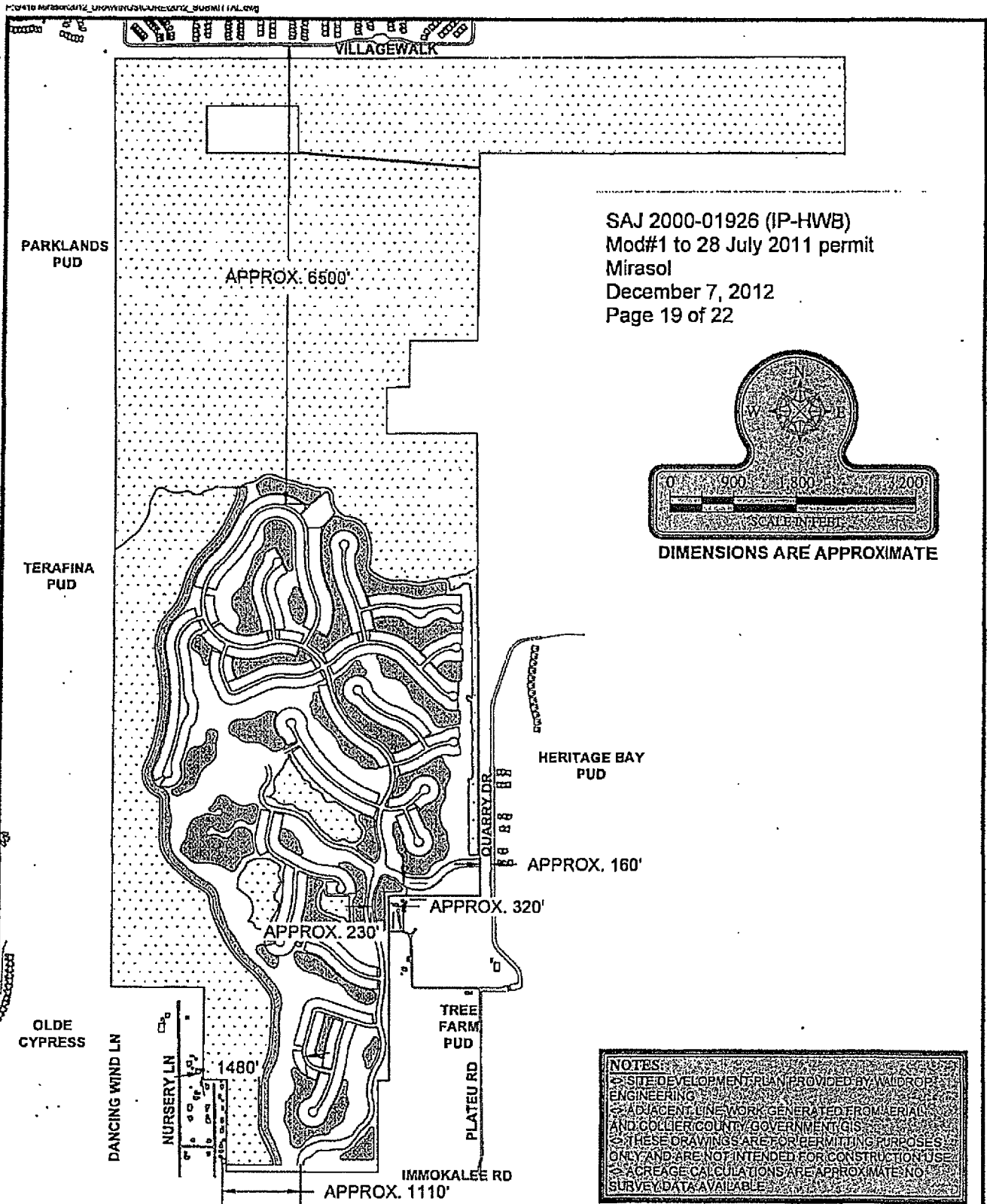
MIRASOL

SITE DEVELOPMENT PLAN PRESERVE COMPARISON

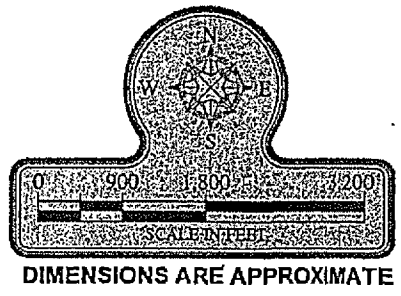
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DRAWN BY:	SS	2-22-12	SHEET:	
CREATED:	04-25-08	08-05-2012	SCALE:	1"=1,800'
JOB NO.:	8418	N/A		

SECTION- TOWNSHIP-48 S RANGE-26 E

EXHIBIT D



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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NOTES:
 * SITE DEVELOPMENT PLAN PROVIDED BY WALDRUP ENGINEERING
 * ADJACENT LINE WORK GENERATED FROM AERIALS AND COLLIER COUNTY GOVERNMENT GIS
 * THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE
 * CREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

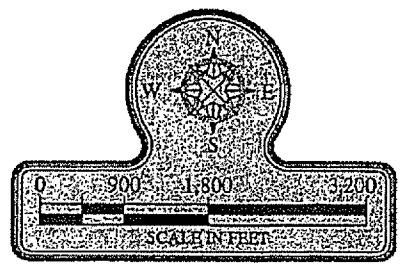
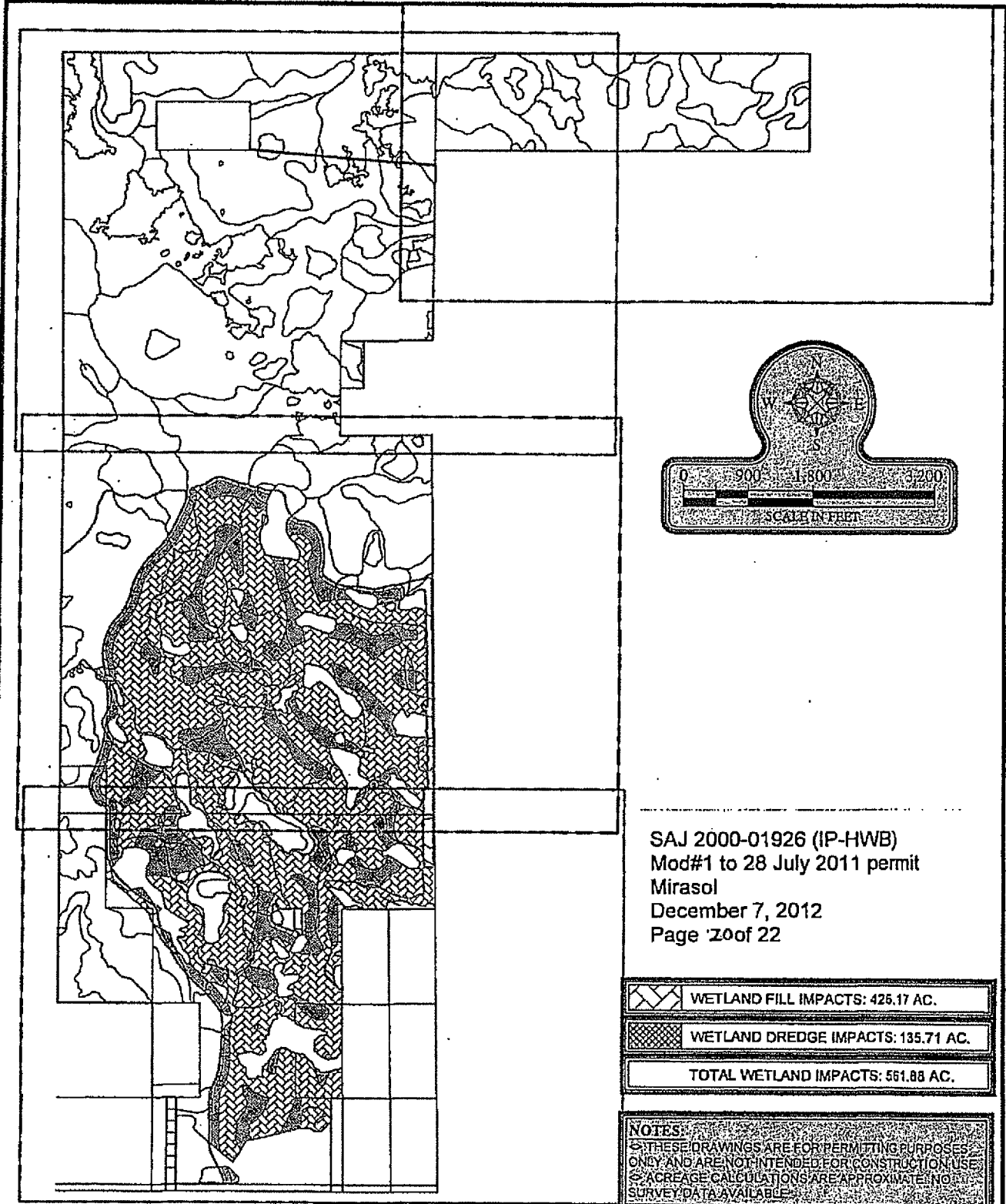
 **Turrell & Associates, Inc.**
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MIRASOL
 SITE DEVELOPMENT PLAN WITH DIMENSIONS



DESIGNED:	T.T.T.	REVISION:	TAB NAME:	SDP A1
DRAWN BY:	GS	2-22-12	SHEET:	
CREATED:	04-25-06	08-05-2012	SCALE:	1"=1,000'
JOB NO.:	0418	NA		
SECTION- TOWNSHIP-48 S RANGE-26 E				

EXHIBIT D


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SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 2 of 22

	WETLAND FILL IMPACTS: 426.17 AC.
	WETLAND DREDGE IMPACTS: 135.71 AC.
TOTAL WETLAND IMPACTS: 561.88 AC.	

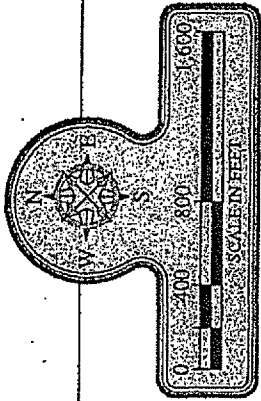
NOTES:
 * THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 * ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

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MIRASOL
 IMPACTS (ALL)

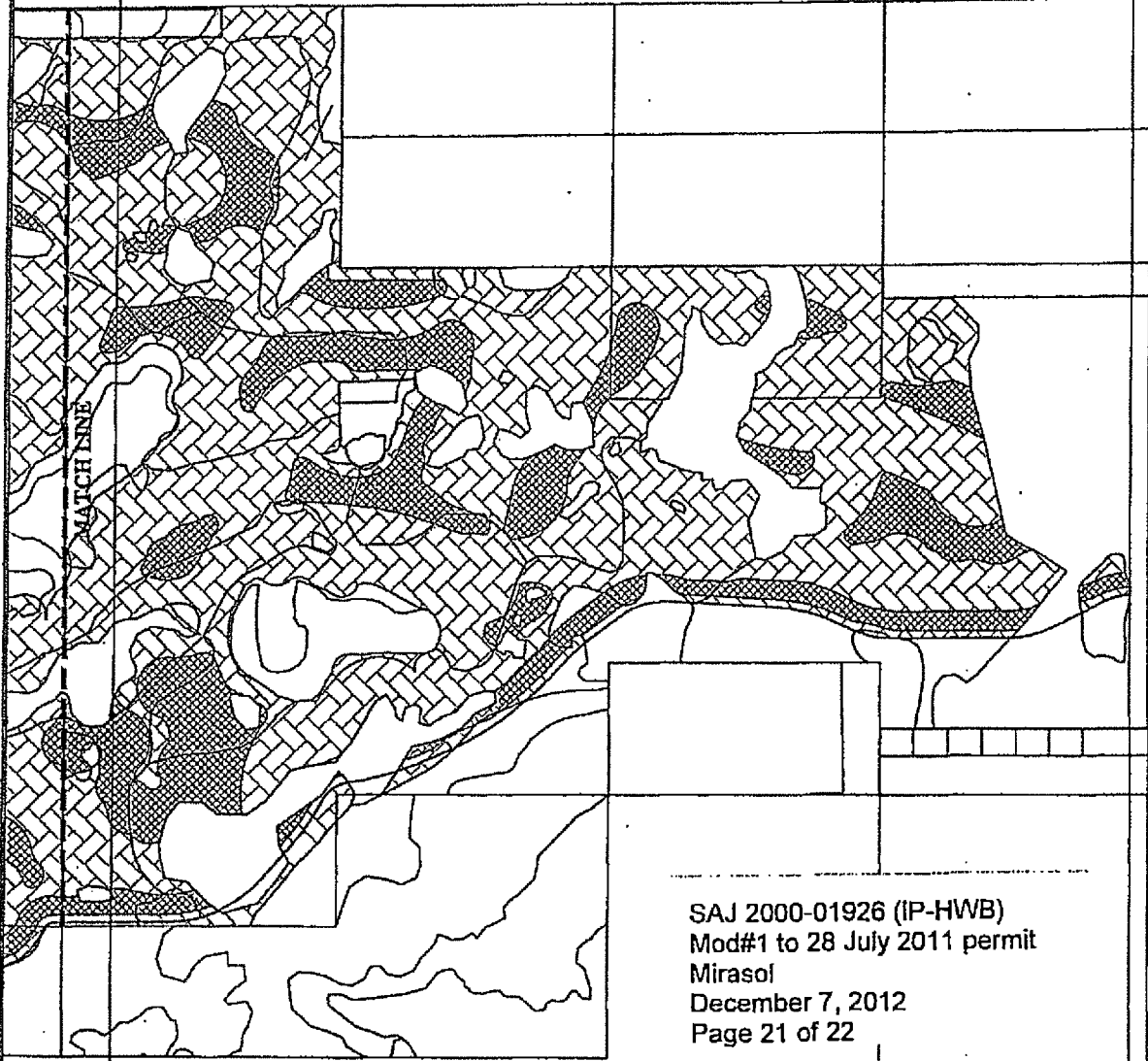
DESIGNED:	T.Y.T.	REVISION:	TAB NAME:	Imp AB
DRAWN BY:	SS	03-22-12	SHEET:	
CREATED:	04-25-08	08-05-2012	SCALE:	1"=1,800'
JOB NO.:	9419	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 26 E				

EXHIBIT D



	WETLAND FILL IMPACTS: 426.17 AC.
	WETLAND DREDGE IMPACTS: 135.71 AC.
	TOTAL WETLAND IMPACTS: 561.88 AC.

DESIGNED: T.T.T.	REVISION: IMP & PRE 22
DRAWN BY: GS	02-22-12
CREATED: 04-25-08	06-05-2012
JOB NO.: 8415	NA
SECTION-22	TOWNSHIP- 4B S RANGE- 26 E

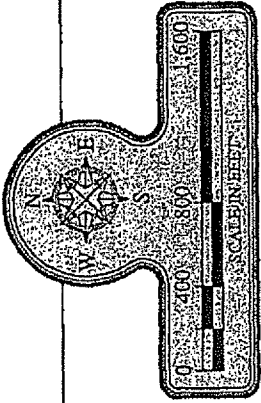


SAJ 2000-01926 (IP-HWB)
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 Mirasol
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

MIRASOL
 IMPACTS (SECTION 22)

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EXHIBIT D

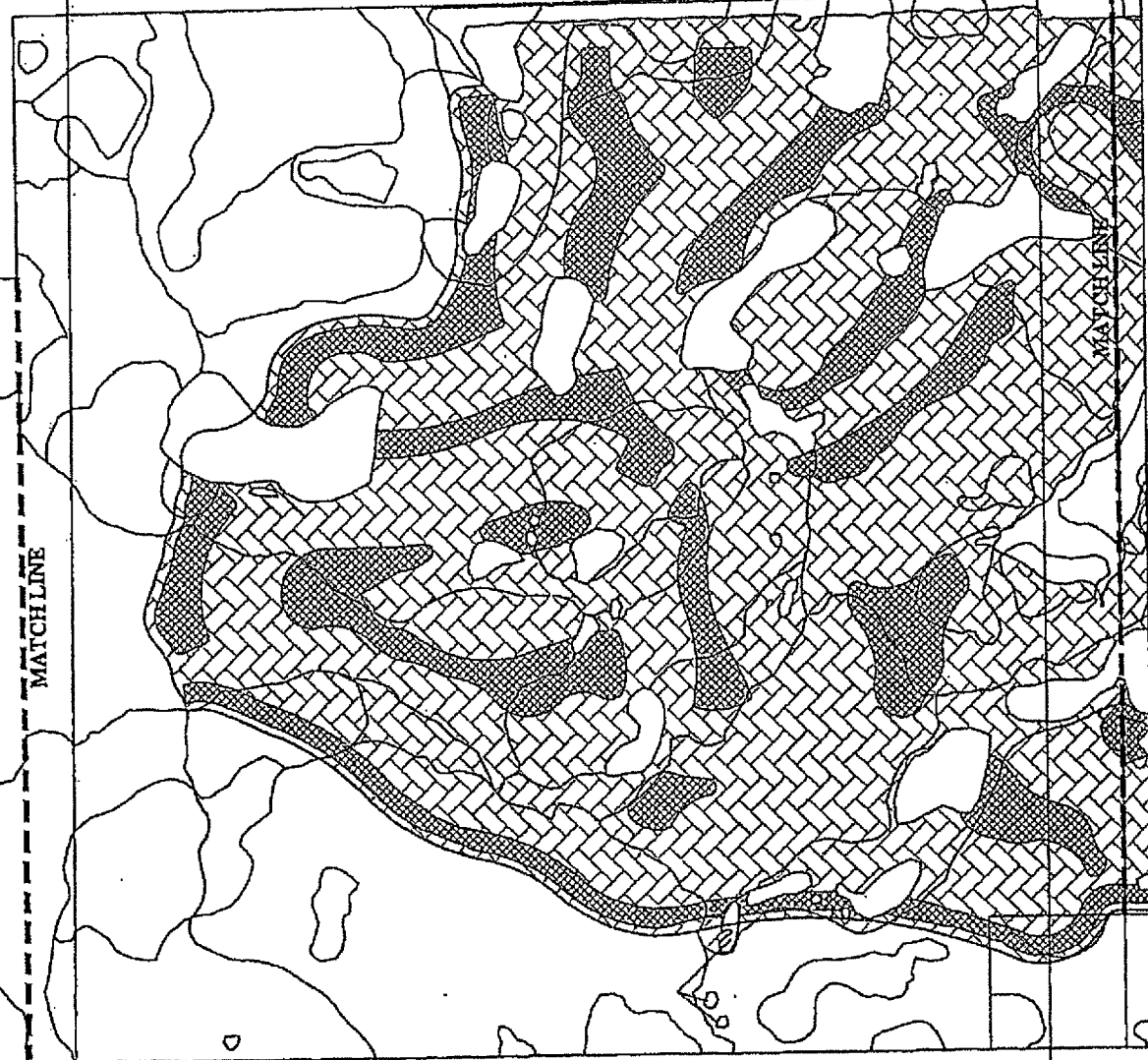


SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 22 of 22

 WETLAND FILL IMPACTS: 426.17 AC.
 WETLAND DREDGE IMPACTS: 135.71 AC.
 TOTAL WETLAND IMPACTS: 561.88 AC.

NOTES:
 THESE DRAWINGS ARE FOR PERMITTING PURPOSES
 ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ALL GREASE CALCULATIONS ARE APPROXIMATE AND
 SURVEY DATA AVAILABLE.

DESIGNED BY: T.T.T.	REVISION:	TAB NAME:	JOB 15
DRAWN BY: SS	2-22-12	SHEET:	
CREATED: 04-25-08	04-05-2012	SCALE:	1"=800'
JOB NO.: 8418	N/A		
SECTION: 16			TOWNSHIP: 48 S
			RANGE: 26 E



MIRASOL
 IMPACTS (SECTION 15)

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EXHIBIT D

ATTACHMENT B: ENVIRONMENTAL RESOURCE PERMIT

SFWMD Permit Modification to Permit No. 11-02031-P issued November 5, 2012
34 Special Conditions
7 pages

EXHIBIT D

PERMIT NO: 11-02031-P

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SPECIAL CONDITIONS

1. The conceptual phase of this permit shall expire on November 5, 2017.
The construction phase of this permit shall expire on November 5, 2017.
2. Operation of the surface water management system shall be the responsibility of the Homeowner's Association.
3. Discharge Facilities:

Basin: Basin 1-1, Structure: CS-DC

1-24" W X 36" H DROP INLET weir with crest at elev. 18.4' NGVD 29.

1-3" dia. CIRCULAR ORIFICE with invert at elev. 13.4' NGVD 29.

Receiving body : Lake #1

Control elev : 13.4 feet NGVD 29.

Basin: Basin 1-2, Structure: DS1-2

1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.2' NGVD 29.

1-12" W X 7.1" H RECTANGULAR ORIFICE with invert at elev. 1' NGVD 29.

Receiving body : ON-SITE FLOW WAY

Control elev : 13.4 feet NGVD 29.

Basin: Basin 2-1, Structure: DS2-1

1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.1' NGVD 29.

1-10.2" W X 6" H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD 29.

1-16" W X 5" H RECTANGULAR ORIFICE with invert at elev. 14' NGVD 29.

Receiving body : ON-SITE FLOW WAY

Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-2, Structure: CS2-2 / PA2

1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.

Receiving body : Preserve D

Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-4b, Structure: CS-MF

1-24" W X 36" H DROP INLET weir with crest at elev. 15.5' NGVD 29.

1-3" dia. CIRCULAR ORIFICE with invert at elev. 13.5' NGVD 29.

Receiving body : Lake #11

Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-5, Structure: CS 2-5 / PA3

1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.

Receiving body : Preserve E

Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-7, Structure: CS 2-7 / PRES C

1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.

Receiving body : Preserve C

Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-7, Structure: DS 2-7

1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.1' NGVD 29.

1-14.1" W X 6" H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD 29.

1-19.5" W X 5" H RECTANGULAR ORIFICE with invert at elev. 14' NGVD 29.

Receiving body : ON-SITE FLOW WAY

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Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-9, Structure: CS 2-9 / PRES3
1-24" W X 36" H DROP INLET weir with crest at elev. 14' NGVD 29.
Receiving body : Preserve C
Control elev : 14.0 feet NGVD 29.

Basin: Basin 2-9, Structure: CS CH
1-24" W X 36" H DROP INLET weir with crest at elev. 15.5' NGVD 29.
1-3" dia. CIRCULAR ORIFICE with invert at elev. 13.5' NGVD 29.
Receiving body : Lake #23
Control elev : 13.5 feet NGVD 29.

Basin: Basin 2-16, Structure: DS 2-16
1-49" W X 8" H RECTANGULAR weir with crest at elev. 16.1' NGVD 29.
1-12" W X 10" H RECTANGULAR ORIFICE with invert at elev. 13.5' NGVD 29.
Receiving body : ON-SITE FLOW WAY
Control elev : 13.5 feet NGVD 29.

Basin: Flowway, Structure: Intake Weir
1-100' W RECTANGULAR weir with crest at elev. 14.95' NGVD 29.
2-3.5' W X 0.95' H RECTANGULAR ORIFICE with invert at elev. 14.0' NGVD 29.
Receiving body : ON-SITE FLOW WAY
Control elev : 14.0 feet NGVD 29.

Basin: Flowway, Structure: Outfall Weir
1-175' W RECTANGULAR weir with crest at elev. 13.4' NGVD 29.
Receiving body : COCOHATCHEE CANAL
Control elev : 13.4 feet NGVD 29.

4. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.
5. Measures shall be taken during construction to insure that sedimentation and/or turbidity violations do not occur in the receiving water.
6. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.
7. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
8. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.
9. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
10. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.
11. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water

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resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.

12. The permittee acknowledges that, pursuant to Rule 40E-4.101(2), F.A.C., a notice of Environmental Resource or Surface Water Management Permit may be recorded in the county public records. Pursuant to the specific language of the rule, this notice shall not be considered an encumbrance upon the property.
13. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.
14. Minimum building floor elevation:

BASIN: Basin 1 - 16.70 feet NGVD 29.
BASIN: Basin 2 - 16.70 feet NGVD 29.
15. Minimum road crown elevation:
Basin: Basin 1 - 16.20 feet NGVD 29.
Basin: Basin 2 - 16.20 feet NGVD 29.
16. Minimum parking lot elevation:
Basin: Basin 1 - 15.4 feet NGVD 29.
Basin: Basin 2 - 15.5 feet NGVD 29.
17. Prior to the commencement of construction, the permittee shall conduct a pre-construction meeting with field representatives, contractors and District staff. The purpose of the meeting will be to discuss construction methods and sequencing, including type and location of turbidity and erosion controls to be implemented during construction, mobilization and staging of contractor equipment, phasing of construction, methods of vegetation clearing, construction dewatering, coordination with other entities on adjacent construction projects, wetland/buffer protection methods, and endangered species protection with the permittee and contractors. The permittee shall contact District Environmental Resource Compliance staff from the Lower West Coast Service Center at 239-338-2929 to schedule the pre-construction meeting.
18. Success of the mitigation activities proposed herein is heavily dependent on proper grading to achieve the design ground elevations necessary to recruit the expected vegetation or to sustain the proper hydrology for the targeted vegetation communities. The permittee shall submit as-built topography of the proposed created marsh areas prior to planting (31.86-acre woodstork habitat creation areas). The permittee shall correct any deficiencies in the project grade within 14 days of being notified of such deficiencies by District staff.
19. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.
20. A mitigation program for Mirasol shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6. The permittee shall preserve and enhance 127.92 acres of uplands and 995.96 acres of wetlands (1123.88 acres total).

EXHIBIT D

PERMIT NO: 11-02031-P

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21. A maintenance program shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6 for the preserved/enhanced wetlands and uplands on a regular basis to ensure the integrity and viability of those areas as permitted. Maintenance shall be conducted in perpetuity to ensure that the conservation areas are maintained free from Category 1 and Category 2 exotic vegetation immediately following a maintenance activity. Maintenance in perpetuity shall also insure that conservation areas, including buffers, maintain the species and coverage of native, desirable vegetation specified in the permit. Coverage of exotic and nuisance plant species shall not exceed 4% total cover in the internal preserves and 5% of total cover in the external preserves between maintenance activities. In addition, the permittee shall manage the conservation areas such that exotic/nuisance plant species do not dominate any one section of those areas.
22. Prior to the commencement of construction, the perimeter of protected wetland/buffer zones/upland preservation areas/conservation areas shall be staked/roped/fenced to prevent encroachment into the protected areas. Using Global Positioning System (GPS) technology, the perimeter of the preserve area(s) shall be identified for future reference. The data shall be differentially corrected and accurate to less than a meter (+/- one meter or better). Electronic copies of the GPS data shall be provided to the District's Environmental Resource Compliance staff in accordance with Exhibit 3.7. The permittee shall notify the District's Environmental Resource Compliance staff in writing upon completion of staking/roping/fencing and schedule an inspection of this work. The staking/roping/fencing shall be subject to District staff approval. The permittee shall modify the staking/roping/fencing if District staff determines that it is insufficient or is not in conformance with the intent of this permit. Staking/roping/fencing shall remain in place until all adjacent construction activities are complete.
23. Endangered species, threatened species and/or species of special concern have been observed onsite and/or the project contains suitable habitat for these species. It shall be the permittee's responsibility to coordinate with the Florida Fish and Wildlife Conservation Commission and/or the U.S. Fish and Wildlife Service for appropriate guidance, recommendations and/or necessary permits to avoid impacts to listed species. Please see Exhibits 3.9 and 3.10 for endangered species management plans.
24. Activities associated with the implementation of the mitigation, monitoring and maintenance plan(s) shall be completed in accordance with the work schedule attached as Exhibit No. 3.7. Any deviation from these time frames will require prior approval from the District's Environmental Resource Compliance staff. Such requests must be made in writing and shall include (1) reason for the change, (2) proposed start/finish and/or completion dates; and (3) progress report on the status of the project development or mitigation effort.
25. Prior to the commencement of construction and in conformance with the work schedule in Exhibit 3.7, the permittee shall provide original bonds in the amount of \$812,112, \$117,513, \$310,635, \$1,229,911, and \$343,816 to ensure the permittee's financial ability and commitment to complete the proposed mitigation, monitoring and maintenance plan as shown on Exhibit Nos. 3.5 and 3.6. The financial assurance shall be in substantial conformance with Exhibit No. 3.12. The financial assurance shall be in effect for the entire period of the mitigation and monitoring program. Notification to the District by the financial institution or surety that the financial assurance will not be renewed or is no longer in effect shall constitute non-compliance with the permit.

Should the permit be transferred from the construction to operational phase prior to the completion of the mitigation and monitoring program, it will be incumbent upon the original permittee to either keep the existing financial assurance in force or provide replacement financial assurance in the name of the operational entity. The existing financial assurance cannot be released until a replacement document is received and accepted by the District.

26. A monitoring program shall be implemented in accordance with Exhibit Nos. 3.5 and 3.6. The monitoring program shall extend for a period of 5 years with annual reports submitted to District staff.

For the Internal Preserves, the replanting plan is as follows:

The internal preserve areas will be left to regenerate naturally for at least a year after time zero before deciding if supplemental planting is necessary. If no immediate seed source is available, replanting will help to re-establish any

EXHIBIT D

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denuded areas more rapidly and contributes to the restoration success. The preserve areas will be evaluated once the initial exotic removal activities are completed and any plantings that are necessary will be coordinated with District staff as part of the Time Zero Monitoring Report.

Replanting will also be considered one year after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Additionally, replanting will be considered after two years for any area that shows less than 75% coverage by appropriate native vegetation. Please see Exhibit 3.5 for details.

For the External Preserves, the replanting plan is as follows:

The supplemental planting plan for the external preserve areas differs from that of the internal preserve areas. The preserve areas will be left to regenerate naturally for at least a year after time zero before deciding if complete replanting is necessary. In areas that are more than 75% melaleuca and that have no suitable groundcover vegetation present, replanting may be done immediately following the exotic eradication activities. If no immediate seed sources are available in these areas, immediate replanting will re-establish the denuded areas more rapidly and contributes to the success of the enhancement. The entire preserve area will be evaluated once the initial exotic removal activities are completed and any planting that is necessary will be proposed and coordinated with District staff as a part of the Time Zero Report.

Replanting will also be considered two years after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Additionally, replanting will be considered after three years for any area that shows less than 75% coverage by appropriate native vegetation. Please see Exhibit 3.6 for details.

Replanting will occur immediately after any mechanical removal of exotic vegetation. Areas disturbed by the removal will be re-graded to match adjacent elevations and remove any rutting, then planted with the appropriate plant palette.

Target Success Criteria:

All exotic vegetation will be killed within the preserve areas. The hydric flatwood and pine/cypress target condition is a very open canopy with little to no shrub layer, prairie-type groundcover, and widely spaced trees. Trees will be a mix of slash pine and cypress depending on site specific hydrology. Tree density in the open flatwood and pine cypress areas should be between 10 to 50 trees per acre. Cypress dome target conditions are as a more closed canopy (110 to 175 trees per acre) with more sparse ground cover. A minimum of 80% appropriate vegetative coverage will be maintained in all strata. Mesic pine areas will contain tree densities in the 50 to 100 trees per acre range with midstory vegetation of saw palmetto, wax myrtle, and other appropriate plantings. Ground cover densities may vary depending on canopy coverage.

Forested and Prairie Habitats:

After two years, all preserve areas will contain a minimum of 50% coverage by appropriate vegetation in all three strata combined. After three years, all preserve areas will contain a minimum of 75% coverage by appropriate vegetation in all three strata combined. After five years, preserves will contain a minimum of 80% coverage by appropriate vegetation in all three strata combined. Any areas not meeting the minimum appropriate vegetative coverage will be subject to supplemental planting plans as outlined in Exhibit 3.6.

Created Marsh Habitats:

Since the main component of these areas is foraging improvement, dense vegetative coverage is not desired. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season in these freshwater marsh areas. More vegetation may grow in the depressional areas during the dry season, but should die off or substantially thin out as water levels rise. Vegetative coverage of 50% will be considered successful in these foraging improvement areas. Please see Exhibit 3.6 for details.

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27. Prior to commencement of construction and in accordance with the work schedule in Exhibit 3.7, the permittee shall submit the following in an electronic or hard copy version for review and approval. Electronic versions shall be submitted via the District's ePermitting/eCompliance website and hard copy versions shall reside on CD disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted.

The applicant shall submit a:

- 1) Project map identifying conservation area(s)
- 2) Legal description of conservation area(s)
- 3) Signed conservation easement
- 4) Sealed boundary survey of conservation area(s) by professional Land surveyor
- 5) Title insurance commitment for conservation easement naming District as beneficiary using approved valuation.
- 6) Formatting in accordance with paragraph F (below) if available.

The above information shall be submitted to the Environmental Resource Compliance staff in the District service center where the application was submitted or via the District's ePermitting website.

B) The real estate information referenced in paragraph (A) above shall be reviewed by the District in accordance with the District's real estate review requirements described in the attached Exhibit 3.7. The easement shall not be recorded until such approval is received.

C) The permittee shall record a conservation easement(s) over the real property designated as a conservation / preservation / mitigation area(s) on attached Exhibit 3.5 and 3.6. The easement shall be granted free of encumbrances or interests which the District determines are contrary to the intent of the easement. The conservation easement shall be granted to the District utilizing the form attached as Exhibit 3.11. Any proposed modifications to the approved form must receive prior written consent from the district.

D) The permittee shall record the conservation easement in the public records within 14 days of receiving the District's approval of the real estate information. Upon recordation, the permittee shall submit two certified copies of the recorded conservation easement for the mitigation area and associated buffers and title insurance policy, to the Environmental Resource Compliance staff in the District service center where the application was submitted.

E) In the event the conservation easement real estate information reveals encumbrances or interests in the easement which the District determines are contrary to the intent of the easement, the permittee shall be required to provide release or subordination of such encumbrances or interests. If such are not obtained, permittee shall be required to apply for a modification to the permit for alternative acceptable mitigation.

F) The permittee shall submit an electronic or hard copy version of the recorded conservation easement for the mitigation area(s) and associated buffer(s). Electronic versions shall be submitted via the District's ePermitting/eCompliance website and hard copy versions shall reside on CD disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted. The data should also be supplied in a digital CAD (.dxf) or GIS (ESRI Coverage) format. The files should be in the Florida State Plane coordinate system, East Zone (3601) with a data datum of NAD83, HARN with the map units in feet.

28. The Urban Stormwater Management Plan shall be implemented in accordance with Exhibit No. 2.1.
29. The permittee shall utilize the criteria contained in the Construction Pollution Prevention Plan (Exhibit No. 2.2) and on

EXHIBIT D

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the applicable approved construction drawings for the duration of the project's construction activities.

30. In order to maintain adequate conveyance capacity during construction, the flowway shall be constructed concurrently with the filling of the site. The flowway shall be constructed starting from the southern property boundary and fill material may only be placed as far north as the location of the northern extent of the flowway.
31. The following exhibits for the permit are incorporated by reference herein and are located in the permit file. In addition, these exhibits can be viewed on the District's ePermitting website under this application number.

Exhibit No. 2.1- Stormwater Pollution Prevention Plan
Exhibit No. 2.2- Urban Stormwater Management Program
Exhibit No. 3.10- Listed Species Management Plans
Exhibit No. 3.11- Conservation Easements
Exhibit No. 3.12- Cost Estimate, Performance Bonds, Standby Trust Fund Agreements (financial assurances documents)
32. If monitoring reports or other information show the preserved wetlands have been negatively affected by the permitted development in a manner that is irreversible (such as impounding the wetland and drowning the existing vegetation or a reduction in the hydroperiod resulting in the transition of wetlands into upland/transitional habitat), the permittee shall be required to submit a remediation plan within 30 days of notification by the District's Environmental Resource Compliance staff of such conditions. The remediation plan may include onsite or offsite mitigation as necessary to address any deficiencies.
33. All contractors must be provided with a copy of the staff report and permit conditions prior to the commencement of construction. The permittee is responsible for ensuring that all contractors adhere to the project construction details and methods indicated on the attached permit Exhibits and described herein.
34. The internal preserve areas include 8.19 acres of 100% secondarily impacted habitat. This includes a total of 7.57 acres of wetland and 0.62 acres of upland within Preserve Areas C, D, E and F. While these areas have been mitigated in full, the applicant has proposed to preserve these areas in the onsite conservation easements. Temporary wetland impacts to these areas during construction are allowed, but any such areas that are temporarily impacted must be restored to natural conditions, consistent with the proposed mitigation, monitoring, and maintenance plan.

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ATTACHMENT C: Mitigation, Maintenance & Monitoring Plan On-Site

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Dated December, 2012

Tables 1 & 2

Exhibits 1 & 2

EXHIBIT D

MITIGATION / MONITORING / MAINTENANCE PLAN FOR INTERNAL PRESERVES

REVISED: NOVEMBER 26, 2012

PREPARED BY:



TURRELL HALL & ASSOCIATES, INC
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I. INTRODUCTION:

The purpose of this document is to outline and describe the proposed mitigation and monitoring activities for preserves internal to the development project known as *Mirasol*. It is submitted to the U.S. Army Corps of Engineers (ACOE) in conjunction with a permit modification for the proposed development. A Mitigation and Monitoring Plan for the large preserve (Main Preserve) that is proposed outside of the development footprint is presented in its own, independent document.

The proposed project encompasses a total of approximately 1,798 acres in four sections of northern Collier County north of CR 846 and east of Interstate 75. A residential and golf course community is planned, with access to be provided from Immokalee Road (CR 846) along the southern property boundary. Most of the southern two sections were historically mowed and these two Sections (15 & 22) in addition to the northern Section (10) were used as cattle pasture. Altered sheet flows from further north and east currently flow across the property and because of constricted and limited outfall, the property is abnormally flooded (to increased depths) on an annual basis.

The historic use of the property as cattle pasture coupled with the annual flooding now occurring has contributed to unchecked proliferation of melaleuca across the entire property. A majority of the site has melaleuca densities of greater than 50% coverage. This infestation in conjunction with the flooding has led to a degradation of the uplands and severely depressed the functional values for the entire area. Native vegetation, wildlife forage value, and actual wildlife utilization have all suffered drastic reductions due to the existing conditions of the site.

To characterize surrounding land use, active farm fields exist to the north of the property while lands to the east consist of undeveloped parcels, a mitigation parcel, and several single-family home-sites. The properties to the west of the subject parcel consist of the proposed Parklands (north) and Saturnia (central) developments, and the existing Olde Cypress (south) development. The southern property boundary abuts the drainage easement and Cocohatchee canal alongside of Immokalee Road (CR 846).

The development site plan proposes to directly impact approximately 561.9 acres of ACOE jurisdictional wetlands. The plan also proposes to preserve approximately 984.3 acres of wetlands and 139.6 acres of uplands. The majority of the proposed preserve area (949.6 acres of wetlands and 137.5 acres of uplands) is located to the north and west of the development area. Within the development area the project proposes to preserve 34.7 acres of wetlands and 2.1 acres of uplands. It is towards these 36.8 acres of internal preserves that this document is dedicated.

II. EXISTING CONDITIONS:

The project site consists of 1,798 acres located in four sections of northern Collier County north of CR 846 and east of Interstate 75. There are limited upland (252.2 acres)

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and substantial wetland (1,546.2 acres) communities present on the site, which have all been heavily impacted by melaleuca infestation and altered hydrology.

Habitat Descriptions:

The following paragraphs outline the basic composition of species assemblages found on-site. While many more species are present than presented in this report, the following gives a brief description of the vegetative communities.

411 - Pine Flatwoods

This is the predominant upland habitat present on the property. The canopy component of this area consists of mature slash pines (*Pinus elliottii*) and melaleuca (*Melaleuca quinquenervia*). Melaleuca concentrations vary in these upland areas but some areas exhibit densities approaching 75%. Wax myrtle (*Myrica cerifera*) and small melaleuca form the midstory. These uplands exist as remnant islands throughout the site, most likely due to the altered, elevated water levels present. Understory species include saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*) and wild grape vine (*Vitis rotundifolia*).

422 - Brazilian Pepper

These two small areas are present in the northeast and northwest corners of the property. There are both upland and wetland areas present. Brazilian pepper (*Schinus terebinthifolius*) dominates this vegetative community.

617 - Disturbed Mixed Hydric Hardwoods

This small community in the southwestern corner of Section 15 is the only example of this community on the site. The dominant plant species are bald cypress (*Taxodium distichum*), melaleuca, wax myrtle, swamp bay (*Persea palustris*), saltbush (*Baccharis halimifolia*), and live oak (*Quercus virginiana*). A few cabbage palms (*Sabal palmetto*) are also present. Herbaceous understory vegetation consists of sawgrass (*Cladium jamaicense*) and swamp fern (*Blechnum serrulatum*).

621 - Cypress Swamp

This habitat contains predominately bald cypress with scattered dahoon holly (*Ilex cassine*), wax myrtle, and rare swamp bays. Ground covers are sparse but consist mainly of swamp fern.

424 - Hydric Melaleuca

These areas are dominated by melaleuca (*Melaleuca quinquenervia*) with minimal groundcover of swampfern, sawgrass and several grasses. Melaleuca concentrations are 90 to 100 % of the canopy cover.

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624 – Cypress / Pine / Cabbage palm

This habitat contains predominately bald cypress with scattered slash pine, wax myrtle, and rare cabbage palms. Ground covers are limited but consist mainly of swamp fern and assorted grasses and sedges.

643 - Disturbed Wet Prairie

This community appears as a disturbed area alongside a road in western Section 22 and in the northeast corner of Section 10. Little to no canopy is present and groundcovers include red root (*Lachnocaulon caroliniana*), Crinum lily (*Crinum americanum*), Broomsedge (*Andropogon spp.*), Pipeworts (*Eriocaulon spp.*), Hat pins (*Eriocaulon spp.*), Yellow-eyed grass (*Xyris spp.*), dog fennel (*Eupatorium leptophyllum*), etc.

640 - Flag Pond

This community appears in only one small area within the 160-acre adjacent mitigation parcel in Section 11. No canopy is present and the area is dominated by emergent vegetation, mostly alligator flag (*Thalia geniculata*).

424 / 411 – Mixed Melaleuca / Pine flatwoods

These areas contain vegetation from both communities as listed above. Areas are differentiated by the concentration of melaleuca found in each. The majority of the site contains melaleuca concentrations close to or over 50% of canopy cover. Concentrations of individual areas are shown on the FLUCCS map that is a part of the permit submittal.

621(624) / 424 – Cypress or Cypress / Pine and Melaleuca

As above, these areas are a mix of the different communities differentiated by Melaleuca concentration.

534 – Ponds

These are small areas excavated as watering holes for the cattle kept on-site.

WETLAND IMPACT AREAS:

The development plan proposes to directly impact approximately 561.9 acres and preserve about 34.7 acres of ACOE jurisdictional wetlands within the development. The aerial extent of impacts is high but the vast majority of the wetlands impacted are highly disturbed, and in some cases, created from historic uplands by the elevated water levels now occurring on-site. A breakdown of the impacted areas by FLUCFCS category is presented in the attached Table 1.

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III. MITIGATION ACTIVITIES

Conservation areas within the project site are identified with two (2) different labels; Development preserves, and the Main preserve. This distinction was made in order to outline the proposed mitigation activities for each individual preserve. This plan details the activities planned for the development preserves while the mitigation and monitoring activities planned for the Main preserve are presented under separate cover.

The development preserves are identified as 4 distinct areas labeled C, D, E, and F, on the attached map (Exhibit 1). The management activities associated with these preserve areas are outlined within this document and will be a requirement for the project.

All of the preserves shall be placed into conservation easements with the South Florida Water Management District, and enforcement rights shall be granted to the South Florida Water Management District and the US Army Corps of Engineers. A draft copy of the conservation easement documents will be provided to the ACOE prior to the commencement of construction. Easement documents will be finalized and recorded as outlined in the DA permit conditions.

As stated above, there are four areas included within the development as preserves. These areas combined are approximately 36.8 acres in size and are identified individually on the attached map (Exhibit 1).

Preserve C

This is a predominately cypress preserve located in the north central portion of Section 22. It is 9.67 acres in size all of which are wetlands. This preserve contains some hydric pine flatwoods around the central cypress area that have been heavily infested by melaleuca. All of the exotic vegetation will be cut by hand and removed from this preserve area. The hydrology will be maintained by a direct connection to the adjacent lake. Water from the lake will be able to enter the preserve as the water level rises but only after it has undergone treatment within the lake. The boundary will be clearly delineated as a preserve.

Preserve D

This is a small preserve located immediately east of Preserve C in the central portion of Section 22. It is 2.79 acres in size all of which are wetlands. This preserve also contains hydric pine flatwoods around the central cypress dome that have been heavily infested by melaleuca. All of the exotic vegetation will be cut by hand and removed from this preserve area. The hydrology will be maintained by a direct connection to the adjacent lake. Water from the lake will be able to enter the preserve as the water level rises but only after it has undergone treatment within the lake. The boundary will be clearly delineated as a preserve.

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Preserve E

This is the largest preserve area within the development footprint. It is 13.77 acres in size all of which are wetlands. This preserve is located along the border of Sections 22 and 15. It is composed of two cypress areas surrounded by hydric pine flatwoods. Melaleuca has extensively infested this preserve area. The current intent is for all of the exotic vegetation to be cut by hand and removed from the preserve. However, because of the density of melaleuca, a portion of this preserve area may be mechanically cleared if hand removal is shown to be logistically and fiscally unfeasible. The area in which mechanical clearing will be authorized is depicted on the map included as Exhibit 1. If any mechanical clearing is done, the cleared portion will be immediately planted as hydric pine flatwoods according to the planting plan outlined below in this report. Like Preserves C and D, this preserve will have a direct connection to the lake system and will receive water from the lakes once it has been treated. Since this is the largest internal preserve it offers the best opportunity to help educate the residents about the preserves and about wetlands in general. Should the owner (or homeowner's association) later explore the possibility of constructing an elevated, hand-railed boardwalk into this preserve to facilitate educational opportunities and access into the preserve, a permit modification request will be submitted the Corps of Engineers and SFWMD for review and approval prior to implementation. The boundary will be clearly delineated as a preserve.

Preserve F

This preserve is located linearly along the eastern boundary of Section 15. The preserve is 10.61 acres in size and is composed of 8.52 acres of wetlands and 2.09 acres of uplands. The wetlands are a mix of cypress and hydric pine with widely varying melaleuca concentrations. All exotic vegetation will be removed from this preserve area and the boundary will be clearly delineated as a preserve. All exotic removal is currently anticipated to be done by hand clearing but a couple of very dense areas, as depicted on Exhibit 1, may be mechanically cleared. If any mechanical clearing is done, the cleared portion will be immediately planted according to the planting plan for hydric pine flatwoods outlined below in this report. The boundary will be clearly delineated as a preserve.

Exotic Vegetation Eradication

Melaleuca infestation is rampant throughout the site and extensive eradication efforts will be implemented to eliminate this noxious plant from all preserve spaces. This program will entail quarterly clearing for the first year and biannual efforts thereafter until the infestation is under control and annual treatment can take over. All cleared debris, both hand and mechanical, will be removed from these internal preserves.

