

Modification

Number: SAS-2000-01926 (IP-KJD)

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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

*Esplanade
Ika Mirasol*

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

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:

by
2/25/14

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)).

"on-site" means area of Esplanade where development is to take place.

- (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.

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.

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

(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 ½" 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 ½" 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

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

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:

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.

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

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 environment has been reviewed and found to be insignificant. The permit is hereby modified in accordance with your request. You should attach this letter to the permit. All other conditions of the permit remain in full force and effect.

If you have any questions concerning permit modification, please contact the project manager Monika Dey at the letterhead address, by telephone at 239-334-1975 X 29 or by electronic mail at monika.j.dey@usace.army.mil.

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:

Alan M. Dodd
Colonel, U.S. Army
District Commander

Enclosure

Copy/ies Furnished:

SFWMD
CESAJ-RD-PE
USFWS-Vero Beach
USEPA-West Palm Beach

ATTACHMENT A:
Permit Drawings

Pages 1-22 of 22
Dated December 7, 2012

STATE OF FLORIDA



SUBJECT PROPERTY



COLLIER COUNTY

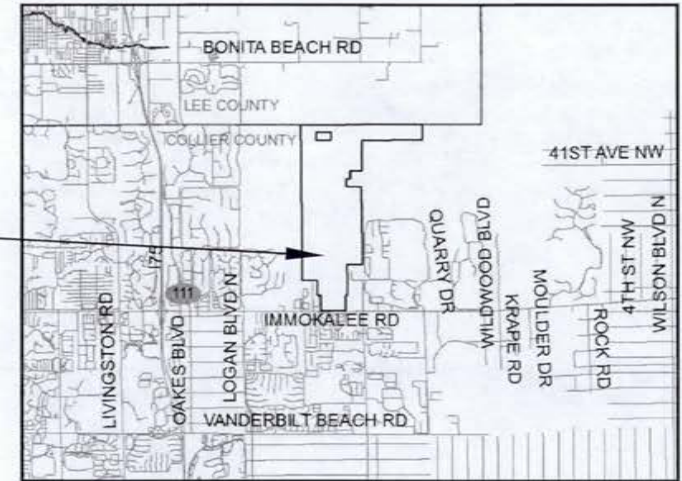
NOTES:

⊠ THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.

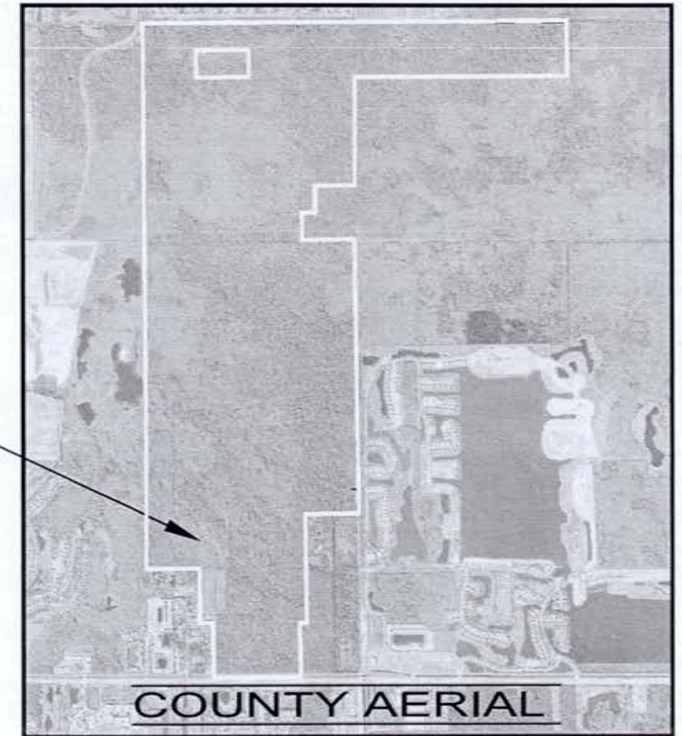
⊠ LATITUDE: N 26° 17' 51.497"
 ⊠ LONGITUDE: W 81° 42' 0.888"

DIRECTIONS TO SITE:

FROM I-75 EXIT 111 TURN EAST ONTO IMMOKALEE RD (CR 846). TRAVEL APPROXIMATELY 2.5 MILES, PROJECT SITE IS ON NORTH SIDE OF ROAD.



SUBJECT PROPERTY



COUNTY AERIAL

SUBJECT PROPERTY

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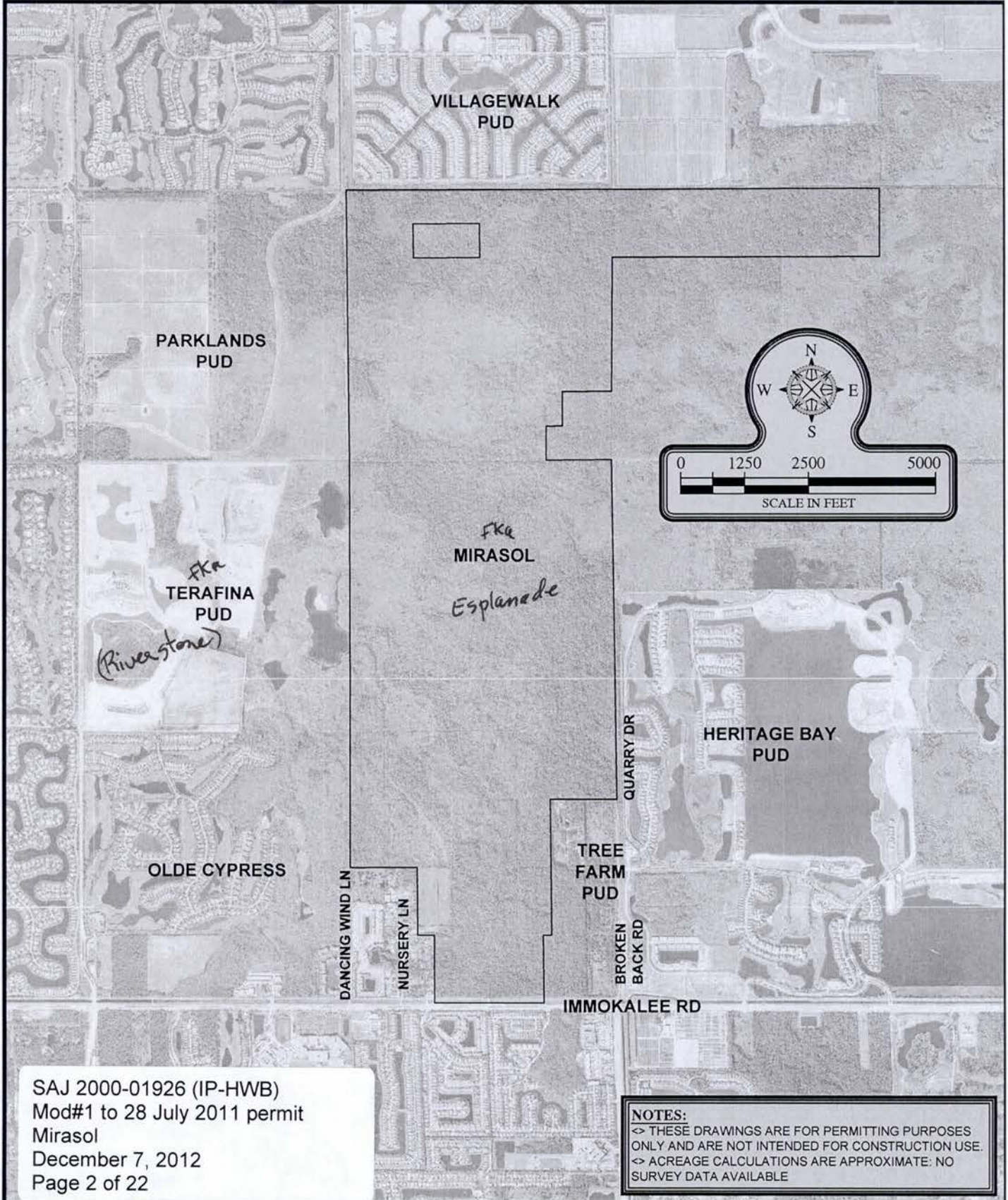


Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B. Naples, FL 34104-3732
 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL

SITE LOCATION MAP

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	Location
DRAWN BY:	SS		02-15-2012	SHEET:	
CREATED:	04-25-06		06-05-2012	SCALE:	1"=800'
JOB NO.:	9418		N/A		
SECTION- 10,11,15,22 TOWNSHIP- 48 S				RANGE- 26 E	



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NOTES:
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 <> ACREAGE CALCULATIONS ARE APPROXIMATE: NO SURVEY DATA AVAILABLE