Because of the potential damage and destruction to groundcover vegetation and likely rutting of the ground by machinery, no mechanical clearing is currently proposed in

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Preserve areas C and D. If any mechanical clearing is done in preserves E or F, the cleared portion will be immediately planted according to the hydric pine planting plan outlined below in this report.

Quarterly maintenance inspections and treatments for the first year will be necessary to eliminate the melaleuca that has already gained a stranglehold on the property. Thereafter, biannual removal efforts will be undertaken for a couple of additional years to insure removal efforts have been successful. Once the removal efforts have been successful, annual maintenance treatments should be sufficient to control future exotic growth. The preserve areas will be exotic free immediately following a maintenance activity. At no time shall the density of exotic and nuisance plant species within these preserves exceed 4% of the total aerial cover.

Replanting Plans

The preserve areas which have undergone hand removal efforts will be left to regenerate naturally for at least a year (through one wet season and the planted prior to the next wet season) before deciding if supplemental planting is necessary. The decision to install supplemental plantings will be based on the amount of growth and recruitment documented in the annual monitoring report and the likelihood that the areas will reach the success criteria within the 5 year monitoring time frame. The decision to plant or not will be coordinated with ACOE and SFWMD compliance staff. Any preserve areas that have been mechanically cleared (Preserve E or F as depicted in Exhibit 1) will be planted immediately in conjunction with the start of the rainy season. The preserve areas will be evaluated once the initial exotic removal activities are completed and any plantings felt necessary will be proposed and coordinated with ACOE and SFWMD staff as part of the Time Zero Report.

Replanting will also be considered one year after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Appropriate vegetation will include canopy, mid-story, and ground cover vegetation. The one year of natural regeneration is proposed to allow for existing vegetation remaining after the exotic removal to re-establish itself in the newly opened areas. Natural regeneration is preferable to immediate planting because it allows for the local plants that will grow in the restoration areas to establish, and it allows for more natural biodiversity of plants. Replanting will be considered after two years for any area that shows less than 75% coverage by appropriate native vegetation.

Appropriate plant palettes will be applied for the affected areas. They will be dependant on existing ground elevations, anticipated high water elevations, and historic vegetative cover. Also, all areas disturbed as part of the construction or mitigation activities will be replanted as outlined below:

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Cypress: Cypress areas will be planted primarily with sapling cypress trees. Slightly higher areas and interfaces with adjacent flatwood communities may also include slash pine, dahoon holly and a few red maple trees. All trees planted will be containerized stock with minimum heights of 4 feet above the substrate. Depending on the size of the area being planted and the density of the adjacent vegetation, planting will be done on 10 foot or 15 foot centers. Planting will be clumped to imitate a more natural community instead of in linear rows. Midstory plantings will be done with minimum 5-gal container stock and will be planted to mimic natural clumps or thickets within the cypress area. It is anticipated that adjacent ground cover vegetation will rapidly colonize the areas so no ground cover planting will be done until a full growing season has passed. If ground cover colonization has not occurred, sawgrass, cordgrass, and other appropriate, available vegetation will be planted in those areas. The ground cover plantings will be with bare root or container stock. Bare root plantings will have minimum 3 inch diameter root masses. These plantings will be done essentially on 3 foot centers to fill in areas that have not regenerated naturally.

The following table shows some of the representative species that can be considered for planting and restoration of the cypress preserve areas.

CYPRESS PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Cypress (<i>Taxodium distichum</i>)	Button Bush (<i>Cephalanthus occidentalis</i>)	Sawgrass (<i>Cladium jamaicense</i>)
Red Maple (<i>Acer rubrum</i>)	Marlberry (<i>Ardisia escallonioides</i>)	Cinnamon Fern (<i>Osmunda cinnamomea</i>)
Dahoon Holly (<i>Ilex cassine</i>)	Pond Apple (<i>Annona glabra</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Laurel Oak (<i>Quercus laurifolia</i>)	Cocoplum (<i>Chrysobalanus icaco</i>)	Alligator Flag (<i>Thalia geniculata</i>)
Slash Pine (<i>Pinus elliotii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Crinum Lily (<i>Crinum americanum</i>)

Flatwoods: Pine flatwood areas will be planted with sapling slash pine on 50 to 75 foot centers. Trees will be from containerized stock and be between 4' to 6' in height. In very hydric areas, up to 15% cypress saplings may also be used. Few midstory plantings are proposed because of the future management plan for the areas as potential fox squirrel and red-cockaded woodpecker habitat. As above, no ground cover plantings will be done for a full growing season unless no existing vegetation is present. Wiregrass, cordgrass, broomsedge, and other appropriate native vegetation will be used if no regeneration is seen within the first year. These will be from both bare root and container stock and will be planted on the equivalent of 3-foot centers in clusters to fill in open areas.

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PINE FLATWOOD PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Slash Pine (<i>Pinus elliottii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Wiregrass (<i>Aristida stricta</i> , <i>Aristida purpurascens</i>)
Cypress (<i>Taxodium distichum</i>)	St. John's Wort (<i>Hypericum fasciculatum</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Cabbage Palm (<i>Sabal palmetto</i>)		Sand Cordgrass (<i>Spartina alterniflora</i>)
		Broom Grass (<i>Andropogon virginicus</i> var. <i>glaucus</i>)
		Yellow-eyed Grass (<i>Xyris fimbriata</i> , <i>Xyris caroliniana</i>)

These lists are not all inclusive and alternative appropriate native wetland vegetation may be used.

All plantings will be coordinated with the wet season so that expected rains will serve to keep the new plantings hydrated and no outside irrigation source will be needed.

Educational Displays

The applicant will establish two (2) wildlife displays for the proposed preserve areas. They will feature 'Cypress Domes of Southwest Florida' and 'Pine Flatwoods of Southwest Florida' along with their associated flora and fauna. They briefly describe the uniqueness of these communities, while highlighting plant and animal species which are typical of these habitats. Several 3' x 4' displays will be installed in prominent locations throughout the development. Additional 8.5 x 11 copies will also be available in the club house.

The proposed mitigation activities shall offset unavoidable, adverse wetland impacts and achieve mitigation success by providing viable and sustainable ecological and hydrological functions.

Target Criteria

All woody exotic vegetation will be removed from the internal preserve areas. Preserves will contain a minimum of 80% coverage by appropriate vegetation in all three strata combined. Hydric flatwood target conditions are as a very open canopy, prairie type ground cover with widely spaced trees. Trees will be a mix of slash pine and cypress depending on site specific hydrology. Tree density in the open flatwood areas should be between 10 to 50 trees per acre. Cypress dome target conditions are as a more closed canopy (110 to 175 trees per acre) with sparser ground cover. A minimum of 80% appropriate vegetative coverage will still be maintained. Mesic pine areas will contain tree densities in the 50 to 100 trees per acre range with midstory vegetation of saw

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palmetto, wax myrtle, myrsine, and other appropriate plantings. Ground cover may be scarce in dense midstory areas.

Financial Assurances

A cost estimate for the enhancement and maintenance activities has been presented to the SFWMD. Assurances that the project has the financial capability to undertake the work will be provided in the form of a letter of credit, performance bond, or other appropriate surety instrument. Once the activities have been completed as outlined in this document and the permit special conditions, the District will release the surety back to the project.

Mitigation Calculations

Pre and post development WRAP analysis were conducted. The proposed development consists of 561.9 acres of wetland impacts. The functional assessment depicting the mitigation credits and deficits associated with the preserve areas has been provided as part of the permit application.

IV. MONITORING / MAINTENANCE / MANAGEMENT:

The goals and objectives of this monitoring plan will be to provide for ongoing progress and ultimate success of preserved and enhanced areas in a series of scheduled monitoring reports. The reports will quantify and describe conditions within the managed areas, comparing observations with the proposed standards and offering advice for corrective actions if needed.

Visual inspection for exotic plant invasion will be made on quarterly, bi-annual, or annual basis depending on the state and status of the exotic eradication efforts. All exotic vegetation found will be flagged, mapped and reported for treatment. Removal of observed exotic vegetation will occur within 30 days of the observations. Meandering transects will be followed in the preserve areas for vegetative inventory and observation of wildlife during regular monitoring. Photo points will be established along with plot sampling stations to determine percent survival and percent coverage of planted and recruited plant species. Transect locations have been provided on the included exhibit (Exhibit 2). Plot sampling station locations will be determined at time zero, after exotic eradication and plantings are installed. The mitigation efforts shall be deemed successful when the area contains a minimum of 80% coverage of appropriate native vegetation, with less than 5% exotic and nuisance vegetation for a continuous period of 2 years. The preserve areas will be maintained in this exotic-free state in perpetuity. Once restoration and enhancement activities are deemed successful, the internal preserve areas will continue to be maintained in perpetuity and the homeowner's association or the Community Development District will be responsible for this perpetual maintenance.

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A Baseline Monitoring Report will describe the existing conditions of the conservation areas prior to exotic eradication and supplemental planting. The Time Zero Monitoring Report will describe the aerial extent of exotic removal and other mitigation work, i.e. revegetation, photographs from referenced locations, qualitative observations of wildlife usage and other information such as climatic and hydrological conditions and health of existing vegetation. Annual Monitoring reports shall document changes from the baseline conditions the success of the exotic eradication and identifies ways to maintain or improve these conditions.

Baseline, Time Zero and Annual Reports will include the following:

- quantification of any revegetation of exotic species and recommendations for remedial actions.
- quantification of revegetation of cleared areas by native species including dominant species and % cover by species.
- percent coverage, open space and water depths as appropriate.
- direct and indirect wildlife observations.
- site hydrological characteristics.
- photographs from a referenced location and panoramic photographs. A photo point station will be identified with a PVC labeled stake.
- Automatic monitoring groundwater loggers will be installed in the two largest internal preserves (C and E as depicted on Exhibit 2) with monthly readings, high, and low water levels provided in each annual monitoring report.

The maintenance and management of the preserve areas will be the responsibility of the owner/developer in perpetuity. When the property owners association or CDD acquires ownership of the property, maintenance and management responsibilities will transfer to that entity as well. At that time the said association(s) shall assume responsibility for the perpetual maintenance and management of the preserve and retained areas. Association documents will indicate the responsibilities, restrictions and limitations associated with the conservation areas.

The maintenance activities will be performed on a quarterly basis for the first year, then biannually as needed until annual maintenance is adequate to keep preserve areas clean. Perpetual maintenance after the monitoring period will be on an annual basis.

In addition to the exotic removal efforts, the maintenance activities may include, but are not limited to the following.

- maintenance, repair and/or replacement of monitoring wells,
- eradication of nuisance vegetation such as vines or cattails,
- supplemental herbicidal treatment of stumps to prevent re-growth after initial treatment.
- Upkeep and replacement of signage delineating preserve areas.

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TABLE 1

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MIRASOL ACOE FLUCCS INFORMATION SUMMARY

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Drudge Impacts	Wetland Fill Impacts	Total Wetland Impacts	
1	624/424	Pine / Cypress / Melaleuca (>75%)		2.37			1.35				0.57	0.45	1.02
2	411	Pine Flatwoods	31.81						8.68				
3	621/424	Cypress / Melaleuca (>50%)		2.50			2.42				0.08	0.08	
4	424	Melaleuca		42.50			7.00			8.91	26.59	35.50	
5	411	Pine Flatwoods	1.13										
6	624/424	Pine / Cypress / Melaleuca (>50%)		6.97						0.44	6.53	6.97	
7	411	Pine Flatwoods	11.67										
8	624/424	Pine / Cypress / Melaleuca (>75%)		8.19						1.41	6.78	8.19	
9	411	Pine Flatwoods	0.12										
10	411	Pine Flatwoods	5.23						3.09				
11	411	Pine Flatwoods	0.43										
12	411	Pine Flatwoods	10.60					0.85					
13	411	Pine Flatwoods	0.91										
14	625/424	Pine Flatwoods / Melaleuca (>50%)		1.68						0.08	1.60	1.68	
15	411	Pine Flatwoods	0.69										
16	411	Pine Flatwoods	0.89										
17	411	Pine Flatwoods	0.85										
18	411	Pine Flatwoods	2.19										
19	411	Pine Flatwoods	0.31										
20	625/424	Pine Flatwoods / Melaleuca (>50%)		33.14	3.42					6.23	23.49	29.72	
21	643	Disturbed Wet Prairie		4.29			3.98				0.33	0.33	
22	621	Cypress		4.36			4.36						
23	624	Pine / Cypress		2.67			2.67						
24	621	Cypress / Melaleuca (>25%)		0.82						0.47	0.35	0.82	
25	411	Pine Flatwoods	0.25										
26	625/424	Pine Flatwoods / Melaleuca (>75%)		31.87	0.49		2.90			11.25	17.03	28.28	
27	424	Melaleuca		9.24			0.16			4.04	5.04	9.08	
28	621	Cypress / Melaleuca (>50%)		0.69						0.66	0.03	0.69	
29	411	Pine Flatwoods	0.43										
30	621	Cypress		6.34	6.34						0.00	0.00	
31	411	Pine Flatwoods	0.28										
32	411	Pine Flatwoods	5.70										
33	411	Pine Flatwoods	4.72										
34	625/424	Pine Flatwoods / Melaleuca (>25%)		19.51			0.64			2.00	16.87	18.87	
35	621	Cypress		0.57	0.54						0.03	0.03	
36	625/424	Pine Flatwoods / Melaleuca (>25%)		19.02	2.77					3.22	13.03	16.25	
37	411	Pine Flatwoods	1.06										
38	424	Melaleuca		48.14	1.39					13.68	33.07	46.75	
39	411	Pine Flatwoods	2.58										
40	411	Pine Flatwoods	2.29										
41	621	Cypress / Melaleuca (>25%)		1.49	1.27						0.22	0.22	
42	624	Pine / Cypress / Melaleuca (>25%)		5.76	0.88					1.53	3.35	4.88	
43	411	Pine Flatwoods	0.16										
44	625/424	Pine Flatwoods / Melaleuca (>50%)		18.59	0.21					2.95	15.43	18.38	
45	621	Cypress / Melaleuca (>25%)		5.57	4.89						0.68	0.68	
46	625/424	Pine Flatwoods / Melaleuca (>50%)		12.61	0.02					1.84	10.75	12.59	
47	625/424	Pine Flatwoods / Melaleuca (>75%)		3.29						0.58	2.71	3.29	
48	411	Pine Flatwoods	2.01										
49	411	Pine Flatwoods	4.93										
50	625/424	Pine Flatwoods / Melaleuca (>75%)		57.55	3.15					12.04	41.76	54.40	
51	411	Pine Flatwoods	0.68										
52	621/424	Cypress / Melaleuca (>30%)		1.31							1.31	1.31	
53	621/424	Cypress / Melaleuca (>25%)		1.82	1.82								
54	621/424	Cypress / Melaleuca (>50%)		2.81	1.31						1.50	1.50	
55	624/424	Pine / Cypress / Melaleuca (>50%)		3.45	0.09					0.61	2.75	3.36	
56	621/424	Cypress / Melaleuca (>50%)		1.74			0.06			0.84	0.84	1.68	
57	624/424	Pine / Cypress / Melaleuca (>50%)		6.80			6.04			0.37	0.39	0.76	
58	617	Mixed Wetland Hardwoods		1.39			1.39						
59	621	Cypress		0.88			0.88						
60	621	Cypress		3.93			3.93						
61	625/424	Pine Flatwoods / Melaleuca (>75%)		30.92			13.61			5.18	12.13	17.31	
62	411	Pine Flatwoods	0.88										
63	411	Pine Flatwoods	0.48					0.30					
64	625/424	Pine Flatwoods / Melaleuca (>75%)		28.37						2.33	26.04	28.37	
65	625/424	Pine Flatwoods / Melaleuca (>75%)		8.91						1.48	7.43	8.91	
66	411	Pine Flatwoods	0.35										
67	411	Pine Flatwoods	6.29										
68	621	Cypress / Melaleuca (>25%)		1.66	0.64						1.02	1.02	
69	411	Pine Flatwoods	4.20			0.63							
70	625/424	Pine Flatwoods / Melaleuca (>50%)		5.99	0.42					2.44	3.13	5.57	
71	625/424	Pine Flatwoods / Melaleuca (>25%)		11.68	1.76		0.87			1.00	8.05	9.05	
72	411	Pine Flatwoods	0.30										
73	411	Pine Flatwoods	3.48			1.46							
74	411	Pine Flatwoods	1.75										
75	411	Pine Flatwoods	2.57										
76	625/424	Pine Flatwoods / Melaleuca (>50%)		12.11						3.20	8.91	12.11	
77	411	Pine Flatwoods	0.81										

EXHIBIT D

TABLE 1

November 26, 2012

MIRASOL ACOE FLUCCS INFORMATION SUMMARY

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
78	411	Pine Flatwoods	1.43									
79	625/424	Pine Flatwoods / Melaleuca (>75%)		20.65						4.55	16.10	20.65
80	411	Pine Flatwoods	1.58									
81	621	Cypress / Melaleuca (>50%)		2.60			2.60					
82	621	Cypress / Melaleuca (>50%)		0.37			0.37					
83	411	Pine Flatwoods	1.53					1.53				
84	540	Cattle Pond		0.08			0.08					
85	424	Melaleuca		74.07			59.21			4.60	10.26	14.86
86	625/424	Pine Flatwoods / Melaleuca (>75%)		14.19			14.19					
87	625/424	Pine Flatwoods / Melaleuca (>25%)		2.99							2.99	2.99
88	411	Pine Flatwoods	10.00					2.33				
89	625/424	Pine Flatwoods / Melaleuca (>50%)		18.65			15.90			0.15	0.60	0.75
90	625/424	Pine Flatwoods / Melaleuca (>75%)		100.35	2.41		5.31			24.78	73.85	98.63
91	411	Pine Flatwoods	1.60					1.60				
92	625/424	Pine Flatwoods / Melaleuca (>25%)		8.13	0.30		5.79			1.09	0.95	2.04
93	625	Hydric Pine Flatwoods		2.35	0.63		1.72					
94	621	Cypress		18.57			18.57					
95	624/424	Pine / Cypress / Melaleuca (>25%)		20.43			20.43					
96	625/424	Pine Flatwoods / Melaleuca (>25%)		5.77			5.77					
97	621	Cypress		0.39			0.39					
98	411	Pine Flatwoods	3.41					3.41				
99	625/424	Pine Flatwoods / Melaleuca (>50%)		1.93			1.93					
100	625/424	Pine Flatwoods / Melaleuca (>50%)		67.73			40.25			8.88	18.80	27.48
101	625/424	Pine Flatwoods / Melaleuca (>50%)		30.64			25.98			1.47	3.21	4.68
102	625/424	Pine Flatwoods / Melaleuca (>75%)		8.41			8.27			0.05	0.09	0.14
103	411	Pine Flatwoods	5.20					5.20				
104	411	Pine Flatwoods	0.73					0.73				
105	625/424	Pine Flatwoods / Melaleuca (>75%)		7.55			7.55					
106	625/424	Pine Flatwoods / Melaleuca (>25%)		1.41			1.41					
107	625/424	Pine Flatwoods / Melaleuca (>50%)		21.32			21.32					
108	625/424	Pine Flatwoods / Melaleuca (>75%)		2.85			2.85					
109	540	Cattle Pond		0.19			0.19					
110	411	Pine Flatwoods	0.57					0.57				
111	411	Pine Flatwoods	1.66					1.66				
112	411	Pine Flatwoods	11.32					11.32				
113	411	Pine Flatwoods	0.56					0.56				
114	621	Cypress		21.11			21.11					
115	625/424	Pine Flatwoods / Melaleuca (>75%)		8.59			8.59					
116	411	Pine Flatwoods	2.85					2.85				
117	411	Pine Flatwoods	0.94					0.94				
118	424	Melaleuca		107.97			107.97					
119	625/424	Pine Flatwoods / Melaleuca (>25%)		12.61			12.61					
120	411	Pine Flatwoods	1.07					1.07				
121	411	Pine Flatwoods	7.63					7.63				
122	411	Pine Flatwoods	0.54					0.54				
123	411	Pine Flatwoods	2.60					2.60				
124	624/424	Pine / Cypress / Melaleuca (>50%)		9.15			9.15					
125	625/424	Pine Flatwoods / Melaleuca (>50%)		6.37			6.37					
126	621	Cypress		1.16			1.16					
127	624/424	Pine / Cypress / Melaleuca (>50%)		1.30			1.30					
128	411	Pine Flatwoods	1.57					1.57				
129	621/424	Cypress / Melaleuca (>25%)		3.46			3.46					
130	411	Pine Flatwoods	0.17					0.17				
131	424	Melaleuca		2.72			2.72					
132	621/424	Cypress / Melaleuca (>25%)		3.67			3.67					
133	411	Pine Flatwoods	12.36					12.36				
134	625/424	Pine Flatwoods / Melaleuca (>75%)		62.52			62.52					
135	424	Melaleuca		42.41			42.41					
136	411	Pine Flatwoods	2.21					2.21				
137	625/424	Pine Flatwoods / Melaleuca (>75%)		32.89			32.89					
138	625/424	Pine Flatwoods / Melaleuca (>50%)		11.68			11.68					
139	411	Pine Flatwoods	1.20					1.20				
140	411	Pine Flatwoods	0.29					0.29				
141	411	Pine Flatwoods	2.56					2.56				
142	411	Pine Flatwoods	11.49					11.49				
143	422	Brazilian Pepper		3.57			3.57					
144	621	Cypress		9.11			9.11					
145	424	Melaleuca		5.34			5.34					
146	424	Melaleuca		19.57			19.57					
147	624/424	Pine / Cypress / Melaleuca (>50%)		2.53			2.53					
148	621/424	Cypress / Melaleuca (>25%)		15.38			15.38					
149	625/424	Pine Flatwoods / Melaleuca (>25%)		9.28			9.28					
150	625/424	Pine Flatwoods / Melaleuca (>75%)		25.99			25.99					
151	411	Pine Flatwoods	2.30					2.30				
152	411	Pine Flatwoods	1.53					1.53				
153	625/424	Pine Flatwoods / Melaleuca (>50%)		12.44			12.44					
154	422	Brazilian Pepper	8.02					8.02				
155	422	Brazilian Pepper	3.88					3.88				

EXHIBIT D

TABLE 1

November 26, 2012

MIRASOL ACOE FLUCCS INFORMATION SUMMARY

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
156	625/424	Pine Flatwoods / Melaleuca (>50%)		3.91			3.91					
157	424	Melaleuca		15.47			15.47					
158	625/424	Pine Flatwoods / Melaleuca (>50%)		7.29			7.29					
159	625/424	Pine Flatwoods / Melaleuca (>25%)		0.70			0.70					
160	621	Cypress		9.58			9.58					
161	640	Fleg Pond		1.43			1.43					
162	624/424	Pine / Cypress / Melaleuca (>50%)		7.43			7.43					
163	424	Melaleuca		4.34			4.34					
164	411	Pine Flatwoods	2.56					2.56				
165	624/424	Pine / Cypress / Melaleuca (>50%)		0.89			0.89					
166	621	Cypress		3.05			3.05					
167	624/424	Pine / Cypress / Melaleuca (>50%)		2.25			2.25					
168	625/424	Pine Flatwoods / Melaleuca (>75%)		38.94			38.94					
169	624/424	Pine / Cypress / Melaleuca (>50%)		3.07			3.07					
170	624/424	Pine / Cypress / Melaleuca (>50%)		0.79			0.79					
171	411	Pine Flatwoods	3.44					3.44				
172	621	Cypress		2.12			2.12					
173	411	Pine Flatwoods	1.76					1.76				
174	424	Melaleuca		11.86			11.86					
175	624/424	Pine / Cypress / Melaleuca (>25%)		6.67			6.67					
176	411	Pine Flatwoods	9.19					9.19				
177	621	Cypress		5.50			5.50					
178	621	Cypress		0.89			0.89					
179	625	Hydric Pine Flatwoods		12.79			12.79					
180	625	Hydric Pine Flatwoods		9.41			9.41					
181	411	Pine Flatwoods	1.85					1.85				
182	621	Cypress		0.06			0.06					
183	621	Cypress		21.69			21.69					
184	424	Melaleuca		13.36			13.36					
185	621	Cypress		0.18			0.18					
186	411	Pine Flatwoods	9.48					9.48				
187	624	Pine / Cypress		3.65			3.65					
188	411	Pine Flatwoods	0.1					0.10				
189	625/424	Pine Flatwoods / Melaleuca (>50%)		0.16			0.16					
190	211	Improved Pasture		17.31			17.31					
191	140	Commercial Services	2.78						2.78			
192	621	Cypress		0.57			0.57					
193	424	Melaleuca		2.79			2.79					
194	624	Pine / Cypress		0.29			0.29					
195	411	Pine Flatwoods	1.27					1.27				
ROW	ROW	Road Right of Way	4.92									
		TOTALS	252.17	1546.18	34.75	2.09	949.55	122.93	14.55	135.52	425.35	561.87

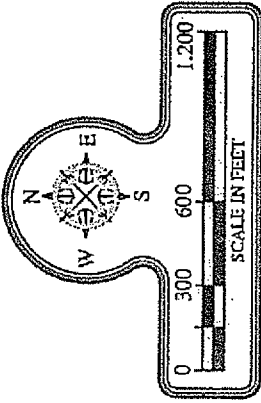
EXHIBIT D

November 26, 2012 MIRASOL ACOE HABITAT INFORMATION SUMMARY

TABLE 2

FLUCCS CODE	DESCRIPTION	PRE PROJECT ACRES BY HABITAT TYPE										Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts		
		ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts							
140	Commercial Services	2.76										2.78					
211	Improved Pasture		17.31					17.31									
411	Pine Flatwoods	232.57			2.09							11.77					
422	Brazilian Pepper	11.90															
424	Melaleuca	399.78		1.39				292.20							74.96	106.19	
540	Cattle Pond	0.27						0.27									
617	Mixed Wetland Hardwoods	1.39						1.39									
621	Cypress	110.06		6.88				103.15						0.03	0.03	0.03	
621/424	Cypress / Melaleuca (>25%)	33.87		8.62				22.51						0.47	2.27	2.74	
621/624	Cypress / Melaleuca (>50%)	12.02		1.31				5.45						1.50	3.76	5.26	
624	Pine / Cypress	6.61						6.61									
624/424	Pine / Cypress / Melaleuca (>25%)	32.86		0.88				27.10						0.03	3.35	4.88	
624/424	Pine / Cypress / Melaleuca (>50%)	44.63		0.09				33.45						1.42	9.67	11.09	
624/424	Pine / Cypress / Melaleuca (>75%)	10.56						1.35						1.98	7.23	9.21	
625	Hydric Pine Flatwoods	24.55		0.63				23.92									
625/424	Pine Flatwoods / Melaleuca (>25%)	91.10		4.83				37.07						7.31	41.89	49.20	
625/424	Pine Flatwoods / Melaleuca (>50%)	264.24		4.07				147.21						27.24	85.72	112.96	
625/424	Pine Flatwoods / Melaleuca (>75%)	487.84		6.05				221.61						62.84	197.14	259.98	
640	Flag Pond	1.43						1.43									
643	Disturbed Wet Prairie	4.29						3.96						0.33	0.33	0.33	
DEV	Development	4.92															
	TOTALS	252.17	1546.18	34.75	2.09	2.09	949.56	122.93	14.55	135.52	426.35	561.87					
	POST PROJECT ACRES BY HABITAT TYPE (TARGETS)																
FLUCCS CODE	DESCRIPTION	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve												
411	Pine Flatwoods																
540	Cattle Pond																
617	Mixed Wetland Hardwoods																
621	Cypress	16.81	131.11	1.39	0.27												
624	Pine / Cypress	0.97	357.91	3.96	1.43												
625	Hydric Pine Flatwoods	16.97	436.18	3.96	1.43												
640	Flag Pond																
641	Freshwater Marsh																
643	Disturbed Wet Prairie																
DEV	Development	674.47															
	TOTALS	674.47	34.75	2.09	964.11	122.93											

EXHIBIT D

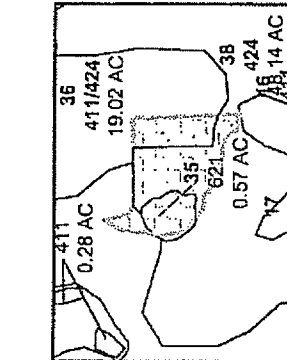
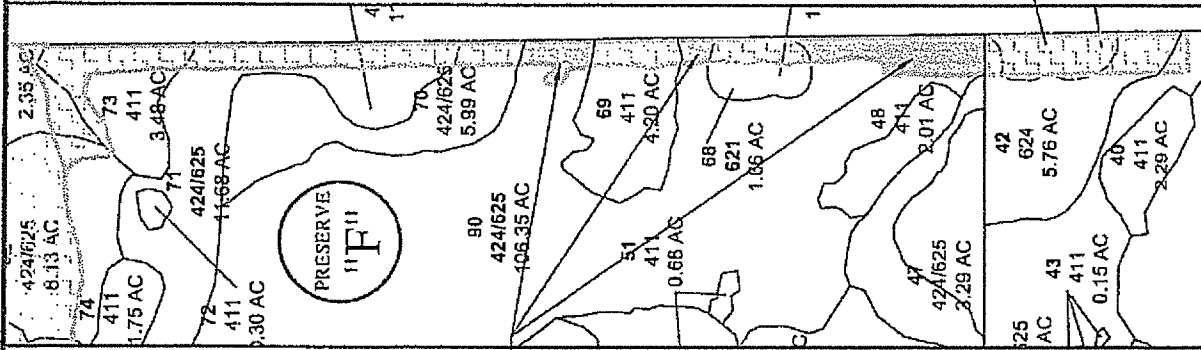


SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 1

INTERNAL PRESERVES			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
"C"		9.67	9.67
"D"		2.79	2.79
"E"		13.77	13.77
"F"	2.09	8.52	10.61
TOTALS	2.09	34.75	36.84

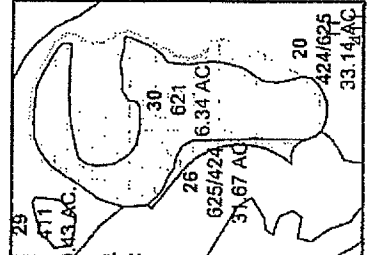
NOTES:
 * THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 * AREA CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

DESIGNED: T.T.T.	REVISION:	TAB NAME:	Internal
DRAWN BY: SS	02-15-2012	SHEET:	
CREATED: 04-25-06	05-05-2012	SCALE:	1"=600'
JOB NO.: 29410	N/A		
SECTION-15	TOWNSHIP-4 D S	RANGE-28 E	

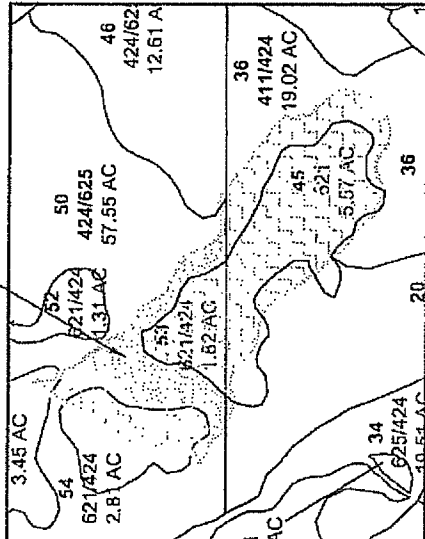


PRESERVE 11D

MECHANICAL CLEARING OF EXOTICS MAY OCCUR IN THESE AREAS



PRESERVE 11C



PRESERVE 11E

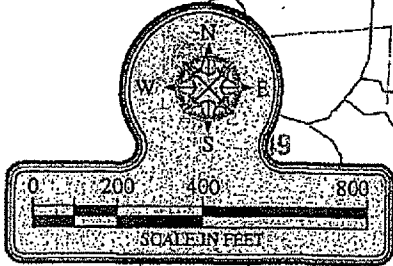
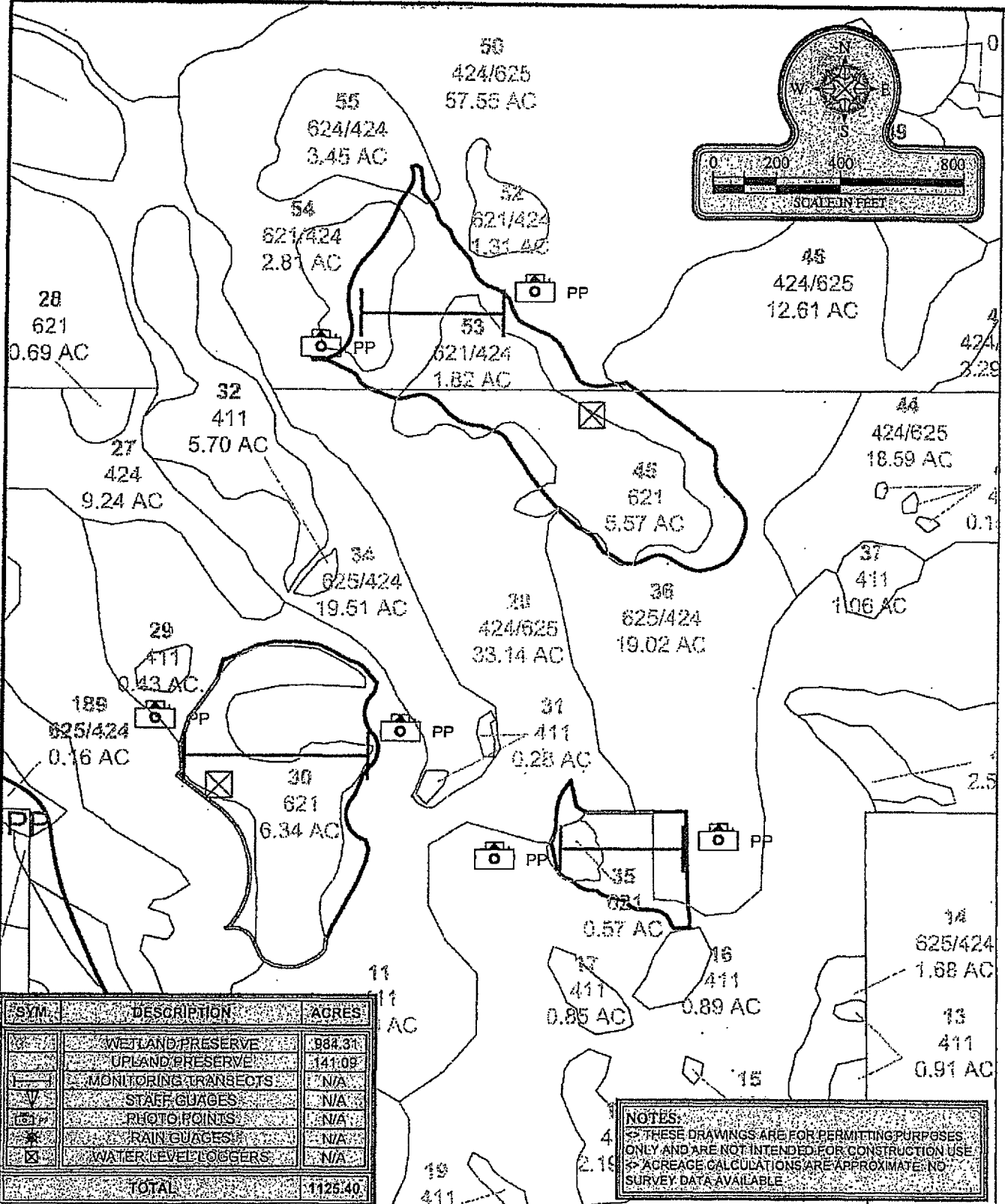


INTERNAL PRESERVES CLEARING

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Freixange Ave. Suite B, Naples, FL 34104-3732
 Email: turell@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6652

EXHIBIT D

P19418 Mirasol2012_DRAWINGS\CORR0212_SUBMITTAL - pre-mt.dwg



SYM.	DESCRIPTION	ACRES
[Symbol]	WETLAND PRESERVE	984.31
[Symbol]	UPLAND PRESERVE	141.09
[Symbol]	MONITORING TRANSECTS	N/A
[Symbol]	STAFF GAUGES	N/A
[Symbol]	PHOTO POINTS	N/A
[Symbol]	RAIN GAUGES	N/A
[Symbol]	WATER LEVEL LOGGERS	N/A
TOTAL		1125.40

NOTES:
 - THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 - ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE.

SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 2

MIRASOL
 INTERNAL PRESERVES MONITORING

DESIGNED: T.T.T.	REVISION:	TAB NAME: Monitoring
DRAWN BY: SS	02-16-2012	SHEET:
CREATED: 04-25-06	06-05-2012	SCALE: 1"=1,800'
JOB NO.: 9418	N/A	

SECTION- TOWNSHIP-46 S RANGE-26 E

EXHIBIT D

ATTACHMENT D: Mitigation, Maintenance & Monitoring Plan Main Preserve

Pages 1-13 of 13 (text)

Dated December, 2012

Tables 1 & 2

Exhibits 1 - 7 *a*

EXHIBIT D

MITIGATION / MONITORING / MAINTENANCE PLAN FOR MAIN PRESERVE

REVISED: NOVEMBER 26, 2012

PREPARED BY:



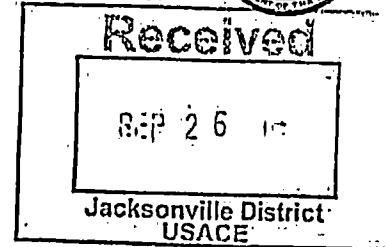
**TURRELL HALL & ASSOCIATES, INC
3584 EXCHANGE AVENUE
NAPLES, FL 34104**

Filing # 118908477 E-Filed 12/30/2020 04:21:48 PM



United States Department of the Interior

FISH AND WILDLIFE SERVICE
 South Florida Ecological Services Office
 1339 20th Street
 Vero Beach, Florida 32960



September 18, 2012

Alan M. Dodd, Colonel
 U.S. Army Corps of Engineers
 Fort Myers Regulatory Office
 1520 Royal Palm Square Boulevard, Suite 310
 Fort Myers, Florida 33919

Service Federal Activity Code: 41420-2006-FA-1500
 Service Consultation Code: 41420-2006-F-0674-R002
 Corps Application No.: SAJ-2000-01926 (IP-HWB)-Mod 1
 Date Received: April 23, 2012
 Applicant: I.M. Collier Joint Venture
 Project: Mirasol Development
 County: Collier

Dear Colonel Dodd:

The U.S. Fish and Wildlife Service (Service) has reviewed the U.S. Army Corps of Engineers' (Corps) request to reinstate consultation dated April 23, 2012, for the permit modification listed above. This letter is submitted in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*) and the provisions of the Fish and Wildlife Coordination Act (FWCA) of 1958, as amended (48 Stat. 401; 16 U.S.C. 661 *et seq.*).

Corps Permit No. SAJ-2000-01926 (IP-HWB) was issued on July 28, 2011, and authorized the discharge of dredge or fill material to waters of the United States. On February 8, 2012, the Service received correspondence from the applicant that the project was being modified with the addition of 322 residential units and the addition of 85 acres of onsite preserve (total project acreage increased from 1,713.45 acres to 1,798.35 acres). Additional information was provided to the Service on March 15, 2012, and the Corps requested reinstatement of consultation on April 23, 2012. The project site is located north of Immokalee Road and east of Interstate 75 in Sections 10, 11, 15, and 22; Township 48 South; Range 26 East; in Collier County, Florida (Figure 1).

Consultation History

The consultation history for the Mirasol Development spans a 12-year period and is detailed in Service Biological Opinions dated February 21, 2003; March 9, 2005; March 1, 2007; May 3, 2007; April 22, 2011; and June 3, 2011. Therefore, the consultation history referenced in this reinstatement request is specific to the project as permitted by the Corps on July 28, 2011, including the Service's consultation for the permitted project. Additional detail is reviewable in any of the referenced Biological Opinions.

TAKE PRIDE
 IN AMERICA 

EXHIBIT F

On May 11, 2010, the Corps, requested consultation with the Service and provided determinations of "may affect" for the endangered Florida panther (*Puma concolor coryi*) and the endangered wood stork (*Mycteria americana*) and "may affect, not likely to adversely affect" (MANLAA) for the endangered red-cockaded woodpecker (RCW; *Picoides borealis*) and the threatened eastern indigo snake (*Drymarchon corais couperi*). The project proposed impacts to 773 acres (645 acres of wetlands) and the preservation of 941 acres (831 acres of wetlands) onsite (total acreage is 1,713.45 acres). The applicant also proposed the acquisition of 27.68 wetland credits on 82 acres at Panther Island Mitigation Bank (PIMB) and the acquisition of the equivalent of 2,330 panther habitat units (PHUs), which is approximately 291 acres in the panther Primary Zone.

On April 22, 2011, the Service provided a Biological Opinion (Service Log No. 41420-2006-F-0674) concluding that the proposed project was not likely to jeopardize the survival and recovery of the Florida panther and wood stork and concurred with MANLAA determinations for the RCW and eastern indigo snake. The April 22, 2011, Biological Opinion was revised on June 3, 2011, clarifying several consultation history dates and a discrepancy in the onsite compensation acreage.

On July 28, 2011, the Corps issued permit SAJ-2000-01926 (IP-HWB) to I.M. Collier Joint Venture for the project known as "Mirasol." The permitted site plan included 799 residential units, a 36-hole golf course, a clubhouse, lakes, an entrance road, and onsite preserves. The project area was about 1,713.45 acres and included 772.98 acres of development, 36.86 acres of preserves and buffers internal to the development and not accessible to the Florida panther (total panther impact 809.84 acres), and 903.66 acres of additional preserves and buffers onsite, external to the development and available to the Florida panther. In addition to the above compensation, the permit requires the applicant to purchase and protect about 291.10 acres (the equivalent of 2,330 PHUs) within the panther Primary Zone, and to purchase 27.68 wetland credits (about 82.21 acres representing 709 PHUs) from PIMB. The total compensation proposal, including both onsite and offsite properties, provided protection and restoration of about 1,276.97 acres of panther habitat in areas surrounded by previously restored and protected panther habitat (903.66 acres onsite, 82.21 acres in PIMB, and 291.10 acres in the Primary Zone).

On February 8, 2012, the applicant met with the Service and provided information on proposed revisions to the permitted project. During applicant discussions with various Conservation Organizations, additional wood stork foraging improvements were agreed upon. Two upland mesic pine areas will be scraped down and contoured to provide depression areas, which will concentrate forage fish as water levels recede. The current proposal for modification entails the following:

- Approximately 85 acres are being added into the project boundary as additional preserve (project boundary change from 1,713.45 acres to 1,798.35 acres).
- The maximum number of residential units will increase from 799 to 1,121.
- 18 holes of golf are being eliminated.
- The pass-through system of lakes currently permitted is being modified to an open channel that will run along the western development boundary.
- The development (impact) footprint is being reduced from 809.84 to 709.76 acres.

EXHIBIT F

- Wetland impacts associated with the project are being reduced from 645.35 acres to 561.87 acres.
- Wetland creation will occur on the southern uplands that were previously in the development footprint but are now within the new preserve area.
- Removal of the berm around the farm field and creation of depressions within the existing farm field and adjacent upland areas will be undertaken to create improved wood stork foraging opportunities.

During the February 8, 2012, meeting, the applicant provided current site information that supports the Corps' original determination that the project "may affect" the Florida panther and wood stork and MANLAA the eastern indigo snake and RCW. Due to the amount of changes proposed by the applicant, the Service requested a reevaluation of the pre- and post-project panther PHU calculations, and pre- and post-project wood stork foraging biomass calculations. The Service also requested updated data on the Florida panther population and panther/vehicle mortality within a 5-mile radius, as well as an updated traffic pattern model projection for the proposed additional residential units. Details were requested on the proposed wetlands to be created in the southwestern portion of the project site.

On February 23, 2012, the Service received an updated figure of the traffic pattern model projections from Turiell, Hall & Associates, Inc. (THA).

On March 26, 2012, the Service received correspondence from the Collier County Audubon Society and Florida Wildlife Federation, providing supporting reviews of the proposed permit modification.

On April 30, 2012, the Service received the updated traffic pattern model projections from JMB Transportation Engineering, Inc. (JMBT).

On July 13, 2012, additional data was received from THA. Data provided by THA (2012) included updated Panther PHU and wood stork biomass calculations, and site drawings showing proposed contours for the proposed wetlands to be created in the southwestern portion of the project site. The data also included information on overall changes in the status of the Florida panther within and around the project site.

On August 10, 2012, the Service received additional details on the pass-through flow-way and offsite regional drainage effects.

On August 14, 2012, the Service received correspondence from Collier County Audubon Society providing supporting reviews of the revised flow-way design.

BIOLOGICAL OPINION REINITIATION

On April 23, 2012, the Corps requested reinitiation with the Service for Formal consultation on the Florida panther and wood stork and provided determinations of MANLAA for the eastern indigo snake and RCW.

EXHIBIT F

Eastern Indigo Snake

The Corps' determination for the eastern indigo snake is supported through the Corps' application of the Service's Eastern Indigo Snake Programmatic Determination Key (2012) (A→B→C→D→E→MANLAA) and the Corps commitment to include the Service's (2004) *Standard Protection Measures for the Eastern Indigo Snake* as a permit condition.

Red-cockaded Woodpecker

The Corps' determination for the RCW is also appropriate. The Service provided a concurrence determination of MANLAA as a component of the June 3, 2011, Biological Opinion. Although the surveys were conducted in 2010 and several nesting and foraging seasons have passed, habitat conditions that were present on the project site that adversely affect RCW foraging and nesting suitability (mid-story vegetation density and dominance by exotic species) continues to adversely affect habitat suitability for the RCW. The restoration component proposed for the onsite preserve, (i.e., the removal of the exotic vegetation and the implementation of the management plan) is expected to provide improved foraging and nesting habitat for the RCW. In addition, although not a project requirement, the applicant has expressed interest in reintroduction of RCWs into the onsite preserve. This could include translocation of donor birds from a recipient site or installation of artificial nest cavity boxes and/or pre-drilling suitable pines as surrogate nest sites to allow for passive RCW migration from adjacent colonies. The Service is supportive of efforts to reintroduce the RCW into the onsite preserve and welcomes the opportunity to further assist the applicant in this effort.

Florida Panther

In order to assess if adverse effects will occur to the Florida panther in a manner or extent not previously considered in the Service's June 3, 2011, Biological Opinion, we requested additional traffic data on the proposed increase in residential units from 799 units to 1,121 units, and updated information on overall changes in the status of the Florida panther within and around the project site. Data was specifically requested on population and mortality data within a 5-mile radius of the project and an assessment of PHUs pre- and post-development.

The PHU assessment was modified for the project as currently proposed. According to the modified PHU assessment (THA 2012), the revised project will impact 709.77 acres (Figure 2), result in a loss of about 3,493.21 PHUs, and provide a recommended compensation of 8,733.88 PHUs. The onsite mitigation area (Figure 3), which includes about 1,088.56 acres of preserves, following restoration, will generate 7,936.30 PHUs. The applicant proposes to purchase an additional 797.58 PHUs from the Panther Passage Conservation Bank (Bank) to comply with the recommended compensation. The PHU acquisition from the Bank represents an equivalent of 33.22 acres (24.01 PHUs/acre) of habitat preservation. The applicant will provide a certificate of purchase from the Bank to the Service within 90 days of permit issuance and/or prior to any onsite land clearing; whichever is earliest. Total preserves, including the offsite compensation, are 1,121.78 acres.

The onsite preserve for the Mirasol project will be placed under a conservation easement granted to the South Florida Water Management District (District), with enforcement rights granted to the Service and Corps. Once the exotic vegetation has been removed and the native vegetation

EXHIBIT F

restored, the preserve lands outside of the development footprint (about 1,089 ac) are to be maintained by the applicant or the homeowner's association until they can be donated to the CREW Trust, or another appropriate public entity capable of providing such services, and approved by the Service. The land transfer to the public management entity is to be completed within 6 months of final agency sign-off on the mitigation activities referenced in the Corps/District permit applications.

In addition to the donation of the property to an appropriate entity, a non-wasting escrow fund for the perpetual maintenance and monitoring of the preserve shall be established. The amount of the endowment will be determined at the time the preserve is transferred to the public management entity, and will be based on the perpetual management, maintenance and monitoring needs as determined and approved through coordinated discussions with the land recipient and the Service at the time of the proposed transfer. The amount of the endowment funds and the entity to receive the funds must be determined prior to the final agency sign-off on the mitigation activities referenced in the Corps/South Florida Water Management District permit applications. The monies generated from the non-wasting endowment fund will be sufficient to fund all land management costs including: site fencing and fire break maintenance, taxes, liability insurance (if necessary), site management and maintenance, monitoring reports, escrow holder handling fee, and a 10 percent contingency. A capitalization rate will be determined in coordination with, and approved by, the Service at the time the property is turned over to insure that the endowment fund is non-wasting.

To assist the Service in further assessing indirect affects to the Florida panther (*i.e.*, those affects not directly tied to habitat loss), the Service reviewed the additional traffic data provided on the proposed increase in residential units from 799 units to 1,121 units, and updated information on overall changes in the status of the Florida panther within and around the project site.

The revised traffic report compared the traffic model for the site plan reflected in the Corps' permit (*i.e.*, 799 residential units with 36 holes of golf) and the current traffic model for the revised site plan (*i.e.*, 1,121 residential units and one 18-hole golf course). The April 30, 2012, traffic report prepared by JMBT (2012) noted the original traffic profile would result in 5,433 average weekday trip-ends. The revised development proposal is expected to generate a traffic profile of 8,051 average weekday trip-ends, which is an increase of 2,608 weekday trip-ends over the permitted project. The report suggests 4 percent of this increase will travel east or west on Immokalee Road east of CR 951, with the remainder travelling north or south on Collier Boulevard (CR 951) or east and west on Immokalee Road west of the project site. The new project trips will constitute about 0.3 percent increase of the total traffic load on Immokalee Road and a 1.1 percent increase on Collier Boulevard. We believe the minimal increases in traffic on Immokalee Road and Collier Boulevard are insignificant in terms of the overall traffic already present on these roadways, and will have no additional adverse impacts to any protected species above and beyond those assessed in the June 3, 2011, Biological Opinion.

Another component of the Service's assessment of indirect effects to the Florida panther is consideration of a project's proposed actions to minimize traffic effects and reduce vehicle-caused panther mortalities in the adjacent Florida panther core lands. Such actions can include both

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installation of fencing and/or wildlife underpasses in traffic/panther mortality hot-spots and development density reduction programs that allow for the transfer of development densities (transfer of development rights - TDR) from lands in the panther core lands to lands proposed for development in more urban settings. One such program in Collier County is the Rural Lands Assessment (RLA), which was adopted in 2002. This program established Rural Lands Stewardship Areas and Rural Fringe Mixed Use Overlay Districts. Within these designations, undeveloped lands not designated as conservation or in public ownership could be designated as either Sending Lands or Receiving Lands. Sending Lands have the highest degree of environmental value and sensitivity, with significant wetlands, uplands, and habitat for listed species. Sending Lands are principal targets for acquisition, preservation, and conservation. Receiving Lands have a significantly lesser degree of environmental or listed species habitat value and have been determined to be most appropriate for development. A third classification, Neutral Lands, falls in the middle in terms of value between Receiving Lands and Sending Lands; Neutral Lands generally retain the development rights that existed when the Rural Assessment was undertaken.

The proposed Mirasol Development crosses three different zoning districts. Section 22 is in the Urban Residential Subdistrict with a base density of 4 units per acre and is outside of the boundaries of the RLA program. Sections 10 and 15 are in the RLA program and are designated as Rural Fringe Mixed Use "Neutral" Lands with a base density of 1 unit per 5 acres. Section 11 is also in the RLA program and is designated as Rural Fringe Mixed Use "Sending" Lands with a base density of 1 unit per 5 acres and bonuses associated with the TDR program.

The County Planned Unit Development zoning defines the property boundary as the lands within Sections 22, 10, and 15. Section 11 is accounted for as off-site lands and Section 11 is the only one associated with the TDRs. Density calculations for the original project include 425.76 acres in Section 22 or 1,703 units ($425.76 \times 4 = 1,703$) and 1,212.79 acres within Sections 10 and 15 or 242.6 units ($1,212.79 / 5 = 242.6$) for a total maximum density of 1,945.6 residential units ($1,703 + 242.6 = 1,945.6$). The applicant previously committed to only construct 799 units. The additional 322 units now being requested are generated from the 80 additional acres being added to the preserve from Section 22 ($80 \times 4 = 320$) and 10 additional acres being added from Section 15 ($10 / 5 = 2$). The density request for this project is now the 799 originally permitted plus the extra 322, for a total of 1,121 units.

Because Section 11 is designated as Sending Lands, the density from these 159.79 acres can only be transferred to Receiving Lands through the TDR program. Since there are no Receiving Lands associated with the Mirasol project, the TDR credits from Section 11 have to be severed and held (banked) until such time as they may be transferred to a project in the Receiving Lands area. The Section 11 Sending Lands are eligible for Base Density Credits (1 TDR credit per 5 acres or 31.95 credits) plus Early Entry Bonus (1 bonus credit per TDR credit, or 31.95 credits) plus Restoration & Maintenance Bonus (also 1 bonus credit per TDR credit) plus Conveyance Bonus (also 1 bonus credit per TDR credit). Therefore, the total number of TDRs that have been banked and eligible for density development credit for a future project in the Rural Fringe Mixed Use Overlay Districts is 127.8 TDRs. Although the Service generally does not support transferring development rights from lands that are being protected for conservation by one project to another future project, the Service understands the use of the TDRs in this instance and is supportive of

EXHIBIT F

Collier County's Rural Lands Assessment and Density Reduction program. However, should a future project using the 127.8 TDRs result in impacts to listed species, compensation for those impacts will be required in a manner consistent with the then-current science. Since the Section 11 lands are part of the Mirasol project, they will not be considered compensation to offset future impacts to listed species from use of the TDRs.

The Service, during the February 8, 2012, meeting, also requested information regarding overall changes in the status of the Florida panther within and around the project site. Specifically, we requested panther population and mortality data within a 5-mile radius around the project to determine if the population and mortalities increased or decreased in this area from when the project was reviewed and permitted in 2011 (Service Biological Opinion: June 3, 2011) compared to the species current status in 2012 (July 30, 2012). No new telemetry data since the previous Biological Opinion is available to the Service. However FP186 (male) was reported as alive in the previous Biological Opinion and died from intraspecific aggression on June 20, 2011, 6.1 miles northeast of the project. Historically, eight radio-collared male and female panthers were recorded on 53 occasions based on telemetry data from February 1981 through May 13, 2011. In our 2011 Biological Opinion, the closest and most-recent occurrence of a live, radio-collared panther was FP186, recorded on May 13, 2011, 4.50 miles northeast of the project. Since FP186 is now dead, the most recent occurrence of a live, radio-collared panther is FP159, recorded on April 28, 2008, 3.7 miles northeast of the project. In addition, an un-collared male panther was reported on July 18, 2012, adjacent to the southwest border of the site on Rose Boulevard. The Service believes the project site, as determined in the previous Biological Opinion, may occasionally be used by collared and other non-collared panthers because it contains habitat types used by panthers and their prey, and the project vicinity has been used historically by panthers as indicated by telemetry locations. Therefore, the Service believes the conclusions provided in the June 3, 2011, Biological Opinion are applicable to the project as modified and concludes the revised project will have no additional adverse impacts to the Florida panther greater than those previously addressed by the Service.

Wood Stork

In order to assess if adverse effects will occur to the wood stork in a manner or extent not previously considered in the Service's June 3, 2011, Biological Opinion, we requested additional data on wood stork foraging biomass and changes in wetland impacts. The project as originally permitted proposed impact to 645.35 acres and a loss of 190.06 kilograms (kg) of foraging biomass. The permitted project proposed the protection and restoration of 831.35 acres of onsite preserve with a biomass gain following restoration of 2,181.87 kg. The net change following project development would be an increase of 1,991.81 kg ($2,181.87 - 190.06 = 1,991.81$ kg).

The revised project proposes impacts to 561.87 acres and a loss of 160.87 kg of foraging biomass. The revised project also proposes the protection and restoration of 949.56 acres and the creation of 14.55 acres, totaling 964.11 acres, with a biomass gain following restoration and creation of 1,441.24 kg. The net change following project development will be an increase of 1,280.37 kg ($1,441.24 - 160.87 = 1,280.37$ kg).

EXHIBIT F

The previously permitted project included an internal conveyance flow-way that consisted of a series of lakes, swales, and pipes. The conveyance ran from an intake weir at the northern development boundary, through the project development area, and eventually outfalling into the Cocohatchee Canal at the southern development boundary. This conveyance system covered approximately 38.4 acres and was designed to ensure that water levels outside of the project development footprint were not elevated during the wet season over the existing pre-development levels.

The current proposal still includes an internal conveyance flow-way, but it has been re-designed as an open swale instead of a series of connected lakes, and it has been relocated to run along the western property boundary instead of through the center of the development (Figure 4). The conveyance will still originate at the intake weir at the northern development boundary and outfall into the Cocohatchee Canal at the southern development boundary. The currently proposed conveyance will cover approximately 25.1 acres and will ensure that water levels outside of the project development footprint are not elevated over the existing pre-development levels. The Service has reviewed the data provided and concludes the revised project does not propose adverse effects to the wood stork in a manner or extent not previously considered in the Service's June 3, 2011, Biological Opinion.

In summary, the Service concurs with the Corps' determinations of "may affect, but not likely to adversely affect" for the eastern indigo snake and RCW. The Service has reviewed the information and determinations in the June 3, 2011, Biological Opinion and concludes that the effects to the Florida panther and wood stork resulting from the proposed project modifications do not exceed those effects evaluated in a manner or extent not previously considered. All reasonable and prudent measures and terms and conditions referenced in the June 3, 2011, Biological Opinion are also applicable to this consultation. This concludes Formal consultation for the Florida panther and wood stork.

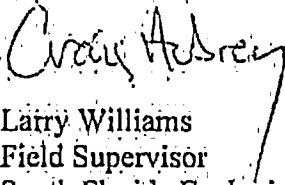
REINITIATION NOTICE

As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; (3) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

EXHIBIT F

Thank you for your cooperation in the effort to protect fish and wildlife resources. If you have any questions regarding this project, please contact Allen Webb at 772-469-4246.

Sincerely yours,


Larry Williams
Field Supervisor
South Florida Ecological Services Office

cc: electronic only

Corps, Fort Myers, Florida (Monika Dey)

EPA, West Palm Beach, Florida (Ron Meidemia)

FWC, Naples, Florida (Darrell Land)

FWC, Tallahassee, Florida (FWC-CPS, Kipp Frohlich)

Service, Atlanta, Georgia (Ken Graham)

Service, Florida Panther NWR, Naples, Florida (Kevin Godsea)

LITERATURE CITED

JMB Transportation Engineering, Inc. 2012. Traffic impact statement for Mirasol PUD Amendment. Revised April 30, 2012. Naples Florida.

Turrell, Hall & Associates, Inc. 2012. Biological assessment updating Florida panther mortality data, panther habitat units, wood stork biomass data, created wetland contour data, and vehicle traffic projections for the Mirasol Development. Naples, Florida.

U.S. Fish and Wildlife Service. 2004. Standard protection measures for the eastern indigo snake. South Florida Ecological Services Office; Vero Beach, Florida.

U.S. Fish and Wildlife Service. 2011. Biological opinion, Mirasol Golf Club, Collier County, Florida. South Florida Ecological Services Office; Vero Beach, Florida.

U.S. Fish and Wildlife Service. 2012. Eastern Indigo Programmatic Effect Determination Key. South Florida Ecological Services Office; Vero Beach, Florida.

EXHIBIT F

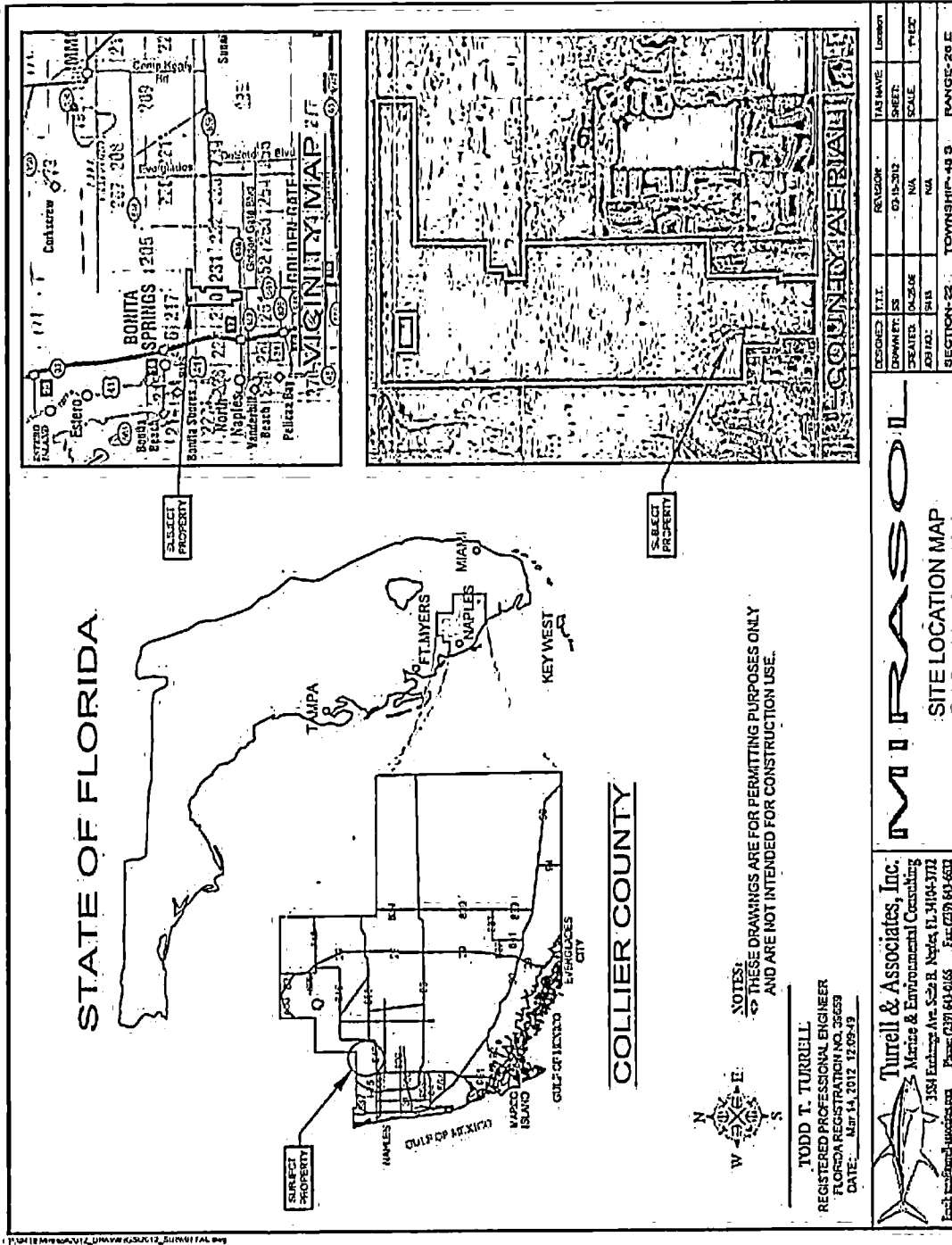


Figure 1: Regional Aerial

EXHIBIT F

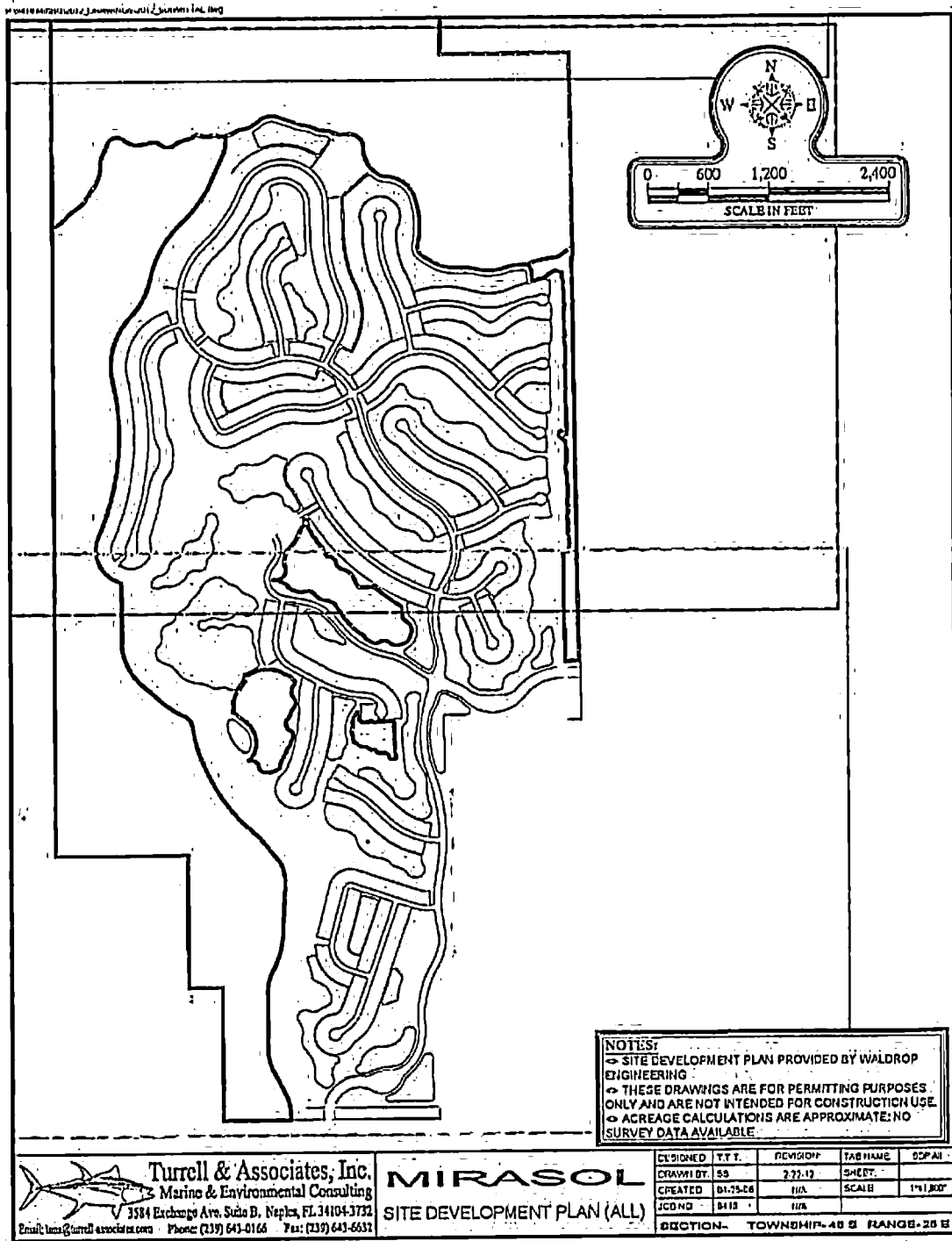


Figure 2. 2012 - Site Plan Development Footprint

EXHIBIT F

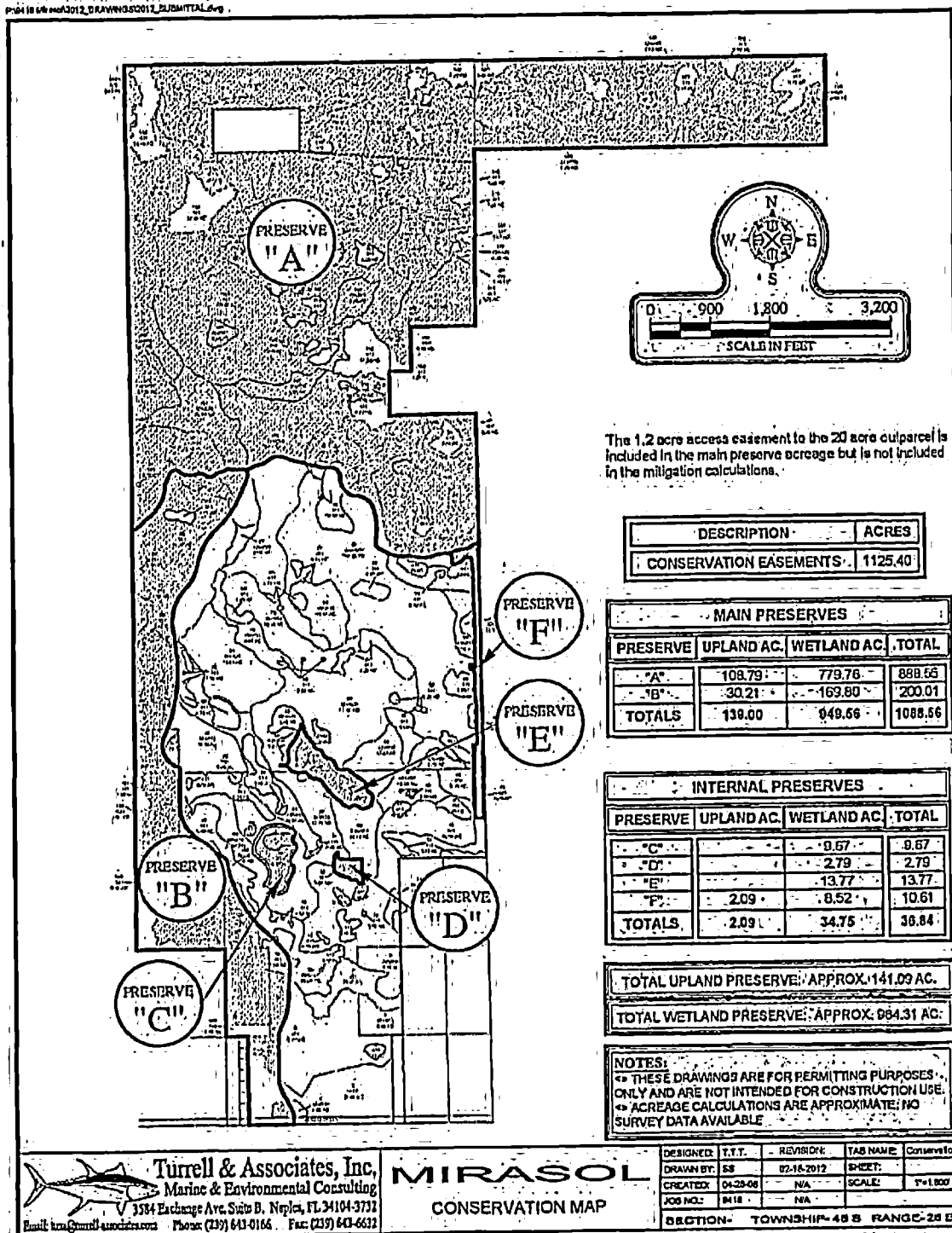


Figure 3: 2012 - Site Plan Preserves

EXHIBIT F

Attachment H
Standard Protection Measures
for the
Eastern Indigo Snake
(revised February 12, 2004)
(1 Page)

EXHIBIT F

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

1. An eastern indigo snake protection/education plan shall be developed by the applicant or requestor for all construction personnel to follow. The plan shall be provided to the Service for review and approval at least 30 days prior to any clearing activities. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (e.g., an observer trained to identify eastern indigo snakes could use the protection/education plan to instruct construction personnel before any clearing activities occur). Informational signs should be posted throughout the construction site and along any proposed access road to contain the following information:
 - a. a description of the eastern indigo snake, its habits, and protection under Federal Law;
 - b. instructions not to injure, harm, harass or kill this species;
 - c. directions to cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming clearing; and,
 - d. telephone numbers of pertinent agencies to be contacted if a dead eastern indigo snake is encountered. The dead specimen should be thoroughly soaked in water and then frozen.
2. If not currently authorized through an Incidental Take Statement in association with a Biological Opinion, only individuals who have been either authorized by a section 10(a)(1)(A) permit issued by the Service, or by the State of Florida through the Florida Fish Wildlife Conservation Commission (FWC) for such activities, are permitted to come in contact with an eastern indigo snake.
3. An eastern indigo snake monitoring report must be submitted to the appropriate Florida Field Office within 60 days of the conclusion of clearing phases. The report should be submitted whether or not eastern indigo snakes are observed. The report should contain the following information:
 - a. any sightings of eastern indigo snakes and
 - b. other obligations required by the Florida Fish and Wildlife Conservation Commission, as stipulated in the permit.

Revised February 12, 2004

2

This instrument was prepared without an opinion of title and after recording return to:
Gregory L. Urbancic, Esq.
Coleman, Yovanovich & Koester, P.A.
4001 Tamiami Trail North, Suite 300
Naples, Florida 34103
(239) 435-3535

(space above this line for recording data)

SPECIAL WARRANTY DEED

THIS SPECIAL WARRANTY DEED is made this 27th day of April, 2015 between TAYLOR MORRISON ESPLANADE NAPLES, LLC, a Florida limited liability company, authorized to conduct its affairs in the State of Florida, whose post office address is 4900 N. Scottsdale Road, Suite 2000, Scottsdale, AZ 85251, as grantor ("**Grantor**"), and FLOW WAY COMMUNITY DEVELOPMENT DISTRICT, an independent special district established pursuant to Chapter 190, Florida Statutes, whose address is c/o JP Ward & Associates, LLC, 2041 NE 6 Terrace, Wilton Manors, FL 33305, as grantee ("**Grantee**").

(Whenever used herein the terms "**Grantor**" and "**Grantee**" include all the parties to this instrument and the heirs, legal representatives, and assigns of individuals, and the successors and assigns of corporations, trusts and trustees)

WITNESSETH, that Grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable considerations in hand paid by Grantee, the receipt whereof is hereby acknowledged, has granted, bargained, and sold to Grantee, and Grantee's heirs and assigns forever, the following described land, situate, lying and being in Collier County, Florida to-wit:

Tract P5, Esplanade Golf and Country Club of Naples, according to the plat thereof recorded in Plat Book 53, Pages 1 through 64, of the Public Records of Collier County, Florida.

Subject to: real estate taxes for the year 2015 and subsequent years; zoning, building code and other use restrictions imposed by governmental authority; outstanding oil, gas and mineral rights of record, if any; any restrictions, reservations and easements common to the subdivision.

Together with all the tenements, hereditaments and appurtenances thereto belonging or in anyway appertaining.

To Have and to Hold, the same in fee simple forever.

And, Grantor hereby covenants with Grantee that Grantor is lawfully seized of land in fee simple; that Grantor has good right and lawful authority to sell and convey said land; that Grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons claiming by, through or under Grantor.

Special Warranty Deed

- 1 -

Req 2

In Witness Whereof, Grantor has hereunto set Grantor's hand and seal the day and year first above written.

GRANTOR:

TAYLOR MORRISON ESPLANADE NAPLES, LLC,
a Florida limited liability company

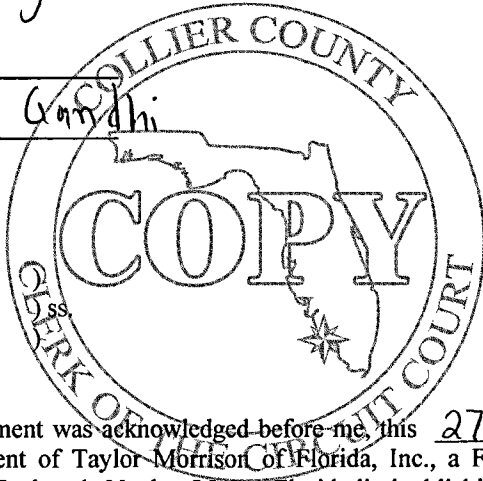
Witnesses:

By: **TAYLOR MORRISON OF FLORIDA, INC.,**
a Florida corporation, its Managing Member

Curtis Parge
Signature
Printed Name: Curtis Parge

By: Valerie McChesney
Valerie McChesney, Vice President

Pradip Gandhi
Signature
Printed Name: Pradip Gandhi



STATE OF FLORIDA
COUNTY OF Sarasota

The foregoing instrument was acknowledged before me, this 27 of April, 2015, by Valerie McChesney, as Vice President of Taylor Morrison of Florida, Inc., a Florida corporation, managing member of Taylor Morrison Esplanade Naples, LLC, a Florida limited liability company, on behalf of the companies, who is (x) personally known to me or () has produced _____ as evidence of identification.

(SEAL)



Karen Goldstein
NOTARY PUBLIC
Name: Karen Goldstein
(Type or Print)
My Commission Expires: 12/28/2018

3

This instrument was prepared
without an opinion of title and
after recording return to:
Gregory L. Urbancic, Esq.
Coleman, Yovanovich & Koester, P.A.
4001 Tamiami Trail North, Suite 300
Naples, Florida 34103
(239) 435-3535

(space above this line for recording data)

QUITCLAIM DEED

THIS QUITCLAIM DEED is made this 27th day of April, 2015 between **ESPLANADE GOLF & COUNTRY CLUB OF NAPLES, INC.**, a Florida not-for-profit corporation, whose post office address is 551 North Cattlemen Road, Suite 200, Sarasota, FL 34232, as grantor ("**Grantor**"), and **FLOW WAY COMMUNITY DEVELOPMENT DISTRICT**, an independent special district established pursuant to Chapter 190, Florida Statutes, whose mailing address is c/o JP Ward & Associates, LLC, 2041 NE 6 Terrace, Wilton Manors, FL 33305, as grantee ("**Grantee**").

(Whenever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and the heirs, legal representatives, and assigns of individuals, and the successors and assigns of corporations, trusts and trustees)

WITNESSETH, that Grantor, for and in consideration of the sum TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable consideration to grantor in hand paid by Grantee, the receipt whereof is hereby acknowledged, does hereby remise, release, and quitclaim to Grantee, and Grantee's heirs and assigns forever, all the right, title, interest, claim and demand which grantor has in and to the following described land, situate, lying and being in **Collier County, Florida** (the "**Property**");

Tract P5, Esplanade Golf and Country Club of Naples, according to the plat thereof recorded in Plat Book 53, Pages 1 through 64, of the Public Records of Collier County, Florida.

SUBJECT TO restrictions, reservations and easements of record.


TO HAVE AND TO HOLD, the same together with all and singular the appurtenances thereto belonging or in anywise appertaining, and all the estate, right, title, interest, lien, equity and claim whatsoever of Grantor, either in law or equity, for the use, benefit and profit of Grantee forever.

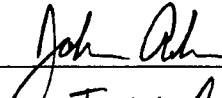
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lev 2

IN WITNESS WHEREOF, Grantor has executed this Quitclaim Deed on the day and year first written above.

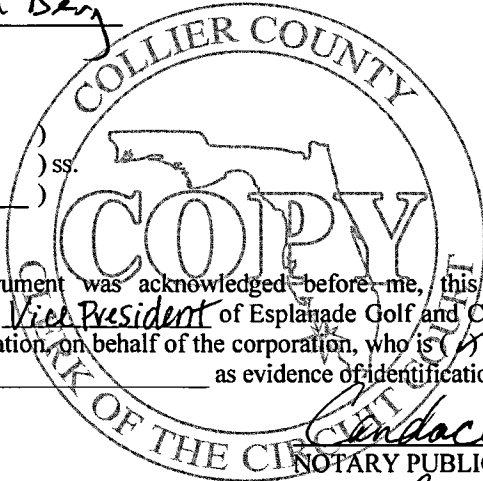
ESPLANADE GOLF AND COUNTRY CLUB OF NAPLES, INC.,
a Florida not-for-profit corporation

Witnesses:

Signature
Printed Name: Jeremy Arnold

By: 
Name: JOHN ASHER
Title: VICE PRESIDENT



Signature
Printed Name: Keith Berg

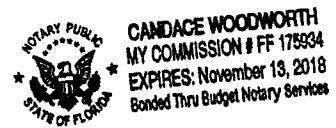
STATE OF FLORIDA)
) ss.
COUNTY OF Lee)



The foregoing instrument was acknowledged before me, this 27th of April, 2015, by John Asher, as Vice President of Esplanade Golf and Country Club of Naples, Inc., a Florida not-for-profit corporation, on behalf of the corporation, who is () personally known to me or () has produced _____ as evidence of identification.

(SEAL)


NOTARY PUBLIC
Name: Candace Woodworth
(Type or Print)
My Commission Expires: 11/13/18



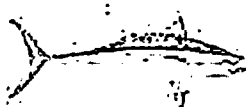
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EXHIBIT E

MITIGATION / MONITORING / MAINTENANCE PLAN FOR INTERNAL PRESERVES

REVISED: NOVEMBER 26, 2012

PREPARED BY:



TURRELL HALL & ASSOCIATES, INC
3584 EXCHANGE AVENUE
NAPLES, FL 34104

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SEC. 10, 11, 15, 22 TWP 48S RNG 26E COLLIER COUNTY
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I. INTRODUCTION:

The purpose of this document is to outline and describe the proposed mitigation and monitoring activities for preserves internal to the development project known as *Mirasol*. It is submitted to the U.S. Army Corps of Engineers (ACOE) in conjunction with a permit modification for the proposed development. A Mitigation and Monitoring Plan for the large preserve (Main Preserve) that is proposed outside of the development footprint is presented in its own, independent document.

The proposed project encompasses a total of approximately 1,798 acres in four sections of northern Collier County north of CR 846 and east of Interstate 75. A residential and golf course community is planned, with access to be provided from Immokalee Road (CR 846) along the southern property boundary. Most of the southern two sections were historically mowed and these two Sections (15 & 22) in addition to the northern Section (10) were used as cattle pasture. Altered sheet flows from further north and east currently flow across the property and because of constricted and limited outfall, the property is abnormally flooded (to increased depths) on an annual basis.

The historic use of the property as cattle pasture coupled with the annual flooding now occurring has contributed to unchecked proliferation of melaleuca across the entire property. A majority of the site has melaleuca densities of greater than 50% coverage. This infestation in conjunction with the flooding has led to a degradation of the uplands and severely depressed the functional values for the entire area. Native vegetation, wildlife forage value, and actual wildlife utilization have all suffered drastic reductions due to the existing conditions of the site.

To characterize surrounding land use, active farm fields exist to the north of the property while lands to the east consist of undeveloped parcels, a mitigation parcel, and several single-family home-sites. The properties to the west of the subject parcel consist of the proposed Parklands (north) and Saturnia (central) developments, and the existing Olde Cypress (south) development. The southern property boundary abuts the drainage easement and Cocohatchee canal alongside of Immokalee Road (CR 846).

The development site plan proposes to directly impact approximately 561.9 acres of ACOE jurisdictional wetlands. The plan also proposes to preserve approximately 984.3 acres of wetlands and 139.6 acres of uplands. The majority of the proposed preserve area (949.6 acres of wetlands and 137.5 acres of uplands) is located to the north and west of the development area. Within the development area the project proposes to preserve 34.7 acres of wetlands and 2.1 acres of uplands. It is towards these 36.8 acres of internal preserves that this document is dedicated.

II. EXISTING CONDITIONS:

The project site consists of 1,798 acres located in four sections of northern Collier County north of CR 846 and east of Interstate 75. There are limited upland (252.2 acres)

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and substantial wetland (1,546.2 acres) communities present on the site, which have all been heavily impacted by melaleuca infestation and altered hydrology.

Habitat Descriptions:

The following paragraphs outline the basic composition of species assemblages found on-site. While many more species are present than presented in this report, the following gives a brief description of the vegetative communities.

411 - Pine Flatwoods

This is the predominant upland habitat present on the property. The canopy component of this area consists of mature slash pines (*Pinus elliotii*) and melaleuca (*Melaleuca quinquenervia*). Melaleuca concentrations vary in these upland areas but some areas exhibit densities approaching 75%. Wax myrtle (*Myrica cerifera*) and small melaleuca form the midstory. These uplands exist as remnant islands throughout the site, most likely due to the altered, elevated water levels present. Understory species include saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*) and wild grape vine (*Vitis rotundifolia*).

422 - Brazilian Pepper

These two small areas are present in the northeast and northwest corners of the property. There are both upland and wetland areas present. Brazilian pepper (*Schinus terebinthifolius*) dominates this vegetative community.

617 - Disturbed Mixed Hydric Hardwoods

This small community in the southwestern corner of Section 15 is the only example of this community on the site. The dominant plant species are bald cypress (*Taxodium distichum*), melaleuca, wax myrtle, swamp bay (*Persea palustris*), saltbush (*Baccharis halimifolia*), and live oak (*Quercus virginiana*). A few cabbage palms (*Sabal palmetto*) are also present. Herbaceous understory vegetation consists of sawgrass (*Cladium jamaicense*) and swamp fern (*Blechnum serrulatum*).

621 - Cypress Swamp

This habitat contains predominately bald cypress with scattered dahoon holly (*Ilex cassine*), wax myrtle, and rare swamp bays. Ground covers are sparse but consist mainly of swamp fern.

424 - Hydric Melaleuca

These areas are dominated by melaleuca (*Melaleuca quinquenervia*) with minimal groundcover of swampfern, sawgrass and several grasses. Melaleuca concentrations are 90 to 100 % of the canopy cover.

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624 - Cypress / Pine / Cabbage palm

This habitat contains predominately bald cypress with scattered slash pine, wax myrtle, and rare cabbage palms. Ground covers are limited but consist mainly of swamp fern and assorted grasses and sedges.

643 - Disturbed Wet Prairie

This community appears as a disturbed area alongside a road in western Section 22 and in the northeast corner of Section 10. Little to no canopy is present and groundcovers include red root (*Lachnocaulon caroliniana*), Crinum lily (*Crinum americanum*), Broomridge (*Andropogon spp.*), Pipeworts (*Eriocaulon spp.*), Hat pins (*Eriocaulon spp.*), Yellow-eyed grass (*Xyris spp.*), dog fennel (*Eupatorium leptophyllum*), etc.

640 - Flag Pond

This community appears in only one small area within the 160-acre adjacent mitigation parcel in Section 11. No canopy is present and the area is dominated by emergent vegetation, mostly alligator flag (*Thalia geniculata*).

424 / 411 - Mixed Melaleuca / Pine flatwoods

These areas contain vegetation from both communities as listed above. Areas are differentiated by the concentration of melaleuca found in each. The majority of the site contains melaleuca concentrations close to or over 50% of canopy cover. Concentrations of individual areas are shown on the FLUCCS map that is a part of the permit submittal.

621(624) / 424 - Cypress or Cypress / Pine and Melaleuca

As above, these areas are a mix of the different communities differentiated by Melaleuca concentration.

534 - Ponds

These are small areas excavated as watering holes for the cattle kept on-site.

WETLAND IMPACT AREAS:

The development plan proposes to directly impact approximately 561.9 acres and preserve about 34.7 acres of ACOE jurisdictional wetlands within the development. The aerial extent of impacts is high but the vast majority of the wetlands impacted are highly disturbed, and in some cases, created from historic uplands by the elevated water levels now occurring on-site. A breakdown of the impacted areas by FLUCFCS category is presented in the attached Table 1.

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III. MITIGATION ACTIVITIES

Conservation areas within the project site are identified with two (2) different labels; Development preserves; and the Main preserve. This distinction was made in order to outline the proposed mitigation activities for each individual preserve. This plan details the activities planned for the development preserves while the mitigation and monitoring activities planned for the Main preserve are presented under separate cover.

The development preserves are identified as 4 distinct areas labeled C, D, E, and F, on the attached map (Exhibit 1). The management activities associated with these preserve areas are outlined within this document and will be a requirement for the project.

All of the preserves shall be placed into conservation easements with the South Florida Water Management District, and enforcement rights shall be granted to the South Florida Water Management District and the US Army Corps of Engineers. A draft copy of the conservation easement documents will be provided to the ACOE prior to the commencement of construction. Easement documents will be finalized and recorded as outlined in the DA permit conditions.

As stated above, there are four areas included within the development as preserves. These areas combined are approximately 36.8 acres in size and are identified individually on the attached map (Exhibit 1).

Preserve C

This is a predominately cypress preserve located in the north central portion of Section 22. It is 9.67 acres in size all of which are wetlands. This preserve contains some hydric pine flatwoods around the central cypress area that have been heavily infested by melaleuca. All of the exotic vegetation will be cut by hand and removed from this preserve area. The hydrology will be maintained by a direct connection to the adjacent lake. Water from the lake will be able to enter the preserve as the water level rises but only after it has undergone treatment within the lake. The boundary will be clearly delineated as a preserve.

Preserve D

This is a small preserve located immediately east of Preserve C in the central portion of Section 22. It is 2.79 acres in size all of which are wetlands. This preserve also contains hydric pine flatwoods around the central cypress dome that have been heavily infested by melaleuca. All of the exotic vegetation will be cut by hand and removed from this preserve area. The hydrology will be maintained by a direct connection to the adjacent lake. Water from the lake will be able to enter the preserve as the water level rises but only after it has undergone treatment within the lake. The boundary will be clearly delineated as a preserve.

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Preserve E

This is the largest preserve area within the development footprint. It is 13.77 acres in size all of which are wetlands. This preserve is located along the border of Sections 22 and 15. It is composed of two cypress areas surrounded by hydric pine flatwoods. Melaleuca has extensively infested this preserve area. The current intent is for all of the exotic vegetation to be cut by hand and removed from the preserve. However, because of the density of melaleuca, a portion of this preserve area may be mechanically cleared if hand removal is shown to be logistically and fiscally unfeasible. The area in which mechanical clearing will be authorized is depicted on the map included as Exhibit 1. If any mechanical clearing is done, the cleared portion will be immediately planted as hydric pine flatwoods according to the planting plan outlined below in this report. Like Preserves C and D, this preserve will have a direct connection to the lake system and will receive water from the lakes once it has been treated. Since this is the largest internal preserve it offers the best opportunity to help educate the residents about the preserves and about wetlands in general. Should the owner (or homeowner's association) later explore the possibility of constructing an elevated, hand-railed boardwalk into this preserve to facilitate educational opportunities and access into the preserve, a permit modification request will be submitted the Corps of Engineers and SFWMD for review and approval prior to implementation. The boundary will be clearly delineated as a preserve.

Preserve F

This preserve is located linearly along the eastern boundary of Section 15. The preserve is 10.61 acres in size and is composed of 8.52 acres of wetlands and 2.09 acres of uplands. The wetlands are a mix of cypress and hydric pine with widely varying melaleuca concentrations. All exotic vegetation will be removed from this preserve area and the boundary will be clearly delineated as a preserve. All exotic removal is currently anticipated to be done by hand clearing but a couple of very dense areas, as depicted on Exhibit 1, may be mechanically cleared. If any mechanical clearing is done, the cleared portion will be immediately planted according to the planting plan for hydric pine flatwoods outlined below in this report. The boundary will be clearly delineated as a preserve.

Exotic Vegetation Eradication

Melaleuca infestation is rampant throughout the site and extensive eradication efforts will be implemented to eliminate this noxious plant from all preserve spaces. This program will entail quarterly clearing for the first year and biannual efforts thereafter until the infestation is under control and annual treatment can take over. All cleared debris, both hand and mechanical, will be removed from these internal preserves.

Because of the potential damage and destruction to groundcover vegetation and likely rutting of the ground by machinery, no mechanical clearing is currently proposed in

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Preserve areas C and D. If any mechanical clearing is done in preserves E or F, the cleared portion will be immediately planted according to the hydric pine planting plan outlined below in this report.

Quarterly maintenance inspections and treatments for the first year will be necessary to eliminate the melaleuca that has already gained a stranglehold on the property. Thereafter, biannual removal efforts will be undertaken for a couple of additional years to insure removal efforts have been successful. Once the removal efforts have been successful, annual maintenance treatments should be sufficient to control future exotic growth. The preserve areas will be exotic free immediately following a maintenance activity. At no time shall the density of exotic and nuisance plant species within these preserves exceed 4% of the total aerial cover.

Replanting Plans

The preserve areas which have undergone hand removal efforts will be left to regenerate naturally for at least a year (through one wet season and the planted prior to the next wet season) before deciding if supplemental planting is necessary. The decision to install supplemental plantings will be based on the amount of growth and recruitment documented in the annual monitoring report and the likelihood that the areas will reach the success criteria within the 5 year monitoring time frame. The decision to plant or not will be coordinated with ACOE and SFWMD compliance staff. Any preserve areas that have been mechanically cleared (Preserve E or F as depicted in Exhibit 1) will be planted immediately in conjunction with the start of the rainy season. The preserve areas will be evaluated once the initial exotic removal activities are completed and any plantings felt necessary will be proposed and coordinated with ACOE and SFWMD staff as part of the Time Zero Report.

Replanting will also be considered one year after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Appropriate vegetation will include canopy, mid-story, and ground cover vegetation. The one year of natural regeneration is proposed to allow for existing vegetation remaining after the exotic removal to re-establish itself in the newly opened areas. Natural regeneration is preferable to immediate planting because it allows for the local plants that will grow in the restoration areas to establish, and it allows for more natural biodiversity of plants. Replanting will be considered after two years for any area that shows less than 75% coverage by appropriate native vegetation.

Appropriate plant palettes will be applied for the affected areas. They will be dependant on existing ground elevations, anticipated high water elevations, and historic vegetative cover. Also, all areas disturbed as part of the construction or mitigation activities will be replanted as outlined below:

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Cypress: Cypress areas will be planted primarily with sapling cypress trees. Slightly higher areas and interfaces with adjacent flatwood communities may also include slash pine, dahoon holly and a few red maple trees. All trees planted will be containerized stock with minimum heights of 4 feet above the substrate. Depending on the size of the area being planted and the density of the adjacent vegetation, planting will be done on 10 foot or 15 foot centers. Planting will be clumped to imitate a more natural community instead of in linear rows. Midstory plantings will be done with minimum 5-gal container stock and will be planted to mimic natural clumps or thickets within the cypress area. It is anticipated that adjacent ground cover vegetation will rapidly colonize the areas so no ground cover planting will be done until a full growing season has passed. If ground cover colonization has not occurred, sawgrass, cordgrass, and other appropriate, available vegetation will be planted in those areas. The ground cover plantings will be with bare root or container stock. Bare root plantings will have minimum 3 inch diameter root masses. These plantings will be done essentially on 3 foot centers to fill in areas that have not regenerated naturally.

The following table shows some of the representative species that can be considered for planting and restoration of the cypress preserve areas.