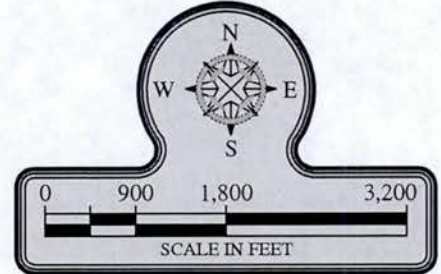
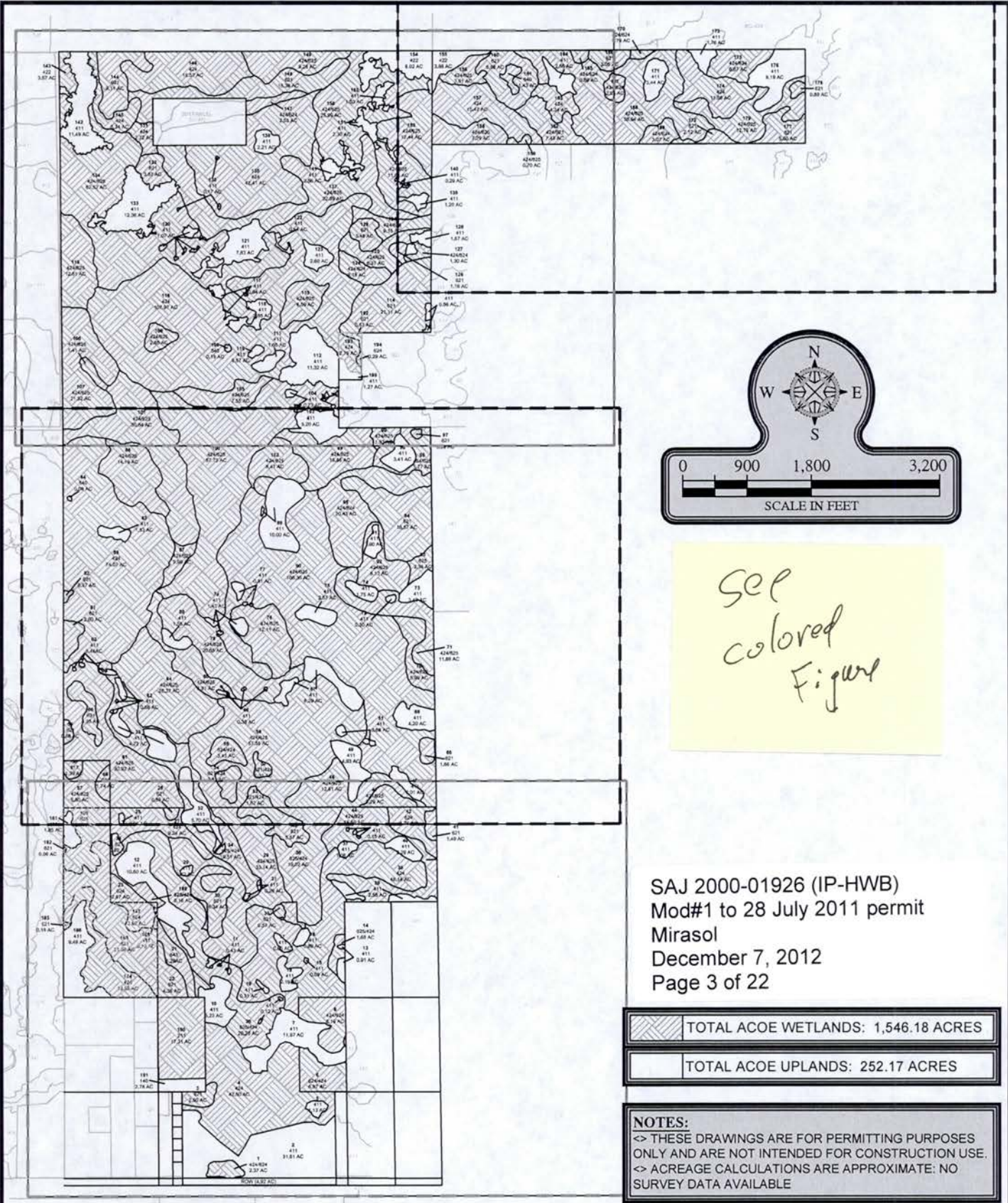


Turrell & Associates, Inc.
 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B. Naples, FL 34104-3732
 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL

2011 SITE AERIAL

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Aerial
DRAWN BY:	SS	02-15-2012	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 26 E				



See colored Figure

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TOTAL ACOE WETLANDS: 1,546.18 ACRES

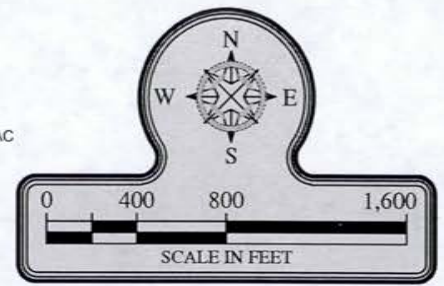
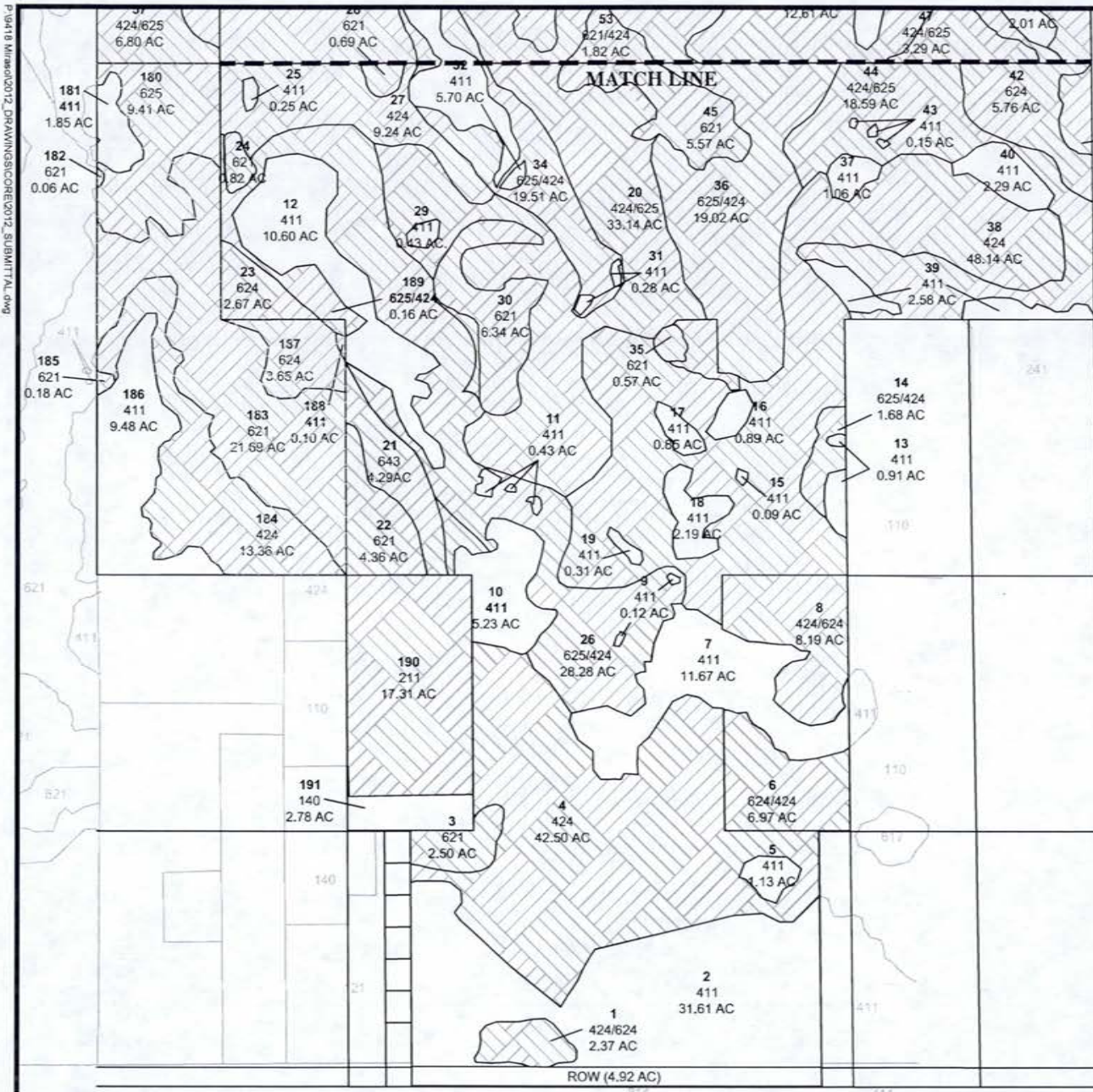
TOTAL ACOE UPLANDS: 252.17 ACRES

NOTES:
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 <> ACREAGE CALCULATIONS ARE APPROXIMATE: NO SURVEY DATA AVAILABLE

 **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
 ACOE FLUCFCS MAP (ALL)

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Flucfcs All
DRAWN BY:	SS	02-15-2012	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 26 E				



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*FOR FLUCS
 Key - see
 Attach C, Table I*

	TOTAL ACOW WETLANDS: 1,546.18 ACRES
	TOTAL ACOW UPLANDS: 252.17 ACRES

NOTES:
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 <> ACREAGE CALCULATIONS ARE APPROXIMATE: NO SURVEY DATA AVAILABLE