CYPRESS PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Cypress (<i>Taxodium distichum</i>)	Button Bush (<i>Cephalanthus occidentalis</i>)	Sawgrass (<i>Cladium jamaicense</i>)
Red Maple (<i>Acer rubrum</i>)	Marlberry (<i>Ardisia escallonioides</i>)	Cinnamon Fern (<i>Osmunda cinnamomea</i>)
Dahoon Holly (<i>Ilex cassine</i>)	Pond Apple (<i>Annonia glabra</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Laurel Oak (<i>Quercus aurifolia</i>)	Cocoplum (<i>Chrysobalanus icaco</i>)	Alligator Flag (<i>Thalia geniculata</i>)
Slash Pine (<i>Pinus elliotii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Crinum Lily (<i>Crinum americanum</i>)

Flatwoods: Pine flatwood areas will be planted with sapling slash pine on 50 to 75 foot centers. Trees will be from containerized stock and be between 4' to 6' in height. In very hydric areas, up to 15% cypress saplings may also be used. Few midstory plantings are proposed because of the future management plan for the areas as potential fox squirrel and red-cockaded woodpecker habitat. As above, no ground cover plantings will be done for a full growing season unless no existing vegetation is present. Wiregrass, cordgrass, broomsedge, and other appropriate native vegetation will be used if no regeneration is seen within the first year. These will be from both bare root and container stock and will be planted on the equivalent of 3-foot centers in clusters to fill in open areas.

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PINE FLATWOOD PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Slash Pine (<i>Pinus elliotii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Wiregrass (<i>Aristida stricta</i> , <i>Aristida purpurascens</i>)
Cypress (<i>Taxodium distichum</i>)	St. John's Wort (<i>Hypericum fasciculatum</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Cabbage Palm (<i>Sabal palmetto</i>)		Sand Cordgrass (<i>Sporobolus alterniflorus</i>)
		Broom Grass (<i>Andropogon virginicus</i> var. <i>glauca</i>)
		Yellow-eyed Grass (<i>Lyris fimbriata</i> , <i>Lyris caroliniana</i>)

These lists are not all inclusive and alternative appropriate native wetland vegetation may be used.

All plantings will be coordinated with the wet season so that expected rains will serve to keep the new plantings hydrated and no outside irrigation source will be needed.

Educational Displays

The applicant will establish two (2) wildlife displays for the proposed preserve areas. They will feature 'Cypress Domes of Southwest Florida' and 'Pine Flatwoods of Southwest Florida' along with their associated flora and fauna. They briefly describe the uniqueness of these communities, while highlighting plant and animal species which are typical of these habitats. Several 3' x 4' displays will be installed in prominent locations throughout the development. Additional 8.5 x 11 copies will also be available in the clubhouse.

The proposed mitigation activities shall offset unavoidable, adverse wetland impacts and achieve mitigation success by providing viable and sustainable ecological and hydrological functions.

Target Criteria

All woody exotic vegetation will be removed from the internal preserve areas. Preserves will contain a minimum of 80% coverage by appropriate vegetation in all three strata combined. Hydric flatwood target conditions are as a very open canopy, prairie type ground cover with widely spaced trees. Trees will be a mix of slash pine and cypress depending on site specific hydrology. Tree density in the open flatwood areas should be between 10 to 50 trees per acre. Cypress dome target conditions are as a more closed canopy (110 to 175 trees per acre) with sparser ground cover. A minimum of 80% appropriate vegetative coverage will still be maintained. Mesic pine areas will contain tree densities in the 50 to 100 trees per acre range with midstory vegetation of saw

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palmetto, wax myrtle, myrsine, and other appropriate plantings. Ground cover may be scarce in dense midstory areas.

Financial Assurances

A cost estimate for the enhancement and maintenance activities has been presented to the SFWMD. Assurances that the project has the financial capability to undertake the work will be provided in the form of a letter of credit, performance bond, or other appropriate surety instrument. Once the activities have been completed as outlined in this document and the permit special conditions, the District will release the surety back to the project.

Mitigation Calculations

Pre and post development WRAP analysis were conducted. The proposed development consists of 561.9 acres of wetland impacts. The functional assessment depicting the mitigation credits and deficits associated with the preserve areas has been provided as part of the permit application.

IV. MONITORING / MAINTENANCE / MANAGEMENT:

The goals and objectives of this monitoring plan will be to provide for ongoing progress and ultimate success of preserved and enhanced areas in a series of scheduled monitoring reports. The reports will quantify and describe conditions within the managed areas, comparing observations with the proposed standards and offering advice for corrective actions if needed.

Visual inspection for exotic plant invasion will be made on quarterly, bi-annual, or annual basis depending on the state and status of the exotic eradication efforts. All exotic vegetation found will be flagged, mapped and reported for treatment. Removal of observed exotic vegetation will occur within 30 days of the observations. Meandering transects will be followed in the preserve areas for vegetative inventory and observation of wildlife during regular monitoring. Photo points will be established along with plot sampling stations to determine percent survival and percent coverage of planted and recruited plant species. Transect locations have been provided on the included exhibit (Exhibit 2). Plot sampling station locations will be determined at time zero, after exotic eradication and plantings are installed. The mitigation efforts shall be deemed successful when the area contains a minimum of 80% coverage of appropriate native vegetation, with less than 5% exotic and nuisance vegetation for a continuous period of 2 years. The preserve areas will be maintained in this exotic-free state in perpetuity. Once restoration and enhancement activities are deemed successful, the internal preserve areas will continue to be maintained in perpetuity and the homeowner's association or the Community Development District will be responsible for this perpetual maintenance.

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A Baseline Monitoring Report will describe the existing conditions of the conservation areas prior to exotic eradication and supplemental planting. The Time Zero Monitoring Report will describe the aerial extent of exotic removal and other mitigation work, i.e. revegetation, photographs from referenced locations, qualitative observations of wildlife usage and other information such as climatic and hydrological conditions and health of existing vegetation. Annual Monitoring reports shall document changes from the baseline conditions the success of the exotic eradication and identifies ways to maintain or improve these conditions.

Baseline, Time Zero and Annual Reports will include the following:

- quantification of any revegetation of exotic species and recommendations for remedial actions;
- quantification of revegetation of cleared areas by native species including dominant species and % cover by species;
- percent coverage, open space and water depths as appropriate;
- direct and indirect wildlife observations;
- site hydrological characteristics;
- photographs from a referenced location and panoramic photographs. A photo point station will be identified with a PVC labeled stake.
- Automatic monitoring groundwater loggers will be installed in the two largest internal preserves (C and E as depicted on Exhibit 2) with monthly readings, high, and low water levels provided in each annual monitoring report.

The maintenance and management of the preserve areas will be the responsibility of the owner/developer in perpetuity. When the property owners association or CDD acquires ownership of the property, maintenance and management responsibilities will transfer to that entity as well. At that time the said association(s) shall assume responsibility for the perpetual maintenance and management of the preserve and retained areas. Association documents will indicate the responsibilities, restrictions and limitations associated with the conservation areas.

The maintenance activities will be performed on a quarterly basis for the first year, then biannually as needed until annual maintenance is adequate to keep preserve areas clean. Perpetual maintenance after the monitoring period will be on an annual basis.

In addition to the exotic removal efforts, the maintenance activities may include, but are not limited to the following.

- maintenance, repair and/or replacement of monitoring wells,
- eradication of nuisance vegetation such as vines or cattails,
- supplemental herbicidal treatment of stumps to prevent re-growth after initial treatment.
- Upkeep and replacement of signage delineating preserve areas.

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TABLE 1

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MIRASOL ACOE FLUCCS INFORMATION SUMMARY

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
78	411	Pine Flatwoods	1.43									
79	625/424	Pine Flatwoods / Melaleuca (>75%)		20.05						4.55	18.10	20.65
80	411	Pine Flatwoods	1.50									
81	621	Cypress / Melaleuca (>50%)		2.60			2.60					
82	021	Cypress / Melaleuca (>50%)		0.37			0.37					
83	411	Pine Flatwoods	1.53					1.53				
84	540	Cattle Pond		0.08			0.08					
85	424	Melaleuca		74.07			59.21			4.60	10.26	14.86
88	625/424	Pine Flatwoods / Melaleuca (>75%)		14.10			14.10					
87	625/424	Pine Flatwoods / Melaleuca (>25%)		2.99							2.09	2.09
89	411	Pine Flatwoods	10.00					2.33				
89	625/424	Pine Flatwoods / Melaleuca (>50%)		18.65			19.00			0.15	0.60	0.75
90	625/424	Pine Flatwoods / Melaleuca (>75%)		106.35	2.41		5.31			24.78	73.65	88.63
91	411	Pine Flatwoods	1.60					1.60				
92	625/424	Pine Flatwoods / Melaleuca (>25%)		0.13	0.30		5.79			1.09	0.95	2.04
93	625	Hydric Pine Flatwoods		2.35	0.63		1.72					
94	621	Cypress		18.57			18.57					
95	624/424	Pine / Cypress / Melaleuca (>25%)		20.43			20.43					
98	625/424	Pine Flatwoods / Melaleuca (>25%)		5.77			5.77					
97	621	Cypress		0.39			0.39					
98	411	Pine Flatwoods	3.41					3.41				
99	625/424	Pine Flatwoods / Melaleuca (>50%)		1.93			1.03					
100	625/424	Pine Flatwoods / Melaleuca (>50%)		67.73			40.25			8.88	18.60	27.48
101	625/424	Pine Flatwoods / Melaleuca (>50%)		30.04			25.56			1.47	3.21	4.68
102	625/424	Pine Flatwoods / Melaleuca (>75%)		8.41			0.27			0.05	0.09	0.14
103	411	Pine Flatwoods	5.20					5.20				
104	411	Pine Flatwoods	0.73					0.73				
105	625/424	Pine Flatwoods / Melaleuca (>75%)		7.55			7.55					
106	625/424	Pine Flatwoods / Melaleuca (>25%)		1.41			1.41					
107	625/424	Pine Flatwoods / Melaleuca (>50%)		21.32			21.32					
108	625/424	Pine Flatwoods / Melaleuca (>75%)		2.85			2.65					
109	540	Cattle Pond		0.10			0.19					
110	411	Pine Flatwoods	0.57					0.57				
111	411	Pine Flatwoods	1.66					1.66				
112	411	Pine Flatwoods	11.32					11.32				
113	411	Pine Flatwoods	0.56					0.56				
114	621	Cypress		21.11			21.11					
115	625/424	Pine Flatwoods / Melaleuca (>75%)		6.59			6.59					
116	411	Pine Flatwoods	2.86					2.86				
117	411	Pine Flatwoods	0.94					0.94				
118	424	Melaleuca		107.97			107.97					
119	625/424	Pine Flatwoods / Melaleuca (>25%)		12.01			12.51					
120	411	Pine Flatwoods	1.07					1.07				
121	411	Pine Flatwoods	7.03					7.03				
122	411	Pine Flatwoods	0.54					0.54				
123	411	Pine Flatwoods	2.60					2.60				
124	624/424	Pine / Cypress / Melaleuca (>50%)		0.15			9.15					
125	625/424	Pine Flatwoods / Melaleuca (>50%)		6.37			6.37					
126	621	Cypress		1.16			1.16					
127	624/424	Pine / Cypress / Melaleuca (>50%)		1.30			1.30					
128	411	Pine Flatwoods	1.57					1.57				
129	621/424	Cypress / Melaleuca (>25%)		3.46			3.46					
130	411	Pine Flatwoods	0.17					0.17				
131	424	Melaleuca		2.72			2.72					
132	621/424	Cypress / Melaleuca (>25%)		3.67			3.67					
133	411	Pine Flatwoods	12.36					12.36				
134	625/424	Pine Flatwoods / Melaleuca (>75%)		62.62			62.52					
135	424	Melaleuca		42.41			42.41					
136	411	Pine Flatwoods	2.21					2.21				
137	625/424	Pine Flatwoods / Melaleuca (>75%)		32.89			32.89					
138	625/424	Pine Flatwoods / Melaleuca (>50%)		11.88			11.88					
139	411	Pine Flatwoods	1.20					1.20				
140	411	Pine Flatwoods	0.29					0.29				
141	411	Pine Flatwoods	2.50					2.50				
142	411	Pine Flatwoods	11.40					11.40				
143	422	Brazilian Pepper		3.57			3.57					
144	621	Cypress		9.11			9.11					
145	424	Melaleuca		5.34			5.34					
146	424	Melaleuca		19.57			19.57					
147	624/424	Pine / Cypress / Melaleuca (>60%)		2.53			2.53					
148	621/424	Cypress / Melaleuca (>25%)		15.38			15.38					
149	625/424	Pine Flatwoods / Melaleuca (>26%)		0.28			0.28					
150	625/424	Pine Flatwoods / Melaleuca (>76%)		25.00			25.00					
151	411	Pine Flatwoods	2.30					2.30				
152	411	Pine Flatwoods	1.93					1.93				
153	625/424	Pine Flatwoods / Melaleuca (>50%)		12.44			12.44					
154	422	Brazilian Pepper	8.02					8.02				
155	422	Brazilian Pepper	3.88					3.88				

EXHIBIT E

TABLE 1

November 28, 2012

MIRASOL ACOE FLUCCS INFORMATION SUMMARY

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Moist Upland Preserve	Created Wetlands	Wetland Drudge Impacts	Wetland Fill Impacts	Total Wetland Impacts
150	625/424	Pine Flatwoods / Melaleuca (>50%)		3.91			3.91					
157	424	Melaleuca		15.47			15.47					
158	025/424	Pine Flatwoods / Melaleuca (>50%)		7.29			7.29					
159	825/424	Pine Flatwoods / Melaleuca (>25%)		0.70			0.70					
160	021	Cypress		9.58			9.58					
161	640	Flag Pond		1.43			1.43					
162	024/424	Pine / Cypress / Melaleuca (>50%)		7.43			7.43					
163	424	Melaleuca		4.34			4.34					
164	411	Pine Flatwoods	2.66					2.56				
165	824/424	Pine / Cypress / Melaleuca (>50%)		0.80			0.80					
166	021	Cypress		3.05			3.05					
167	824/424	Pine / Cypress / Melaleuca (>50%)		2.25			2.25					
168	825/424	Pine Flatwoods / Melaleuca (>75%)		38.94			38.94					
169	024/424	Pine / Cypress / Melaleuca (>50%)		3.07			3.07					
170	824/424	Pine / Cypress / Melaleuca (>50%)		0.79			0.79					
171	411	Pine Flatwoods	3.44					3.44				
172	021	Cypress		2.12			2.12					
173	411	Pine Flatwoods	1.70					1.70				
174	424	Melaleuca		11.86			11.86					
175	024/424	Pine / Cypress / Melaleuca (>25%)		6.67			6.67					
176	411	Pine Flatwoods	9.10					9.10				
177	021	Cypress		5.50			5.50					
178	021	Cypress		0.69			0.69					
179	825	Hydric Pine Flatwoods		12.70			12.70					
180	625	Hydric Pine Flatwoods		9.41			9.41					
181	411	Pine Flatwoods	1.05					1.05				
182	021	Cypress		0.06			0.06					
183	021	Cypress		21.60			21.60					
184	424	Melaleuca		13.30			13.30					
185	621	Cypress		0.18			0.18					
186	411	Pine Flatwoods	0.48					0.48				
187	624	Pine / Cypress		3.65			3.65					
188	411	Pine Flatwoods	0.1					0.10				
189	825/424	Pine Flatwoods / Melaleuca (>50%)		0.16			0.16					
190	211	Improved Pasture		17.31			17.31					
191	140	Commercial Services	2.78						2.70			
192	021	Cypress		0.57			0.57					
193	424	Melaleuca		2.70			2.70					
194	624	Pine / Cypress		0.29			0.29					
195	411	Pine Flatwoods	1.27					1.27				
ROW	ROW	Read Right of Way	4.02									
		TOTALS	252.17	1546.18	34.75	2.09	940.50	122.03	14.55	136.52	426.36	501.87

EXHIBIT E

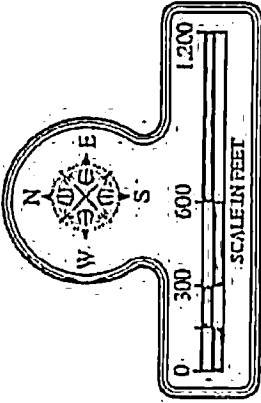
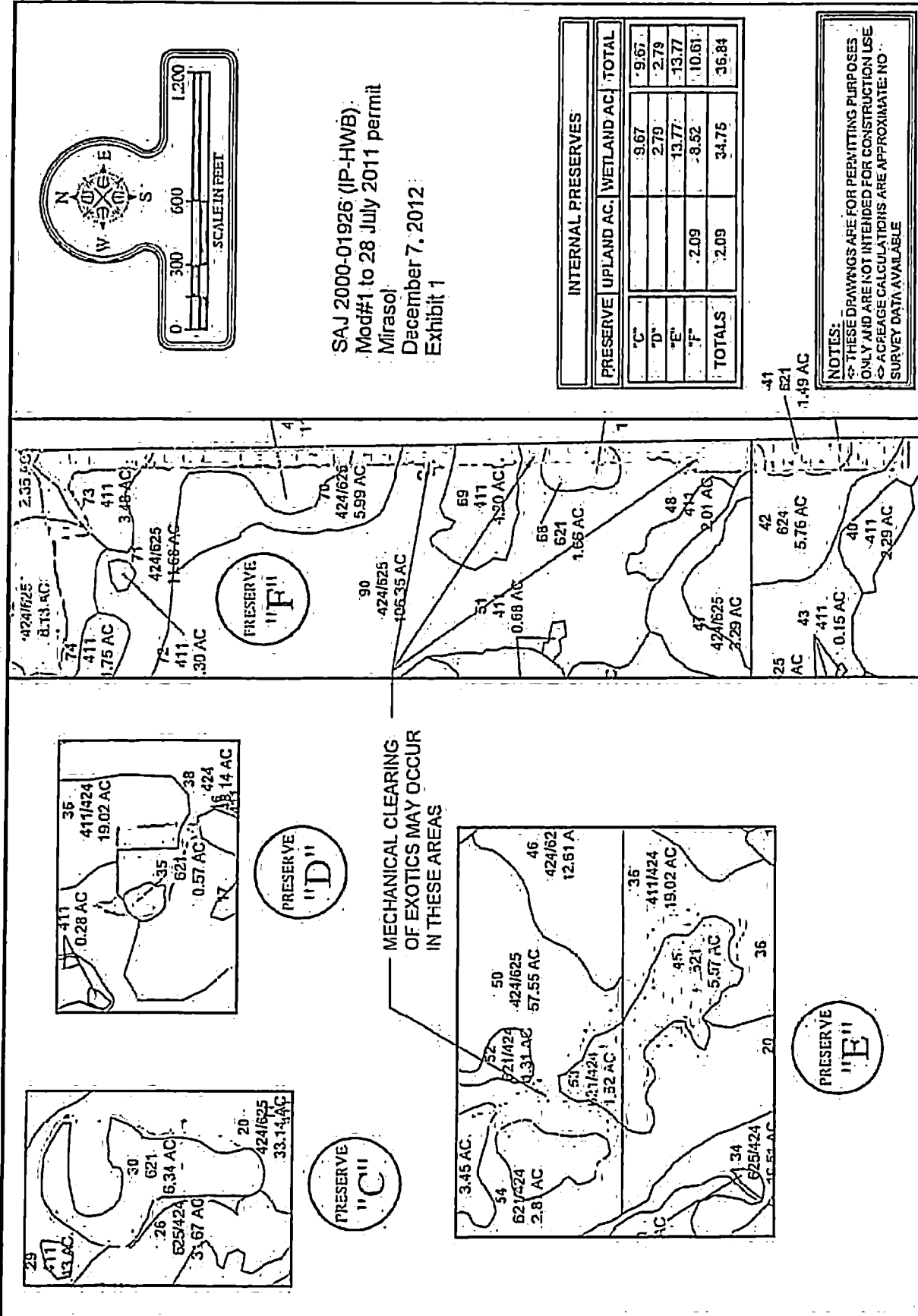
November 26, 2012

MIRASOL ACOE HABITAT INFORMATION SUMMARY

TABLE 2:

FLUCCS CODE	DESCRIPTION	PRE PROJECT ACRES BY HABITAT TYPE						Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
		ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve				
140	Commercial Services	2.78									
211	Improved Pasture		17.31			17.31					
411	Pine Flatwoods	232.57			2.09						
422	Brazilian Pepper	11.50				3.57					
424	Melaleuca		399.78	1.39		292.20					105.19
540	Cattle Pond		0.27			0.27					
617	Mixed Wetland Hardwoods		1.39			1.39					
621	Cypress		110.06	6.88		103.15			0.03		0.03
621/424	Cypress / Melaleuca (>25%)		33.87	8.62		22.51			0.47		2.74
621/624	Cypress / Melaleuca (>50%)		12.02	1.31		5.45			1.50		5.26
624	Pine / Cypress		6.61			6.61					
624/424	Pine / Cypress / Melaleuca (>25%)		32.85	0.88		27.10			1.53		4.88
624/424	Pine / Cypress / Melaleuca (>50%)		44.63	0.09		33.45			1.42		11.09
624/424	Pine / Cypress / Melaleuca (>75%)		10.55			1.35			1.98		9.21
625	Hydrich Pine Flatwoods		24.55	0.63		23.92					
625/424	Pine Flatwoods / Melaleuca (>25%)		91.10	4.83		37.07			7.31		49.20
625/424	Pine Flatwoods / Melaleuca (>50%)		264.24	4.07		147.21			27.24		112.96
625/424	Pine Flatwoods / Melaleuca (>75%)		487.64	6.05		221.81			62.84		259.98
640	Flag Pond		1.43			1.43					
643	Disturbed Wet Prairie		4.29			3.96			0.33		0.33
DEV	Development	4.92									
	TOTALS	252.17	1546.78	34.75	2.09	949.58	122.93	14.55	135.52	426.35	561.87
POST PROJECT ACRES BY HABITAT TYPE (TARGETS)											
FLUCCS CODE	DESCRIPTION	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve						
411	Pine Flatwoods		2.09		122.93						
540	Cattle Pond			0.27							
617	Mixed Wetland Hardwoods			1.39							
621	Cypress	16.81		131.11							
624	Pine / Cypress	0.97		357.91							
625	Hydrich Pine Flatwoods	16.97		436.18							
640	Flag Pond			1.43							
641	Freshwater Marsh			31.86							
643	Disturbed Wet Prairie			3.96							
DEV	Development	674.47									
	TOTALS	674.47	34.75	2.09	564.11	122.93					

EXHIBIT E



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 Mirasol
 December 7, 2012
 Exhibit 1

INTERNAL PRESERVES		
PRESERVE	UPLAND AC.	WETLAND AC. TOTAL
"C"	9.67	9.67
"D"	2.79	2.79
"E"	13.77	13.77
"F"	2.09	8.52
TOTALS	2.09	34.75

NOTES:
 THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE
 ALL AREA CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE

DESIGNED: J.T.T.	REVISION: 148 (REV): Internal
DRAWN BY: SS	SHEET: 02 16-2012
CREATED: 04-25-05	DATE: 05-05-2012
CBNO: 3105	SCALE: 1"=60'
SECTION-15	TOWNSHIP-18 S
	RANGE-28 E

MIRASOL
 INTERNAL PRESERVES CLEARING

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B, Naples, FL 34105-3732
 Email: turrell@turrell-associates.com Phone: (239) 643-0165 Fax: (239) 643-6432

MECHANICAL CLEARING OF EXOTICS MAY OCCUR IN THESE AREAS

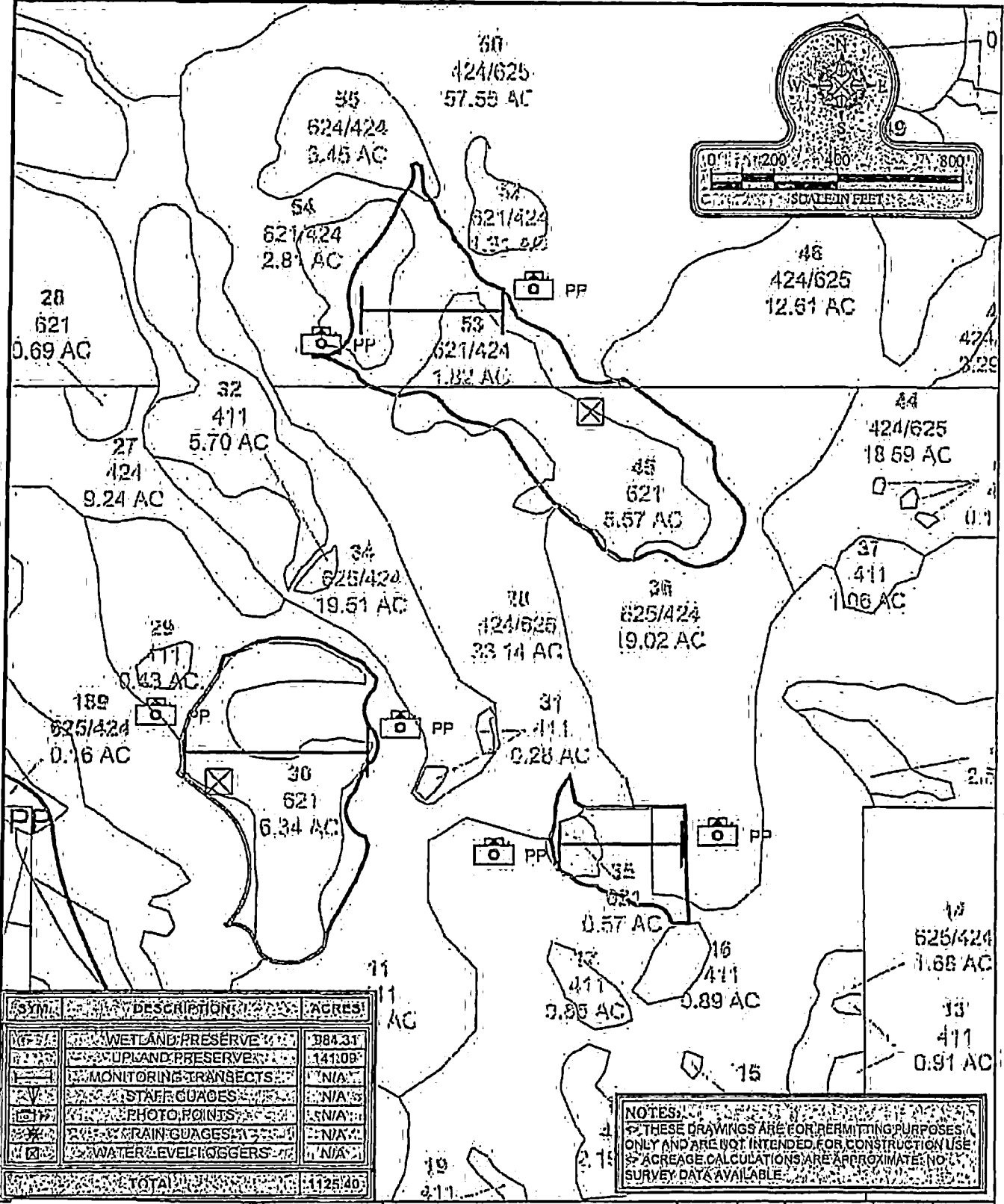
PRESERVE "D"

PRESERVE "E"

PRESERVE "C"

EXHIBIT E

P:\0418 Mirasol\2012 DRAWINGS\CORE\2012 SUBMITTAL - pres-mk.dwg



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 Exhibit 2

IC: **MIRASOL**
 1732
 5032
 INTERNAL PRESERVES MONITORING

DESIGNED: T.T.T.	REVISION:	TAB NAME: Monitoring
DRAWN BY: SS	02-16-2012	SHEET:
CREATED: 04-25-06	05-05-2012	SCALE: 1"=1,800'
JOB NO.: 0418	N.A.	
SECTION - TOWNSHIP-48 S RANGE-20 E		

EXHIBIT E

ATTACHMENT D: Mitigation, Maintenance & Monitoring Plan Main Preserve

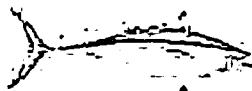
Pages 1-13 of 13 (text)
Dated December, 2012
Tables 1 & 2
Exhibits 1 - 7 a

EXHIBIT E

MITIGATION / MONITORING / MAINTENANCE PLAN FOR MAIN PRESERVE

REVISED: NOVEMBER 26, 2012

PREPARED BY:



TURRELL HALL & ASSOCIATES, INC
3584 EXCHANGE AVENUE
NAPLES, FL 34104

EXHIBIT E

MIRASOL
SEC. 10, 11, 14, 22 TYP 48S RNG 26E COLLIER COUNTY
MITIGATION/MONITORING/MAINTENANCE PLAN FOR MAIN PRESERVE - ACOE
Revised November 26, 2012

I. INTRODUCTION:

The purpose of this document is to outline and describe the proposed mitigation activities for preserves external to the development project known as *Mirasol*.

II. EXISTING CONDITIONS:

The project site consists of 1,798 acres located in four sections of northern Collier County north of CR 846 and east of Interstate 75. There are limited upland (302.5 acres) and substantial wetland (1,495.8 acres) communities present on the site, which have all been heavily impacted by melaleuca infestation and altered hydrology.

The Main preserve is approximately 1,087 acres in size and is composed of 949.6 acres of wetlands and 137.4 acres of uplands. 14.5 acres of the preserved uplands will be converted into wetlands as part of the wood stork enhancement activities. This will result in a total of 964.1 acres of wetlands and 122.9 acres of wetlands within this preserve area. The Main preserve encompasses the northern portion of the project site as well as approximately 200 acres along the western boundary of the site. There are no currently proposed impact areas within the main preserve but there is an access easement that has to be provided to the privately owned out parcel located in the center of Section 10. The access area is approximately 1.2 acres in size. Boardwalks and at grade pedestrian access may be considered in the future but are not currently proposed. No vehicular or other motorized access will be allowed into the preserve except for monitoring or maintenance purposes.

III. MITIGATION ACTIVITIES

This preserve is the main preserve on the site and it is from activities conducted within this area that the majority of mitigation credit for the development impacts is achieved. Historical vegetation communities within the preserve include cypress swamp, hydric and mesic pine flatwoods, and wet prairie. All of these habitats have been impacted by widespread exotic vegetation infestation as well as altered hydrological regimes.

Exotic Vegetation Eradication

Melaleuca infestation is rampant throughout the site and an extensive eradication program will be implemented to eliminate this noxious plant from all preserve spaces. This program will include hand clearing, and kill-in-place methods within the preserve. Because of the potential damage and destruction to groundcover vegetation and likely rutting of the ground by machinery, no mechanical clearing is currently proposed. However, mechanical clearing may be undertaken if the density of killed-in-place trees would prohibit recolonization of the preserve areas by appropriate native species. Hand cleared debris will be removed from the preserve where feasible but in areas where removal would cause additional, unwanted damage, the trees will be killed in place (>6"

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dbh), or cut and stacked into piles (<6" dbh). If stacked in piles, the trunks will be cut into manageable sections and stacked "teepee" or "log cabin" style and the piles will be placed no closer than 100 feet from each other. If possible, burn permits will be obtained from the local fire control district and the pile will be burned in place. If obtaining burn permits is not possible, the piles will simply be left to decompose.

While mechanical removal is not currently contemplated, it may be utilized on isolated pockets where exotic density is felt to be too great to achieve enhancement success within the 5 year time frame. If mechanical clearing is undertaken, the area to be cleared, timing, and other specifics associated with the clearing will be coordinated with appropriate ACOE and SFWMD staff. If any mechanical clearing is done, the cleared area(s) will be immediately planted according to the planting plans outlined below in this report.

In addition to melaleuca, Brazilian pepper and several other exotics are also present on the property. All Category I and Category II exotics, as defined by the Florida Pest Plant Council, are included in this eradication program.

Initially, quarterly maintenance inspections and treatments will be necessary to eliminate the melaleuca that has already gained a stranglehold on the property. All category I and II exotic vegetation will be brought under control before any re-planting or species management techniques (i.e. fire or mowing) are employed. Once the removal efforts have been successful, annual maintenance treatments should be sufficient to control future exotic growth. The preserve areas will be exotic free immediately following a maintenance activity. At no time shall the density of exotic and nuisance plant species exceed 1% relative coverage in any vegetative strata or 4% of the relative coverage in all strata.

Wetland Creation

Three upland areas in the south west portion of the preserve will be scraped down and contoured similarly to the wood stork foraging improvements of the farm field which is described below. Two of these areas are existing mesic pine communities (8.68 acres and 3.09 acres respectively) while the third area is a small commercial (2.78 acre) area that has been used for storage and repair work located at the south end of the farm field. The existing vegetation will be removed and the fill from the contouring activities will be utilized within the development area. Random inter-connected depressions and contours will concentrate prey as water levels recede and further enhance opportunities on the site for wood stork foraging (See Exhibit 3). Planting will be with ground cover vegetation only and maintenance of the areas will include removal of any canopy or midstory vegetation that may recruit into the areas. Long term maintenance may occur through hand removal of vegetation, controlled burns, or mowing.

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Berm Removal

An existing berm that currently surrounds the farm field area will be removed from the northern and eastern sides of the field. If specimen trees are present on or adjacent to portions of the berm or would be adversely impacted by the berm removal, then small sections of berm may be left as long as sufficient breaches are created to allow for free flows across the area. This will allow for open sheet flow of surface waters onto and across the site during periods of high water. The berm will be scraped down to the adjacent natural ground elevation and the disturbed area will be planted with appropriate plantings to match the adjacent vegetative communities.

Wood Stork and Other Wading Bird Foraging Improvements

The existing (17.31 acre) farm field will be scraped down and contoured to create a series of depressional areas of varying depths. This work will also tie into and include the three wetland creation areas described above. The depressions will serve to concentrate forage fish and provide enhanced foraging opportunities to wood storks and other wading birds. Fill from the construction of these areas will be utilized as needed in the development portion of the project.

Wood stork foraging sites are generally composed of a prey source and prey concentration areas. The foraging area concept is essentially a shallow trough 80 to 200 feet wide pocked with depressions which, depending on their depth serve either as aquatic fauna refugia, or as prey concentration zones to facilitate foraging. The trough is basically a small scale shallow slough, with a wet prairie hydroperiod target of around 3-4 months. This is slightly deeper than the existing ground elevations of the mesic and hydric pine flatwoods, or farm field habitats that make up the areas under consideration for these activities so the refuge and foraging depressions would be created in a scattered pattern within the improvement areas.

The dry season refuge for aquatic fauna should not be large deep open water lakes. The entire dry season refuge can be as simple as a circular depression only 50' in diameter, the outer ring supporting a hydroperiod of 8-10 months, the intermediate ring 10-12 months and the center a permanently wet open water depression that may be as much as 6-8 feet deep during the peak of the wet season. The determining factor is that this center location retains about a foot of water during the average dry season. Since the proposed design will incorporate refuges within the same trough as the forage concentration areas, a hydrologic connection will form between them in advance of sheet flow conditions on the site. This will allow prey to populate the adjacent foraging areas sooner than would occur without the connectivity provided by the trough.

The foraging depressions will be designed as shallow cones excavated within the trough. These depressions will be shallower than the refuges and will serve to concentrate prey as the water table drops. The foraging depression size will vary between 0.15 and 0.50 acre

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in area. The target hydroperiod within the foraging depressions will be 4-5 months along the outer edge and around 6 months nearing the center. A 300-400 square foot "dimple" in the middle of foraging depression will serve as the actual foraging footprint. This "dimple" will be approximately six inches deeper than the immediate surrounding area feeding into it. Incorporating narrow, shallow channels between the refuges and foraging depressions will mimic an alligator/wildlife trail and should provide prey access to the foraging areas earlier in the wet season. This will allow for more space and more time to reproduce which will in turn provide more biomass in the foraging depressions as the water levels recede.

Depressions will range from one foot to eight feet in depth. Shallow contours will encourage and facilitate concentration of the forage fish as water levels recede and will provide foraging access over an extended period of time. Planting of this area will be with low herbaceous and graminoid vegetation only to insure that foraging access to the area is maintained.

Since the main component of these areas is foraging improvement, dense vegetative coverage is not desired. Planting of the scraped down areas will be done in conjunction with the wet season immediately following the contouring work as outlined below. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season. More vegetation may volunteer into the depressions areas during the dry season should die off or substantially thin out as water levels rise. Vegetative coverage of 50% will be considered successful in these foraging improvement areas.

Replanting Plans

The preserve areas subject to exotic removal efforts will be left to regenerate naturally for at least a year (through a wet and following dry season) before deciding if replanting is necessary. The decision on whether or not to plant will be based on the target success criteria outlined below. In areas that are more than 75% melaleuca and that have no suitable groundcover vegetation present, replanting will be done immediately following the exotic eradication and contouring activities. If no immediate seed sources are available in these areas, immediate replanting helps to re-establish the denuded areas more rapidly and contributes to the restoration of canopy components more efficiently. The entire preserve area will be evaluated once the initial exotic removal activities are completed and any plantings felt necessary will be proposed and coordinated with ACOE and SFWMD staff as part of the Time Zero Report.

Replanting will be considered two years after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Appropriate vegetation will include canopy, mid-story, and ground cover vegetation. The one year of natural regeneration is proposed to allow for existing vegetation remaining after the exotic removal to re-establish itself in the newly opened areas. Natural regeneration is preferable to immediate planting because it allows for more natural biodiversity of plants.

EXHIBIT E

Replanting will be considered after three years for any area that shows less than 75% coverage by appropriate native vegetation.

Replanting will also occur immediately after any mechanical removal of exotic vegetation and in the wood stork foraging improvement areas. Areas disturbed by the exotic removal will be re-graded to match adjacent elevations and remove any rutting, and then planted with the appropriate plant palette.

Appropriate plant palettes will be applied for the affected areas that will be dependant on existing ground elevations, anticipated high water elevations, and historic vegetative cover. Also, all areas disturbed as part of the construction or mitigation activities will be replanted as outlined below:

Cypress: Cypress areas will be planted primarily with sapling cypress trees. Slightly higher areas and interfaces with adjacent flatwood communities may also include slash pine, dahoon holly and a few red maple trees. All trees planted will be containerized stock with minimum heights of 4 feet above the substrate. Depending on the size of the area being planted and the density of the adjacent vegetation, planting will be done on 10 foot or 15 foot centers. Planting will be clumped to imitate a more natural community, instead of in linear rows. Midstory plantings will be done with minimum 5-gal container stock and will be planted to mimic natural clumps or thickets within the cypress area. It is anticipated that adjacent ground cover vegetation will rapidly colonize the areas so no ground cover planting will be done until a full growing season has passed. If ground cover colonization has not occurred, sawgrass, cordgrass, and other appropriate, available vegetation will be planted in those areas. The ground cover plantings will be with bare root or container stock. Bare root plantings will have minimum 3 inch diameter root masses. These plantings will be done essentially on 3 foot centers to fill in areas that have not regenerated naturally. The following table shows some of the representative species that can be considered for planting and restoration of the cypress preserve areas.

CYPRESS PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Cypress (<i>Taxodium distichum</i>)	Button Bush (<i>Cephalanthus occidentalis</i>)	Sawgrass (<i>Claudium jamaicense</i>)
Red Maple (<i>Acer rubrum</i>)	Marlberry (<i>Ardisia escalloniaoides</i>)	Cinnamon Fern (<i>Osmunda cinnamomea</i>)
Dahoon Holly (<i>Ilex cassine</i>)	Pond Apple (<i>Simoua glabra</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Laurel Oak (<i>Quercus laurifolia</i>)	Cocoplum (<i>Chrysobalanus icaco</i>)	Alligator Flag (<i>Thalia geniculata</i>)
Slash Pine (<i>Pinus elliotii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Criminum Lily (<i>Crinium americanum</i>)

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Flatwoods: Pine flatwood areas will be planted with sapling slash pine on 50 to 75 foot centers. Trees will be from containerized stock and be between 4' to 6' in height. In very hydric areas, up to 15% cypress saplings may also be used. Few midstory plantings are proposed because of the future management plan for the areas as potential fox squirrel and red-cockaded woodpecker habitat. As above, no ground cover plantings will be done for a full growing season unless no existing vegetation is present. Wiregrass, cordgrass, broomsedge, and other appropriate native vegetation will be used if no regeneration is seen within the first year. These will be from both bare root and container stock and will be planted on the equivalent of 3-foot centers in clusters to fill in open areas.

PINE FLATWOOD PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Slash Pine (<i>Pinus elliptica</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Wiregrass (<i>Aristida stricta</i> , <i>Aristida purpurascens</i>)
Cypress (<i>Taxodium distichum</i>)	St. John's Wort (<i>Hypericum fasciculatum</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Cabbage Palm (<i>Sabal palmetto</i>)		Sand Cordgrass (<i>Spartina alterniflora</i>)
		Yellow-eyed Grass (<i>Xyris fimbriata</i> , <i>Xyris caroliniana</i>)

These lists are not all inclusive and alternative appropriate native wetland vegetation may be used.

Wetland Creation and Wood Stork Enhancement: Scraped down and contoured areas will be planted with ground cover herbaceous and graminoid species in clustered groups to more closely mimic natural communities. Plantings will be dependant on anticipated water depths and duration of inundation as outlined in the table below. Areas deeper than shown will not be planted.

<u>Zone 1:</u> ≥ high water (12.75' - 14' NGVD)	<u>Zone 2:</u> ≤ 1' below high water (11.75' - 12.5' NGVD)	<u>Zone 3:</u> 1' to 2' below high water (10.75' - 11.5' NGVD)	<u>Zone 4:</u> 2' to 4' below high water (8.75' - 9.5' NGVD)
Sand Cordgrass (<i>Spartina alterniflora</i>) Wiregrass (<i>Aristida purpurascens</i>) Yellow-eyed Grass (<i>Xyris fimbriata</i>) Swamp Fern (<i>Blechnum serrulatum</i>) Criminum Lily (<i>Criminum americanum</i>) Sawgrass (<i>Cladium jamaicense</i>) Red root (<i>Lachnanthus carolinianus</i>) St. John's Wort (<i>Hypericum fasciculatum</i>)	Bacopa (<i>Bacopa caroliniana</i>) Iris (<i>Iris virginica</i>) Alligator Flag (<i>Thalia geniculata</i>) Pickerelweed (<i>Pontederia cordata</i>) Canna Lily (<i>Canna generalis</i>) Sand Cordgrass (<i>Spartina alterniflora</i>) Duck Potato (<i>Sagittaria latifolia</i>) Maidencane (<i>Panicum hemitomon</i>)	Duck Potato (<i>Sagittaria latifolia</i>) Bulrush (<i>Schoenoplectus californicus</i>) Spike Rush (<i>Eleocharis interstincta</i>) Alligator Flag (<i>Thalia geniculata</i>) Pickerelweed (<i>Pontederia cordata</i>) Creeping Primrosewillow (<i>Ludwigia repens</i>)	Spatterdock (<i>Nuphar advena</i>) Water Lily (<i>Nymphaea odorata</i>) Soft-stem bulrush (<i>Schoenoplectus tabernaemontani</i>)

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These lists are not all inclusive and alternative appropriate native wetland vegetation may be used. All plantings will be coordinated with the wet season so that expected rains will serve to keep the new plantings hydrated and no outside irrigation source will be needed.

Prescribed Burning

The predominant long-term management technique proposed is the use of periodic burning to control vegetation growth and promote the native pine flatwood communities desired as the result of the restoration activities. Home-owners will be made aware as part of their purchase agreements that prescribed burning will be undertaken on the preserve. Controlled burning will only be proposed for those areas where exotic vegetation has been successfully removed. These will be amended as the details are coordinated with the relevant agencies. The proposed burning will be done in coordination with the land managers of the CREW Trust preserve, Division of Forestry, and the Corkscrew Swamp Sanctuary preserve.

The CREW General Management Plan 2001-2006 (Sec. 6.3.3.1 pgs 47-51) outlines the general prescribed burn guidelines followed by CREW. It generally states that since each habitat has its own optimum fire frequency ranging from one or two years, to several decades, the systems will be monitored and prescribed burns will be conducted when it is felt that the burn would best help the target and adjacent communities. Also, the burns will be conducted when prevailing winds are in the right direction to minimize smoke impacts on the adjacent residential communities and roadways. CREW does not have any restriction for burning adjacent to residences but wind and humidity are taken into account to insure that smoke and ash side effects are minimized on adjacent developments. CREW staff have been contacted regarding this project and prescribed burns will be a management tool used on the property as needed to maintain viable healthy habitats. Following the initial exotic removal activities and prior to the transfer of the property to CREW, the owner will consult with CREW land managers regarding the need to burn all or part of the property prior to the transfer.

Homeowner Education

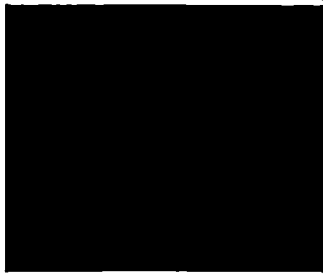
In addition to the prescribed burning information mentioned above, all homeowners will be given informational pamphlets regarding south Florida ecosystems and local wildlife. Preserve related information will also be included in the home-owners documents for the development so that residents are well informed that fire management techniques will be used on the property and pet controls will be required throughout the property.

Long-Term Protection

The 964.1 acres of wetlands and 122.9 acres of uplands composing the Main Preserve shall be placed into conservation easements, and enforcement rights shall be granted to the South Florida Water Management District and the US Army Corps of Engineers. The

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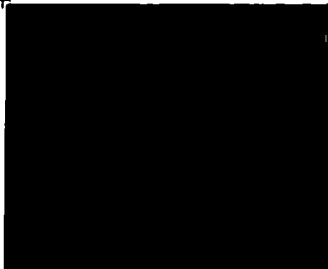


conservation easement for this area will be filed and recorded as required and SFWMD permits.

Once the exotic vegetation has been removed and the native vegetation restored, the intent of the applicant is to donate the preserve to CREW or another appropriate land management entity for perpetual preservation. Until such time as that may happen however, it will be the responsibility of the CDD or homeowner's association to maintain the preserve. In addition to meeting the success criteria of the preserve with respect to the exotic removal and native vegetation re-establishment and the future donation of the property to an appropriate land management entity, the applicant will also establish a non-wasting escrow fund for the long-term maintenance of the preserve. The amount of the escrow fund will be determined at the time the preserve is turned over and be based on the expected long-term maintenance requirements. It is felt that the donation of the preserve to an entity specifically charged with property maintenance and preservation, in lieu of perpetual management by a homeowners association that may not be fully equipped or experienced in preservation management techniques, will be more appropriate for a preserve of this size. It is important to note that the applicant will be responsible for reaching the success criteria outlined below before donation of the preserve occurs.

Target Criteria

All exotic vegetation will be killed within the conditions are as a very



canopy, pine and cypress areas should have a minimum of 80% cover may



flatwood target widely spaced trees. hydrology. Tree per acre. Cypress (per acre) with age will still be 7 trees per acre. pine, and other ...in misty areas.

After 2 years, all preserve areas will contain a minimum of 50% coverage by appropriate native vegetation in all three strata combined. After 3 years, all preserve areas will contain a minimum of 75% coverage by appropriate native vegetation in all three strata combined. After 5 years time, preserves will contain a minimum of 80% coverage by appropriate vegetation in all three strata combined. Any areas not meeting the minimum appropriate native vegetative coverage will be subject to supplemental planting plans as outlined above.

Created marsh habitats

As outlined above, the created marsh areas will be subject to a slightly different review with regards to target criteria. After 2 years, all created marsh will contain a minimum of 50% ground cover coverage by appropriate native wetland vegetation. Since the main

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component of these areas is foraging improvement, dense vegetative coverage is not desired. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season. More vegetation may volunteer into the depressions areas during the dry season should die off or substantially thin out as water levels rise. Vegetative coverage of 50% will be considered successful in these foraging improvement areas.

Financial Assurances

Because of the size, different components, and nature of the proposed mitigation activities, the mitigation program will be broken up into the following 5 different areas:

- 1 - Wood Stork Foraging Improvements
- 2 - Internal Preserves
- 3 - Western Preserve
- 4 - Northern Preserve
- 5 - Section 11

Financial assurances will be broken down to cover each of these areas rather than one document to cover the entire preserve. This will allow the ACOE and SFWMD compliance staff to review and act on the separate areas independently. If there is an issue with one of the preserves, the remainder of the areas can still achieve success criteria and obtain sign-offs from the agencies.

Assurances that the project has the financial capability to undertake the work will be provided in the form of letters of credit, performance bonds, or other appropriate surety instruments. Once the activities have been completed for an area as outlined in this document and the permit special conditions, and the ACOE and SFWMD compliance staff have signed off on the success criteria being met, the District can then release the surety back to the project.

Success Criteria

The creation, enhancement, and preservation activities proposed for the preserve will generate mitigation credit that is being applied towards the project's impacts. In order to adequately gauge the appropriateness and eventual success of the mitigation, certain benchmarks must be set to compare against over time. A set of surety documents (letters of credit, bond, etc.) will be put in place in order to insure success of the enhancement, creation, and wood stork foraging improvement areas. The bond(s) will remain until the areas meet the success criteria regarding exotic removal, re-vegetation and plant coverage.

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Vegetation

The base planting and vegetation restoration efforts shall be deemed, in part, successful when the area contains a minimum of 80% coverage of native vegetation, with less than 4% exotic and nuisance vegetation for a period of 3 consecutive years. The preserve areas will be maintained in this exotic-free state in perpetuity.

Ground cover diversity has been limited by the altered hydrology and exotic infestation throughout the site. It is expected that species diversity will increase as the exotic vegetation is removed. The restoration of a prescribed burning regimen will also help to restore a more diverse, natural native habitat. Monitoring of the preserves will include species composition and diversity monitoring of identified plots to document this increase.

IV. MONITORING / MAINTENANCE / MANAGEMENT:

The goals and objectives of this monitoring plan will be to provide for ongoing progress and ultimate success of preserved and enhanced areas in a series of scheduled monitoring reports. The reports will quantify and describe conditions within the managed areas, comparing observations with the proposed standards and offering advice for corrective actions if needed.

Visual inspection for exotic plant invasion will be made on quarterly, bi-annual, or annual basis depending on the state and status of the exotic eradication efforts. All exotic vegetation found will be flagged, mapped and reported for treatment. Removal of observed exotic vegetation will occur within 30 days of the observations. Meandering transects will be followed in the preserve areas for vegetative inventory and observation of wildlife during regular monitoring. Photo points will be established along with plot sampling stations to determine percent survival and percent coverage of planted and recruited plant species. Transect locations have been provided on the included exhibit (Exhibit 4). Plot sampling station locations will be determined at time zero, after exotic eradication and plantings are installed. The mitigation efforts shall be deemed successful when the area contains a minimum of 80% coverage of appropriate native vegetation, with less than 4% exotic and nuisance vegetation for a continuous period of 3 years. The preserve areas will be maintained in this exotic-free state in perpetuity. Once creation and enhancement activities are deemed successful, the preserve will be offered to CREW and an escrow fund will be established for the long-term maintenance of the preserve.

Water Levels and Rainfall

In order to document that hydrological impacts do not occur as a result of the project, the project will place four water level data loggers and two logging type rain gauges within the Main preserve boundaries. The water level loggers will be placed inside of two (2)

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inch PVC pipe wells and sunk to a depth of approximately eight (8) feet below ground level. This will place the loggers below the water table and will allow for continuous monitoring of the water levels, above and below ground, experienced on the site. The rain gauges will be set to collect and record rainfall events on a daily basis so that comparisons can be made with the on-site rainfall and water levels experienced. Approximate locations for the loggers, both rainfall and water level, are shown on the monitoring exhibit (Exhibit 4).

The surface water levels and rainfall data will be included in a report that will be given to the ACOE and to the SFWMD on an annual basis. This monitoring will be done in conjunction with the vegetative and exotic removal monitoring conducted within the forested preserves for the project. The reports will be produced annually for five years after the completion of the initial exotic removal.

Wood Stork Activity

The National Audubon Society Corkscrew Sanctuary staff currently monitors the productivity of the Corkscrew wood stork colony in the form of the number of nests constructed as well as the number of young fledged.

The project will also document the utilization of the preserve areas by wood storks. This information will be useful in conjunction with the available productivity and hydrological data to determine if the project design serves to increase or decrease foraging opportunities. Since the FWS reviewed potential incidental take based on forage production the project will implement a monitoring program to estimate the forage fish production on the project site.

Forage Fish Monitoring

Sampling sites will be established along transects that will incorporate the different wetland communities on the site. The four main habitats to be sampled are hydric pine flatwoods, pine/cypress flatwoods, hypericum prairie, and cypress. The sampling devices will consist of, 1m² throw traps, seines, and acrylic Breder traps. All fish caught will be identified and counted. Results will be presented in the annual report to the agencies.

Reports

A Baseline Monitoring Report will describe the existing conditions of the conservation areas prior to exotic eradication and supplemental planting. The Time Zero Monitoring Report will describe the aerial extent of exotic removal and other mitigation work, i.e. revegetation, photographs from referenced locations, qualitative observations of wildlife usage and other information such as climatic and hydrological conditions and health of existing vegetation. The Time Zero Report will be completed within 30 days of the completion of the initial exotic removal work. Annual Monitoring reports shall

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document changes from the baseline conditions the success of exotic eradication and identifies ways to maintain or improve these conditions:

Baseline, Time Zero and Annual Reports will include the following:

- Quantification of any re-growth of exotic species and recommendations for remedial actions.
- Quantification of restoration of cleared areas by native species including dominant species and % cover by species.
- Percent coverage, open space and diversity as appropriate of restored vegetation.
- Direct and indirect wildlife observations.
- Photographs from a referenced location and panoramic photographs. A photo point station will be identified with a PVC labeled stake.
- The current status of the construction of the project as well as any construction phases or milestones that have been completed.
- A summary of the rainfall data collected on-site as well as data from the other agency rainfall monitoring stations identified in the report.
- A summary of the on-site water level data as well as the off-site data available from the other agency monitoring stations.
- Current status of the plantings and exotic removal as well as regeneration of the native vegetation throughout the preserve area.
- Ongoing results of the forage fish sampling including species diversity and densities broken down by habitat types and water depths.
- Any observed on-site foraging by wood storks. Included in this information will be, number of storks observed, habitat or general area observed, number of days or duration of observation, and estimated foraging efficiency.

The maintenance and management of the preserve areas will be the responsibility of the owner/developer in perpetuity. The responsibility for the preserve maintenance can be transferred to the property owners association or CDD once the project is "turned-over" to the appropriate association. The transfer will include all documentation associated with the restoration and enhancement activities as well as the long term responsibilities associated with the preserves.

This may entail the property owner's association or CDD acquiring ownership of the preserve prior to the CREW transfer. The maintenance and management responsibilities for the preserves will transfer to that entity. At this time the said associations shall assume responsibility for the perpetual maintenance and management of the preserve and retained areas. Association documents will indicate the responsibilities, restrictions and limitations associated with the conservation areas. Once the restoration activities have met the success criteria, the Preserve will be offered to CREW (or another suitable land management entity) along with the escrow funds to perpetually maintain the preserve.

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The maintenance activities will be performed on a quarterly basis for the first year, then biannually or annually as needed for the remaining five (5) years of the monitoring period. Monitoring may continue past the 5 year time period if additional time is needed to meet the success criteria for the preserve. The annual monitoring requirement will be released once the success criteria have been met for a period of three consecutive years. Perpetual maintenance after the monitoring period will be on an annual or as needed basis.

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TABLE 1

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MIRASOL ACOE FLUCCS INFORMATION SUMMARY

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
78	411	Pine Flatwoods	1.43									
79	025/424	Pine Flatwoods / Melaleuca (>75%)		20.05								
80	411	Pine Flatwoods	1.56							4.55	16.10	20.65
81	021	Cypress / Melaleuca (>50%)		2.60			2.60					
82	021	Cypress / Melaleuca (>50%)		0.37			0.37					
83	411	Pine Flatwoods	1.53					1.53				
84	540	Cattle Pond		0.08			0.08					
85	424	Melaleuca		74.07			59.21			4.60	10.26	14.86
86	625/424	Pine Flatwoods / Melaleuca (>75%)		14.19			14.19					
87	625/424	Pine Flatwoods / Melaleuca (>25%)		2.99							2.99	2.99
88	411	Pine Flatwoods	10.00					2.33				
89	625/424	Pine Flatwoods / Melaleuca (>50%)		18.65			15.90			0.15	0.60	0.75
90	625/424	Pine Flatwoods / Melaleuca (>75%)		106.35	2.41		5.31			24.70	73.65	98.03
91	411	Pine Flatwoods	1.60					1.60				
92	625/424	Pine Flatwoods / Melaleuca (>25%)		8.13	0.30		5.79			1.09	0.95	2.04
93	625	Hydric Pine Flatwoods		2.36	0.63		1.72					
94	021	Cypress		18.57			18.57					
95	624/424	Pine / Cypress / Melaleuca (>25%)		20.43			20.43					
96	025/424	Pine Flatwoods / Melaleuca (>25%)		5.77			6.77					
97	021	Cypress		0.39			0.39					
98	411	Pine Flatwoods	3.41					3.41				
99	625/424	Pine Flatwoods / Melaleuca (>50%)		1.03			1.03					
100	625/424	Pine Flatwoods / Melaleuca (>50%)		87.73			40.25			8.88	18.60	27.48
101	625/424	Pine Flatwoods / Melaleuca (>50%)		30.84			25.07			1.47	3.21	4.68
102	025/424	Pine Flatwoods / Melaleuca (>75%)		8.41			8.27			0.05	0.09	0.14
103	411	Pine Flatwoods	5.20					5.20				
104	411	Pine Flatwoods	0.73					0.73				
105	625/424	Pine Flatwoods / Melaleuca (>75%)		7.55			7.55					
106	625/424	Pine Flatwoods / Melaleuca (>25%)		1.41			1.41					
107	625/424	Pine Flatwoods / Melaleuca (>50%)		21.32			21.32					
108	625/424	Pine Flatwoods / Melaleuca (>75%)		2.85			2.85					
109	540	Cattle Pond		0.10			0.10					
110	411	Pine Flatwoods	0.57					0.57				
111	411	Pine Flatwoods	1.68					1.68				
112	411	Pine Flatwoods	11.32					11.32				
113	411	Pine Flatwoods	0.56					0.56				
114	021	Cypress		21.11			21.11					
115	625/424	Pine Flatwoods / Melaleuca (>75%)		8.59			8.59					
116	411	Pine Flatwoods	2.85					2.85				
117	411	Pine Flatwoods	0.94					0.94				
118	424	Melaleuca		107.97			107.07					
119	025/424	Pine Flatwoods / Melaleuca (>25%)		12.01			12.61					
120	411	Pine Flatwoods	1.07					1.07				
121	411	Pine Flatwoods	7.03					7.03				
122	411	Pine Flatwoods	0.54					0.54				
123	411	Pine Flatwoods	2.00					2.00				
124	624/424	Pine / Cypress / Melaleuca (>50%)		9.16			9.16					
125	625/424	Pine Flatwoods / Melaleuca (>50%)		6.37			6.37					
126	021	Cypress		1.18			1.18					
127	624/424	Pine / Cypress / Melaleuca (>50%)		1.30			1.30					
128	411	Pine Flatwoods	1.57					1.57				
129	021/424	Cypress / Melaleuca (>25%)		3.40			3.46					
130	411	Pine Flatwoods	0.17					0.17				
131	424	Melaleuca		2.72			2.72					
132	621/424	Cypress / Melaleuca (>25%)		3.67			3.67					
133	411	Pine Flatwoods	12.36					12.36				
134	625/424	Pine Flatwoods / Melaleuca (>75%)		62.52			62.52					
135	424	Melaleuca		42.41			42.41					
136	411	Pine Flatwoods	2.21					2.21				
137	625/424	Pine Flatwoods / Melaleuca (>75%)		32.80			32.80					
138	625/424	Pine Flatwoods / Melaleuca (>50%)		11.68			11.68					
139	411	Pine Flatwoods	1.20					1.20				
140	411	Pine Flatwoods	0.29					0.29				
141	411	Pine Flatwoods	2.58					2.58				
142	411	Pine Flatwoods	11.49					11.49				
143	422	Brazilian Pepper		3.57			3.57					
144	021	Cypress		9.11			9.11					
145	424	Melaleuca		5.34			5.34					
146	424	Melaleuca		19.57			19.57					
147	624/424	Pine / Cypress / Melaleuca (>50%)		2.53			2.53					
148	021/424	Cypress / Melaleuca (>25%)		15.38			15.38					
149	625/424	Pine Flatwoods / Melaleuca (>25%)		9.28			9.28					
150	625/424	Pine Flatwoods / Melaleuca (>75%)		25.99			25.99					
151	411	Pine Flatwoods	2.30					2.30				
152	411	Pine Flatwoods	1.53					1.53				
153	625/424	Pine Flatwoods / Melaleuca (>50%)		12.44			12.44					
154	422	Brazilian Pepper		3.88			3.88					
155	422	Brazilian Pepper		3.88			3.88					

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TABLE 1

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MIRASOL ACOE FLUGGS INFORMATION SUMMARY

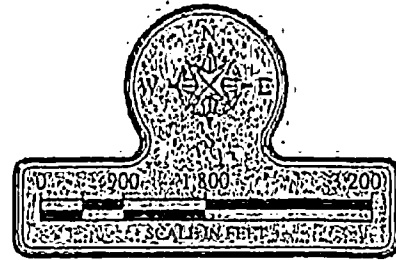
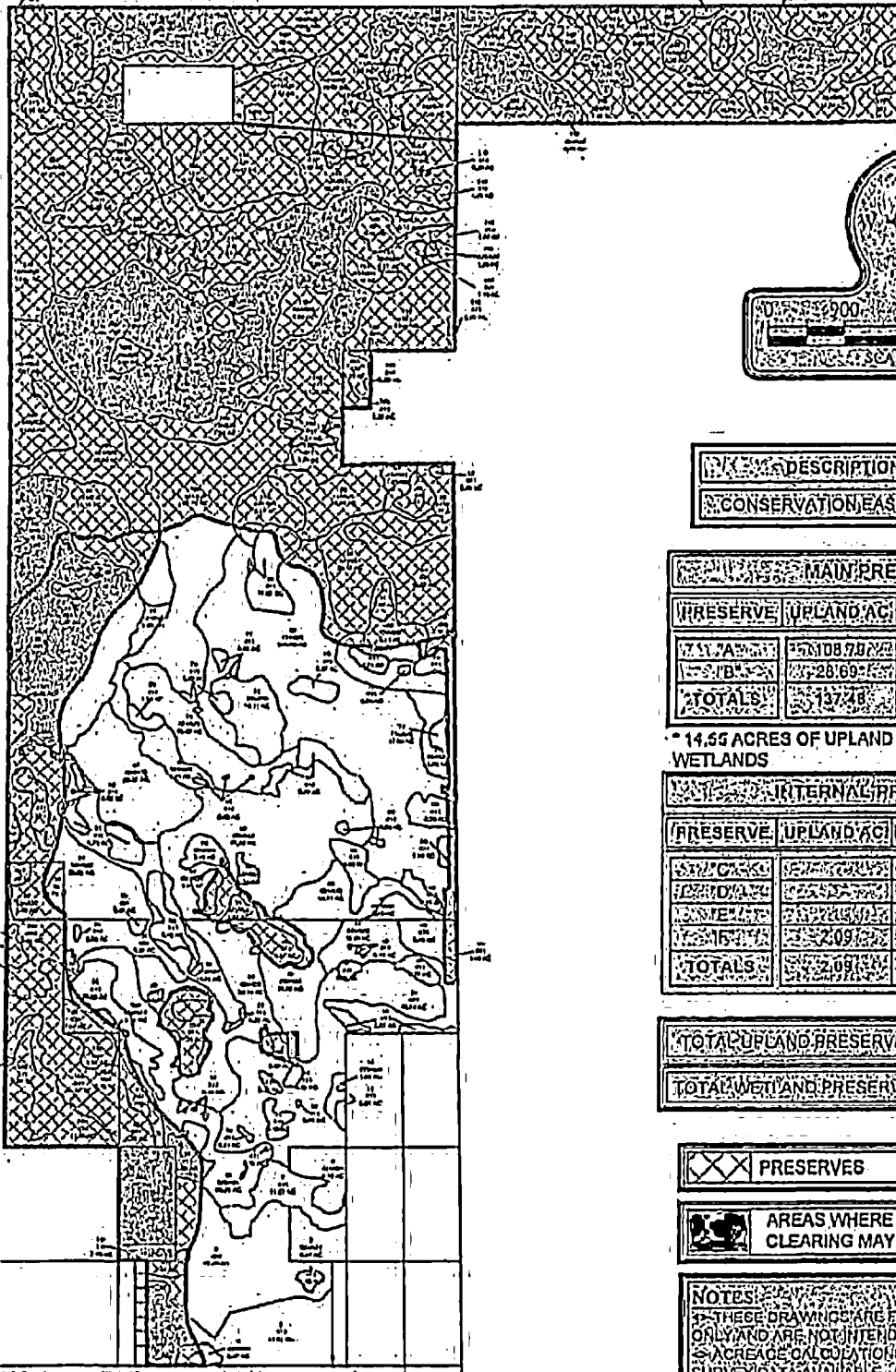
ACOE AREA	FLUGGS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
156	025/424	Pine Flatwoods / Melaleuca (>50%)		3.91			3.91					
157	424	Melaleuca		15.47			15.47					
158	025/424	Pine Flatwoods / Melaleuca (>50%)		7.29			7.29					
159	025/424	Pine Flatwoods / Melaleuca (>25%)		0.70			0.73					
160	621	Cypress		9.50			9.59					
161	640	Flng Pond		1.43			1.43					
162	024/424	Pine / Cypress / Melaleuca (>50%)		7.43			7.43					
163	424	Melaleuca		4.34			4.34					
164	411	Pine Flatwoods	2.56					2.56				
165	024/424	Pine / Cypress / Melaleuca (>50%)		0.80			0.83					
166	621	Cypress		3.05			3.05					
167	024/424	Pine / Cypress / Melaleuca (>50%)		2.25			2.25					
168	025/424	Pine Flatwoods / Melaleuca (>75%)		38.84			38.84					
169	024/424	Pine / Cypress / Melaleuca (>50%)		3.07			3.07					
170	024/424	Pine / Cypress / Melaleuca (>50%)		0.79			0.70					
171	411	Pine Flatwoods	3.44					3.44				
172	621	Cypress		2.12			2.12					
173	411	Pine Flatwoods	1.76					1.76				
174	424	Melaleuca		11.88			11.88					
175	024/424	Pine / Cypress / Melaleuca (>25%)		6.67			6.67					
176	411	Pine Flatwoods	0.19					0.19				
177	621	Cypress		5.50			5.50					
178	621	Cypress		0.89			0.89					
179	625	Hydric Pine Flatwoods		12.79			12.79					
180	625	Hydric Pine Flatwoods		9.41			9.41					
181	411	Pine Flatwoods	1.85					1.85				
182	621	Cypress		0.08			0.08					
183	621	Cypress		21.89			21.89					
184	424	Melaleuca		13.30			13.30					
185	621	Cypress		0.18			0.18					
186	411	Pine Flatwoods	9.48					9.48				
187	624	Pine / Cypress		3.65			3.65					
188	411	Pine Flatwoods	0.1					0.10				
189	025/424	Pine Flatwoods / Melaleuca (>50%)		0.16			0.16					
190	211	Improved Pasture		17.31			17.31					
191	140	Commercial Services	2.78						2.78			
192	621	Cypress		0.57			0.57					
193	424	Melaleuca		2.79			2.79					
194	624	Pine / Cypress		0.29			0.29					
195	411	Pine Flatwoods	1.27					1.27				
ROW	ROW	Road Right of Way	4.02									
		TOTALS	252.17	1546.18	34.75	2.09	649.66	122.03	14.56	135.52	426.35	661.87

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FLUCCS CODE	DESCRIPTION	PRE PROJECT ACREAGES BY HABITAT TYPE										Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts		
		ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Wetland Preserve	Upland Preserve	Wetland Preserve	Upland Preserve						
140	Commercial Services	2.78															
211	Improved Pasture		17.31							17.31							
411	Pine Flatwoods	232.57			2.09						111.03						
422	Brazilian Pepper	11.90	3.57							3.57	11.90						
424	Melaleuca	899.78	1.39							292.20				31.23	74.96	106.19	
540	Cattle Pond		0.27							0.27							
617	Mixed Wetland Hardwoods		1.39							1.39							
621	Cypress		110.06							103.15					0.03	0.03	
621A24	Cypress / Melaleuca (>25%)		33.87							22.51				0.47	2.27	2.74	
621B24	Cypress / Melaleuca (>50%)		12.02							5.45				1.50	3.75	5.26	
624	Pine / Cypress		6.61							6.61							
624A24	Pine / Cypress / Melaleuca (>25%)		32.86							27.10				1.53	3.35	4.88	
624B24	Pine / Cypress / Melaleuca (>50%)		44.65							33.45				1.42	9.67	11.09	
624C24	Pine / Cypress / Melaleuca (>75%)		10.56							1.35				1.98	7.23	9.21	
625	Hydric Pine Flatwoods		24.55							23.92							
625A24	Pine Flatwoods / Melaleuca (>25%)		91.10							37.07				7.31	41.89	49.20	
625B24	Pine Flatwoods / Melaleuca (>50%)		264.24							147.21				27.24	85.72	112.96	
625C24	Pine Flatwoods / Melaleuca (>75%)		487.64							221.61				62.84	197.14	259.98	
640	Flag Pond		1.43							1.43							
643	Disturbed Wet Prairie		4.29							3.96					0.33	0.33	
DEV	Development	4.92															
TOTALS		252.17	1646.18	34.75	2.09	949.56	122.93	14.55	135.52	426.35	561.87						
POST PROJECT ACREAGES BY HABITAT TYPE (TARGETS)																	
FLUCCS CODE	DESCRIPTION	PRE PROJECT ACREAGES BY HABITAT TYPE (TARGETS)										Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts		
		ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Wetland Preserve	Upland Preserve	Wetland Preserve	Upland Preserve						
411	Pine Flatwoods			2.09							122.93						
540	Cattle Pond				0.27												
617	Mixed Wetland Hardwoods				1.39												
621	Cypress		16.81							131.11							
624	Pine / Cypress		0.97							357.91							
625	Hydric Pine Flatwoods		16.97							436.18							
640	Flag Pond									1.43							
641	Freshwater Marsh									31.86							
643	Disturbed Wet Prairie									3.96							
DEV	Development	674.47															
TOTALS		674.47	34.75	2.09	964.11	122.93											

EXHIBIT E

P:\0418 MP\2012 DRAWINGS\CORRECT CLEAR MONITORING\2012 SUBMITTAL - CLEAR MON.DWG



TYPE	DESCRIPTION	ACRES
CONSERVATION EASEMENTS		123.00

MAIN PRESERVES			
PRESERVE	UPLAND AC	WETLAND AC	TOTAL
WYLAND	108.78	170.78	279.56
WYLAND	28.69	189.80	218.49
TOTALS	137.48	360.58	497.06

* 14.56 ACRES OF UPLAND WILL BE CONVERTED TO WETLANDS

INTERNAL PRESERVES			
PRESERVE	UPLAND AC	WETLAND AC	TOTAL
SPYCKA	2.09	0.87	2.96
WYLAND	2.09	279.58	281.67
WYLAND	2.09	137.77	139.86
TOTALS	2.09	318.22	320.31

TOTAL UPLAND PRESERVE APPROX 139.57 AC

TOTAL WETLAND PRESERVE APPROX 360.58 AC

PRESERVES

AREAS WHERE MECHANICAL CLEARING MAY BE AUTHORIZED.

NOTES:
 1- THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 2- ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

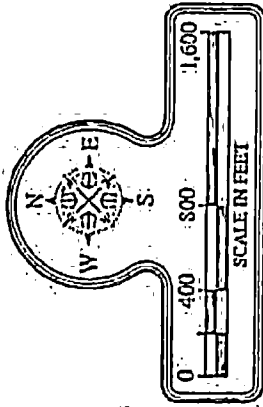
SAJ 2000-01926 (IP-HWB)
 Mod#1 to 20 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 1

INC.
 King
 3732
 -6632

MIRASOL
 MAIN PRESERVES CLEARING

DESIGNED BY:	T.T.T.	REVISION:	TAB NAME:	ADD PRESERVE
DRAWN BY:	SS	DATE:	SHEET:	
CREATED:	04-23-09	DATE:	SCALE:	1"=1 AC
JOB NO.:	0418	DATE:		
SECTION- TOWNSHIP-40 S RANGE-20 E				

EXHIBIT E

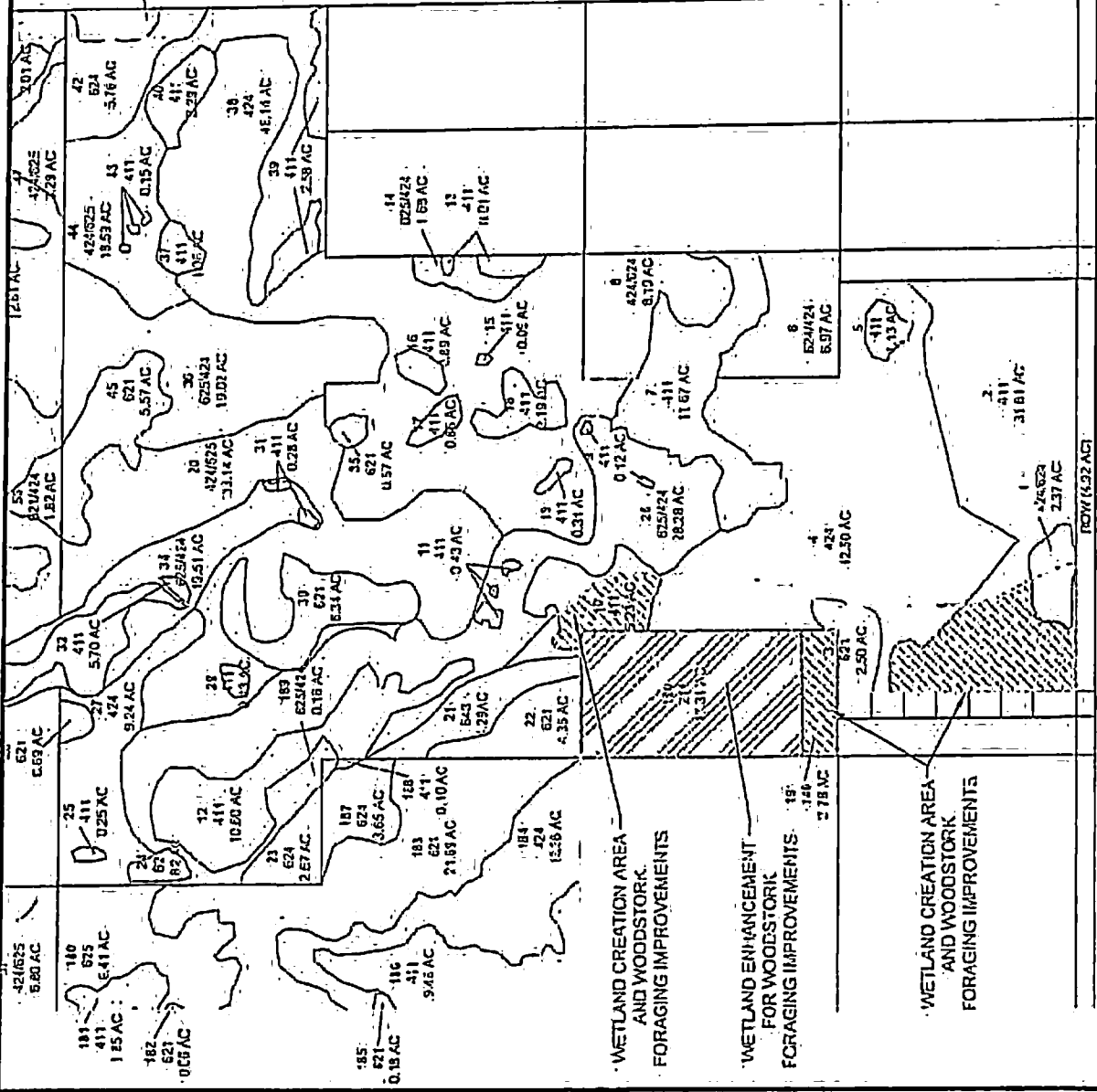


SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 2

CREATED WETLANDS:	14.55 ACRES
FARM SITE ENHANCED WETLANDS:	17.31 ACRES
TOTAL WOODSTORK FORAGING IMPROVEMENTS:	31.86 ACRES

NOTES:
 - THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE
 - ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

DESIGNED:	T.T.T.	REVISION:		DRAW NAME:	NET CREATE
DRAWN BY:	R.M.D.	DATE:	12-05-2012	SHEET:	
CREATED:	02-22-2012	SCALE:			
JOB NO.:	0418	TOWNSHIP:	48 S	RANGE:	28 E

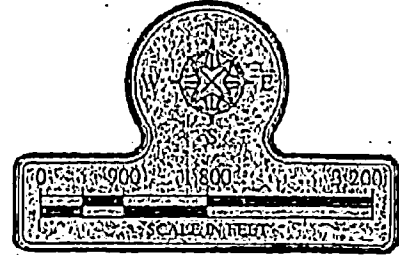
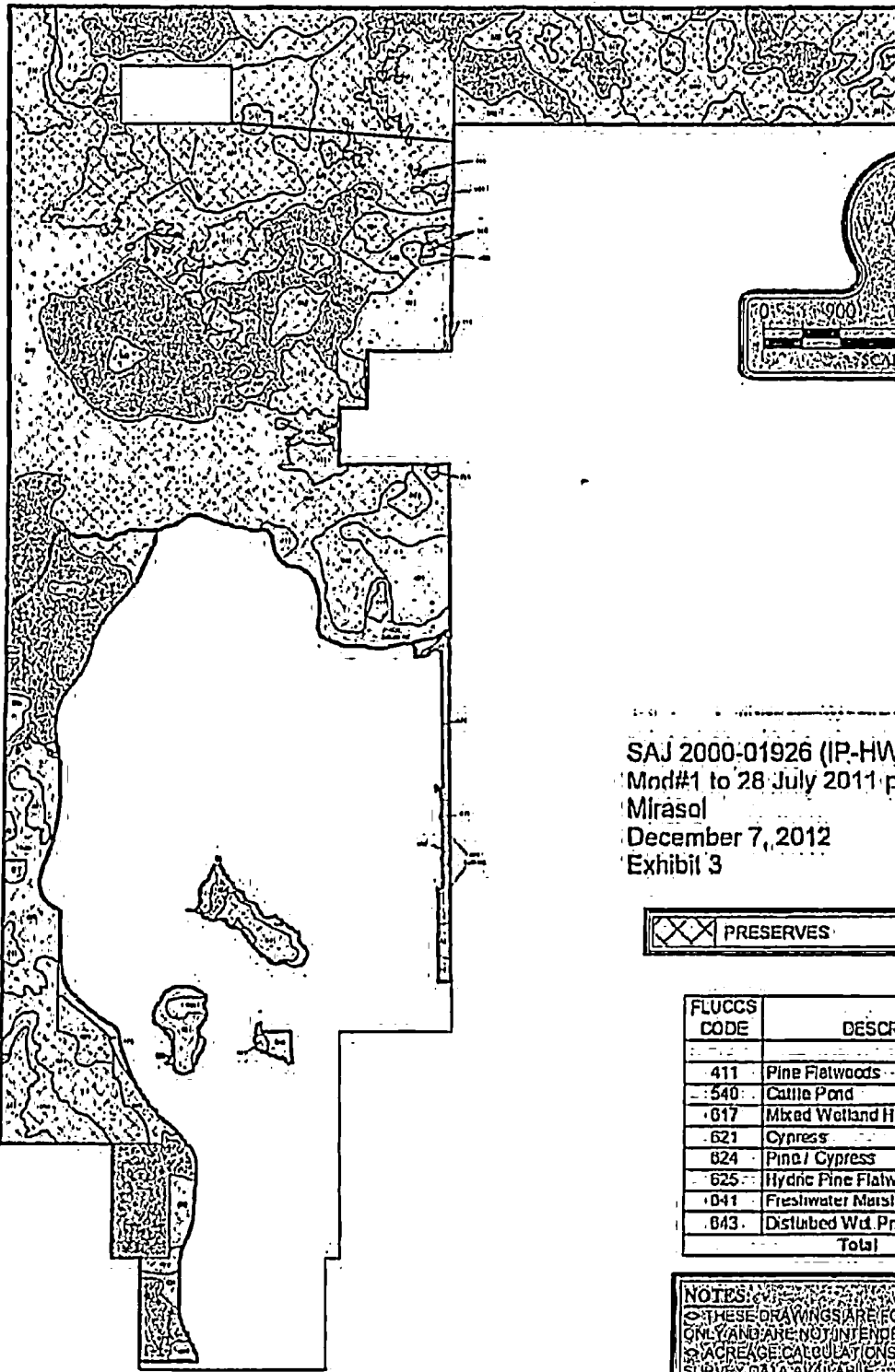


MIRASOL
WETLAND CREATION AND ENHANCEMENTS FOR WOODSTORK FORAGING IMPROVEMENTS

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3184 Exchange Ave. Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6632

EXHIBIT E

FIG 118 12/07/2012 DRAWING CORE CLEAR MONITORING 2012 SUBMITTAL - CLEAR MONITORING



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 3

PRESERVES

FLUCCS CODE	DESCRIPTION	Acreage
411	Pine Flatwoods	122.93
540	Cattle Pond	0.27
617	Mixed Wetland Hardwoods	1.39
621	Cypress	131.11
624	Pine/Cypress	357.91
625	Hydric Pine Flatwoods	430.18
041	Freshwater Marsh	33.29
043	Disturbed Wtd. Prairie	3.96
Total		1087.04

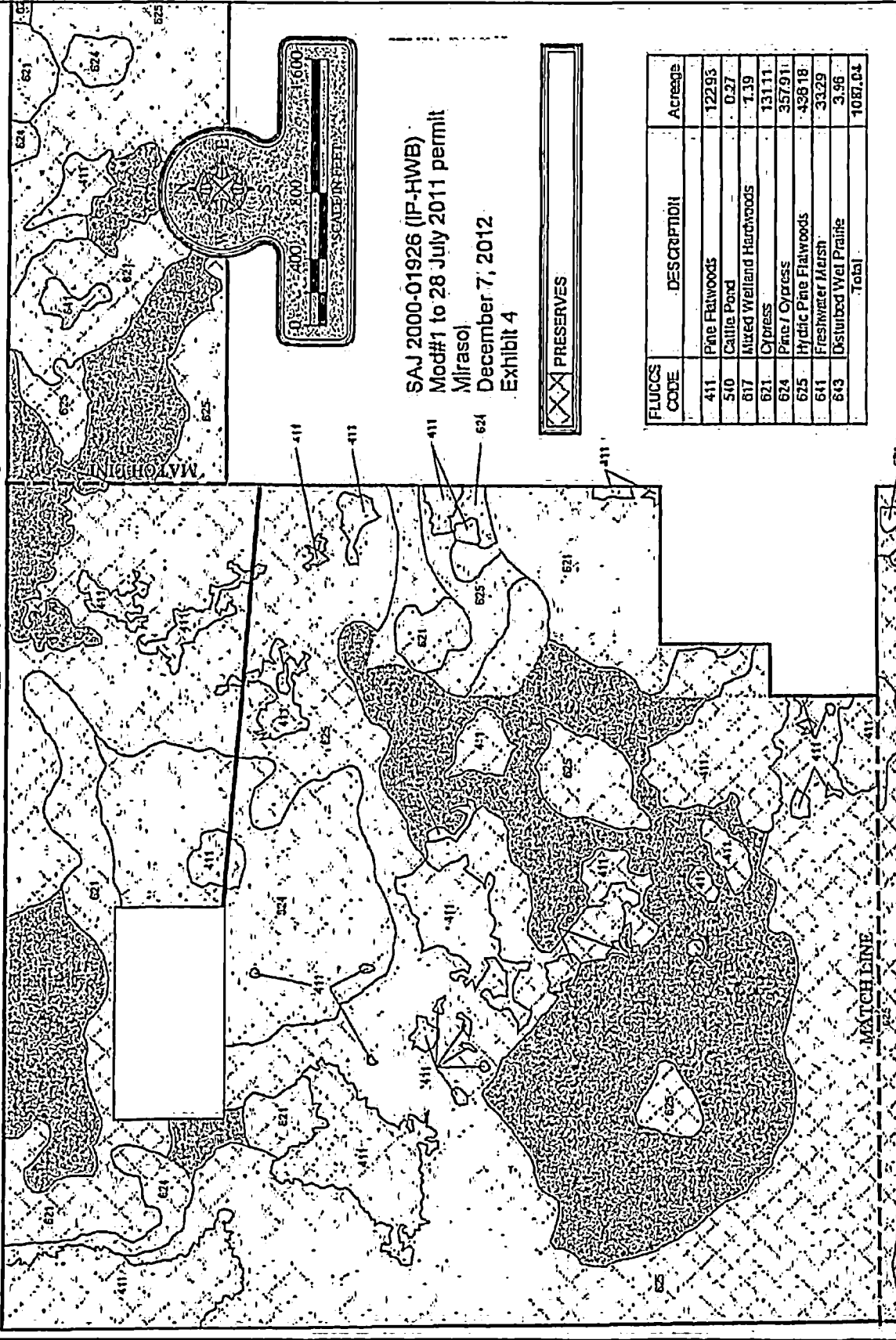
NOTES:
 1. THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 2. ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

 **Turrell & Associates, Inc.**
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B. Naples, FL 34104-3732
 Email: tunt@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 PRESERVES POST FLUCCS

DESIGNED:	T.T.T.	REVISION:	TAG NAME:	ADD PRESERVE?
DRAWN BY:	SD	02-15-2012	SHEET:	
CREATED:	04-25-08	08-05-2012	SCALE:	1"=1,000'
JOB NO.:	0418	INA		
SECTION- TOWNSHIP-48 S RANGE-20 E				

EXHIBIT E



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 4

PRESERVES

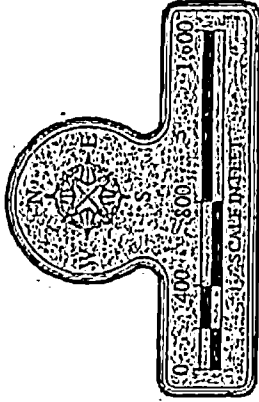
FLUCCS CODE	DESCRIPTION	Acreage
411	Pine Flatwoods	12293
510	Callie Pond	0.27
617	Mixed Wetland Hardwoods	7.39
621	Cypress	13111
624	Pine / Cypress	357911
625	Hydic Pine Flatwoods	43818
641	Freshwater Marsh	33229
643	Disturbed Wet Prairie	3.96
	Total	1087.04

DESIGNED BY:	REVISED:	TAB NAME:	PAGES:
DRWN BY: JS	04-03-12	04-03-12	10
CREATED: 04-23-09	06-05-2012	CHECT:	1*800
JOB NO: M118	NA	SCALE:	1"=80'
SECTION: 15	TOWNSHIP: 48 S		RANGE: 26 E

MIRASOL
 PRESERVES POST FLUCCS (SECTION 10)

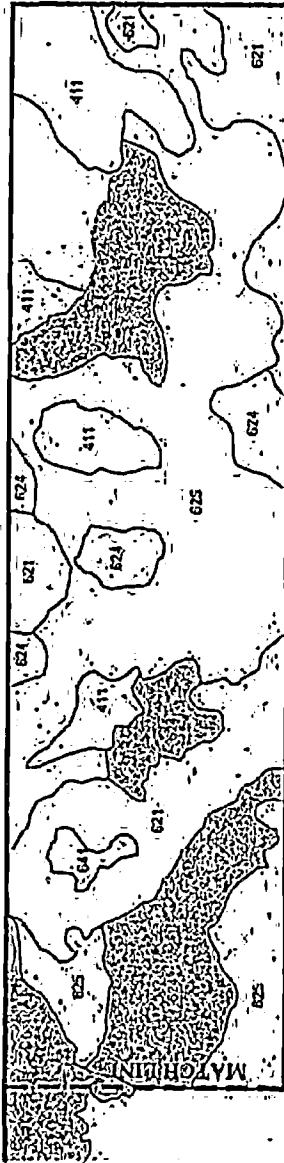
Turell & Associates, Inc.
 Maine & Environmental Consulting
 338 Exchange Ave. Suite B, Naples, FL 34104-3712
 Email: info@tur-associates.com Phone: (239) 634-0186 Fax: (239) 634-4632

EXHIBIT E



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 5

PRESERVES



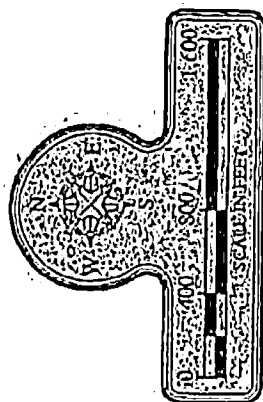
FLUCCS CODE	DESCRIPTION	ACREAGE
411	Pine Flatwoods	122.53
540	Cattle Pond	0.27
617	Mixed Wetland Hardwoods	1.35
621	Cypress	131.11
624	Pine / Cypress	357.91
625	Hydroic Pine Flatwoods	438.18
641	Freshwater Marsh	33.29
643	Disturbed Wet Prairie	3.95
	Total	1087.14

DESIGNED: TTT	REVISION:	TAB NAME:	PAGE 11
DRAWN BY: ES	12-15-2012	SHEET:	1 of 2
CREATED: 04-23-09	04-25-2012	SCALE:	1"=60'
JOB NO.: 0411	NA	SECTION-75	TOWNSHIP-4B S
			RANGE-30 E

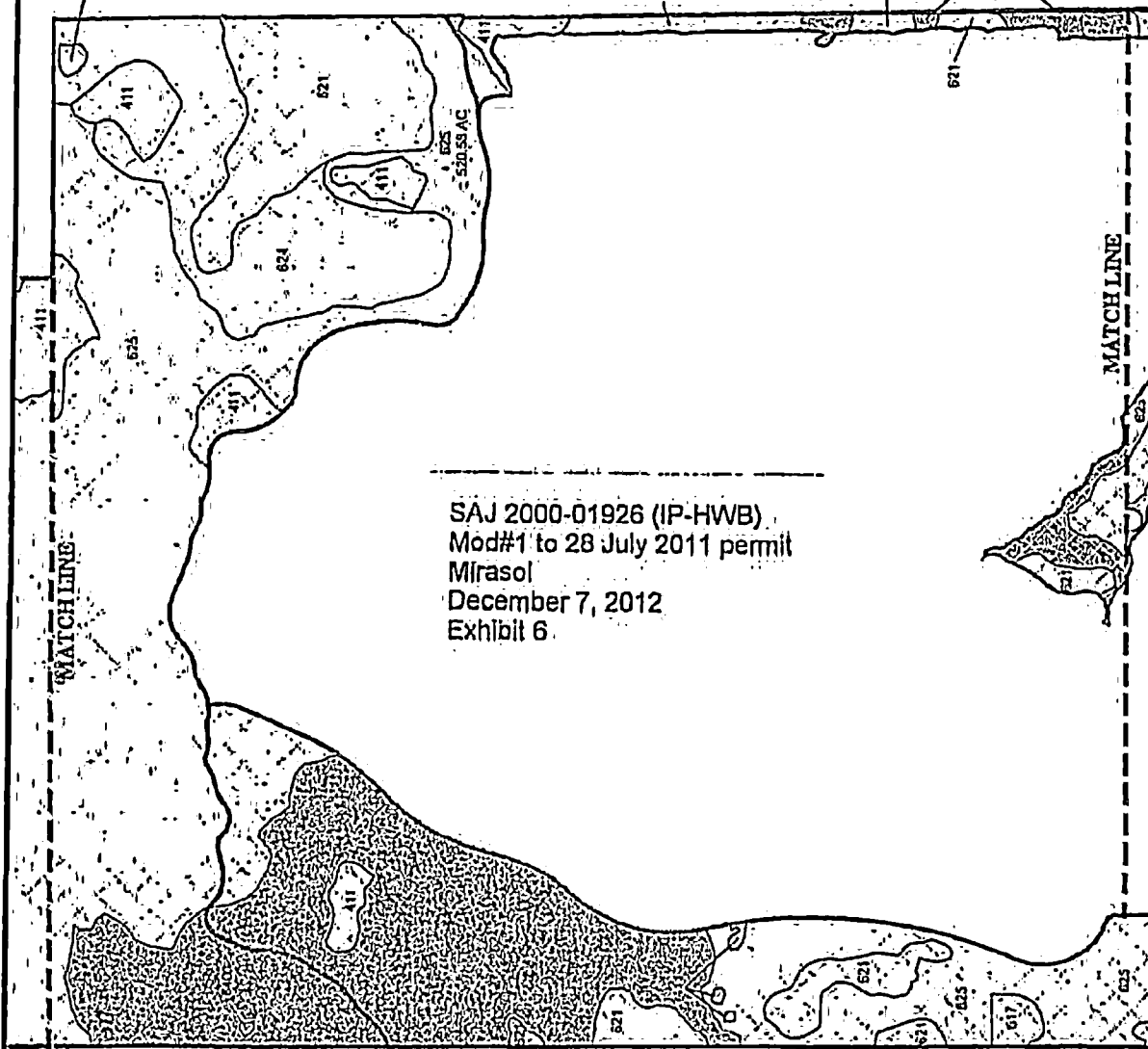
MIRASOL
 PRESERVES POST-FLUCCS (SECTION 11)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 1194 Exchange Ave. Suite B, Naples, FL 34104-3732
 Phone: (239) 641-9166 Fax: (239) 641-5632

EXHIBIT E



FLUCCS CODE	DESCRIPTION	Acres
411	Pine Flatwoods	122.93
540	Cattle Pond	0.27
617	Mixed Walland Hardwoods	1.39
621	Cypress	131.11
625	Hydric Pine Flatwoods	436.18
641	Freshwater Marsh	33.29
643	Disturbed Wet Prairie	3.96
	Total	1087.04