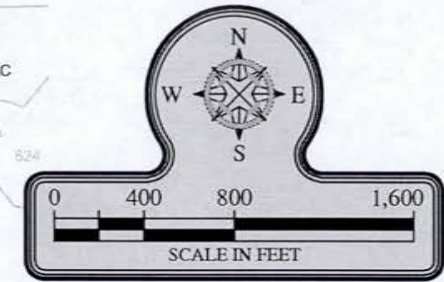
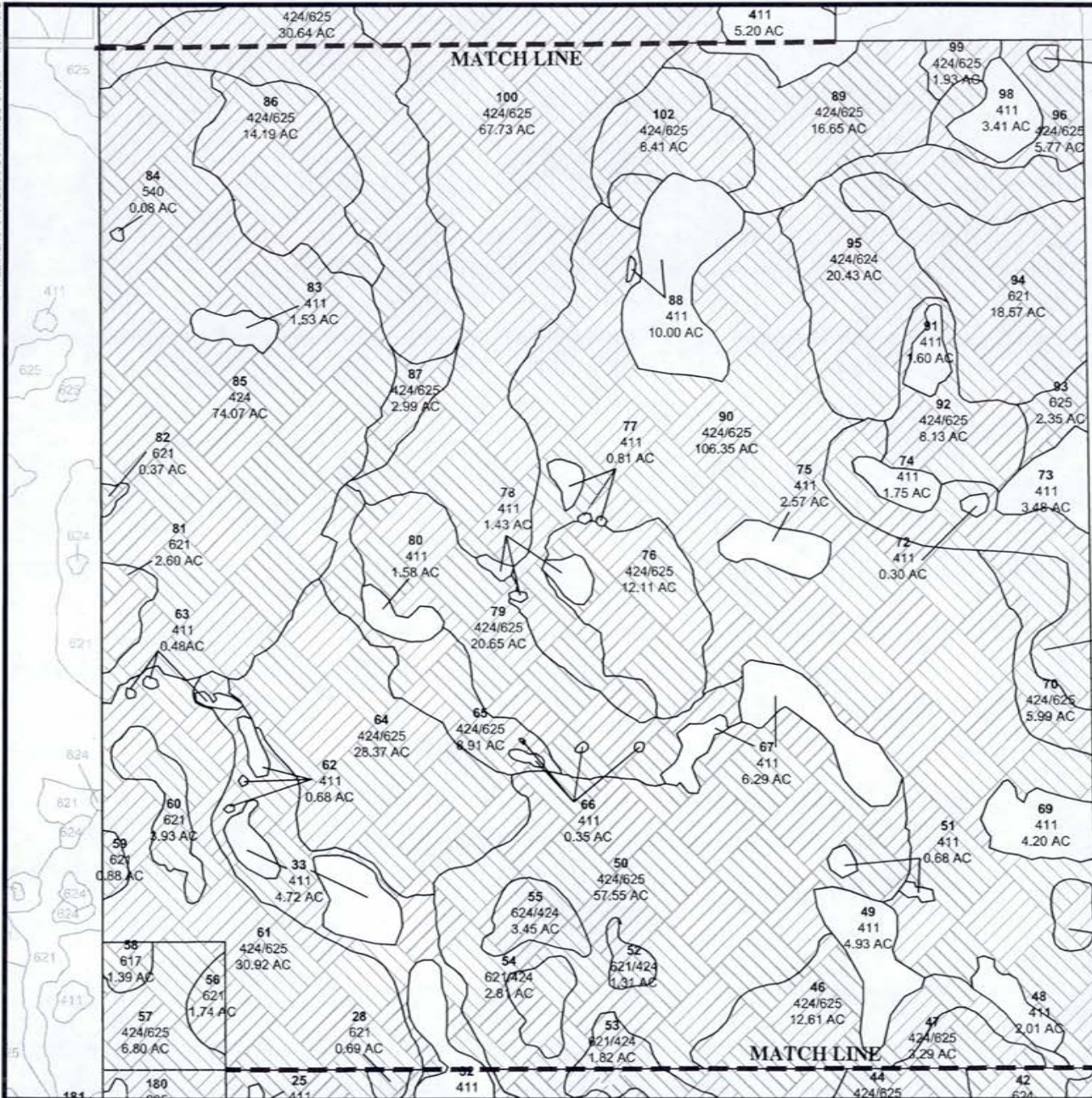
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DRAWN BY:	SS	02-15-2012		SHEET:	
CREATED:	04-25-06	06-05-2012		SCALE:	1"=800'
JOB NO.:	9418	N/A			
SECTION- 22		TOWNSHIP- 48 S		RANGE- 26 E	



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MIRASOL
 FLUCFCS MAP (SECTION 22)

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TOTAL ACOE WETLANDS: 1,546.18 ACRES

TOTAL ACOE UPLANDS: 252.17 ACRES

NOTES:
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 <> ACREAGE CALCULATIONS ARE APPROXIMATE: NO SURVEY DATA AVAILABLE

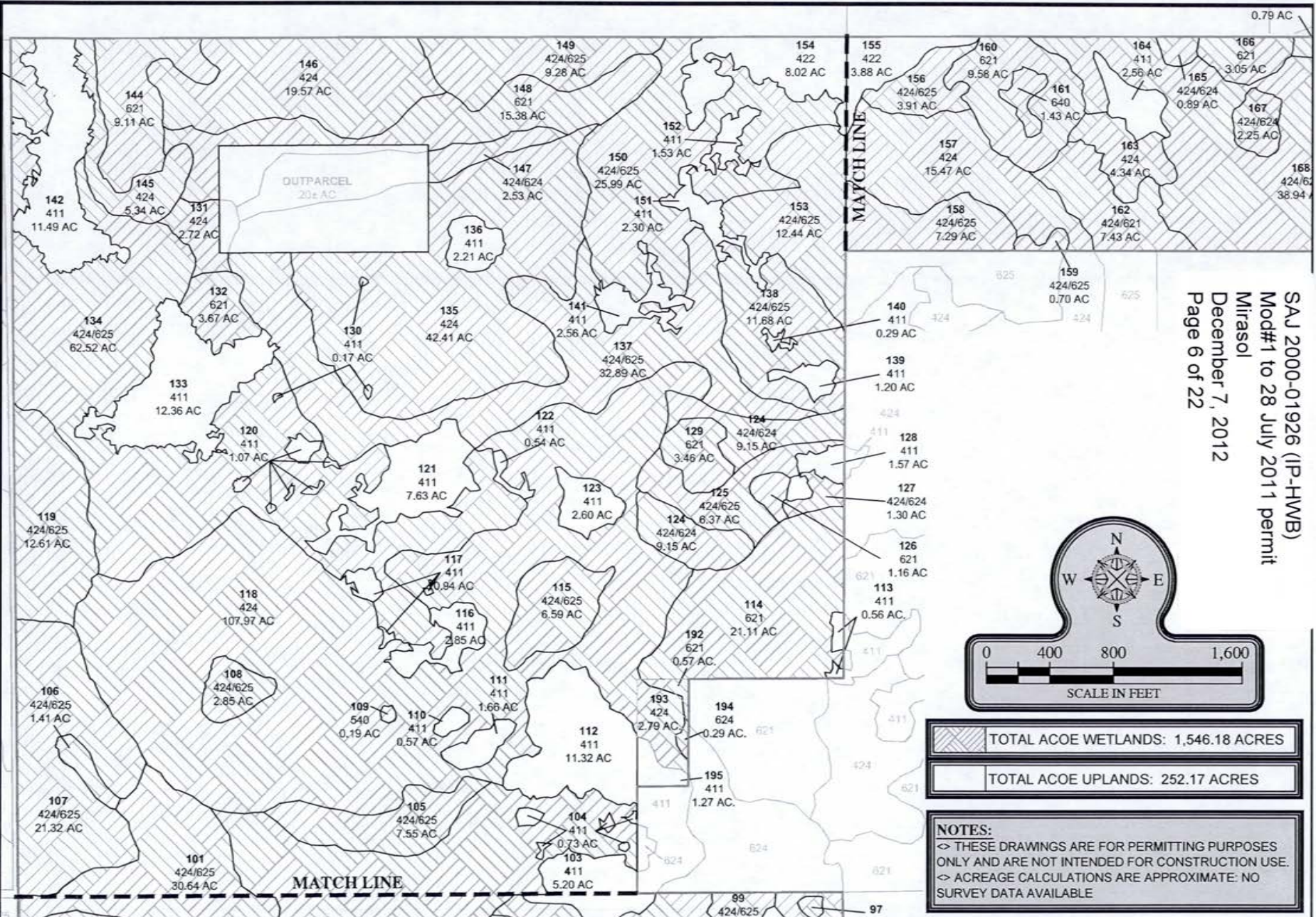


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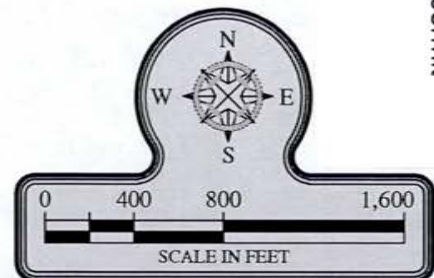
MIRASOL
 FLUCFCS MAP (SECTION 15)

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	Flucfcs 15
DRAWN BY:	SS	02-15-2012		SHEET:	
CREATED:	04-25-06	06-05-2012		SCALE:	1"=800'
JOB NO.:	9418	N/A			
SECTION-15		TOWNSHIP-48 S		RANGE-26 E	

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SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
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 December 7, 2012
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TOTAL ACOE WETLANDS: 1,546.18 ACRES