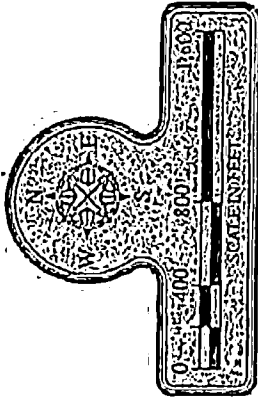
DESIGNED: J.T.C.	REVISOR: 02-12-2012	TAB NAME: PAGES 15
DRAWN BY: ES	CREATED: 04-25-08	SHEET: 1*100
JOB NO: 111	NA	SCALE:
SECTION-15	TOWNSHIP-48 S	RANGE-26 E

MIRASOL
PRESERVES POST FLUCCS (SECTION 15)

Turrell & Associates, Inc.
Marine & Environmental Consulting
1594 Exchange Ave. Suite B, Naples, FL 34104-3702
Phone: (239) 643-9145 Fax: (239) 643-6632



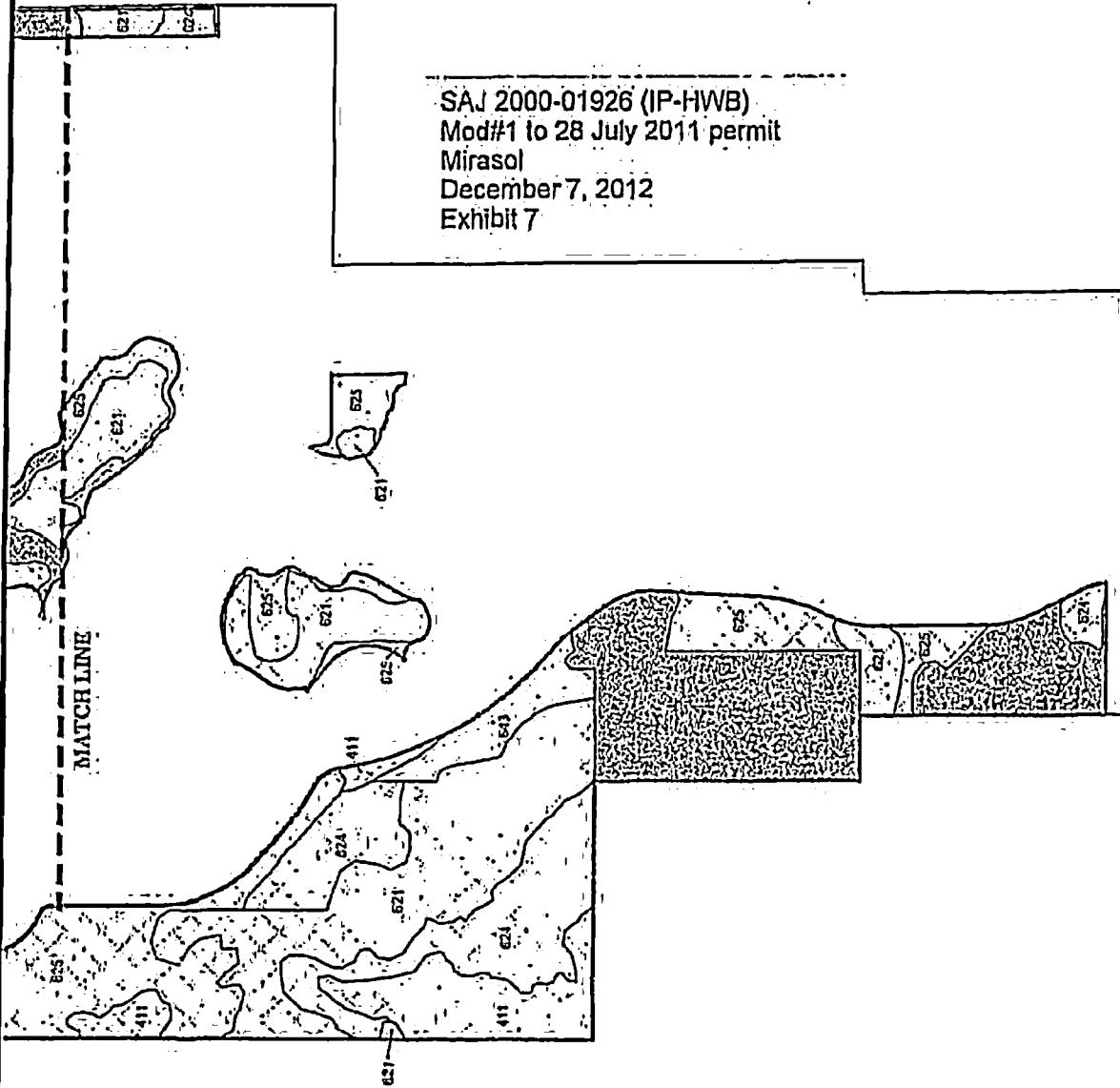
EXHIBIT E



PRESERVES

FLUCCS CODE	DESCRIPTION	ACRES
411	Pine Flahwoods	122.50
540	Callis Pond	0.27
617	Mixed Wetland Hardwoods	1.39
621	Cypress	131.11
624	Pine / Cypress	357.91
625	Hydric Pine Flahwoods	436.18
641	Freshwater Marsh	33.29
643	Disturbed Wet Prairie	1.98
	Total	1087.04

SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 7



MIRASOL
 PRESERVES POST FLUCCS (SECTION 22)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 1584 Exchange Ave. Suite B, Naples, FL 34104-7132
 Email: info@turrell-associates.com Phone: (239) 643-6166 Fax: (239) 643-6672



DATE	REVISION	TITLE	PAGE
04-23-08	01-15-2012	SECTION 22	1
04-23-08	01-15-2012	TOWNSHIP 48 S	1
04-23-08	01-15-2012	RANGE 28 E	1

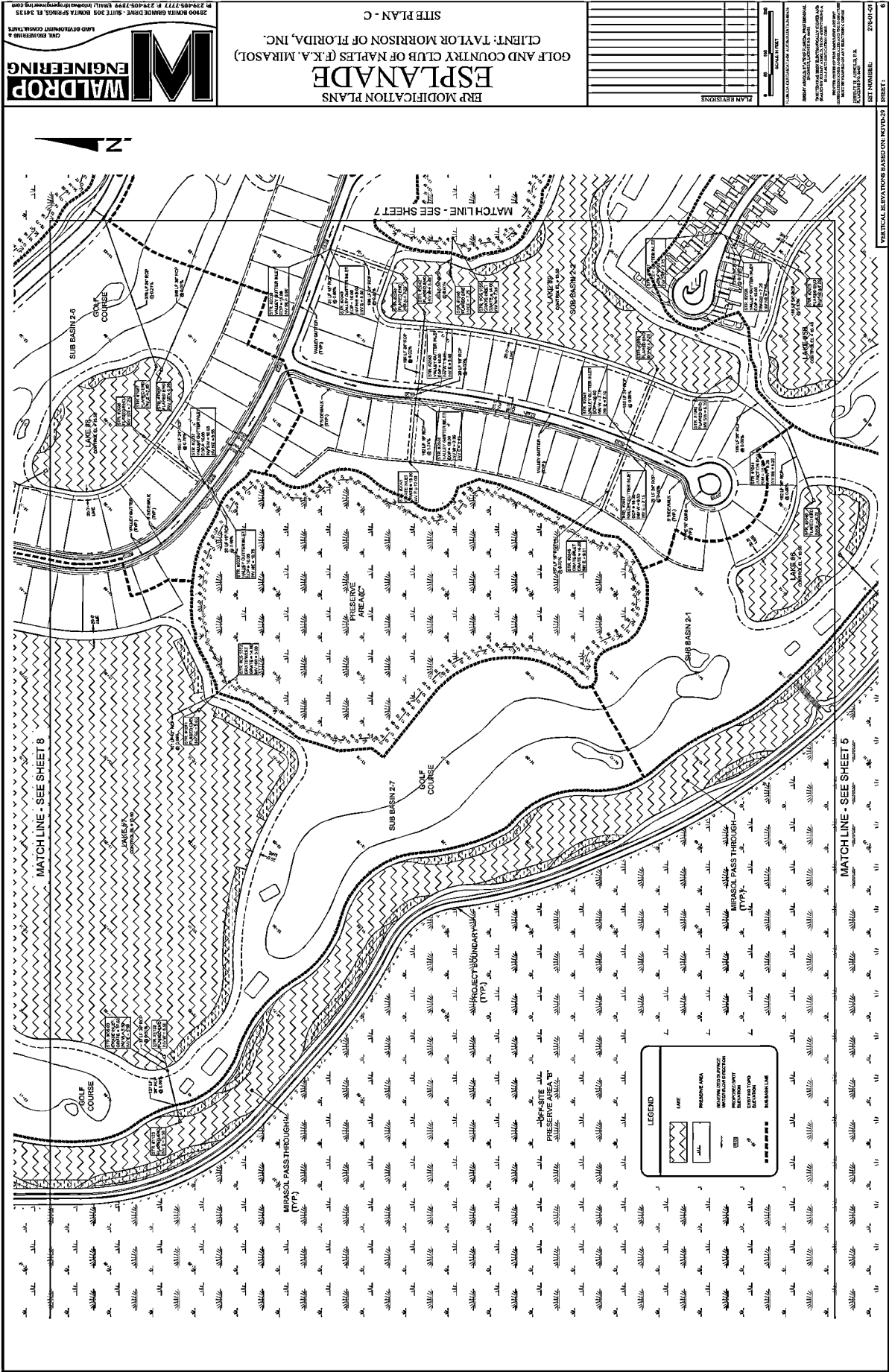


Exhibit No. 2.0
 Application No. 170210-6
 Page 6 of 20

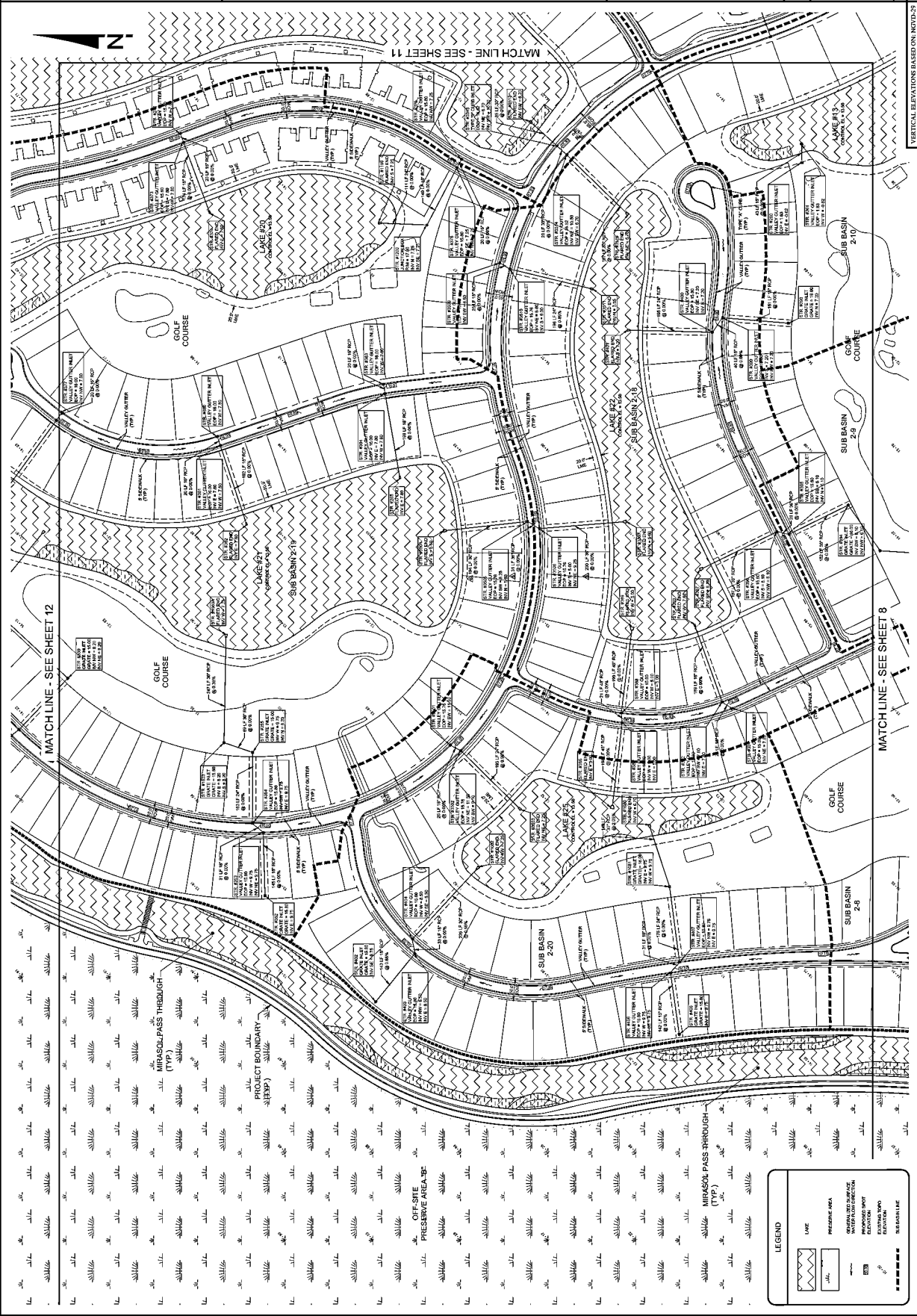
EXHIBIT A



ERP MODIFICATION PLANS
ESPLANADE
GOLF AND COUNTRY CLUB OF NAPLES (F.K.A. MIRASOL)
CLIENT: TAYLOR MORRISON OF FLORIDA, INC.
SITE PLAN - G

NO.	DATE	DESCRIPTION
1	08/11/11	ISSUED FOR PERMITS
2	08/11/11	ISSUED FOR PERMITS
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8	08/11/11	ISSUED FOR PERMITS
9	08/11/11	ISSUED FOR PERMITS
10	08/11/11	ISSUED FOR PERMITS

SCALE SHEET
1" = 100'
VERTICAL ELEVATIONS BASED ON MVD-25
SHEET: 276101-01



NO.	DATE	DESCRIPTION
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3	03/11/12	REVISIONS TO PERMITS
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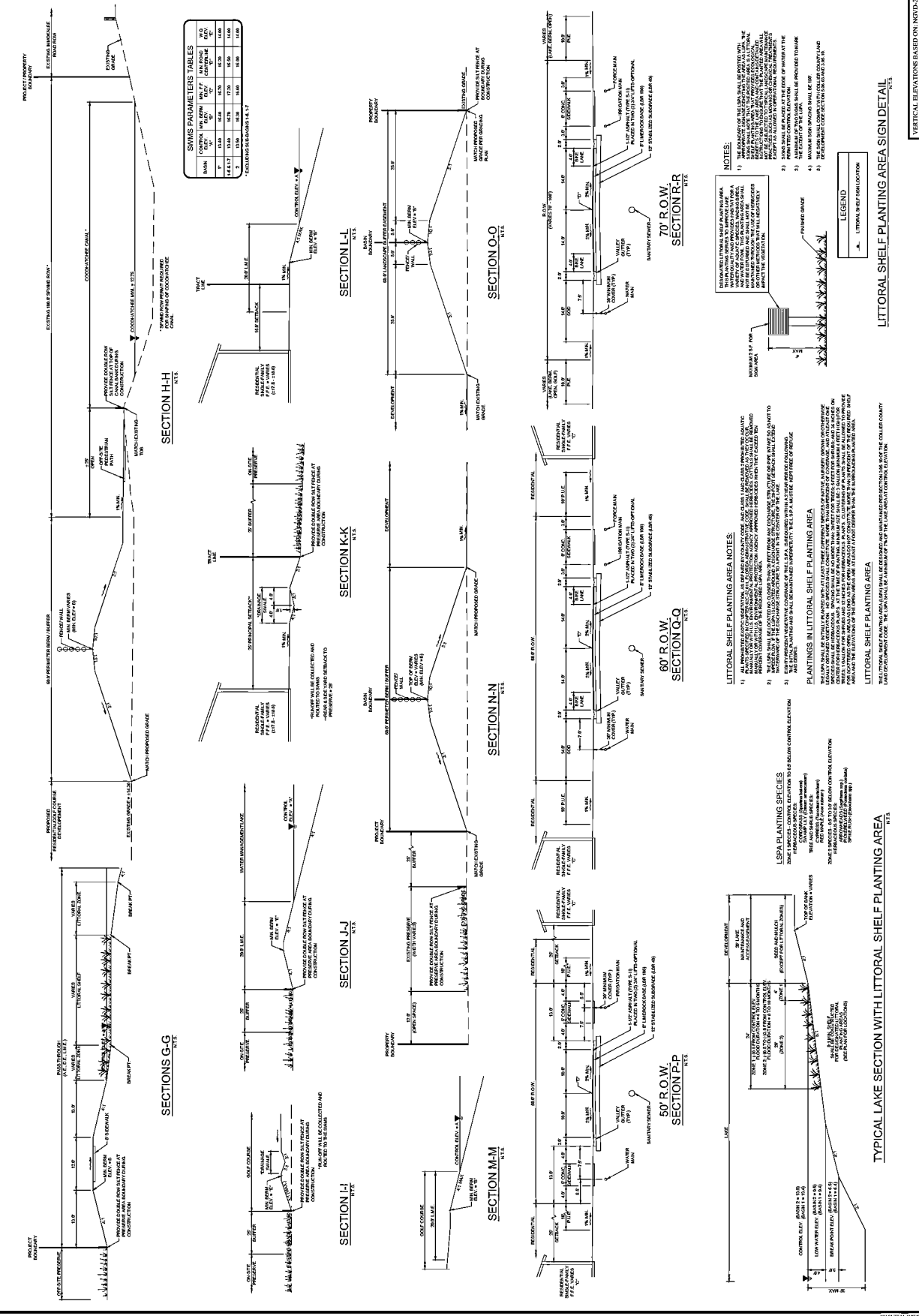
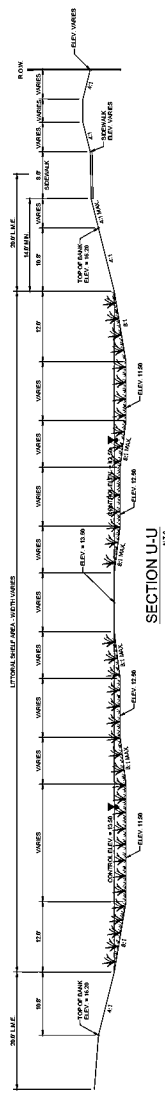


EXHIBIT A

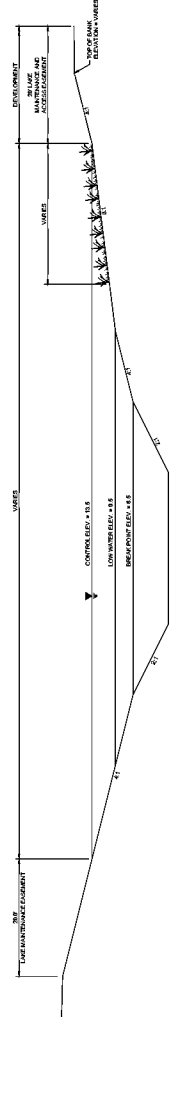
WALDROP ENGINEERING
 LAND DEVELOPMENT CONSULTANTS
 2100 NORTH GORNO DRIVE, SUITE 203, WINTER SPRING, FL 32159
 P: 394-05-7777 F: 394-05-7898 EMAIL: info@waldropengineering.com

ERP MODIFICATION PLANS
ESPLANADE
 GOLF AND COUNTRY CLUB OF NAPLES (F.K.A. MIRASOL)
 CLIENT: TAYLOR MORRISON OF FLORIDA, INC.
 CROSS SECTIONS

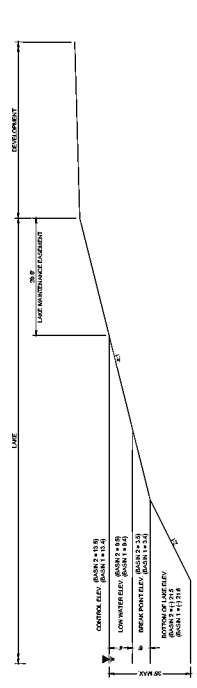
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SECTION U-U
 1/16



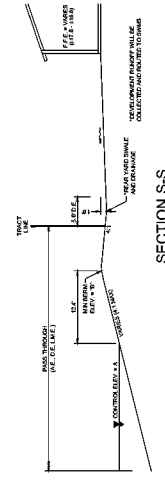
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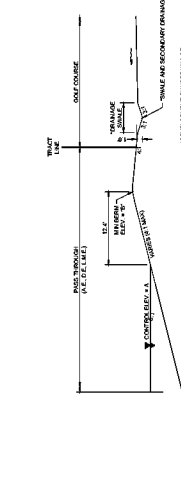
TYPICAL LAKE SECTION
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SWMS PARAMETERS TABLES

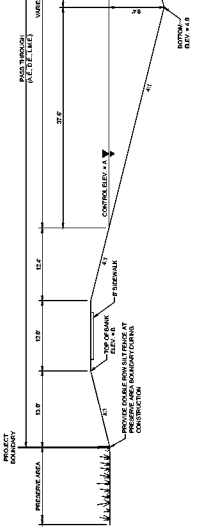
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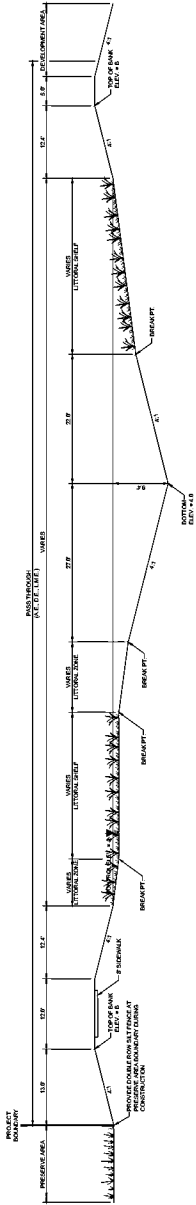
SECTION S-S
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SECTION T-T
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TYPICAL PASS THROUGH SECTION
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TYPICAL PASS THROUGH LITTORALS AREA (+150 WIDE)
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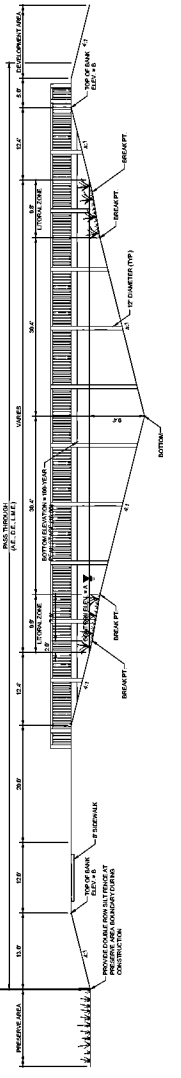


EXHIBIT A

STAFF REPORT DISTRIBUTION LIST

ESPLANADE GOLF AND COUNTRY CLUB (F K A MIRASOL) MOD

Application No: 170210-6

Permit No: 11-02031-P

INTERNAL DISTRIBUTION

- X Carmen Quan, P.E.
- X Justin M.Hojnacki
- X Laura Layman
- X Brian Rose, P.E.
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EXTERNAL DISTRIBUTION

- X Permittee - Taylor Morrison Esplanade Naples LLC
- X Engr Consultant - Waldrop Engineering

GOVERNMENT AGENCIES

- X City Engineer, City of Naples
- X Div of Recreation and Park - District 4 - Chris Becker, FDEP

OTHER INTERESTED PARTIES

- X Audubon of Florida - Charles Lee

EXHIBIT D

MIRASOL
 SEC. 10, 11, 15, 22 TYP 48S RNG 26E COLLIER COUNTY
 MITIGATION/MONITORING/MAINTENANCE PLAN FOR MAIN PRESERVE - ACOE
 Revised November 26, 2012

I. INTRODUCTION:

The purpose of this document is to outline and describe the proposed mitigation activities for preserves external to the development project known as *Mirasol*.

II. EXISTING CONDITIONS:

The project site consists of 1,798 acres located in four sections of northern Collier County north of CR 846 and east of Interstate 75. There are limited upland (302.5 acres) and substantial wetland (1,495.8 acres) communities present on the site, which have all been heavily impacted by melaleuca infestation and altered hydrology.

The Main preserve is approximately 1,087 acres in size and is composed of 949.6 acres of wetlands and 137.4 acres of uplands. 14.5 acres of the preserved uplands will be converted into wetlands as part of the wood stork enhancement activities. This will result in a total of 964.1 acres of wetlands and 122.9 acres of wetlands within this preserve area. The Main preserve encompasses the northern portion of the project site as well as approximately 200 acres along the western boundary of the site. There are no currently proposed impact areas within the main preserve but there is an access easement that has to be provided to the privately owned out parcel located in the center of Section 10. The access area is approximately 1.2 acres in size. Boardwalks and at grade pedestrian access may be considered in the future but are not currently proposed. No vehicular or other motorized access will be allowed into the preserve except for monitoring or maintenance purposes.

III. MITIGATION ACTIVITIES

This preserve is the main preserve on the site and it is from activities conducted within this area that the majority of mitigation credit for the development impacts is achieved. Historical vegetation communities within the preserve include cypress swamp, hydric and mesic pine flatwoods, and wet prairie. All of these habitats have been impacted by widespread exotic vegetation infestation as well as altered hydrological regimes.

Exotic Vegetation Eradication

Melaleuca infestation is rampant throughout the site and an extensive eradication program will be implemented to eliminate this noxious plant from all preserve spaces. This program will include hand clearing, and kill-in-place methods within the preserve. Because of the potential damage and destruction to groundcover vegetation and likely rutting of the ground by machinery, no mechanical clearing is currently proposed. However, mechanical clearing may be undertaken if the density of killed-in-place trees would prohibit recolonization of the preserve areas by appropriate native species. Hand cleared debris will be removed from the preserve where feasible but in areas where removal would cause additional, unwanted damage, the trees will be killed in place (>6"

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dbh), or cut and stacked into piles (<6" dbh). If stacked in piles, the trunks will be cut into manageable sections and stacked "teepee" or "log cabin" style and the piles will be placed no closer than 100 feet from each other. If possible, burn permits will be obtained from the local fire control district and the pile will be burned in place. If obtaining burn permits is not possible, the piles will simply be left to decompose.

While mechanical removal is not currently contemplated, it may be utilized on isolated pockets where exotic density is felt to be too great to achieve enhancement success within the 5 year time frame. If mechanical clearing is undertaken, the area to be cleared, timing, and other specifics associated with the clearing will be coordinated with appropriate ACOE and SFWMD staff. If any mechanical clearing is done, the cleared area(s) will be immediately planted according to the planting plans outlined below in this report.

In addition to melaleuca, Brazilian pepper and several other exotics are also present on the property. All Category I and Category II exotics, as defined by the Florida Pest Plant Council, are included in this eradication program.

Initially, quarterly maintenance inspections and treatments will be necessary to eliminate the melaleuca that has already gained a stranglehold on the property. All category I and II exotic vegetation will be brought under control before any re-planting or species management techniques (i.e. fire or mowing) are employed. Once the removal efforts have been successful, annual maintenance treatments should be sufficient to control future exotic growth. The preserve areas will be exotic free immediately following a maintenance activity. At no time shall the density of exotic and nuisance plant species exceed 1% relative coverage in any vegetative strata or 4% of the relative coverage in all strata.

Wetland Creation

Three upland areas in the south west portion of the preserve will be scraped down and contoured similarly to the wood stork foraging improvements of the farm field which is described below. Two of these areas are existing mesic pine communities (8.68 acres and 3.09 acres respectively) while the third area is a small commercial (2.78 acre) area that has been used for storage and repair work located at the south end of the farm field. The existing vegetation will be removed and the fill from the contouring activities will be utilized within the development area. Random inter-connected depressions and contours will concentrate prey as water levels recede and further enhance opportunities on the site for wood stork foraging (See Exhibit 3). Planting will be with ground cover vegetation only and maintenance of the areas will include removal of any canopy or midstory vegetation that may recruit into the areas. Long term maintenance may occur through hand removal of vegetation, controlled burns, or mowing.

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Berm Removal

An existing berm that currently surrounds the farm field area will be removed from the northern and eastern sides of the field. If specimen trees are present on or adjacent to portions of the berm or would be adversely impacted by the berm removal, then small sections of berm may be left as long as sufficient breaches are created to allow for free flows across the area. This will allow for open sheet flow of surface waters onto and across the site during periods of high water. The berm will be scraped down to the adjacent natural ground elevation and the disturbed area will be planted with appropriate plantings to match the adjacent vegetative communities.

Wood Stork and Other Wading Bird Foraging Improvements

The existing (17.31 acre) farm field will be scraped down and contoured to create a series of depressional areas of varying depths. This work will also tie into and include the three wetland creation areas described above. The depressions will serve to concentrate forage fish and provide enhanced foraging opportunities to wood storks and other wading birds. Fill from the construction of these areas will be utilized as needed in the development portion of the project.

Wood stork foraging sites are generally composed of a prey source and prey concentration areas. The foraging area concept is essentially a shallow trough 80 to 200 feet wide pocked with depressions which, depending on their depth serve either as aquatic fauna refugia, or as prey concentration zones to facilitate foraging. The trough is basically a small scale shallow slough, with a wet prairie hydroperiod target of around 3-4 months. This is slightly deeper than the existing ground elevations of the mesic and hydric pine flatwoods, or farm field habitats that make up the areas under consideration for these activities so the refuge and foraging depressions would be created in a scattered pattern within the improvement areas.

The dry season refuge for aquatic fauna should not be large deep open water lakes. The entire dry season refuge can be as simple as a circular depression only 50' in diameter, the outer ring supporting a hydroperiod of 8-10 months, the intermediate ring 10-12 months and the center a permanently wet open water depression that may be as much as 6-8 feet deep during the peak of the wet season. The determining factor is that this center location retains about a foot of water during the average dry season. Since the proposed design will incorporate refuges within the same trough as the forage concentration areas, a hydrologic connection will form between them in advance of sheet flow conditions on the site. This will allow prey to populate the adjacent foraging areas sooner than would occur without the connectivity provided by the trough.

The foraging depressions will be designed as shallow cones excavated within the trough. These depressions will be shallower than the refuges and will serve to concentrate prey as the water table drops. The foraging depression size will vary between 0.15 and 0.50 acre

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in area. The target hydroperiod within the foraging depressions will be 4-5 months along the outer edge and around 6 months nearing the center. A 300-400 square foot "dimple" in the middle of foraging depression will serve as the actual foraging footprint. This "dimple" will be approximately six inches deeper than the immediate surrounding area feeding into it. Incorporating narrow, shallow channels between the refuges and foraging depressions will mimic an alligator/wildlife trail and should provide prey access to the foraging areas earlier in the wet season. This will allow for more space and more time to reproduce which will in turn provide more biomass in the foraging depressions as the water levels recede.

Depressions will range from one foot to eight feet in depth. Shallow contours will encourage and facilitate concentration of the forage fish as water levels recede and will provide foraging access over an extended period of time. Planting of this area will be with low herbaceous and graminoid vegetation only to insure that foraging access to the area is maintained.

Since the main component of these areas is foraging improvement, dense vegetative coverage is not desired. Planting of the scraped down areas will be done in conjunction with the wet season immediately following the contouring work as outlined below. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season. More vegetation may volunteer into the depressions areas during the dry season should die off or substantially thin out as water levels rise. Vegetative coverage of 50% will be considered successful in these foraging improvement areas.

Replanting Plans

The preserve areas subject to exotic removal efforts will be left to regenerate naturally for at least a year (through a wet and following dry season) before deciding if replanting is necessary. The decision on whether or not to plant will be based on the target success criteria outlined below. In areas that are more than 75% melaleuca and that have no suitable groundcover vegetation present, replanting will be done immediately following the exotic eradication and contouring activities. If no immediate seed sources are available in these areas, immediate replanting helps to re-establish the denuded areas more rapidly and contributes to the restoration of canopy components more efficiently. The entire preserve area will be evaluated once the initial exotic removal activities are completed and any plantings felt necessary will be proposed and coordinated with ACOE and SFWMD staff as part of the Time Zero Report.

Replanting will be considered two years after the exotic removal activities for any area that shows less than 50% coverage by appropriate native vegetation. Appropriate vegetation will include canopy, mid-story, and ground cover vegetation. The one year of natural regeneration is proposed to allow for existing vegetation remaining after the exotic removal to re-establish itself in the newly opened areas. Natural regeneration is preferable to immediate planting because it allows for more natural biodiversity of plants.

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Replanting will be considered after three years for any area that shows less than 75% coverage by appropriate native vegetation.

Replanting will also occur immediately after any mechanical removal of exotic vegetation and in the wood stork foraging improvement areas. Areas disturbed by the exotic removal will be re-graded to match adjacent elevations and remove any rutting, and then planted with the appropriate plant palette.

Appropriate plant palettes will be applied for the affected areas that will be dependant on existing ground elevations, anticipated high water elevations, and historic vegetative cover. Also, all areas disturbed as part of the construction or mitigation activities will be replanted as outlined below:

Cypress: Cypress areas will be planted primarily with sapling cypress trees. Slightly higher areas and interfaces with adjacent flatwood communities may also include slash pine, dahoon holly and a few red maple trees. All trees planted will be containerized stock with minimum heights of 4 feet above the substrate. Depending on the size of the area being planted and the density of the adjacent vegetation, planting will be done on 10 foot or 15 foot centers. Planting will be clumped to imitate a more natural community instead of in linear rows. Midstory plantings will be done with minimum 5-gal container stock and will be planted to mimic natural clumps or thickets within the cypress area. It is anticipated that adjacent ground cover vegetation will rapidly colonize the areas so no ground cover planting will be done until a full growing season has passed. If ground cover colonization has not occurred, sawgrass, cordgrass, and other appropriate, available vegetation will be planted in those areas. The ground cover plantings will be with bare root or container stock. Bare root plantings will have minimum 3 inch diameter root masses. These plantings will be done essentially on 3 foot centers to fill in areas that have not regenerated naturally. The following table shows some of the representative species that can be considered for planting and restoration of the cypress preserve areas.

CYPRESS PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Cypress <i>(Taxodium distichum)</i>	Button Bush <i>(Cephalanthus occidentals)</i>	Sawgrass <i>(Cladium jamaicense)</i>
Red Maple <i>(Acer rubrum)</i>	Marlberry <i>(Ardisia escollonioides)</i>	Cinnamon Fern <i>(Osmunda cinnamomea)</i>
Dahoon Holly <i>(Ilex cassine)</i>	Pond Apple <i>(Ammona glabra)</i>	Swamp Fern <i>(Blechnum serrulatum)</i>
Laurel Oak <i>(Quercus laurifolia)</i>	Cocoplum <i>(Chrysobalanus icaco)</i>	Alligator Flag <i>(Thalia geniculata)</i>
Slash Pine <i>(Pinus elliottii)</i>	Wax Myrtle <i>(Myrica cerifera)</i>	Crinum Lily <i>(Crinum americanum)</i>

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Flatwoods: Pine flatwood areas will be planted with sapling slash pine on 50 to 75 foot centers. Trees will be from containerized stock and be between 4' to 6' in height. In very hydric areas, up to 15% cypress saplings may also be used. Few midstory plantings are proposed because of the future management plan for the areas as potential fox squirrel and red-cockaded woodpecker habitat. As above, no ground cover plantings will be done for a full growing season unless no existing vegetation is present. Wiregrass, cordgrass, broomsedge, and other appropriate native vegetation will be used if no regeneration is seen within the first year. These will be from both bare root and container stock and will be planted on the equivalent of 3-foot centers in clusters to fill in open areas.

PINE FLATWOOD PLANTING AREAS		
Canopy	Mid-story	Ground Cover
Slash Pine (<i>Pinus elliotii</i>)	Wax Myrtle (<i>Myrica cerifera</i>)	Wiregrass (<i>Aristida stricta</i> , <i>Aristida purpurascens</i>)
Cypress (<i>Taxodium distichum</i>)	St. John's Wort (<i>Hypericum fasciculatum</i>)	Swamp Fern (<i>Blechnum serrulatum</i>)
Cabbage Palm (<i>Sabal palmetto</i>)		Sand Cordgrass (<i>Spartina alterniflora</i>)
		Yellow-eyed Grass (<i>Xyris fimbriata</i> , <i>Xyris caroliniana</i>)

These lists are not all inclusive and alternative appropriate native wetland vegetation may be used.

Wetland Creation and Wood Stork Enhancement: Scraped down and contoured areas will be planted with ground cover herbaceous and graminoid species in clustered groups to more closely mimic natural communities. Plantings will be dependant on anticipated water depths and duration of inundation as outlined in the table below. Areas deeper than shown will not be planted.

<u>Zone 1:</u> ≥ high water (12.75' - 14' NGVD)	<u>Zone 2:</u> ≤ 1' below high water (11.75' - 12.5' NGVD)	<u>Zone 3:</u> 1' to 2' below high water (10.75' - 11.5' NGVD)	<u>Zone 4:</u> 2' to 4' below high water (8.75' - 9.5' NGVD)
Sand Cordgrass (<i>Spartina alterniflora</i>) Wiregrass (<i>Aristida purpurascens</i>) Yellow-eyed Grass (<i>Xyris fimbriata</i>) Swamp Fern (<i>Blechnum serrulatum</i>) Crinum Lily (<i>Crinum americanum</i>) Sawgrass (<i>Cladium jamaicense</i>) Red root (<i>Lachnanthes caroliniana</i>) St. John's Wort (<i>Hypericum fasciculatum</i>)	Bacopa (<i>Bacopa caroliniana</i>) Iris (<i>Iris virginica</i>) Alligator Flag (<i>Thalia geniculata</i>) Pickerelweed (<i>Pontedaria cordata</i>) Canna Lily (<i>Canna generalis</i>) Sand Cordgrass (<i>Spartina alterniflora</i>) Duck Potato (<i>Sagittaria latifolia</i>) Maidencane (<i>Panicum hemitomon</i>)	Duck Potato (<i>Sagittaria latifolia</i>) Bulrush (<i>Schoenoplectus californicus</i>) Spike Rush (<i>Eleocharis interstincta</i>) Alligator Flag (<i>Thalia geniculata</i>) Pickerelweed (<i>Pontedaria cordata</i>) Creeping Primrosewillow (<i>Ludwigia repens</i>)	Spatterdock (<i>Nuphar advena</i>) Water Lily (<i>Nymphaea odorata</i>) Soft-stem bulrush (<i>Schoenoplectus tabernaemontani</i>)

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These lists are not all inclusive and alternative appropriate native wetland vegetation may be used. All plantings will be coordinated with the wet season so that expected rains will serve to keep the new plantings hydrated and no outside irrigation source will be needed.

Prescribed Burning

The predominate long-term management technique proposed is the use of periodic burning to control vegetation growth and promote the native pine flatwood communities desired as the result of the restoration activities. Home-owners will be made aware as part of their purchase agreements that prescribed burning will be undertaken on the preserve. Controlled burning will only be proposed for those areas where exotic vegetation has been successfully removed. These will be amended as the details are coordinated with the relevant agencies. The proposed burning will be done in coordination with the land managers of the CREW Trust preserve, Division of Forestry, and the Corkscrew Swamp Sanctuary preserve.

The CREW General Management Plan 2001-2006 (Sec. 6.3.3.1 pgs 47-51) outlines the general prescribed burn guidelines followed by CREW. It generally states that since each habitat has its own optimum fire frequency ranging from one or two years, to several decades, the systems will be monitored and prescribed burns will be conducted when it is felt that the burn would best help the target and adjacent communities. Also, the burns will be conducted when prevailing winds are in the right direction to minimize smoke impacts on the adjacent residential communities and roadways. CREW does not have any restriction for burning adjacent to residences but wind and humidity are taken into account to insure that smoke and ash side effects are minimized on adjacent developments. CREW staff have been contacted regarding this project and prescribed burns will be a management tool used on the property as needed to maintain viable healthy habitats. Following the initial exotic removal activities and prior to the transfer of the property to CREW, the owner will consult with CREW land managers regarding the need to burn all or part of the property prior to the transfer.

Homeowner Education

In addition to the prescribed burning information mentioned above, all homeowners will be given informational pamphlets regarding south Florida ecosystems and local wildlife. Preserve related information will also be included in the home-owners documents for the development so that residents are well informed that fire management techniques will be used on the property and pet controls will be required throughout the property.

Long-Term Protection

The 964.1 acres of wetlands and 122.9 acres of uplands composing the Main Preserve shall be placed into conservation easements, and enforcement rights shall be granted to the South Florida Water Management District and the US Army Corps of Engineers. The

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Preserve to be maintained by HOA or CDD - Not closed by

conservation easement for this area will be filed and recorded as required and SFWMD permits.

Once the exotic vegetation has been removed and the native vegetation restored, the intent of the applicant is to donate the preserve to CREW or another appropriate land management entity for perpetual preservation. Until such time as that may happen however, it will be the responsibility of the CDD or homeowner's association to maintain the preserve. In addition to meeting the success criteria of the preserve with respect to the exotic removal and native vegetation re-establishment and the future donation of the property to an appropriate land management entity, the applicant will also establish a non-wasting escrow fund for the long-term maintenance of the preserve. The amount of the escrow fund will be determined at the time the preserve is turned over and be based on the expected long-term maintenance requirements. It is felt that the donation of the preserve to an entity specifically charged with property maintenance and preservation, in lieu of perpetual management by a homeowners association that may not be fully equipped or experienced in preservation management techniques, will be more appropriate for a preserve of this size. It is important to note that the applicant will be responsible for reaching the success criteria outlined below before donation of the preserve occurs.

]

the main

Target Criteria

All exotic vegetation will be killed within 12-18 months under the following conditions are as a very minimum:

Ownership not to go to HOA or CDD

canopy, pine and cypress areas should have a minimum of 80% ground cover will contain a minimum of 50% cover may

Applicant will also establish

> flatwood target densely spaced trees. Tree hydrology. Tree per acre. Cypress (per acre) with age will still be trees per acre pine, and other industry areas.

prairie habitats

After 2 years, all preserve areas will contain a minimum of 50% coverage by appropriate native vegetation in all three strata combined. After 3 years, all preserve areas will contain a minimum of 75% coverage by appropriate native vegetation in all three strata combined. After 5 years time, preserves will contain a minimum of 80% coverage by appropriate vegetation in all three strata combined. Any areas not meeting the minimum appropriate native vegetative coverage will be subject to supplemental planting plans as outlined above.

Created marsh habitats

As outlined above, the created marsh areas will be subject to a slightly different review with regards to target criteria. After 2 years, all created marsh will contain a minimum of 50% ground cover coverage by appropriate native wetland vegetation. Since the main

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component of these areas is foraging improvement, dense vegetative coverage is not desired. Shallow open water areas and sparse emergent vegetation will be the desired condition during the wet season. More vegetation may volunteer into the depressions areas during the dry season should die off or substantially thin out as water levels rise. Vegetative coverage of 50% will be considered successful in these foraging improvement areas.

Financial Assurances

Because of the size, different components, and nature of the proposed mitigation activities, the mitigation program will be broken up into the following 5 different areas.

- 1 – Wood Stork Foraging Improvements
- 2 – Internal Preserves
- 3 – Western Preserve
- 4 – Northern Preserve
- 5 – Section 11

Financial assurances will be broken down to cover each of these areas rather than one document to cover the entire preserve. This will allow the ACOE and SFWMD compliance staff to review and act on the separate areas independently. If there is an issue with one of the preserves, the remainder of the areas can still achieve success criteria and obtain sign-offs from the agencies.

Assurances that the project has the financial capability to undertake the work will be provided in the form of letters of credit, performance bonds, or other appropriate surety instruments. Once the activities have been completed for an area as outlined in this document and the permit special conditions, and the ACOE and SFWMD compliance staff have signed off on the success criteria being met, the District can then release the surety back to the project.

Success Criteria

The creation, enhancement, and preservation activities proposed for the preserve will generate mitigation credit that is being applied towards the project's impacts. In order to adequately gauge the appropriateness and eventual success of the mitigation, certain benchmarks must be set to compare against over time. A set of surety documents (letters of credit, bond, etc.) will be put in place in order to insure success of the enhancement, creation, and wood stork foraging improvement areas. The bond(s) will remain until the areas meet the success criteria regarding exotic removal, re-vegetation and plant coverage.

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Vegetation

The base planting and vegetation restoration efforts shall be deemed, in part, successful when the area contains a minimum of 80% coverage of native vegetation, with less than 4% exotic and nuisance vegetation for a period of 3 consecutive years. The preserve areas will be maintained in this exotic-free state in perpetuity.

Ground cover diversity has been limited by the altered hydrology and exotic infestation throughout the site. It is expected that species diversity will increase as the exotic vegetation is removed. The restoration of a prescribed burning regimen will also help to restore a more diverse, natural native habitat. Monitoring of the preserves will include species composition and diversity monitoring of identified plots to document this increase.

IV. MONITORING / MAINTENANCE / MANAGEMENT:

The goals and objectives of this monitoring plan will be to provide for ongoing progress and ultimate success of preserved and enhanced areas in a series of scheduled monitoring reports. The reports will quantify and describe conditions within the managed areas, comparing observations with the proposed standards and offering advice for corrective actions if needed.

Visual inspection for exotic plant invasion will be made on quarterly, bi-annual, or annual basis depending on the state and status of the exotic eradication efforts. All exotic vegetation found will be flagged, mapped and reported for treatment. Removal of observed exotic vegetation will occur within 30 days of the observations. Meandering transects will be followed in the preserve areas for vegetative inventory and observation of wildlife during regular monitoring. Photo points will be established along with plot sampling stations to determine percent survival and percent coverage of planted and recruited plant species. Transect locations have been provided on the included exhibit (Exhibit 4). Plot sampling station locations will be determined at time zero, after exotic eradication and plantings are installed. The mitigation efforts shall be deemed successful when the area contains a minimum of 80% coverage of appropriate native vegetation, with less than 4% exotic and nuisance vegetation for a continuous period of 3 years. The preserve areas will be maintained in this exotic-free state in perpetuity. Once creation and enhancement activities are deemed successful, the preserve will be offered to CREW and an escrow fund will be established for the long-term maintenance of the preserve.

Water Levels and Rainfall

In order to document that hydrological impacts do not occur as a result of the project, the project will place four water level data loggers and two logging type rain gauges within the Main preserve boundaries. The water level loggers will be placed inside of two (2)

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inch PVC pipe wells and sunk to a depth of approximately eight (8) feet below ground level. This will place the loggers below the water table and will allow for continuous monitoring of the water levels, above and below ground, experienced on the site. The rain gauges will be set to collect and record rainfall events on a daily basis so that comparisons can be made with the on-site rainfall and water levels experienced. Approximate locations for the loggers, both rainfall and water level, are shown on the monitoring exhibit (Exhibit 4).

The surface water levels and rainfall data will be included in a report that will be given to the ACOE and to the SFWMD on an annual basis. This monitoring will be done in conjunction with the vegetative and exotic removal monitoring conducted within the forested preserves for the project. The reports will be produced annually for five years after the completion of the initial exotic removal.

Wood Stork Activity

The National Audubon Society Corkscrew Sanctuary staff currently monitors the productivity of the Corkscrew wood stork colony in the form of the number of nests constructed as well as the number of young fledged.