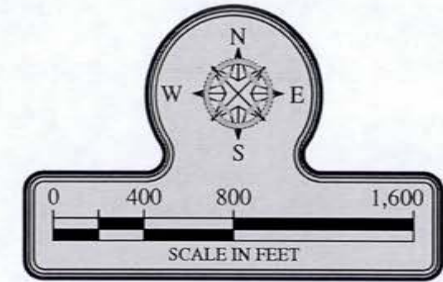
TOTAL ACOE UPLANDS: 252.17 ACRES

NOTES:
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 <> ACREAGE CALCULATIONS ARE APPROXIMATE: NO SURVEY DATA AVAILABLE

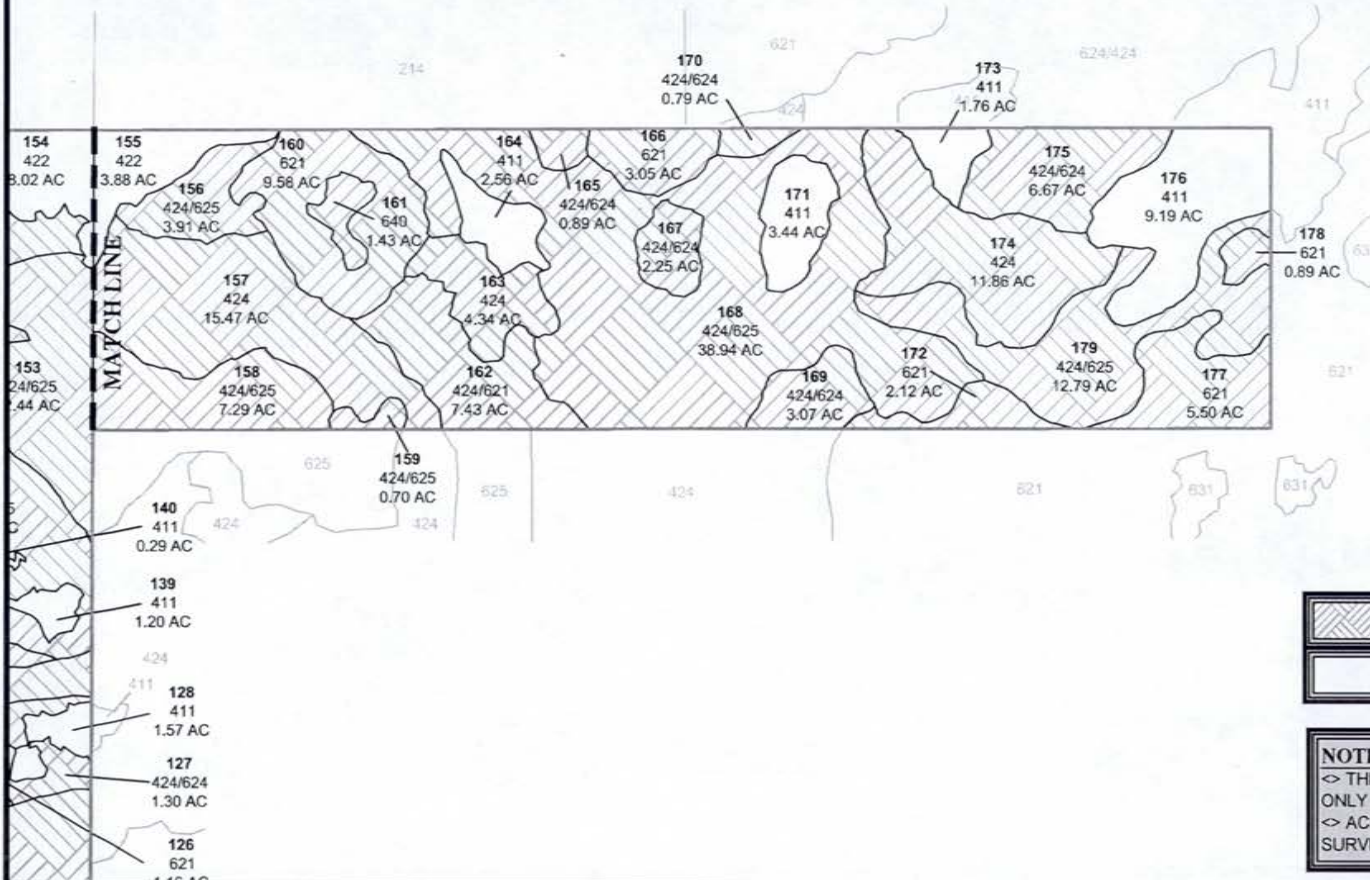

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MIRASOL
 FLUCFCS MAP (SECTION 10)

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Flucfcs 10
DRAWN BY:	SS	02-15-2012	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=800'
JOB NO.:	9418	N/A		
SECTION- 15		TOWNSHIP- 48 S		RANGE- 26 E



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 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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TOTAL ACOE WETLANDS: 1,546.18 ACRES

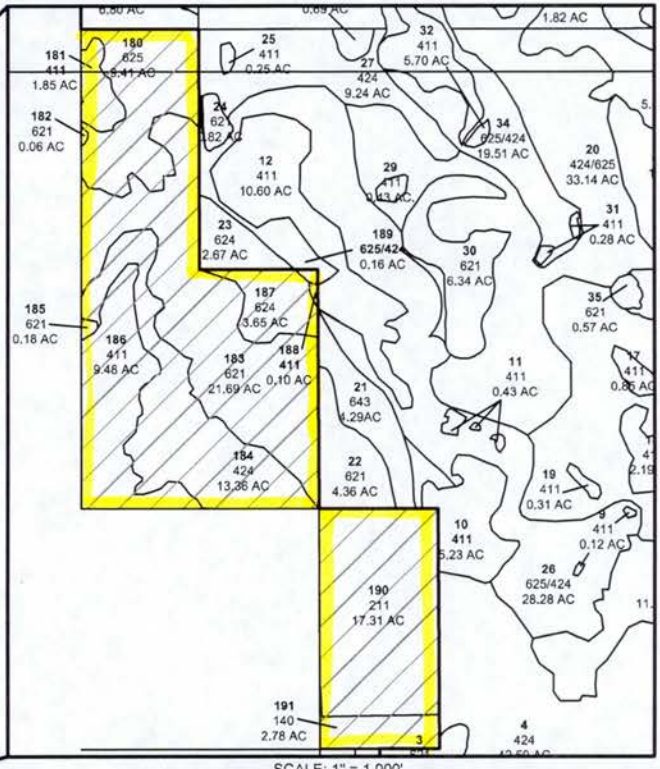
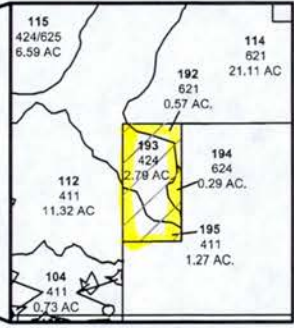
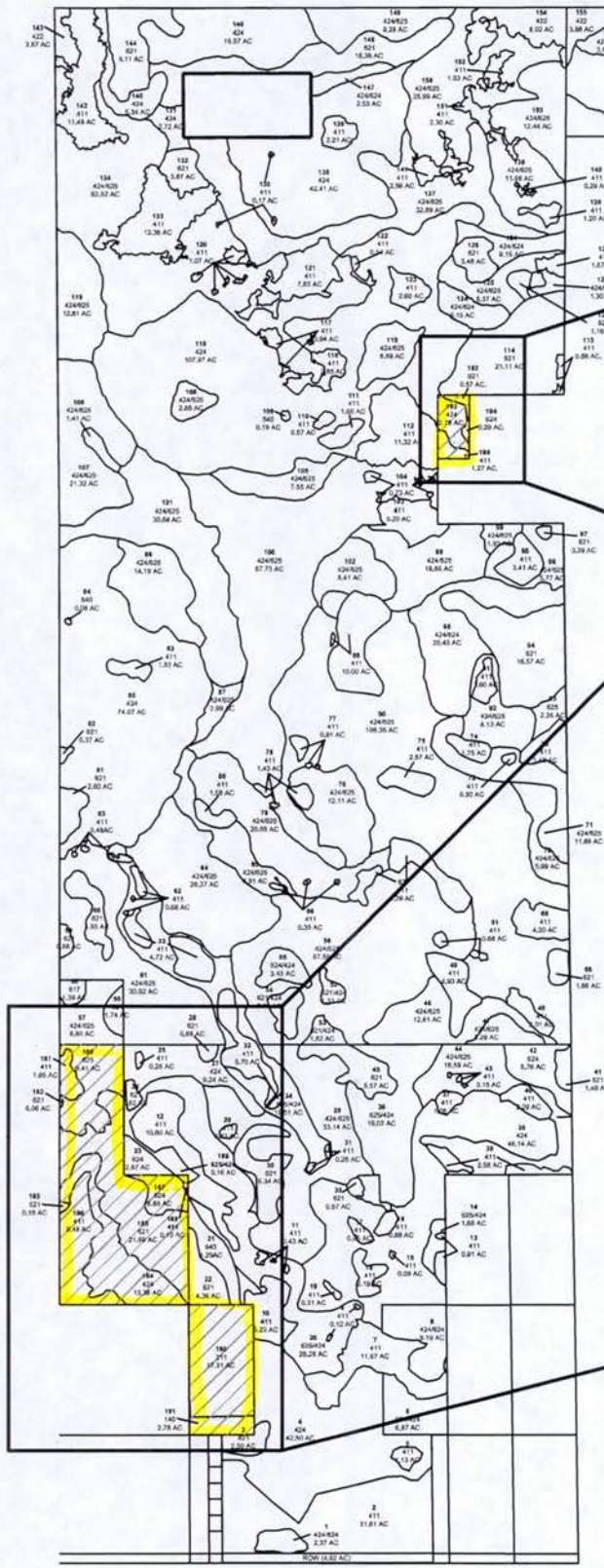
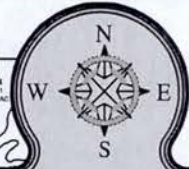
TOTAL ACOE UPLANDS: 252.17 ACRES

NOTES:
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MIRASOL
 FLUCFCS MAP (SECTION 11)

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	Flucfcs 11
DRAWN BY:	SS	02-15-2012		SHEET:	
CREATED:	04-25-06	06-05-2012		SCALE:	1"=800'
JOB NO.:	9418	N/A			
SECTION- 15		TOWNSHIP- 48 S		RANGE- 26 E	



LANDS ADDED TO BOUNDARY

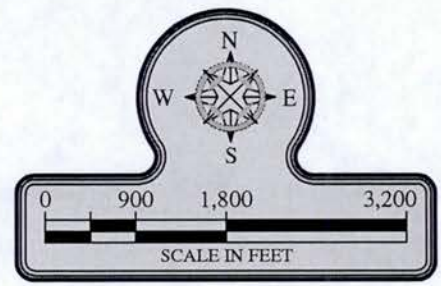
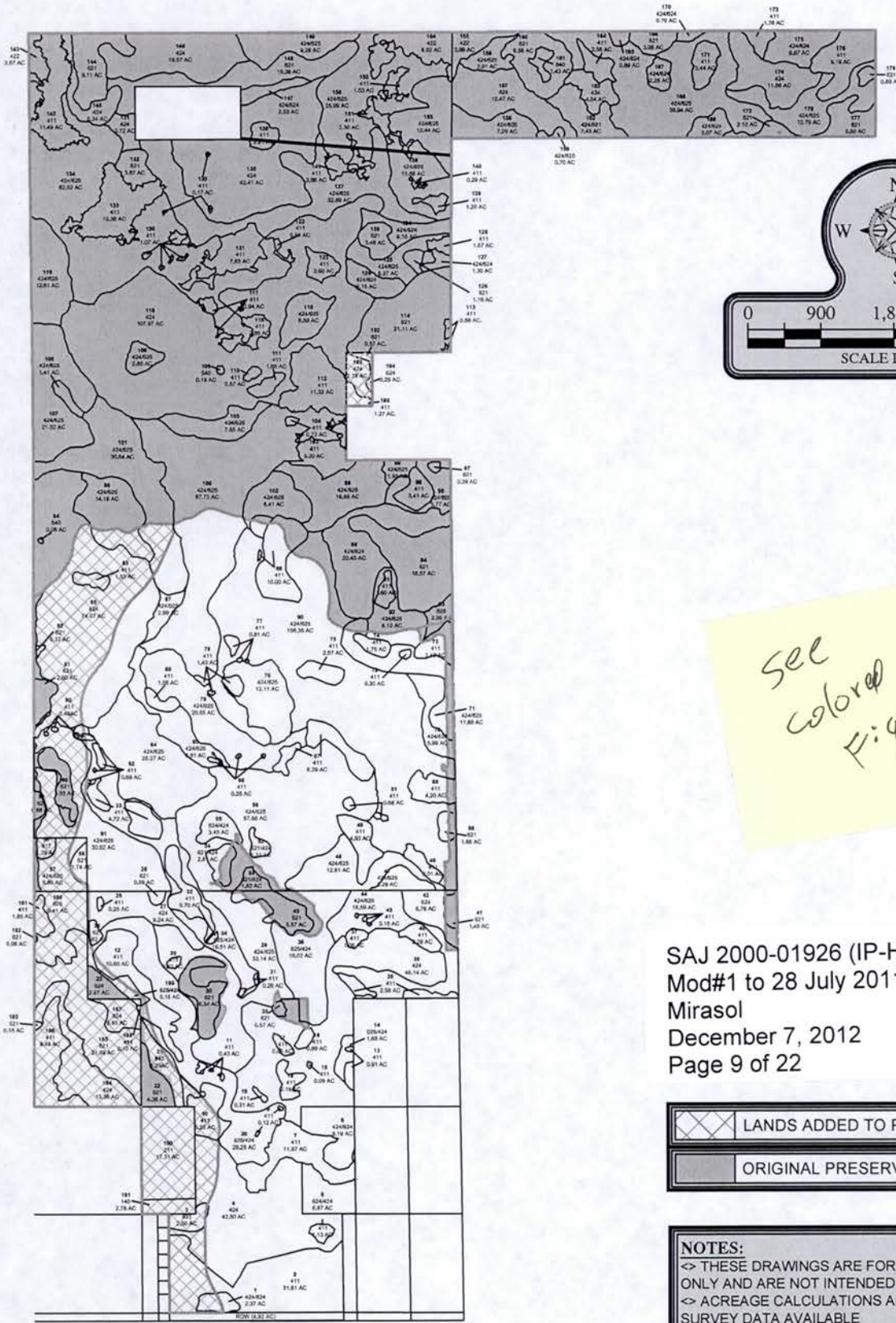
NOTES:
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 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 8 of 22

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
MIRASOL
 ADDITIONAL LANDS

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	ADD BNDRY
DRAWN BY:	SS	02-15-2012	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 26 E				



see colored figures

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	LANDS ADDED TO PRESERVES
	ORIGINAL PRESERVES

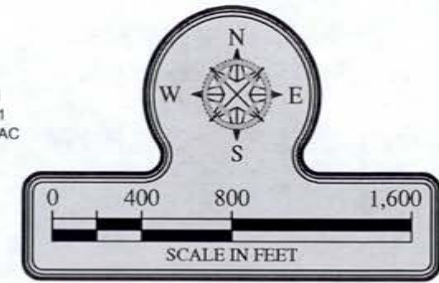
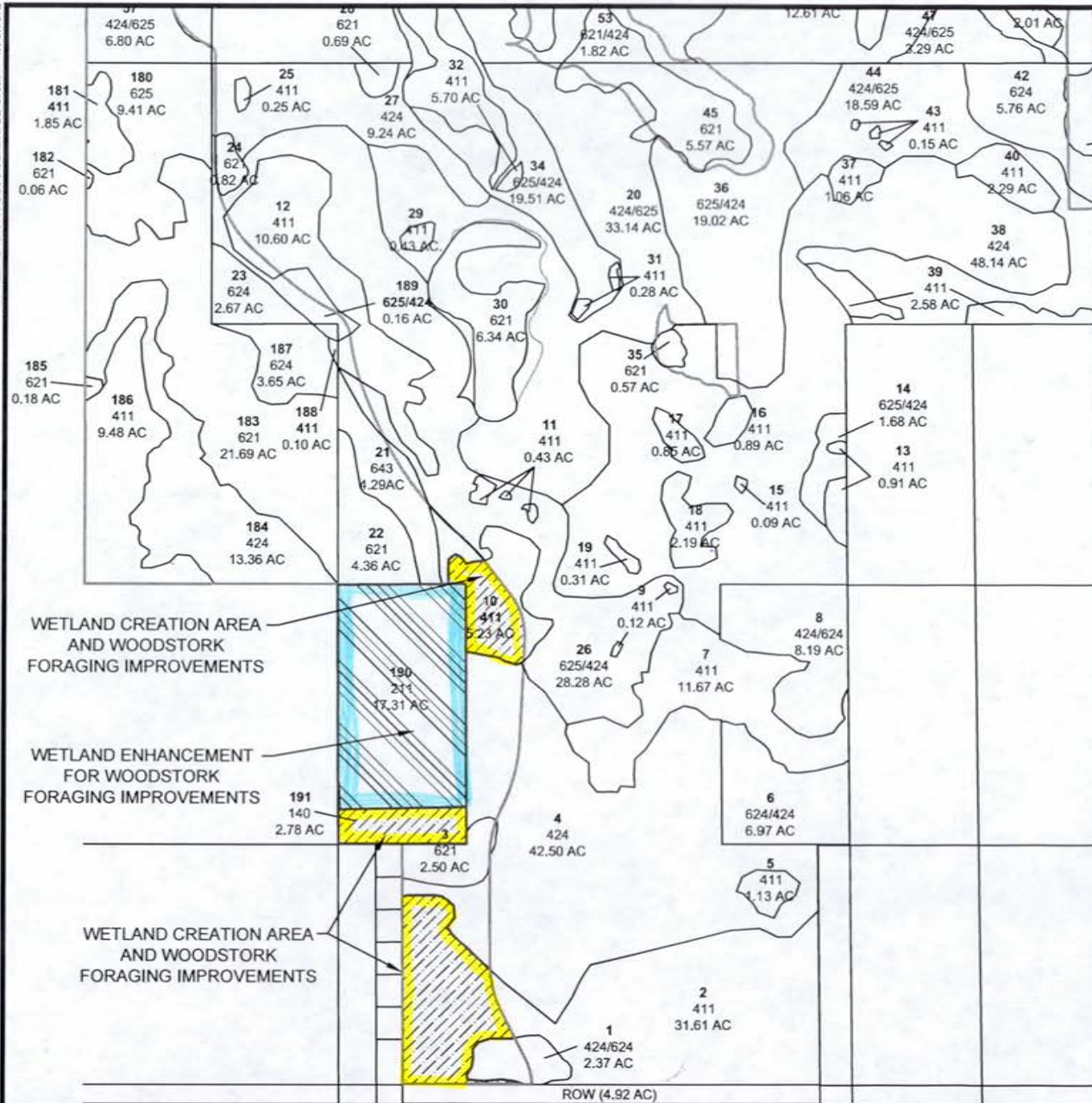
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MIRASOL
 ADDITIONAL PRESERVES