The project will also document the utilization of the preserve areas by wood storks. This information will be useful in conjunction with the available productivity and hydrological data to determine if the project design serves to increase or decrease foraging opportunities. Since the FWS reviewed potential incidental take based on forage production the project will implement a monitoring program to estimate the forage fish production on the project site.

Forage Fish Monitoring

Sampling sites will be established along transects that will incorporate the different wetland communities on the site. The four main habitats to be sampled are hydric pine flatwoods, pine/cypress flatwoods, hypericum prairie, and cypress. The sampling devices will consist of, 1m² throw traps, seines, and acrylic Breder traps. All fish caught will be identified and counted. Results will be presented in the annual report to the agencies.

Reports

A Baseline Monitoring Report will describe the existing conditions of the conservation areas prior to exotic eradication and supplemental planting. The Time Zero Monitoring Report will describe the aerial extent of exotic removal and other mitigation work, i.e. revegetation, photographs from referenced locations, qualitative observations of wildlife usage and other information such as climatic and hydrological conditions and health of existing vegetation. The Time Zero Report will be completed within 30 days of the completion of the initial exotic removal work. Annual Monitoring reports shall

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document changes from the baseline conditions the success of exotic eradication and identifies ways to maintain or improve these conditions.

Baseline, Time Zero and Annual Reports will include the following:

- Quantification of any re-growth of exotic species and recommendations for remedial actions.
- Quantification of restoration of cleared areas by native species including dominant species and % cover by species.
- Percent coverage, open space and diversity as appropriate of restored vegetation.
- Direct and indirect wildlife observations.
- Photographs from a referenced location and panoramic photographs. A photo point station will be identified with a PVC labeled stake.
- The current status of the construction of the project as well as any construction phases or milestones that have been completed.
- A summary of the rainfall data collected on-site as well as data from the other agency rainfall monitoring stations identified in the report.
- A summary of the on-site water level data as well as the off-site data available from the other agency monitoring stations.
- Current status of the plantings and exotic removal as well as regeneration of the native vegetation throughout the preserve area.
- Ongoing results of the forage fish sampling including species diversity and densities broken down by habitat types and water depths.
- Any observed on-site foraging by wood storks. Included in this information will be, number of storks observed, habitat or general area observed, number of days or duration of observation, and estimated foraging efficiency.

The maintenance and management of the preserve areas will be the responsibility of the owner/developer in perpetuity. The responsibility for the preserve maintenance can be transferred to the property owners association or CDD once the project is "turned-over" to the appropriate association. The transfer will include all documentation associated with the restoration and enhancement activities as well as the long term responsibilities associated with the preserves.

This may entail the property owner's association or CDD acquiring ownership of the preserve prior to the CREW transfer. The maintenance and management responsibilities for the preserves will transfer to that entity. At this time the said associations shall assume responsibility for the perpetual maintenance and management of the preserve and retained areas. Association documents will indicate the responsibilities, restrictions and limitations associated with the conservation areas. Once the restoration activities have met the success criteria, the Preserve will be offered to CREW (or another suitable land management entity) along with the cscrow funds to perpetually maintain the preserve.

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The maintenance activities will be performed on a quarterly basis for the first year, then biannually or annually as needed for the remaining five (5) years of the monitoring period. Monitoring may continue past the 5 year time period if additional time is needed to meet the success criteria for the preserve. The annual monitoring requirement will be released once the success criteria have been met for a period of three consecutive years. Perpetual maintenance after the monitoring period will be on an annual or as needed basis.

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ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
78	411	Pine Flatwoods										
79	625/424	Pine Flatwoods / Melaleuca (>75%)	1.43	20.65								
80	411	Pine Flatwoods										
81	621	Cypress / Melaleuca (>50%)	1.58	2.60			2.60					
82	621	Cypress / Melaleuca (>50%)		0.37			0.37					
83	411	Pine Flatwoods	1.53									
84	540	Cattle Pond		0.08			0.08		1.53			
85	424	Melaleuca		74.07			59.21			4.60	10.26	14.86
86	625/424	Pine Flatwoods / Melaleuca (>75%)		14.19			14.19					
87	625/424	Pine Flatwoods / Melaleuca (>25%)		2.99							2.99	2.99
88	411	Pine Flatwoods	10.00					2.33				
89	625/424	Pine Flatwoods / Melaleuca (>50%)		16.65			15.90			0.15	0.60	0.75
90	625/424	Pine Flatwoods / Melaleuca (>75%)		106.35	2.41		5.31			24.78	73.85	98.63
91	411	Pine Flatwoods	1.60					1.60				
92	625/424	Pine Flatwoods / Melaleuca (>25%)		8.13	0.30		5.79			1.09	0.95	2.04
93	625	Hydric Pine Flatwoods		2.35	0.63		1.72					
94	621	Cypress		18.57			18.57					
95	624/424	Pine / Cypress / Melaleuca (>25%)		20.43			20.43					
96	625/424	Pine Flatwoods / Melaleuca (>25%)		5.77			5.77					
97	621	Cypress		0.39			0.39					
98	411	Pine Flatwoods	3.41					3.41				
99	625/424	Pine Flatwoods / Melaleuca (>50%)		1.93			1.93					
100	625/424	Pine Flatwoods / Melaleuca (>30%)		67.73			40.25			6.88	18.60	27.48
101	625/424	Pine Flatwoods / Melaleuca (>50%)		30.64			25.96			1.47	3.21	4.68
102	625/424	Pine Flatwoods / Melaleuca (>75%)		8.41			8.27			0.05	0.09	0.14
103	411	Pine Flatwoods	5.20					5.20				
104	411	Pine Flatwoods	0.73					0.73				
105	625/424	Pine Flatwoods / Melaleuca (>75%)		7.55			7.55					
106	625/424	Pine Flatwoods / Melaleuca (>25%)		1.41			1.41					
107	625/424	Pine Flatwoods / Melaleuca (>50%)		21.32			21.32					
108	625/424	Pine Flatwoods / Melaleuca (>75%)		2.85			2.85					
109	540	Cattle Pond		0.19			0.19					
110	411	Pine Flatwoods	0.57					0.57				
111	411	Pine Flatwoods	1.66					1.66				
112	411	Pine Flatwoods	11.32					11.32				
113	411	Pine Flatwoods	0.56					0.56				
114	621	Cypress		21.11			21.11					
115	625/424	Pine Flatwoods / Melaleuca (>75%)		6.59			6.59					
116	411	Pine Flatwoods	2.85					2.85				
117	411	Pine Flatwoods	0.94					0.94				
118	424	Melaleuca		107.97			107.97					
119	625/424	Pine Flatwoods / Melaleuca (>25%)		12.61			12.61					
120	411	Pine Flatwoods	1.07					1.07				
121	411	Pine Flatwoods	7.63					7.63				
122	411	Pine Flatwoods	0.54					0.54				
123	411	Pine Flatwoods	2.60					2.60				
124	624/424	Pine / Cypress / Melaleuca (>50%)		9.15			9.15					
125	625/424	Pine Flatwoods / Melaleuca (>50%)		6.37			6.37					
126	621	Cypress		1.16			1.16					
127	624/424	Pine / Cypress / Melaleuca (>50%)		1.30			1.30					
128	411	Pine Flatwoods	1.57					1.57				
129	621/424	Cypress / Melaleuca (>25%)		3.46			3.46					
130	411	Pine Flatwoods	0.17					0.17				
131	424	Melaleuca		2.72			2.72					
132	621/424	Cypress / Melaleuca (>25%)		3.67			3.67					
133	411	Pine Flatwoods	12.36					12.36				
134	625/424	Pine Flatwoods / Melaleuca (>75%)		62.52			62.52					
135	424	Melaleuca		42.41			42.41					
136	411	Pine Flatwoods	2.21					2.21				
137	625/424	Pine Flatwoods / Melaleuca (>75%)		32.89			32.89					
138	625/424	Pine Flatwoods / Melaleuca (>50%)		11.68			11.68					
139	411	Pine Flatwoods	1.20					1.20				
140	411	Pine Flatwoods	0.29					0.29				
141	411	Pine Flatwoods	2.56					2.56				
142	411	Pine Flatwoods	11.49					11.49				
143	422	Brazilian Pepper		3.57			3.57					
144	621	Cypress		9.11			9.11					
145	424	Melaleuca		5.34			5.34					
146	424	Melaleuca		19.57			19.57					
147	624/424	Pine / Cypress / Melaleuca (>50%)		2.53			2.53					
148	621/424	Cypress / Melaleuca (>25%)		15.38			15.38					
149	625/424	Pine Flatwoods / Melaleuca (>25%)		9.28			9.28					
150	625/424	Pine Flatwoods / Melaleuca (>75%)		25.99			25.99					
151	411	Pine Flatwoods	2.30					2.30				
152	411	Pine Flatwoods	1.53					1.53				
153	625/424	Pine Flatwoods / Melaleuca (>50%)		12.44			12.44					
154	422	Brazilian Pepper	8.02					8.02				
155	422	Brazilian Pepper	3.88					3.88				

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ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
1	624/424	Pine / Cypress / Melaleuca (>75%)		2.37			1.35			0.57	0.45	1.02
2	411	Pine Flatwoods	31.01						8.68			
3	621/424	Cypress / Melaleuca (>50%)		2.50			2.42				0.08	0.08
4	424	Melaleuca		42.50			7.00			6.91	26.59	33.50
5	411	Pine Flatwoods	1.13									
6	624/424	Pine / Cypress / Melaleuca (>50%)		6.97						0.44	6.53	6.97
7	411	Pine Flatwoods	11.67									
8	624/424	Pine / Cypress / Melaleuca (>75%)		8.19						1.41	6.78	8.19
9	411	Pine Flatwoods	0.12									
10	411	Pine Flatwoods	5.23						3.09			
11	411	Pine Flatwoods	0.43									
12	411	Pine Flatwoods	10.60					0.60				
13	411	Pine Flatwoods	0.91									
14	625/424	Pine Flatwoods / Melaleuca (>50%)		1.68						0.08	1.60	1.68
15	411	Pine Flatwoods	0.09									
16	411	Pine Flatwoods	0.89									
17	411	Pine Flatwoods	0.65									
18	411	Pine Flatwoods	2.19									
19	411	Pine Flatwoods	0.31									
20	625/424	Pine Flatwoods / Melaleuca (>50%)		33.14	3.42					6.23	23.49	29.72
21	643	Disturbed Wet Prairie		4.29			3.90				0.33	0.33
22	621	Cypress		4.36			4.36					
23	624	Pine / Cypress		2.67			2.67					
24	621	Cypress / Melaleuca (>25%)		0.82						0.47	0.35	0.82
25	411	Pine Flatwoods	0.25									
26	625/424	Pine Flatwoods / Melaleuca (>75%)		31.67	0.49		2.90			11.25	17.03	28.28
27	424	Melaleuca		9.24			0.16			4.04	5.04	9.08
28	621	Cypress / Melaleuca (>50%)		0.89						0.66	0.03	0.69
29	411	Pine Flatwoods	0.43									
30	621	Cypress		6.34	6.34						0.00	0.00
31	411	Pine Flatwoods	0.28									
32	411	Pine Flatwoods	5.70									
33	411	Pine Flatwoods	4.72									
34	625/424	Pine Flatwoods / Melaleuca (>25%)		19.51			0.64			2.00	16.87	18.87
35	621	Cypress		0.57	0.54						0.03	0.03
36	625/424	Pine Flatwoods / Melaleuca (>25%)		19.02	2.77					3.22	13.03	16.25
37	411	Pine Flatwoods	1.06									
38	424	Melaleuca		48.14	1.39					13.68	33.07	46.75
39	411	Pine Flatwoods	2.58									
40	411	Pine Flatwoods	2.29									
41	621	Cypress / Melaleuca (>25%)		1.49	1.27						0.22	0.22
42	624	Pine / Cypress / Melaleuca (>25%)		5.76	0.88					1.53	3.35	4.88
43	411	Pine Flatwoods	0.15									
44	625/424	Pine Flatwoods / Melaleuca (>50%)		18.59	0.21					2.95	15.43	18.38
45	621	Cypress / Melaleuca (>25%)		5.57	4.89						0.68	0.68
46	625/424	Pine Flatwoods / Melaleuca (>50%)		12.61	0.02					1.84	10.75	12.59
47	625/424	Pine Flatwoods / Melaleuca (>75%)		3.29						0.58	2.71	3.29
48	411	Pine Flatwoods	2.01									
49	411	Pine Flatwoods	4.93									
50	625/424	Pine Flatwoods / Melaleuca (>75%)		57.55	3.15					12.64	41.76	54.40
51	411	Pine Flatwoods	0.68									
52	621/424	Cypress / Melaleuca (>50%)		1.31							1.31	1.31
53	621/424	Cypress / Melaleuca (>25%)		1.82	1.82							
54	621/424	Cypress / Melaleuca (>50%)		2.81	1.31						1.50	1.50
55	624/424	Pine / Cypress / Melaleuca (>50%)		3.45	0.09					0.61	2.75	3.36
56	621/424	Cypress / Melaleuca (>50%)		1.74			0.06			0.84	0.84	1.68
57	624/424	Pine / Cypress / Melaleuca (>50%)		0.60			6.04			0.37	0.39	0.76
58	617	Mixed Wetland Hardwoods		1.39			1.39					
59	621	Cypress		0.88			0.88					
60	621	Cypress		3.93			3.93					
61	625/424	Pine Flatwoods / Melaleuca (>75%)		30.92			13.61			5.18	12.13	17.31
62	411	Pine Flatwoods	0.68									
63	411	Pine Flatwoods	0.48					0.30				
64	625/424	Pine Flatwoods / Melaleuca (>75%)		28.37						2.33	26.04	28.37
65	625/424	Pine Flatwoods / Melaleuca (>75%)		8.91						1.48	7.43	8.91
66	411	Pine Flatwoods	0.35									
67	411	Pine Flatwoods	6.29									
68	621	Cypress / Melaleuca (>25%)		1.66	0.64						1.02	1.02
69	411	Pine Flatwoods	4.20			0.63						
70	625/424	Pine Flatwoods / Melaleuca (>50%)		5.99	0.42					2.44	3.13	5.57
71	625/424	Pine Flatwoods / Melaleuca (>25%)		11.68	1.76		0.87			1.00	8.05	9.05
72	411	Pine Flatwoods	0.30									
73	411	Pine Flatwoods	3.48			1.46						
74	411	Pine Flatwoods	1.75									
75	411	Pine Flatwoods	2.57									
76	625/424	Pine Flatwoods / Melaleuca (>50%)		12.11						3.20	8.91	12.11
77	411	Pine Flatwoods	0.81									

EXHIBIT D

TABLE 1

November 26, 2012

MIRASOL ACOE FLUCCS INFORMATION SUMMARY

ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
156	625/424	Pine Flatwoods / Melaleuca (>50%)		3.91			3.91					
157	424	Melaleuca		15.47			15.47					
158	625/424	Pine Flatwoods / Melaleuca (>50%)		7.29			7.29					
159	625/424	Pine Flatwoods / Melaleuca (>25%)		0.70			0.70					
160	621	Cypress		9.58			9.58					
161	640	Flag Pond		1.43			1.43					
162	624/424	Pine / Cypress / Melaleuca (>50%)		7.43			7.43					
163	424	Melaleuca		4.34			4.34					
164	411	Pine Flatwoods	2.56					2.56				
165	624/424	Pine / Cypress / Melaleuca (>50%)		0.89			0.89					
166	621	Cypress		3.05			3.05					
167	624/424	Pine / Cypress / Melaleuca (>50%)		2.25			2.25					
168	625/424	Pine Flatwoods / Melaleuca (>75%)		38.94			38.94					
169	624/424	Pine / Cypress / Melaleuca (>50%)		3.07			3.07					
170	624/424	Pine / Cypress / Melaleuca (>50%)		0.79			0.79					
171	411	Pine Flatwoods	3.44					3.44				
172	621	Cypress		2.12			2.12					
173	411	Pine Flatwoods	1.76					1.76				
174	424	Melaleuca		11.86			11.86					
175	624/424	Pine / Cypress / Melaleuca (>25%)		6.67			6.67					
176	411	Pine Flatwoods	9.19					9.19				
177	621	Cypress		5.50			5.50					
178	621	Cypress		0.89			0.89					
179	625	Hydric Pine Flatwoods		12.79			12.79					
180	625	Hydric Pine Flatwoods		9.41			9.41					
181	411	Pine Flatwoods	1.85					1.85				
182	621	Cypress		0.06			0.06					
183	621	Cypress		21.69			21.69					
184	424	Melaleuca		13.38			13.38					
185	621	Cypress		0.18			0.18					
186	411	Pine Flatwoods	9.48					9.48				
187	624	Pine / Cypress		3.65			3.65					
188	411	Pine Flatwoods	0.1					0.10				
189	625/424	Pine Flatwoods / Melaleuca (>50%)		0.16			0.16					
190	211	Improved Pasture		17.31			17.31					
191	140	Commercial Services	2.78						2.78			
192	621	Cypress		0.57			0.57					
193	424	Melaleuca		2.79			2.79					
194	624	Pine / Cypress		0.29			0.29					
195	411	Pine Flatwoods	1.27					1.27				
ROW	ROW	Road Right of Way	4.92									
		TOTALS	252.17	1546.18	34.75	2.09	949.56	122.93	14.55	135.52	426.35	581.87

EXHIBIT D

MIRASOL ACOE HABITAT INFORMATION SUMMARY

November 25, 2012

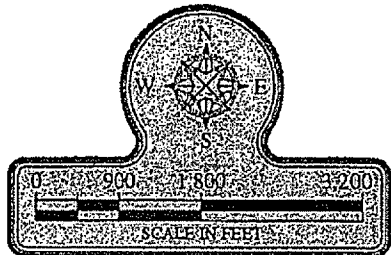
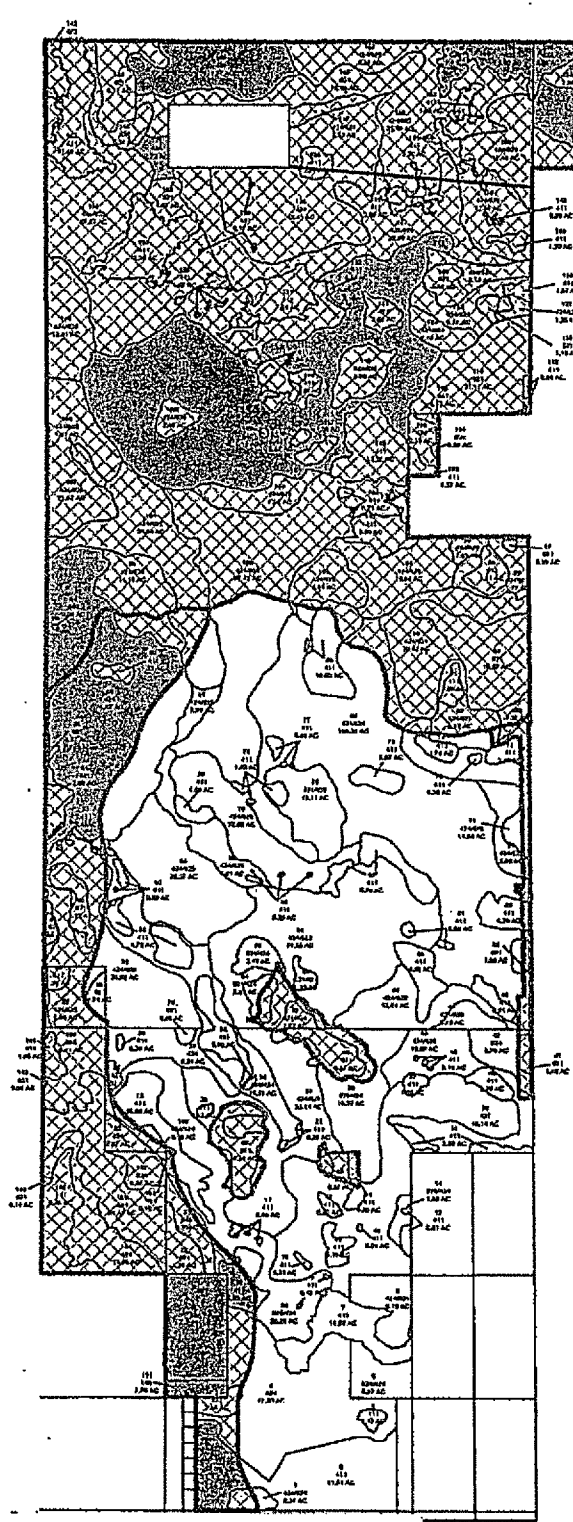
TABLE 2

FLUCCS CODE	DESCRIPTION	PRE PROJECT ACREAGES BY HABITAT TYPE										Total Wetland Impacts			
		ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts					
140	Commercial Services	2.78										2.78			
211	Improved Pasture		17.31					17.31							
411	Pine Flatwoods	232.57			2.09					111.03		11.77			
422	Brazilian Pepper	11.90								11.90					
424	Melaleuca		399.78	1.39				292.20					31.23	74.98	106.19
540	Cattle Pond		0.27					0.27							
617	Mixed Wetland Hardwoods		1.39					1.39							
621	Cypress		110.06					103.15					0.03		0.03
621/424	Cypress / Melaleuca (>25%)		33.87	8.62				22.51					0.47	2.27	2.74
621/624	Cypress / Melaleuca (>50%)		12.02	1.31				5.45					1.50	3.76	5.26
624	Pine / Cypress		6.61					6.61							
624/424	Pine / Cypress / Melaleuca (>25%)		32.86	0.88				27.10					1.53	3.35	4.88
624/424	Pine / Cypress / Melaleuca (>50%)		44.63	0.09				33.45					1.42	9.67	11.09
624/424	Pine / Cypress / Melaleuca (>75%)		10.56					1.35					1.98	7.23	9.21
625	Hydric Pine Flatwoods		24.55	0.63				23.92							
625/424	Pine Flatwoods / Melaleuca (>25%)		91.10	4.83				37.07					7.31	41.89	49.20
625/424	Pine Flatwoods / Melaleuca (>50%)		264.24	4.07				147.21					27.24	85.72	112.96
625/424	Pine Flatwoods / Melaleuca (>75%)		487.64	6.05				221.61					62.84	197.14	259.98
640	Flag Pond		1.43					1.43							
643	Disturbed Wet Prairie		4.29					3.96						0.33	0.33
DEV	Development	4.92													
	TOTALS	252.17	1546.18	34.75	2.09	2.09	949.56	122.93	14.55	135.52	426.35	561.87			

FLUCCS CODE	DESCRIPTION	POST PROJECT ACREAGES BY HABITAT TYPE (TARGETS)									
		Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve						
411	Pine Flatwoods										
540	Cattle Pond		2.09		122.93						
617	Mixed Wetland Hardwoods			0.27							
621	Cypress			1.39							
624	Pine / Cypress	16.81		131.11							
625	Hydric Pine Flatwoods	0.97		357.91							
640	Flag Pond	16.97		436.18							
641	Freshwater Marsh			1.43							
643	Disturbed Wet Prairie			31.86							
DEV	Development			3.96							
	TOTALS	674.47	2.08	964.11	122.93						

EXHIBIT D

P:\9418 M944\2012_DRAWINGS\CORE\CLEAR_MONITORING\2012_SUS\KITTL - CLEAR_MON.dwg



DESCRIPTION	ACRES
CONSERVATION EASEMENTS	123.88

WETLANDS	
WETLANDS	
TOTAL	14.53

14.53 ACRES OF UPLAND WILL BE CONVERTED TO WETLANDS

WETLANDS	
WETLANDS	
TOTAL	14.53

TOTAL UPLAND PRESERVE APPROX 10957 AC

TOTAL WETLAND PRESERVE APPROX 864.31 AC

PRESERVES

AREAS WHERE MECHANICAL CLEARING MAY BE AUTHORIZED.

NOTES:
 - THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 - ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE.

SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 1

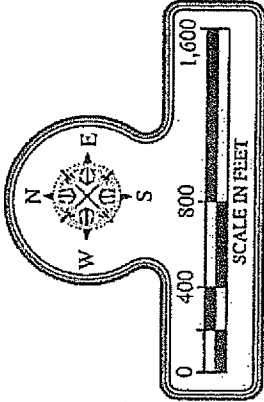
INC.
 King
 -3732
 -6632

MIRASOL
 MAIN PRESERVES CLEARING

DESIGNED:	T.Y.T.	REVISION:	TAB NAME:	ADD PRESERVE
DRAWN BY:	SS	02-15-2012	SHEET:	
CREATED:	04-25-06	08-05-2012	SCALE:	1"=1,800'
JOB NO.:	8418	N/A		

SECTION- TOWNSHIP- 48 S RANGE- 26 E

EXHIBIT D

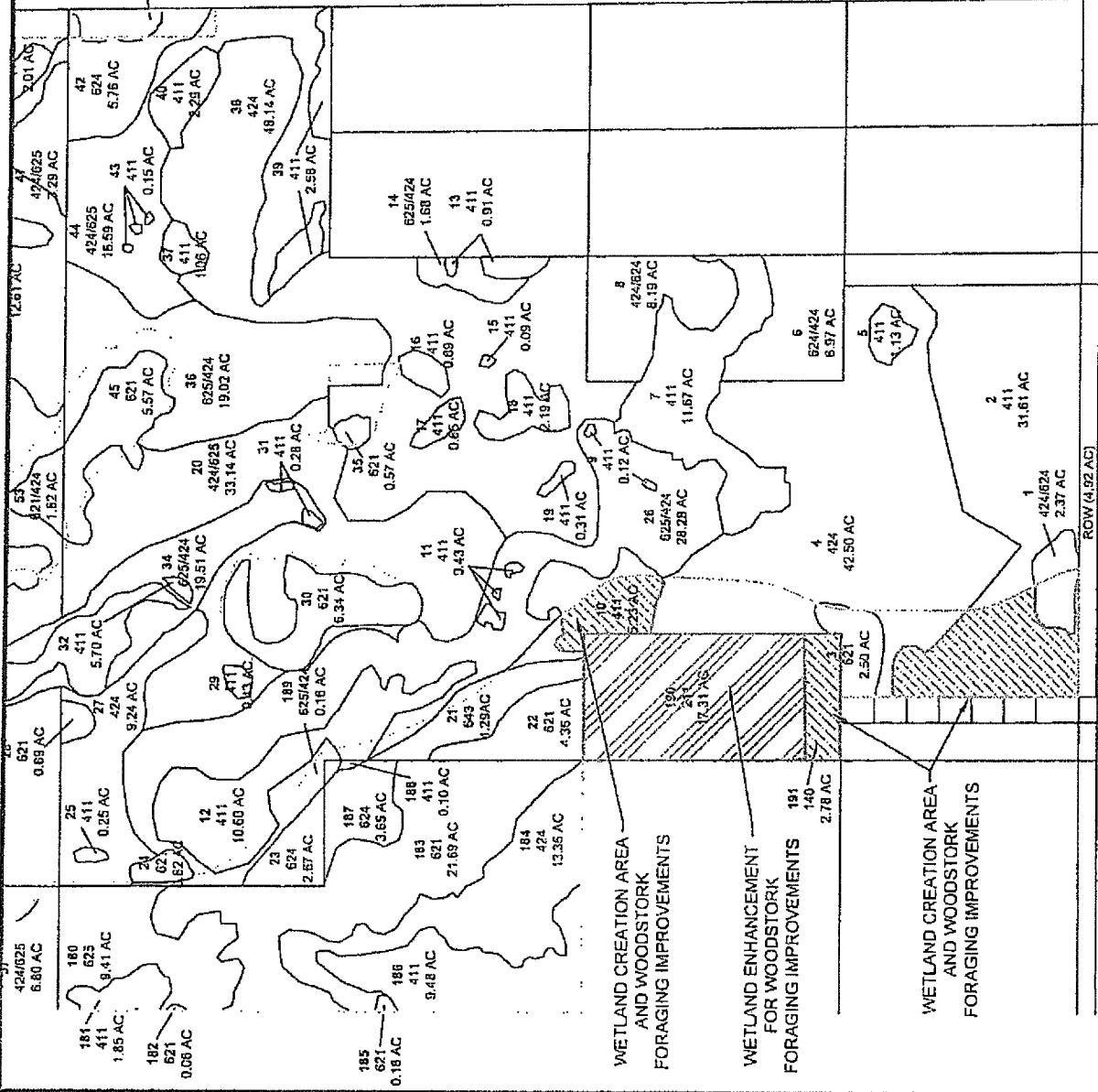


SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 2

	CREATED WETLANDS: 14.55 ACRES
	FARM SITE ENHANCED WETLANDS: 17.31 ACRES
	TOTAL WOODSTORK FORAGING IMPROVEMENTS: 31.86 ACRES

NOTES:
 THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ACREAGE CALCULATIONS ARE APPROXIMATE; NO SURVEY DATA AVAILABLE

DESIGNED BY: T.J.T.	REVISION:	TAB NAME: AET CREATE
DRAWN BY: RMJ	06-05-2012	SHEET:
CREATED: 02-29-2012		SCALE: 1"=600'
JOB NO.: 5115		
SECTION: 22	TOWNSHIP: 48 S	RANGE: 26 E



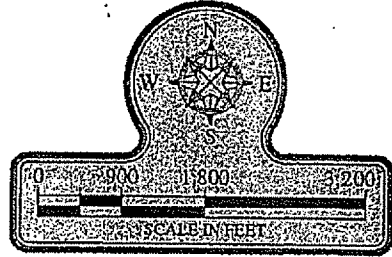
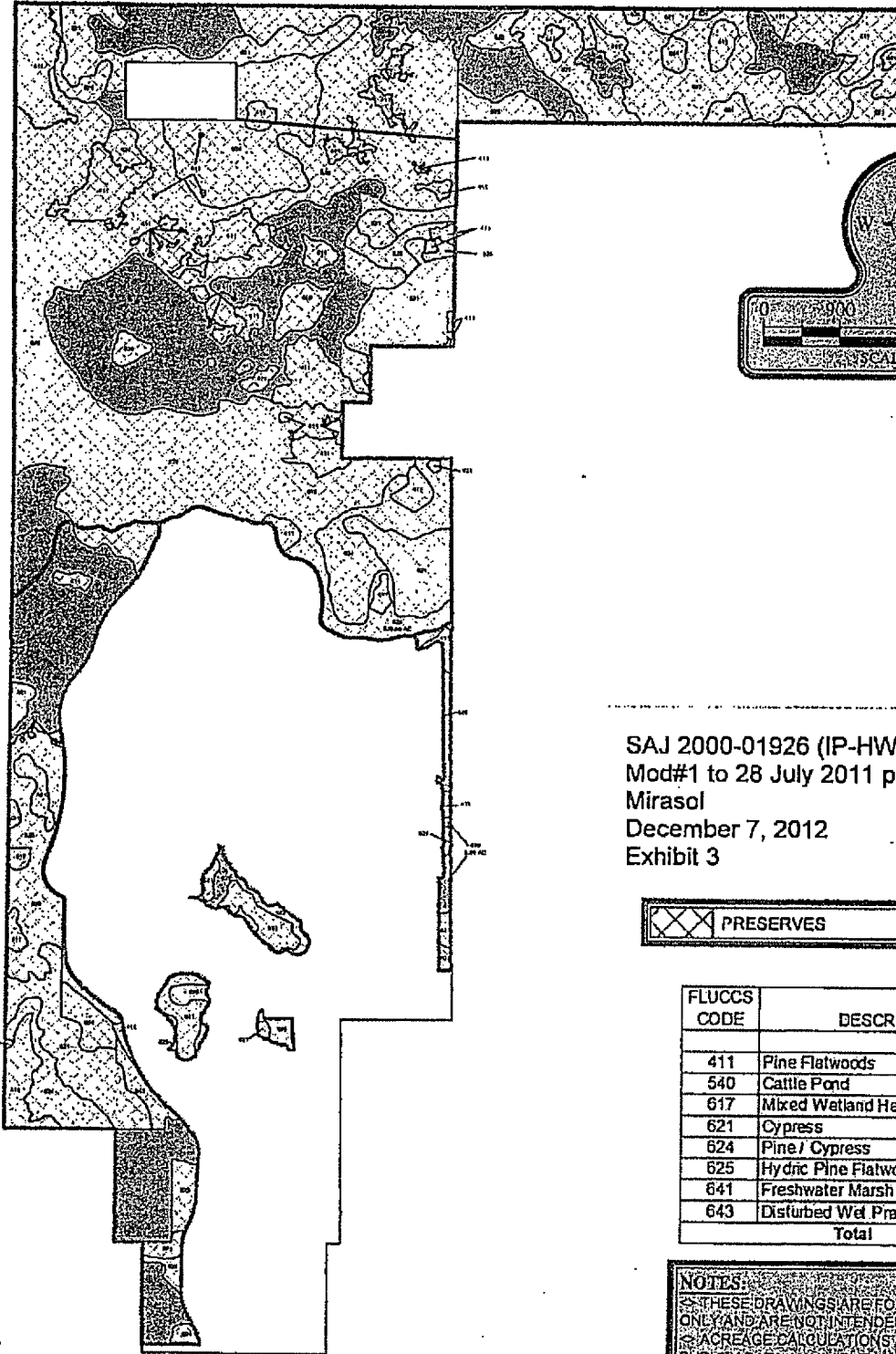
MIRASOL

WETLAND CREATION AND ENHANCEMENTS FOR WOODSTORK FORAGING IMPROVEMENTS

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave, Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6632
 Email: turrell-associates.com

EXHIBIT D

P:\2418 Mirasol\2012_DRAWINGS\CORE\CLEAR_MONITORING\2012_SUBMITTAL - CLEAR_MON.dwg



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 3



FLUCCS CODE	DESCRIPTION	Acreage
411	Pine Flatwoods	122.93
540	Cattle Pond	0.27
617	Mixed Wetland Hardwoods	1.39
621	Cypress	131.11
624	Pine / Cypress	357.91
625	Hydric Pine Flatwoods	436.18
641	Freshwater Marsh	33.29
643	Disturbed Wet Prairie	3.96
Total		1087.04

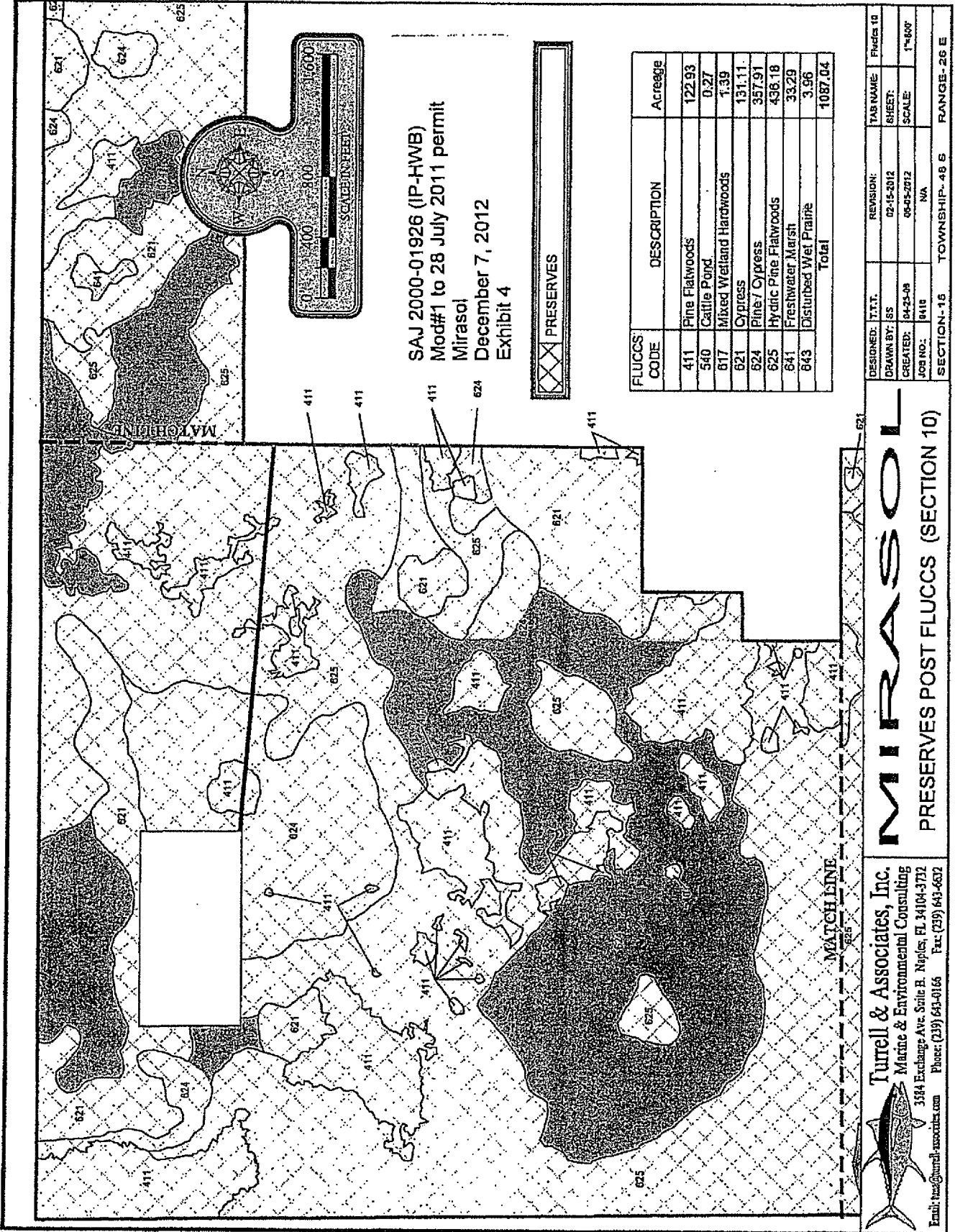
NOTES
 THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 ACREAGE CALCULATIONS ARE APPROXIMATE AND SURVEY DATA AVAILABLE.

 **Turrell & Associates, Inc.**
 Marine & Environmental Consulting
 3584 Exchange Ave, Suite B, Naples, FL 34104-3732
 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 PRESERVES POST FLUCCS

DESIGNED: T.T.T.	REVISION:	TAB NAME: ADD PRESERVE
DRAWN BY: BS	02-15-2012	SHEET:
CREATED: 04-25-06	06-05-2012	SCALE: 1"=1,600'
JOB NO.: 0418	N/A	
SECTION- TOWNSHIP-48 S RANGE-28 E		

EXHIBIT D



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 4

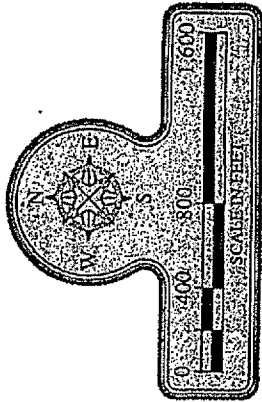
PRESERVES

DESIGNED: T.T.T.	REVISION:	TAB NAME:	FIGS 10
DRAWN BY: BS	02-15-2012	SHEET:	
CREATED: 04-25-08	06-05-2012	SCALE:	1"=600'
JOB NO.: 0410	N/A		
SECTION-10		TOWNSHIP- 49 S	RANGE- 26 E

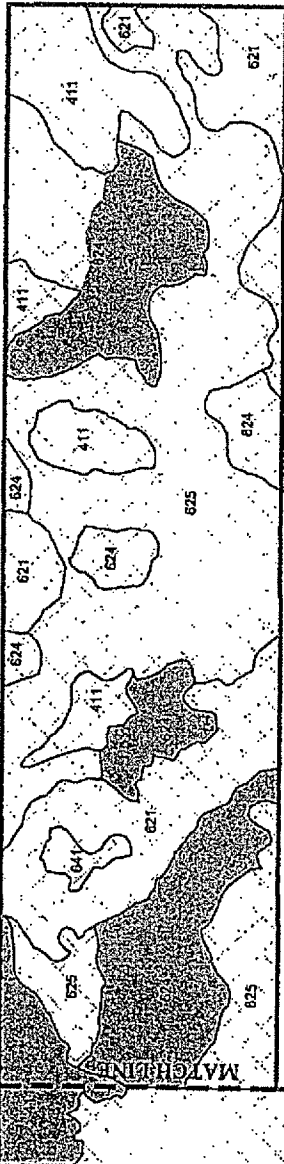
MIRASOL
 PRESERVES POST FLUCCS (SECTION 10)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3384 Exchange Ave. Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6532
 Email: tua@turrell-associates.com

EXHIBIT D



SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 5



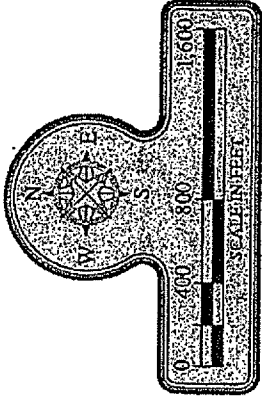
FLUCCS CODE	DESCRIPTION	Acreage
411	Pine Flatwoods	122.93
540	Cattle Pond	0.27
617	Mixed Wetland Hardwoods	1.39
624	Cypress	131.11
625	Pine / Cypress	357.91
641	Hydric Pine Flatwoods	436.18
643	Freshwater Marsh	33.29
643	Disturbed Wet Prairie	3.96
Total		1067.04

DESIGNED: T.H.T.	REVISION:	TAB NAME:	FLUGA 11
DRAWN BY: SS	02-15-2012	SHEET:	
CREATED: 04-25-09	06-05-2012	SCALE:	1"=800'
JOB NO.: 0418	N/A	TOWNSHIP- 4B S	RANGE- 26 E
SECTION- 15			

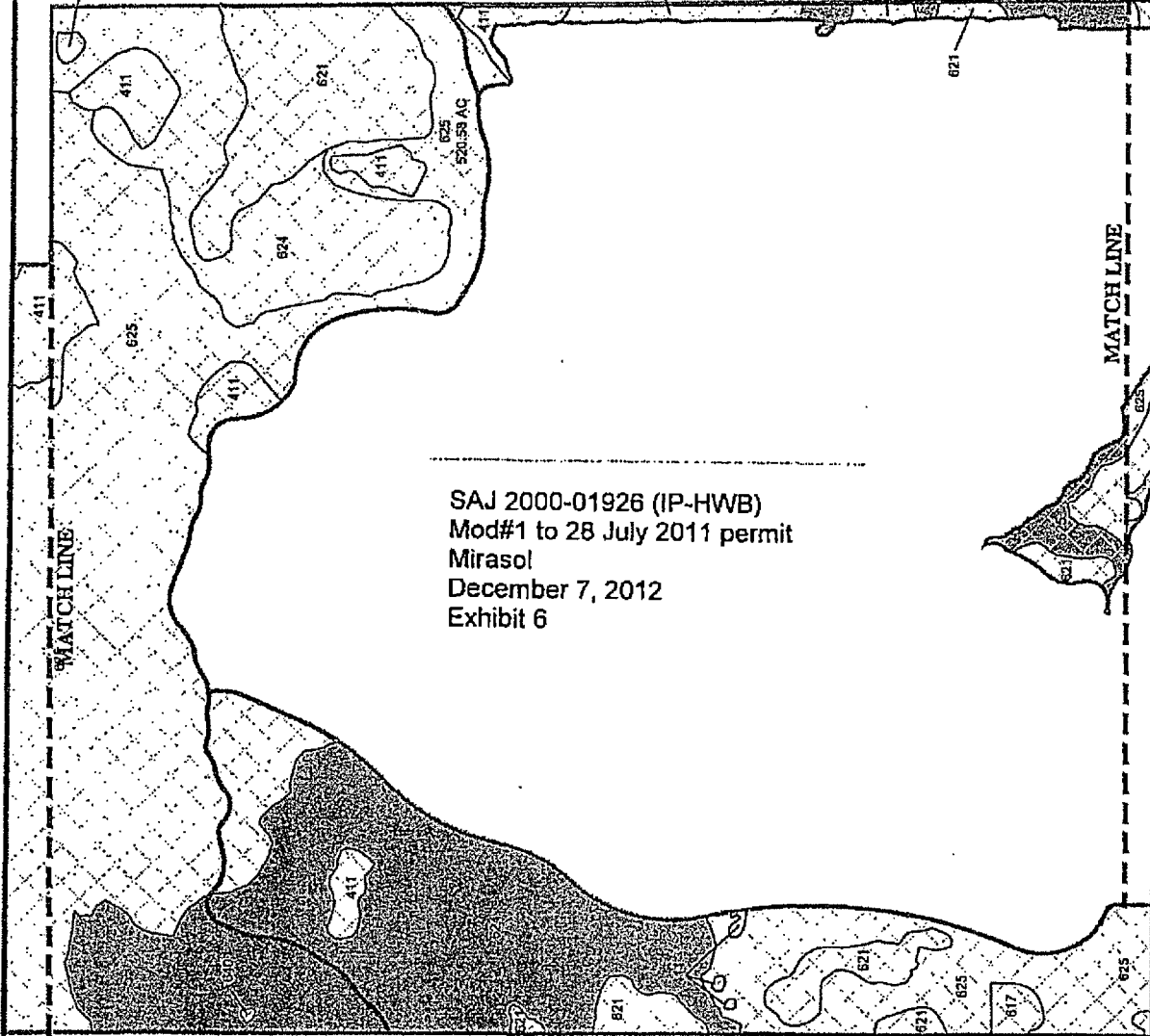
MIRASOL
 PRESERVES POST FLUCCS (SECTION 11)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B, Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6532
 Email: turrell@turrell-associates.com

EXHIBIT D



FLUCCS CODE	DESCRIPTION	Acreage
411	Pine Flatwoods	122.93
540	Cattle Pond	0.27
617	Mixed Wetland Hardwoods	1.39
621	Cypress	131.11
624	Pine / Cypress	357.91
625	Hydric Pine Flatwoods	436.18
641	Freshwater Marsh	33.29
643	Disturbed Wet Prairie	3.96
	Total	1087.04