DESIGNED: T.T.T.	REVISION:	TAB NAME: ADD PRESERVE
DRAWN BY: SS	02-15-2012	SHEET:
CREATED: 04-25-06	06-05-2012	SCALE: 1"=1,800'
JOB NO.: 9418	N/A	
SECTION- TOWNSHIP- 48 S RANGE- 26 E		

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 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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See colored figures

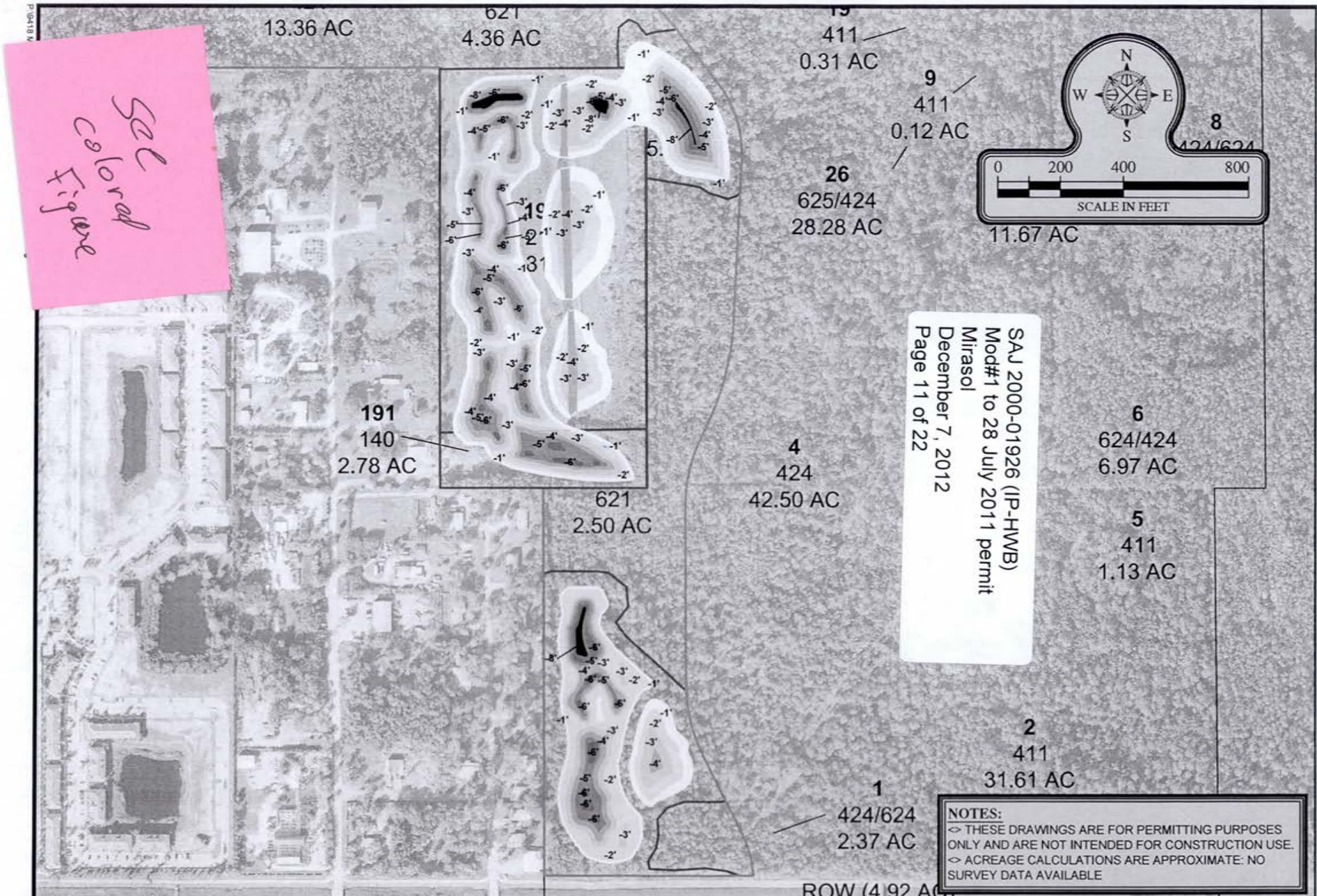
	CREATED WETLANDS: 14.55 ACRES
	FARM SITE ENHANCED WETLANDS: 17.31 ACRES
TOTAL WOODSTORK FORAGING IMPROVEMENTS: 31.86 ACRES	
NOTES: <> THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE. <> ACREAGE CALCULATIONS ARE APPROXIMATE: NO SURVEY DATA AVAILABLE	



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MIRASOL
 WETLAND CREATION AND ENHANCEMENTS
 FOR WOODSTORK FORAGING IMPROVEMENTS

DESIGNED: T.T.T.	REVISION: 06-05-2012	TAB NAME: WET CREATE
DRAWN BY: RMJ	SHEET:	
CREATED: 02-20-2012	SCALE: 1"=800'	
JOB NO.: 9418		
SECTION-22 TOWNSHIP- 48 S RANGE- 26 E		



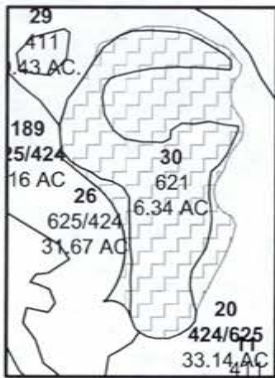
Set colored Figure



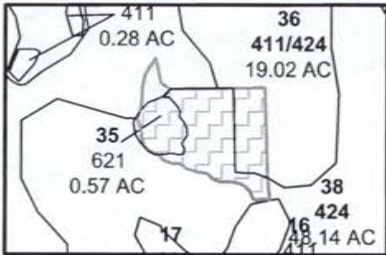
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MIRASOL
 FORAGING IMPROVEMENTS

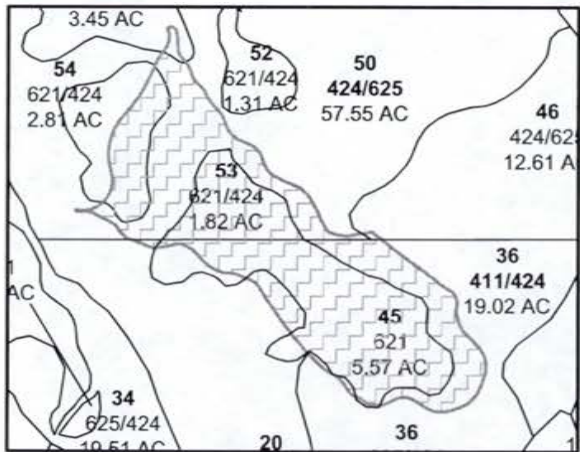
DESIGNED:	T.T.T.	REVISION:		TAB NAME:	FORAGING
DRAWN BY:	RMJ	06-05-2012		SHEET:	
CREATED:	04-06-2012			SCALE:	1"=200'
JOB NO.:	9418				
SECTION-22		TOWNSHIP- 48 S		RANGE- 26 E	



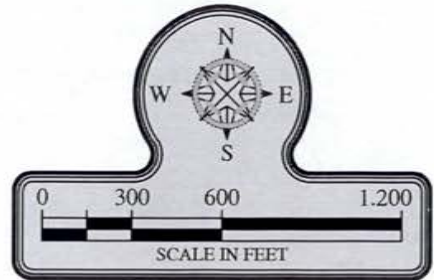
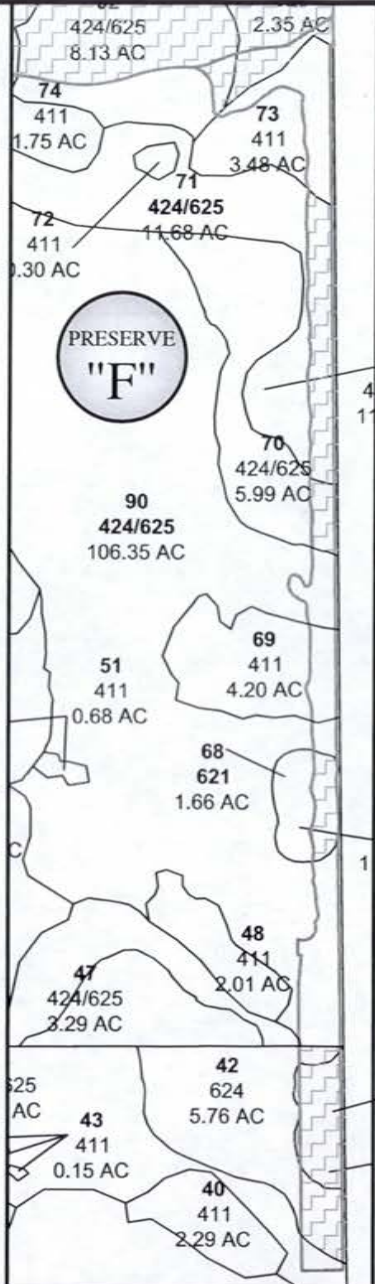
PRESERVE
"C"



PRESERVE
"D"



PRESERVE
"E"



Set colored figure

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:
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SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
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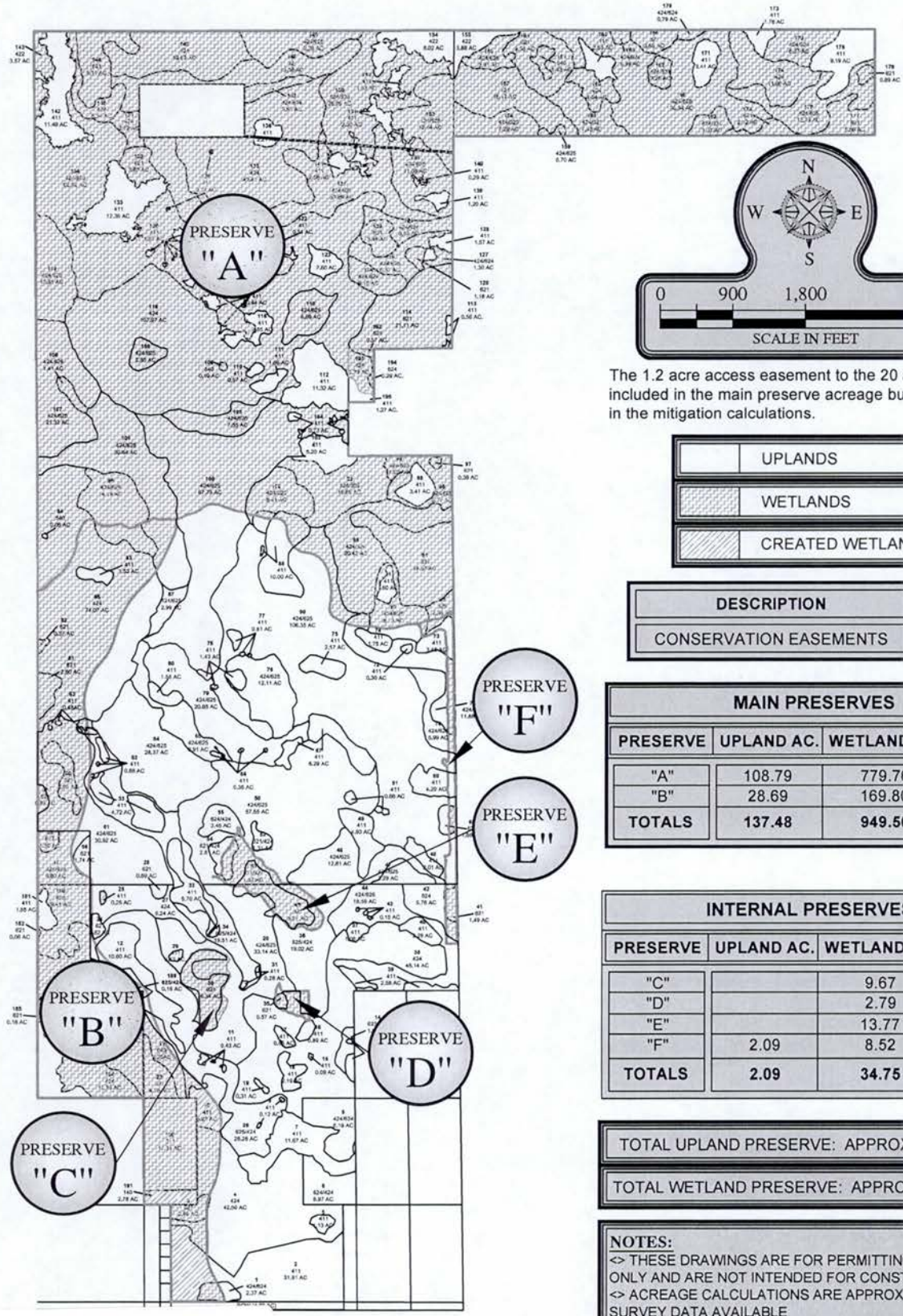


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MIRASOL

INTERNAL PRESERVES (DETAILED)

DESIGNED: T.T.T.	REVISION:	TAB NAME: Internal
DRAWN BY: SS	02-16-2012	SHEET:
CREATED: 04-25-06	06-05-2012	SCALE: 1"=600'
JOB NO.: 9418	N/A	
SECTION- 15 TOWNSHIP- 48 S RANGE- 26 E		



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	1123.88

MAIN PRESERVES			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
"A"	108.79	779.76	888.55
"B"	28.69	169.80	198.49
TOTALS	137.48	949.56	1087.04

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

TOTAL UPLAND PRESERVE: APPROX. 139.57 AC.

TOTAL WETLAND PRESERVE: APPROX. 984.31 AC.

NOTES:
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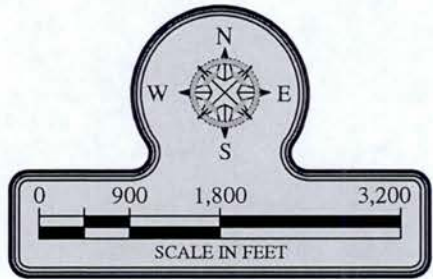
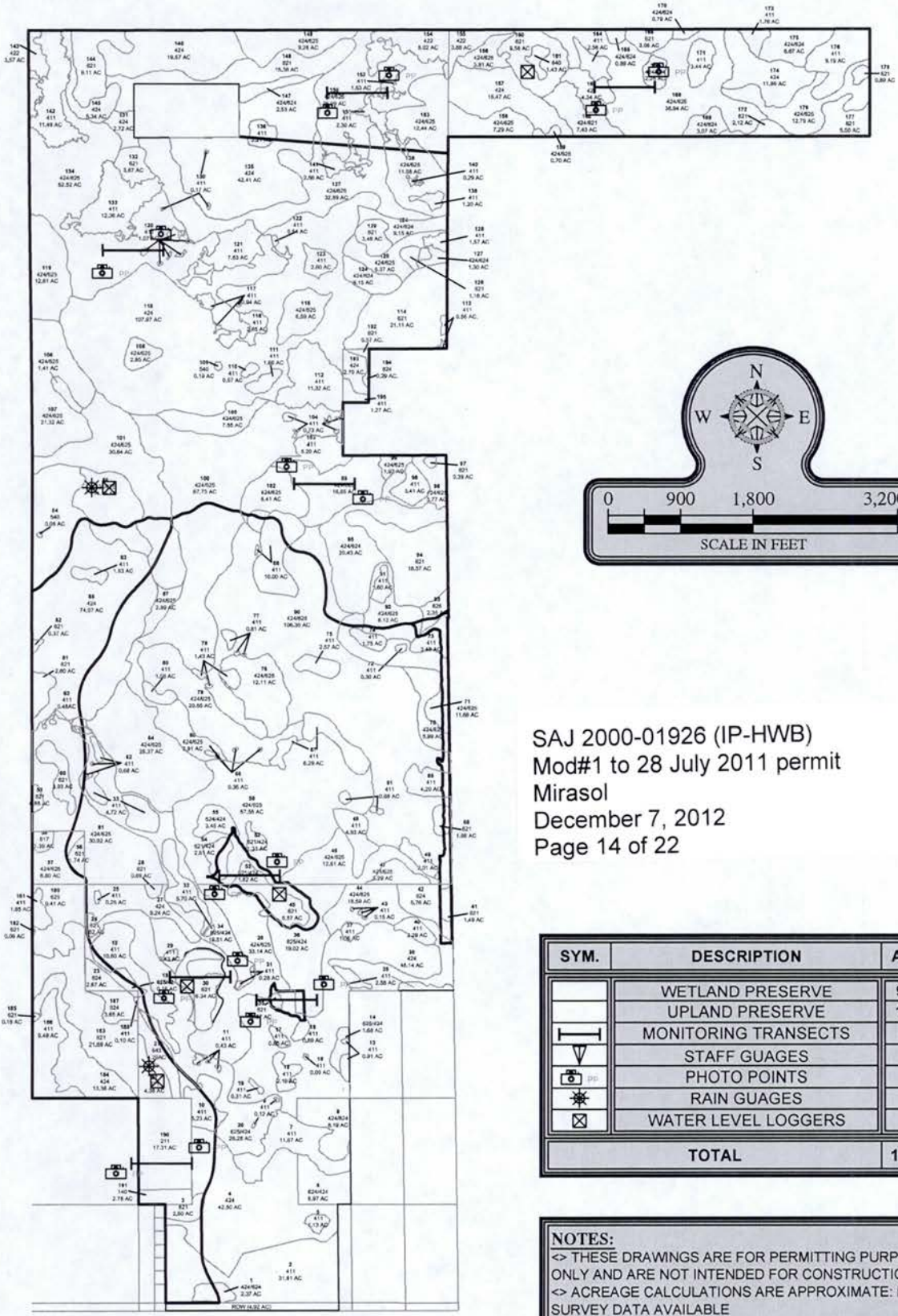
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 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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CONSERVATION MAP