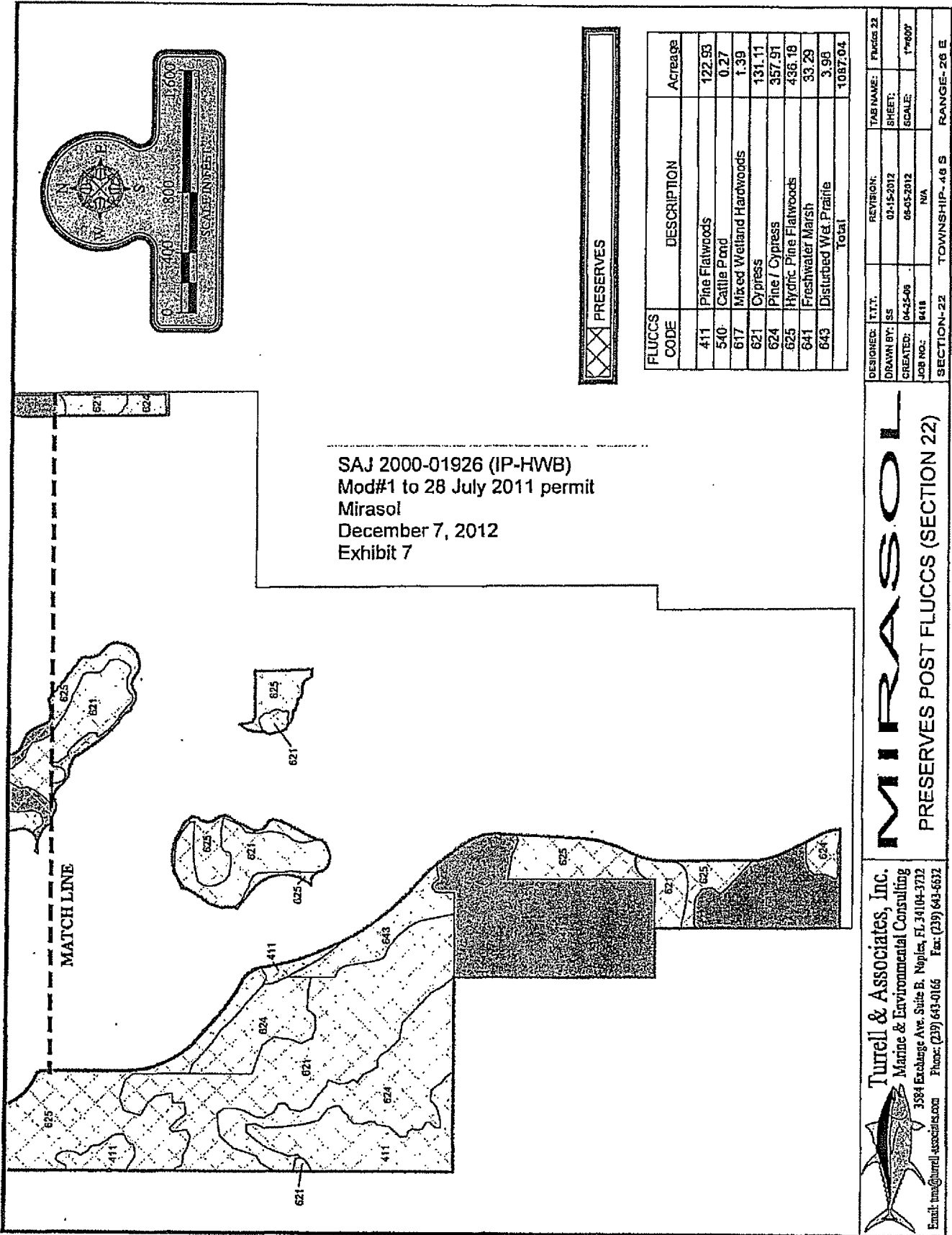
SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 6

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	FLUCCS 15
DRAWN BY:	ES	02-15-2012	SHEET:	
CREATED:	04-25-08	04-25-2012	SCALE:	1"=400'
JOB NO.:	8118	NA		
SECTION-15	TOWNSHIP-48 S	RANGE-20 E		

MIRASOL
 PRESERVES POST FLUCCS (SECTION 15)

Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3384 Exchange Ave. Suite B. Naples, FL 34104-3732
 Phone: (239) 643-0166 Fax: (239) 643-6632
 Email: tom@turrell-associates.com

EXHIBIT D




SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 7

 PRESERVES

FLUCCS CODE	DESCRIPTION	Acreage
411	Pine Flatwoods	122.93
540	Cattle Pond	0.27
617	Mixed Wetland Hardwoods	1.39
621	Cypress	131.11
624	Pine / Cypress	357.91
625	Hydric Pine Flatwoods	436.19
641	Freshwater Marsh	33.29
643	Disturbed Wet Prairie	3.98
	Total	1087.04

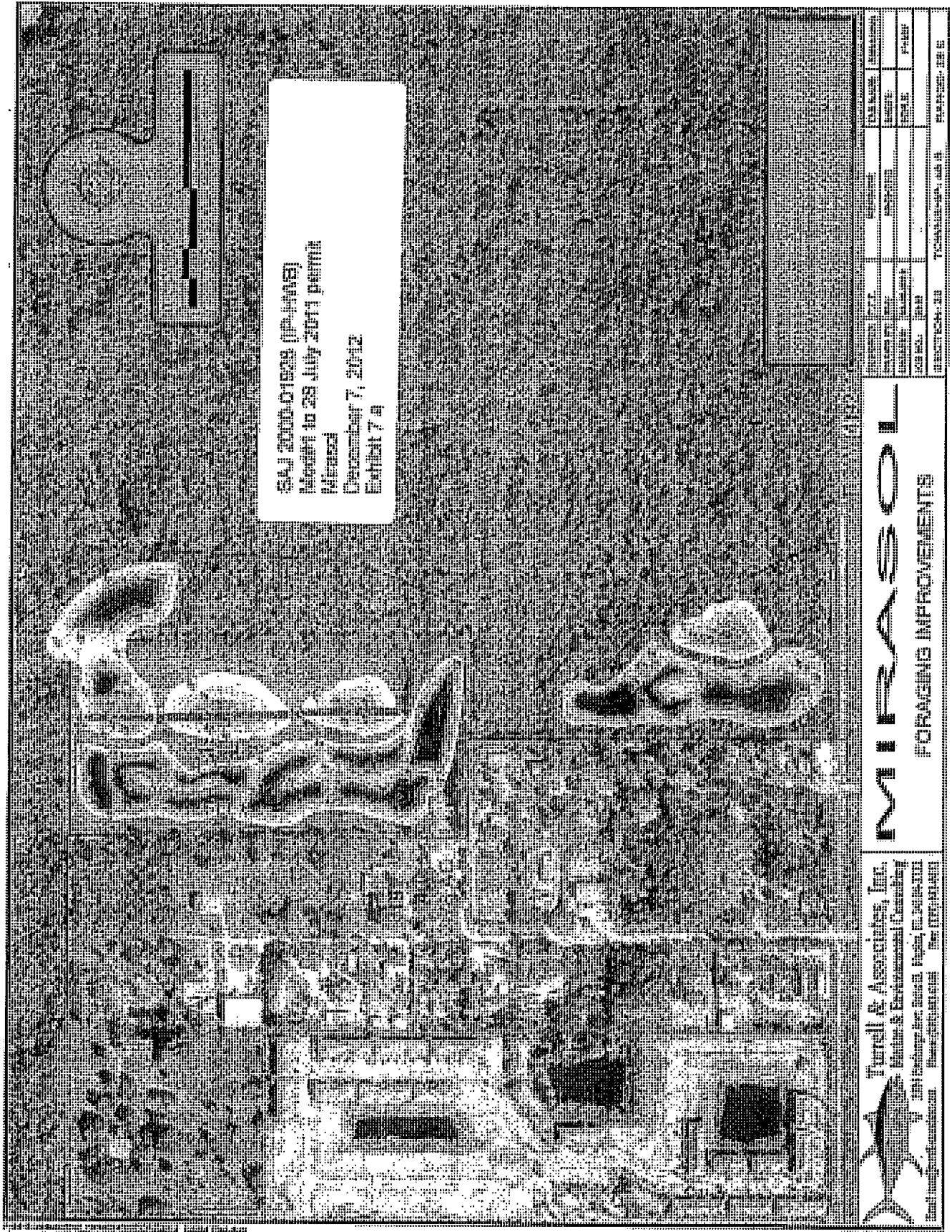
DESIGNED: T.T.T.	REVISION:	TAB NAME: Flucgs 22
DRAWN BY: SS	01-15-2012	SHEET:
CREATED: 04-25-09	06-05-2012	SCALE: 1"=600'
JOB NO.: 6418	N/A	
SECTION-22	TOWNSHIP-46 S	RANGE-26 E

MIRASOL
 PRESERVES POST FLUCCS (SECTION 22)



Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave, Suite B, Naples, FL 34104-3722
 Phone: (239) 643-0166 Fax: (239) 643-6632
 Email: mas@turrell-associates.com

EXHIBIT D



SAJ 2000-01828 (P-11111)
 Model to 28 July 2011 permit
 Witness
 December 7, 2012
 Exhibit 7 a

Turell & Associates, Inc.
 Civil & Environmental Consulting
 10100 West 10th Avenue, Suite 1000
 Denver, Colorado 80202
 Phone: (303) 751-1111
 Fax: (303) 751-1112
 Email: info@turell.com

MIRASOL
 FORGING IMPROVEMENTS

PROJECT NO.	SAJ 2000-01828	DATE	12/7/12
CLIENT	MIRASOL	PROJECT	FORGING IMPROVEMENTS
LOCATION	...	SCALE	...
DATE	...	BY	...
PROJECT	...	DATE	...

EXHIBIT D

ATTACHMENT E: As Built Conditions/ Self Certification

2 pages

EXHIBIT D

AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

Submit this form and one set of as-built engineering drawings to the U.S. Army Corps of Engineers, Special Projects and Enforcement Branch, 1520 Royal Palm Square Blvd., Suite 310, Ft. Myers, Florida 33919. If you have questions regarding this requirement, please contact the Special Projects and Enforcement Branch at 239-334-1975 X 24.

1. Department of the Army Permit Number: SAJ-2011-01135 (IP-MJD)

2. Permittee Information:

Name _____

Address _____

3. Project Site Identification:

Physical location/address _____

4. As-Built Certification:

I hereby certify that the authorized work, including any mitigation required by Special Conditions to the permit, has been accomplished in accordance with the Department of the Army permit with any deviations noted below. This determination is based upon on-site observation, scheduled and conducted by me or by a project representative under my direct supervision. I have enclosed one set of as-built engineering drawings.

Signature of Engineer

Name (Please type)

(FL, PR or VI) Reg. Number

Company Name

Address

City

State

ZIP

(Affix Seal)

Date

Telephone Number

EXHIBIT D

Attachment F
Notice of Permit Recordation
2 Pages

EXHIBIT D

Prepared by: _____

Permittee: _____

Address: _____

Phone: _____

NOTICE OF DEPARTMENT OF THE ARMY PERMIT

TAKE NOTICE that the United States Army Corps of Engineers has issued Department of the Army Permit SAJ- - - to (Permittee) on , 201 , authorizing impacts to waters of the United States (including wetlands) in accordance with Section 404 of the Clean Water Act on a parcel of land known as Folio/Parcel ID: _____ encompassing _____ acres located within a portion of Section _____, Township _____ South, Range _____ East, _____ County, Florida.

Within thirty (30) days of any transfer of interest or control of that portion of the premises containing the area authorized to be filled (or any portion thereof), the Permittee must notify the U.S. Army Corps of Engineers in writing of the property transfer by submitting the completed permit transfer page of the permit. Notification of the transfer does not by itself constitute a permit transfer. Therefore, purchasers of that portion of the premises containing the area authorized to be filled (or any portion thereof) are notified that it is unlawful for any person to construct, alter, operate, maintain, remove or abandon any works, including dredging or filling, without first having obtained a permit from the Corps of Engineers in the purchaser's name.

The subject Permit concerns only that portion of the property determined to fall within the jurisdiction of the U.S. Army Corps of Engineers and this notice is applicable only to those portions of the subject property containing areas authorized to be filled and wetland mitigation/conservation areas subject to the Permit.

Conditions of the Permit: The Permit is subject to General Conditions and Special Conditions which may affect the use of the subject property. Accordingly, interested parties should closely examine the entire Permit, all associated applications, and any subsequent modifications.

To obtain a copy of the permit in its entirety submit a written request to:
U.S. Army Corps of Engineers
Regulatory Division - Special Projects & Enforcement Branch
1520 Royal Palm Square Blvd., Suite 310
Fort Myers, Florida 33919

Questions regarding compliance with these conditions should be directed to:
U.S. Army Corps of Engineers
Enforcement Section
1520 Royal Palm Square Blvd., Suite 310
Fort Myers, Florida 33919

EXHIBIT D

Conflict Between Notice and Permit

This Notice of Permit is not a complete summary of the Permit. Provisions in this Notice of Permit shall not be used in interpreting the Permit provisions. In the event of conflict between this Notice of Permit and the Permit, the Permit shall control.

This Notice is Not an Encumbrance

This Notice is for informational purposes only. It is not intended to be a lien, encumbrance, or cloud on the title of the premises.

Release

This Notice may not be released or removed from the public records without the prior written consent of the U.S. Army Corps of Engineers.

This Notice of Permit is executed on this _____ day of _____, 20_____.

This document is being submitted for recordation in the Public Records of _____ County, Florida as part of the requirement imposed by Department of the Army Permit No SAJ- _____ issued by the United States Army Corps of Engineers.

Permittee: _____

Address: _____

Phone: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20_____, by _____, who is personally known to me or has produced _____ as identification.

(seal)

Notary Public

Print

My Commission Expires _____

EXHIBIT D

Attachment G
U.S. Fish & Wildlife Service
Biological Opinion Amendment
(41420-2006-FA-0674-R002)
Dated September 18, 2012
13 pages

EXHIBIT D



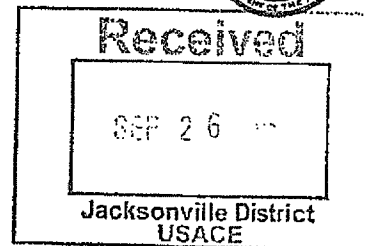
United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960



September 18, 2012

Alan M. Dodd, Colonel
U.S. Army Corps of Engineers
Fort Myers Regulatory Office
1520 Royal Palm Square Boulevard, Suite 310
Fort Myers, Florida 33919



Service Federal Activity Code: 41420-2006-FA-1500
Service Consultation Code: 41420-2006-F-0674-R002
Corps Application No.: SAJ-2000-01926 (IP-HWB)-Mod 1
Date Received: April 23, 2012
Applicant: I.M. Collier Joint Venture
Project: Mirasol Development
County: Collier

Dear Colonel Dodd:

The U.S. Fish and Wildlife Service (Service) has reviewed the U.S. Army Corps of Engineers' (Corps) request to reinitiate consultation dated April 23, 2012, for the permit modification listed above. This letter is submitted in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*) and the provisions of the Fish and Wildlife Coordination Act (FWCA) of 1958, as amended (48 Stat. 401; 16 U.S.C. 661 *et seq.*).

Corps Permit No. SAJ-2000-01926 (IP-HWB) was issued on July 28, 2011, and authorized the discharge of dredge or fill material to waters of the United States. On February 8, 2012, the Service received correspondence from the applicant that the project was being modified with the addition of 322 residential units and the addition of 85 acres of onsite preserve (total project acreage increased from 1,713.45 acres to 1,798.35 acres). Additional information was provided to the Service on March 15, 2012, and the Corps requested reinitiation of consultation on April 23, 2012. The project site is located north of Immokalee Road and east of Interstate 75 in Sections 10, 11, 15, and 22; Township 48 South; Range 26 East; in Collier County, Florida (Figure 1).

Consultation History

The consultation history for the Mirasol Development spans a 12-year period and is detailed in Service Biological Opinions dated February 21, 2003; March 9, 2005; March 1, 2007; May 3, 2007; April 22, 2011; and June 3, 2011. Therefore, the consultation history referenced in this reinitiation request is specific to the project as permitted by the Corps on July 28, 2011, including the Service's consultation for the permitted project. Additional detail is reviewable in any of the referenced Biological Opinions.



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On May 11, 2010, the Corps, requested consultation with the Service and provided determinations of “may affect” for the endangered Florida panther (*Puma concolor coryi*) and the endangered wood stork (*Mycteria americana*) and “may affect, not likely to adversely affect” (MANLAA) for the endangered red-cockaded woodpecker (RCW; *Picoides borealis*) and the threatened eastern indigo snake (*Drymarchon corais couperi*). The project proposed impacts to 773 acres (645 acres of wetlands) and the preservation of 941 acres (831 acres of wetlands) onsite (total acreage is 1,713.45 acres). The applicant also proposed the acquisition of 27.68 wetland credits on 82 acres at Panther Island Mitigation Bank (PIMB) and the acquisition of the equivalent of 2,330 panther habitat units (PHUs), which is approximately 291 acres in the panther Primary Zone.

On April 22, 2011, the Service provided a Biological Opinion (Service Log No. 41420-2006-F-0674) concluding that the proposed project was not likely to jeopardize the survival and recovery of the Florida panther and wood stork and concurred with MANLAA determinations for the RCW and eastern indigo snake. The April 22, 2011, Biological Opinion was revised on June 3, 2011, clarifying several consultation history dates and a discrepancy in the onsite compensation acreage.

On July 28, 2011, the Corps issued permit SAJ-2000-01926 (IP-HWB) to I.M. Collier Joint Venture for the project known as “Mirasol.” The permitted site plan included 799 residential units, a 36-hole golf course, a clubhouse, lakes, an entrance road, and onsite preserves. The project area was about 1,713.45 acres and included 772.98 acres of development, 36.86 acres of preserves and buffers internal to the development and not accessible to the Florida panther (total panther impact 809.84 acres), and 903.66 acres of additional preserves and buffers onsite, external to the development and available to the Florida panther. In addition to the above compensation, the permit requires the applicant to purchase and protect about 291.10 acres (the equivalent of 2,330 PHUs) within the panther Primary Zone, and to purchase 27.68 wetland credits (about 82.21 acres representing 709 PHUs) from PIMB. The total compensation proposal, including both onsite and offsite properties, provided protection and restoration of about 1,276.97 acres of panther habitat in areas surrounded by previously restored and protected panther habitat (903.66 acres onsite, 82.21 acres in PIMB, and 291.10 acres in the Primary Zone).

On February 8, 2012, the applicant met with the Service and provided information on proposed revisions to the permitted project. During applicant discussions with various Conservation Organizations, additional wood stork foraging improvements were agreed upon. Two upland mesic pine areas will be scraped down and contoured to provide depression areas, which will concentrate forage fish as water levels recede. The current proposal for modification entails the following:

- Approximately 85 acres are being added into the project boundary as additional preserve (project boundary change from 1,713.45 acres to 1,798.35 acres).
- The maximum number of residential units will increase from 799 to 1,121.
- 18 holes of golf are being eliminated.
- The pass-through system of lakes currently permitted is being modified to an open channel that will run along the western development boundary.
- The development (impact) footprint is being reduced from 809.84 to 709.76 acres.

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- Wetland impacts associated with the project are being reduced from 645.35 acres to 561.87 acres.
- Wetland creation will occur on the southern uplands that were previously in the development footprint but are now within the new preserve area.
- Removal of the berm around the farm field and creation of depressions within the existing farm field and adjacent upland areas will be undertaken to create improved wood stork foraging opportunities.

During the February 8, 2012, meeting, the applicant provided current site information that supports the Corps' original determination that the project "may affect" the Florida panther and wood stork and MANLAA the eastern indigo snake and RCW. Due to the amount of changes proposed by the applicant, the Service requested a reevaluation of the pre- and post-project panther PHU calculations, and pre- and post-project wood stork foraging biomass calculations. The Service also requested updated data on the Florida panther population and panther/vehicle mortality within a 5-mile radius, as well as an updated traffic pattern model projection for the proposed additional residential units. Details were requested on the proposed wetlands to be created in the southwestern portion of the project site.

On February 23, 2012, the Service received an updated figure of the traffic pattern model projections from Turrell, Hall & Associates, Inc. (THA).

On March 26, 2012, the Service received correspondence from the Collier County Audubon Society and Florida Wildlife Federation, providing supporting reviews of the proposed permit modification.

On April 30, 2012, the Service received the updated traffic pattern model projections from JMB Transportation Engineering, Inc. (JMBT).

On July 13, 2012, additional data was received from THA. Data provided by THA (2012) included updated Panther PHU and wood stork biomass calculations, and site drawings showing proposed contours for the proposed wetlands to be created in the southwestern portion of the project site. The data also included information on overall changes in the status of the Florida panther within and around the project site.

On August 10, 2012, the Service received additional details on the pass-through flow-way and offsite regional drainage effects.

On August 14, 2012, the Service received correspondence from Collier County Audubon Society providing supporting reviews of the revised flow-way design.

BIOLOGICAL OPINION REINITIATION

On April 23, 2012, the Corps requested reinitiation with the Service for Formal consultation on the Florida panther and wood stork and provided determinations of MANLAA for the eastern indigo snake and RCW.

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Eastern Indigo Snake

The Corps' determination for the eastern indigo snake is supported through the Corps' application of the Service's Eastern Indigo Snake Programmatic Determination Key (2012) (A→B→C→D→E→MANLAA) and the Corps commitment to include the Service's (2004) *Standard Protection Measures for the Eastern Indigo Snake* as a permit condition.

Red-cockaded Woodpecker

The Corps' determination for the RCW is also appropriate. The Service provided a concurrence determination of MANLAA as a component of the June 3, 2011, Biological Opinion. Although the surveys were conducted in 2010 and several nesting and foraging seasons have passed, habitat conditions that were present on the project site that adversely affect RCW foraging and nesting suitability (mid-story vegetation density and dominance by exotic species) continues to adversely affect habitat suitability for the RCW. The restoration component proposed for the onsite preserve, (*i.e.*, the removal of the exotic vegetation and the implementation of the management plan) is expected to provide improved foraging and nesting habitat for the RCW. In addition, although not a project requirement, the applicant has expressed interest in reintroduction of RCWs into the onsite preserve. This could include translocation of donor birds from a recipient site or installation of artificial nest cavity boxes and/or pre-drilling suitable pines as surrogate nest sites to allow for passive RCW migration from adjacent colonies. The Service is supportive of efforts to reintroduce the RCW into the onsite preserve and welcomes the opportunity to further assist the applicant in this effort.

Florida Panther

In order to assess if adverse effects will occur to the Florida panther in a manner or extent not previously considered in the Service's June 3, 2011, Biological Opinion, we requested additional traffic data on the proposed increase in residential units from 799 units to 1,121 units, and updated information on overall changes in the status of the Florida panther within and around the project site. Data was specifically requested on population and mortality data within a 5-mile radius of the project and an assessment of PHUs pre- and post-development.

The PHU assessment was modified for the project as currently proposed. According to the modified PHU assessment (THA 2012), the revised project will impact 709.77 acres (Figure 2), result in a loss of about 3,493.21 PHUs, and provide a recommended compensation of 8,733.88 PHUs. The onsite mitigation area (Figure 3), which includes about 1,088.56 acres of preserves, following restoration, will generate 7,936.30 PHUs. The applicant proposes to purchase an additional 797.58 PHUs from the Panther Passage Conservation Bank (Bank) to comply with the recommended compensation. The PHU acquisition from the Bank represents an equivalent of 33.22 acres (24.01 PHUs/acre) of habitat preservation. The applicant will provide a certificate of purchase from the Bank to the Service within 90 days of permit issuance and/or prior to any onsite land clearing; whichever is earliest. Total preserves, including the offsite compensation, are 1,121.78 acres.

The onsite preserve for the Mirasol project will be placed under a conservation easement granted to the South Florida Water Management District (District), with enforcement rights granted to the Service and Corps. Once the exotic vegetation has been removed and the native vegetation

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restored, the preserve lands outside of the development footprint (about 1,089 ac) are to be maintained by the applicant or the homeowner's association until they can be donated to the CREW Trust, or another appropriate public entity capable of providing such services, and approved by the Service. The land transfer to the public management entity is to be completed within 6 months of final agency sign-off on the mitigation activities referenced in the Corps/District permit applications.

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In addition to the donation of the property to an appropriate entity, a non-wasting escrow fund for the perpetual maintenance and monitoring of the preserve shall be established. The amount of the endowment will be determined at the time the preserve is transferred to the public management entity, and will be based on the perpetual management, maintenance and monitoring needs as determined and approved through coordinated discussions with the land recipient and the Service at the time of the proposed transfer. The amount of the endowment funds and the entity to receive the funds must be determined prior to the final agency sign-off on the mitigation activities referenced in the Corps/South Florida Water Management District permit applications. The monies generated from the non-wasting endowment fund will be sufficient to fund all land management costs including: site fencing and fire break maintenance, taxes, liability insurance (if necessary), site management and maintenance, monitoring reports, escrow holder handling fee, and a 10 percent contingency. A capitalization rate will be determined in coordination with, and approved by, the Service at the time the property is turned over to insure that the endowment fund is non-wasting.

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To assist the Service in further assessing indirect affects to the Florida panther (*i.e.*, those affects not directly tied to habitat loss), the Service reviewed the additional traffic data provided on the proposed increase in residential units from 799 units to 1,121 units, and updated information on overall changes in the status of the Florida panther within and around the project site.

The revised traffic report compared the traffic model for the site plan reflected in the Corps' permit (*i.e.*, 799 residential units with 36 holes of golf) and the current traffic model for the revised site plan (*i.e.*, 1,121 residential units and one 18-hole golf course). The April 30, 2012, traffic report prepared by JMBT (2012) noted the original traffic profile would result in 5,433 average weekday trip-ends. The revised development proposal is expected to generate a traffic profile of 8,051 average weekday trip-ends, which is an increase of 2,608 weekday trip-ends over the permitted project. The report suggests 4 percent of this increase will travel east or west on Immokalee Road east of CR 951, with the remainder travelling north or south on Collier Boulevard (CR 951) or east and west on Immokalee Road west of the project site. The new project trips will constitute about 0.3 percent increase of the total traffic load on Immokalee Road and a 1.1 percent increase on Collier Boulevard. We believe the minimal increases in traffic on Immokalee Road and Collier Boulevard are insignificant in terms of the overall traffic already present on these roadways, and will have no additional adverse impacts to any protected species above and beyond those assessed in the June 3, 2011, Biological Opinion.

Another component of the Service's assessment of indirect effects to the Florida panther is consideration of a project's proposed actions to minimize traffic effects and reduce vehicle-caused panther mortalities in the adjacent Florida panther core lands. Such actions can include both

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installation of fencing and/or wildlife underpasses in traffic/panther mortality hot-spots and development density reduction programs that allow for the transfer of development densities (transfer of development rights - TDR) from lands in the panther core lands to lands proposed for development in more urban settings. One such program in Collier County is the Rural Lands Assessment (RLA), which was adopted in 2002. This program established Rural Lands Stewardship Areas and Rural Fringe Mixed Use Overlay Districts. Within these designations, undeveloped lands not designated as conservation or in public ownership could be designated as either Sending Lands or Receiving Lands. Sending Lands have the highest degree of environmental value and sensitivity, with significant wetlands, uplands, and habitat for listed species. Sending Lands are principal targets for acquisition, preservation, and conservation. Receiving Lands have a significantly lesser degree of environmental or listed species habitat value and have been determined to be most appropriate for development. A third classification, Neutral Lands, falls in the middle in terms of value between Receiving Lands and Sending Lands; Neutral Lands generally retain the development rights that existed when the Rural Assessment was undertaken.

The proposed Mirasol Development crosses three different zoning districts. Section 22 is in the Urban Residential Subdistrict with a base density of 4 units per acre and is outside of the boundaries of the RLA program. Sections 10 and 15 are in the RLA program and are designated as Rural Fringe Mixed Use "Neutral" Lands with a base density of 1 unit per 5 acres. Section 11 is also in the RLA program and is designated as Rural Fringe Mixed Use "Sending" Lands with a base density of 1 unit per 5 acres and bonuses associated with the TDR program.

The County Planned Unit Development zoning defines the property boundary as the lands within Sections 22, 10, and 15. Section 11 is accounted for as off-site lands and Section 11 is the only one associated with the TDRs. Density calculations for the original project include 425.76 acres in Section 22 or 1,703 units ($425.76 \times 4 = 1,703$) and 1,212.79 acres within Sections 10 and 15 or 242.6 units ($1,212.79 / 5 = 242.6$) for a total maximum density of 1,945.6 residential units ($1,703 + 242.6 = 1,945.6$). The applicant previously committed to only construct 799 units. The additional 322 units now being requested are generated from the 80 additional acres being added to the preserve from Section 22 ($80 \times 4 = 320$) and 10 additional acres being added from Section 15 ($10 / 5 = 2$). The density request for this project is now the 799 originally permitted plus the extra 322, for a total of 1,121 units.

Because Section 11 is designated as Sending Lands, the density from these 159.79 acres can only be transferred to Receiving Lands through the TDR program. Since there are no Receiving Lands associated with the Mirasol project, the TDR credits from Section 11 have to be severed and held (banked) until such time as they may be transferred to a project in the Receiving Lands area. The Section 11 Sending Lands are eligible for Base Density Credits (1 TDR credit per 5 acres or 31.95 credits) plus Early Entry Bonus (1 bonus credit per TDR credit, or 31.95 credits) plus Restoration & Maintenance Bonus (also 1 bonus credit per TDR credit) plus Conveyance Bonus (also 1 bonus credit per TDR credit). Therefore, the total number of TDRs that have been banked and eligible for density development credit for a future project in the Rural Fringe Mixed Use Overlay Districts is 127.8 TDRs. Although the Service generally does not support transferring development rights from lands that are being protected for conservation by one project to another future project, the Service understands the use of the TDRs in this instance and is supportive of

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Collier County's Rural Lands Assessment and Density Reduction program. However, should a future project using the 127.8 TDRs result in impacts to listed species, compensation for those impacts will be required in a manner consistent with the then-current science. Since the Section 11 lands are part of the Mirasol project, they will not be considered compensation to offset future impacts to listed species from use of the TDRs.

The Service, during the February 8, 2012, meeting, also requested information regarding overall changes in the status of the Florida panther within and around the project site. Specifically, we requested panther population and mortality data within a 5-mile radius around the project to determine if the population and mortalities increased or decreased in this area from when the project was reviewed and permitted in 2011 (Service Biological Opinion: June 3, 2011) compared to the species current status in 2012 (July 30, 2012). No new telemetry data since the previous Biological Opinion is available to the Service. However FP186 (male) was reported as alive in the previous Biological Opinion and died from intraspecific aggression on June 20, 2011, 6.1 miles northeast of the project. Historically, eight radio-collared male and female panthers were recorded on 53 occasions based on telemetry data from February 1981 through May 13, 2011. In our 2011 Biological Opinion, the closest and most-recent occurrence of a live, radio-collared panther was FP186, recorded on May 13, 2011, 4.50 miles northeast of the project. Since FP186 is now dead, the most recent occurrence of a live, radio-collared panther is FP159, recorded on April 28, 2008, 3.7 miles northeast of the project. In addition, an un-collared male panther was reported on July 18, 2012, adjacent to the southwest border of the site on Rose Boulevard. The Service believes the project site, as determined in the previous Biological Opinion, may occasionally be used by collared and other non-collared panthers because it contains habitat types used by panthers and their prey, and the project vicinity has been used historically by panthers as indicated by telemetry locations. Therefore, the Service believes the conclusions provided in the June 3, 2011, Biological Opinion are applicable to the project as modified and concludes the revised project will have no additional adverse impacts to the Florida panther greater than those previously addressed by the Service.

Wood Stork

In order to assess if adverse effects will occur to the wood stork in a manner or extent not previously considered in the Service's June 3, 2011, Biological Opinion, we requested additional data on wood stork foraging biomass and changes in wetland impacts. The project as originally permitted proposed impact to 645.35 acres and a loss of 190.06 kilograms (kg) of foraging biomass. The permitted project proposed the protection and restoration of 831.35 acres of onsite preserve with a biomass gain following restoration of 2,181.87 kg. The net change following project development would be an increase of 1,991.81 kg ($2,181.87 - 190.06 = 1,991.81$ kg).

The revised project proposes impacts to 561.87 acres and a loss of 160.87 kg of foraging biomass. The revised project also proposes the protection and restoration of 949.56 acres and the creation of 14.55 acres, totaling 964.11 acres, with a biomass gain following restoration and creation of 1,441.24 kg. The net change following project development will be an increase of 1,280.37 kg ($1,441.24 - 160.87 = 1,280.37$ kg).

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The previously permitted project included an internal conveyance flow-way that consisted of a series of lakes, swales, and pipes. The conveyance ran from an intake weir at the northern development boundary, through the project development area, and eventually outfalling into the Cocohatchee Canal at the southern development boundary. This conveyance system covered approximately 38.4 acres and was designed to ensure that water levels outside of the project development footprint were not elevated during the wet season over the existing pre-development levels.

The current proposal still includes an internal conveyance flow-way, but it has been re-designed as an open swale instead of a series of connected lakes, and it has been relocated to run along the western property boundary instead of through the center of the development (Figure 4). The conveyance will still originate at the intake weir at the northern development boundary and outfall into the Cocohatchee Canal at the southern development boundary. The currently proposed conveyance will cover approximately 25.1 acres and will ensure that water levels outside of the project development footprint are not elevated over the existing pre-development levels. The Service has reviewed the data provided and concludes the revised project does not propose adverse effects to the wood stork in a manner or extent not previously considered in the Service's June 3, 2011, Biological Opinion.

In summary, the Service concurs with the Corps' determinations of "may affect, but not likely to adversely affect" for the eastern indigo snake and RCW. The Service has reviewed the information and determinations in the June 3, 2011, Biological Opinion and concludes that the effects to the Florida panther and wood stork resulting from the proposed project modifications do not exceed those effects evaluated in a manner or extent not previously considered. All reasonable and prudent measures and terms and conditions referenced in the June 3, 2011, Biological Opinion are also applicable to this consultation. This concludes Formal consultation for the Florida panther and wood stork.

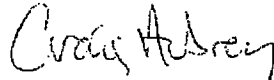
REINITIATION NOTICE

As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; (3) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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Thank you for your cooperation in the effort to protect fish and wildlife resources. If you have any questions regarding this project, please contact Allen Webb at 772-469-4246.

Sincerely yours,



fw Larry Williams
Field Supervisor
South Florida Ecological Services Office

cc: electronic only

Corps, Fort Myers, Florida (Monika Dey)
EPA, West Palm Beach, Florida (Ron Meidema)
FWC, Naples, Florida (Darrell Land)
FWC, Tallahassee, Florida (FWC-CPS, Kipp Frohlich)
Service, Atlanta, Georgia (Ken Graham)
Service, Florida Panther NWR, Naples, Florida (Kevin Godsea)

LITERATURE CITED

- JMB Transportation Engineering, Inc. 2012. Traffic impact statement for Mirasol PUD Amendment. Revised April 30, 2012. Naples Florida.
- Turrell, Hail & Associates, Inc. 2012. Biological assessment updating Florida panther mortality data, panther habitat units, wood stork biomass data, created wetland couture data, and vehicle traffic projections for the Mirasol Development. Naples, Florida.
- U.S. Fish and Wildlife Service. 2004. Standard protection measures for the eastern indigo snake. South Florida Ecological Services Office; Vero Beach, Florida.
- U.S. Fish and Wildlife Service. 2011. Biological opinion, Mirasol Golf Club, Collier County, Florida. South Florida Ecological Services Office; Vero Beach, Florida.
- U.S. Fish and Wildlife Service. 2012. Eastern Indigo Programmatic Effect Determination Key. South Florida Ecological Services Office; Vero Beach, Florida.

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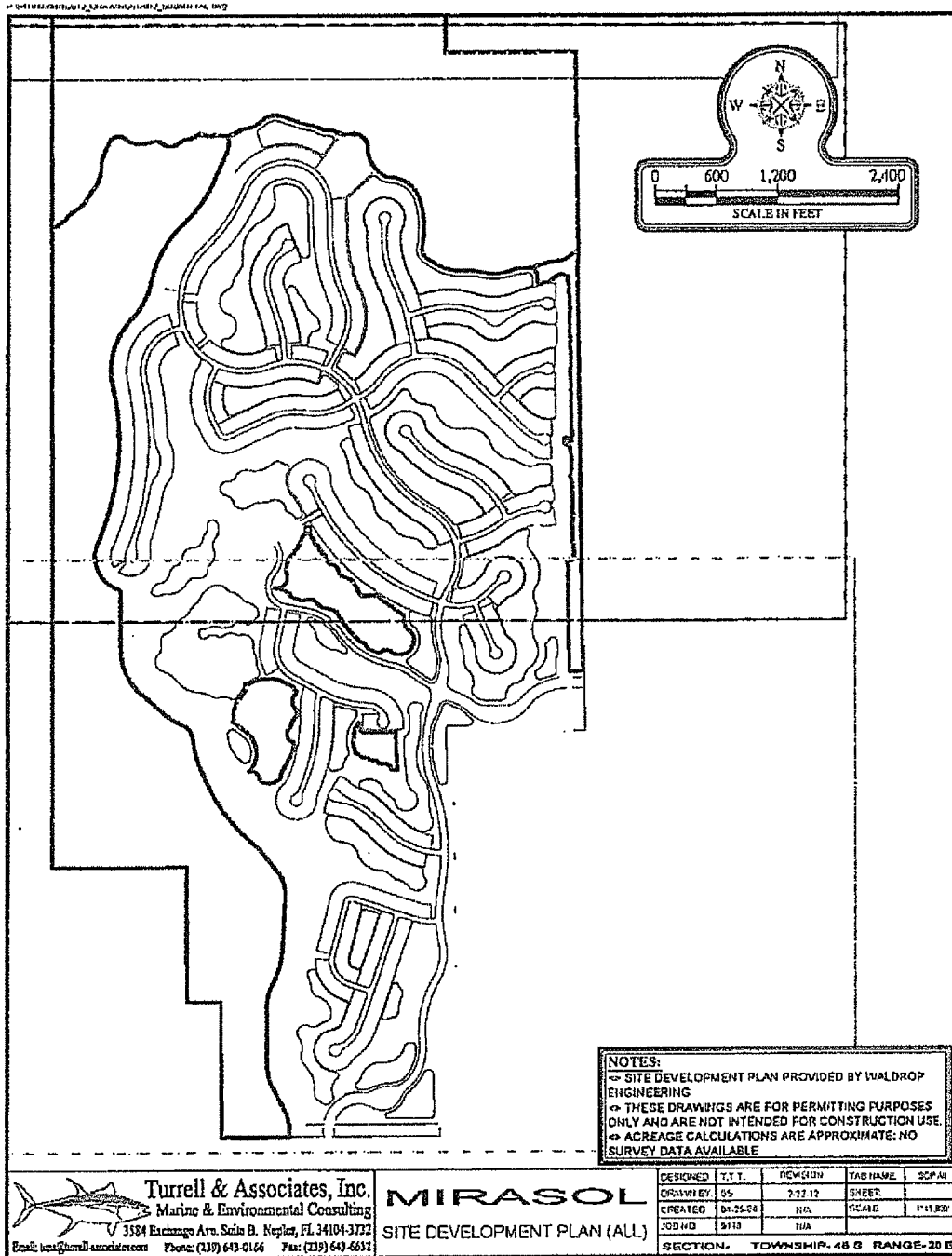


Figure 2. 2012 - Site Plan Development Footprint

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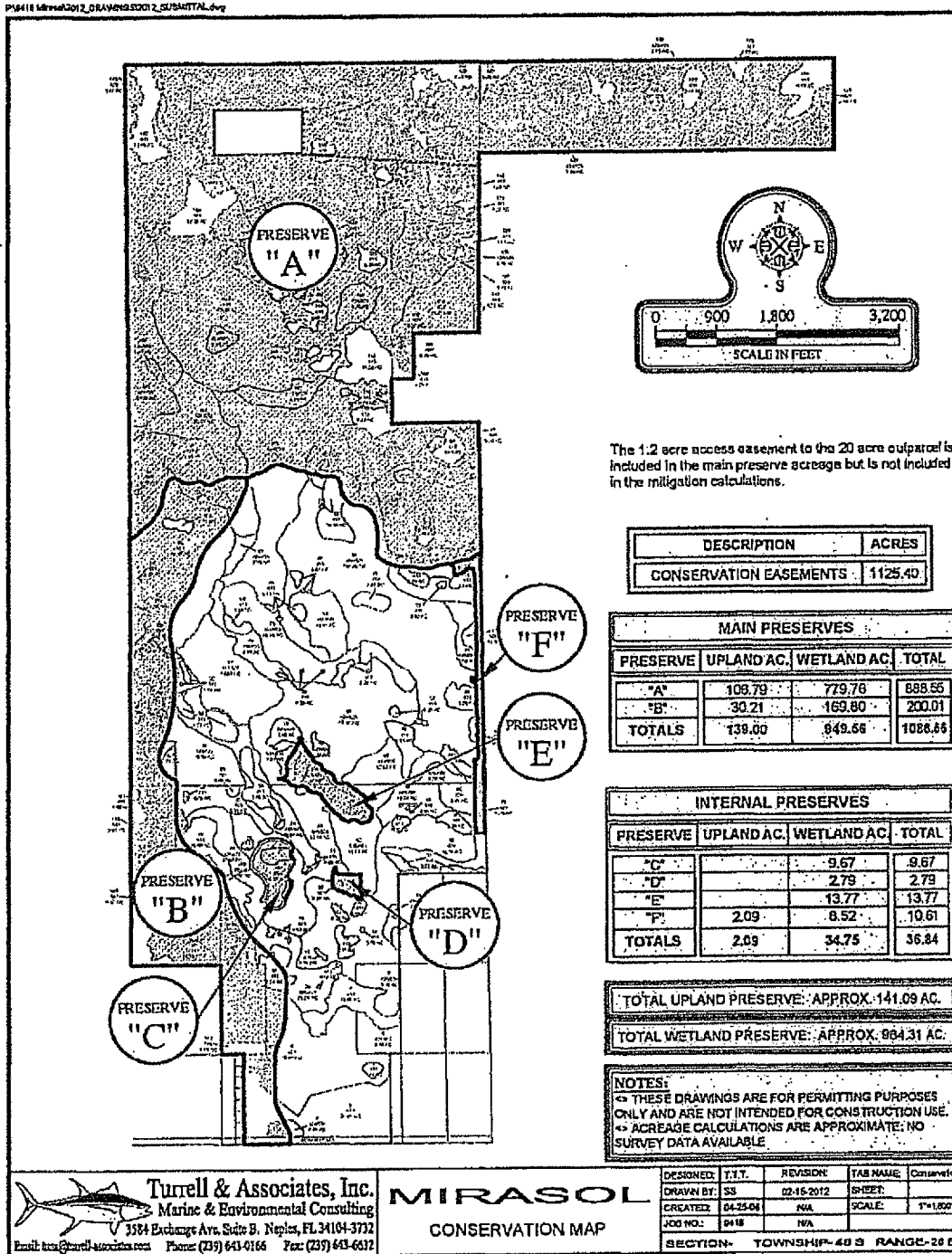


Figure 3. 2012 - Site Plan Preserves

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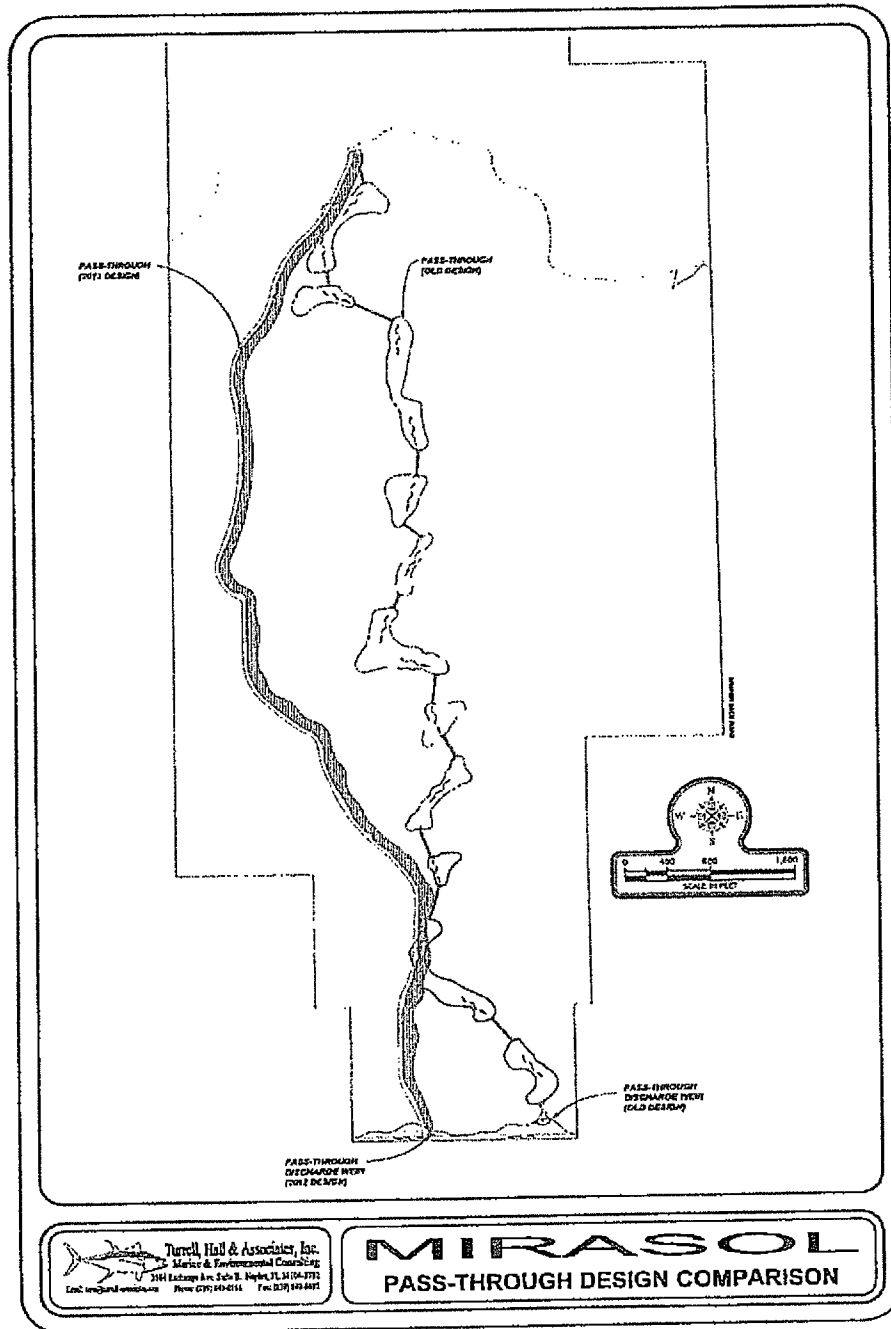


Figure 4. 2012 – Pass-Through Flow way Design

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Attachment H
Standard Protection Measures
for the
Eastern Indigo Snake
(revised February 12, 2004)
(1 Page)

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STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

1. An eastern indigo snake protection/education plan shall be developed by the applicant or requestor for all construction personnel to follow. The plan shall be provided to the Service for review and approval at least 30 days prior to any clearing activities. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (e.g., an observer trained to identify eastern indigo snakes could use the protection/education plan to instruct construction personnel before any clearing activities occur). Informational signs should be posted throughout the construction site and along any proposed access road to contain the following information:
 - a. a description of the eastern indigo snake, its habits, and protection under Federal Law;
 - b. instructions not to injure, harm, harass or kill this species;
 - c. directions to cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming clearing; and,
 - d. telephone numbers of pertinent agencies to be contacted if a dead eastern indigo snake is encountered. The dead specimen should be thoroughly soaked in water and then frozen.
2. If not currently authorized through an Incidental Take Statement in association with a Biological Opinion, only individuals who have been either authorized by a section 10(a)(1)(A) permit issued by the Service, or by the State of Florida through the Florida Fish Wildlife Conservation Commission (FWC) for such activities, are permitted to come in contact with an eastern indigo snake.
3. An eastern indigo snake monitoring report must be submitted to the appropriate Florida Field Office within 60 days of the conclusion of clearing phases. The report should be submitted whether or not eastern indigo snakes are observed. The report should contain the following information:
 - a. any sightings of eastern indigo snakes and
 - b. other obligations required by the Florida Fish and Wildlife Conservation Commission, as stipulated in the permit.

Revised February 12, 2004