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	Conservation
DRAWN BY:	SS	02-15-2012		SHEET:	
CREATED:	04-25-06	08-05-2012		SCALE:	1"=1,800'
JOB NO.:	9418	N/A			
SECTION- TOWNSHIP-48 S RANGE-26 E					



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 Mirasol
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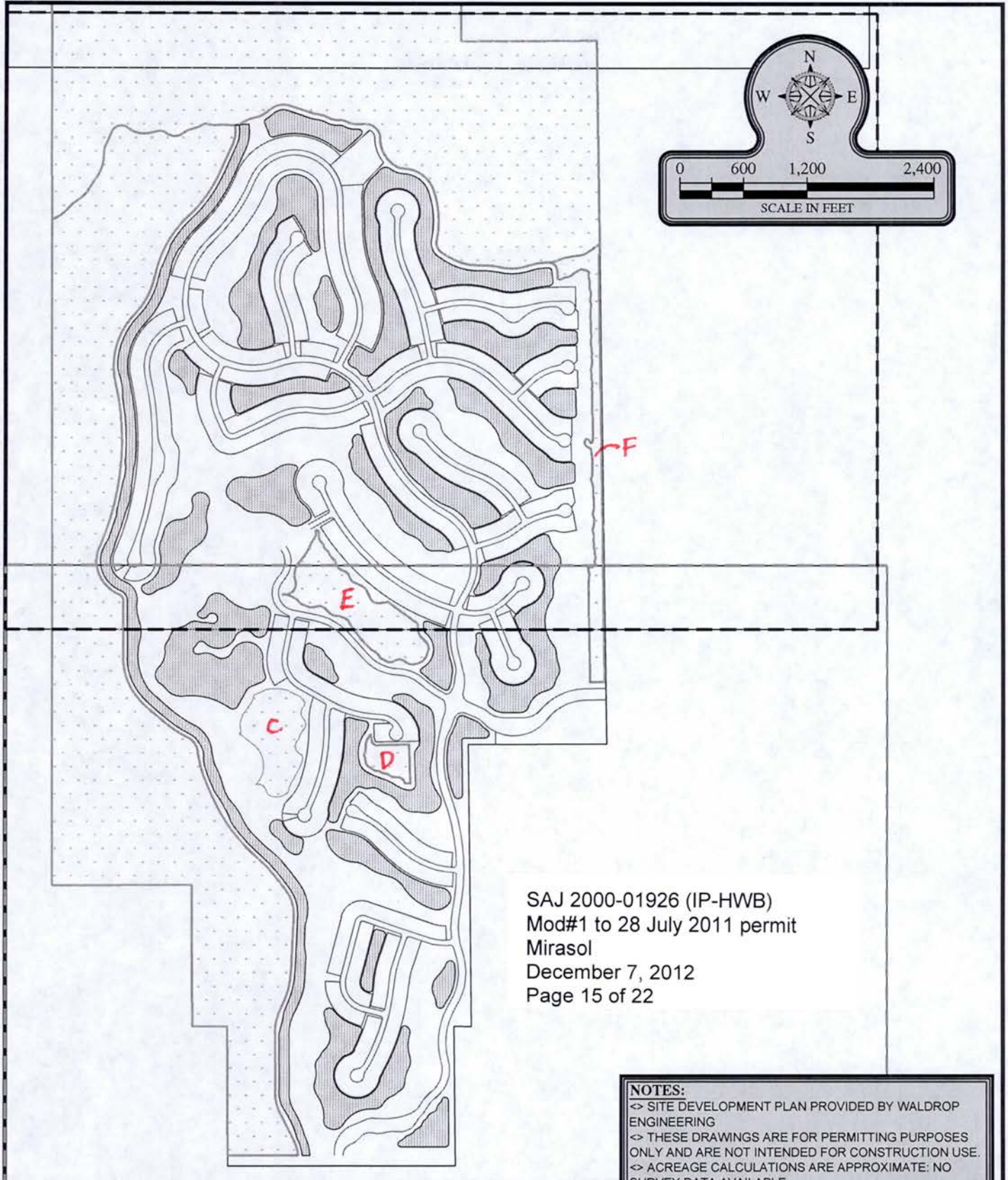
SYM.	DESCRIPTION	ACRES
	WETLAND PRESERVE	984.31
	UPLAND PRESERVE	141.09
	MONITORING TRANSECTS	N/A
	STAFF GAUGES	N/A
	PHOTO POINTS	N/A
	RAIN GAUGES	N/A
	WATER LEVEL LOGGERS	N/A
TOTAL		1125.40

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MIRASOL
 MONITORING MAP

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- 48 S RANGE- 26 E				



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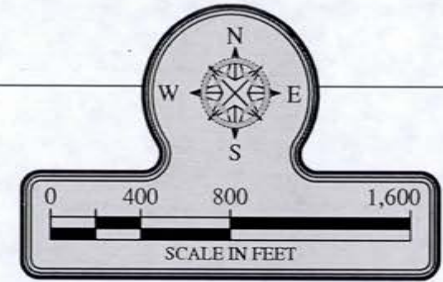
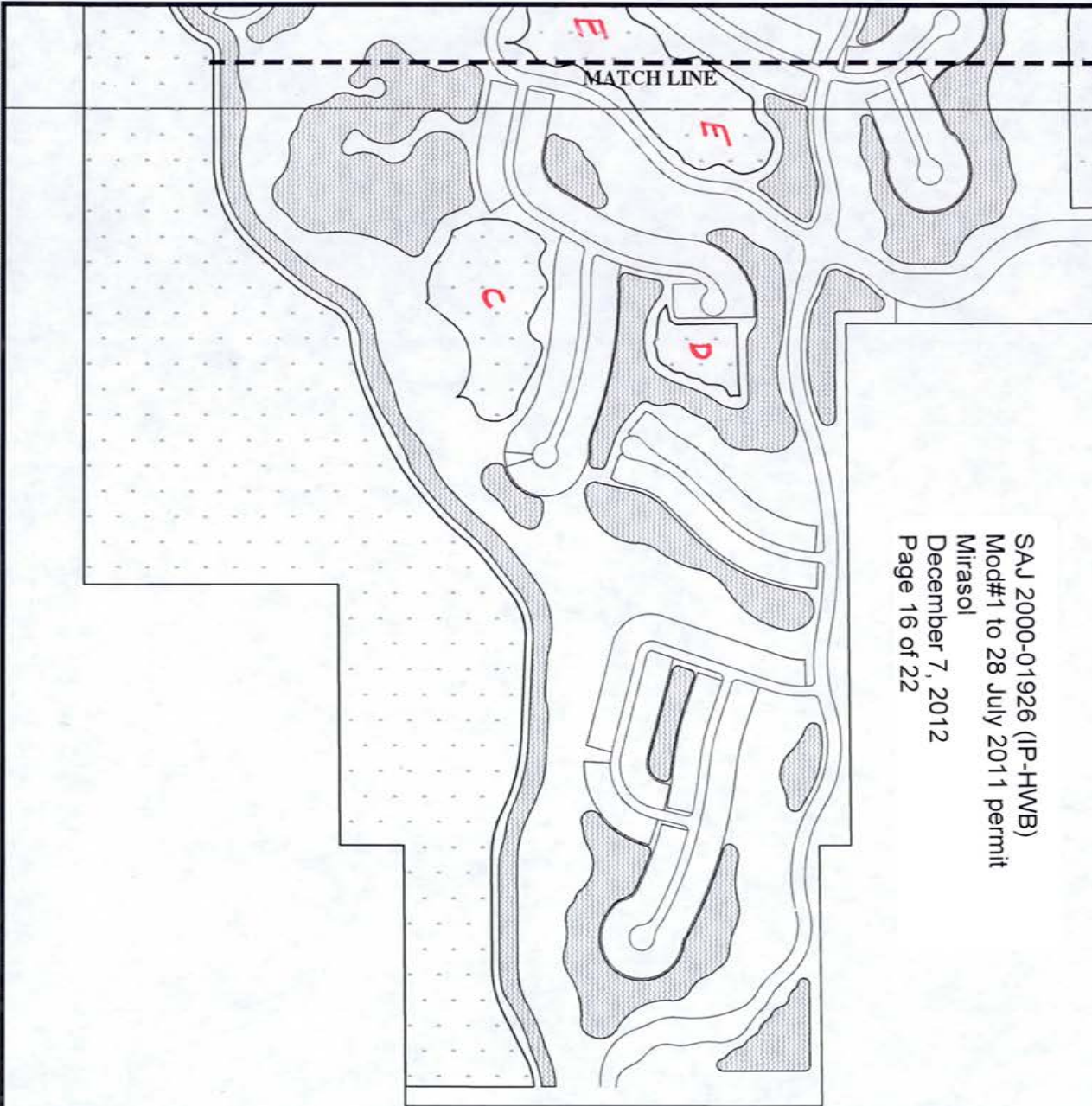
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MIRASOL
 SITE DEVELOPMENT PLAN (ALL)

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	SDP All
DRAWN BY:	SS	2-22-12		SHEET:	
CREATED:	04-25-06	06-05-2012		SCALE:	1"=1,800'
JOB NO.:	9418	N/A			
SECTION- TOWNSHIP- 48 S RANGE- 26 E					

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 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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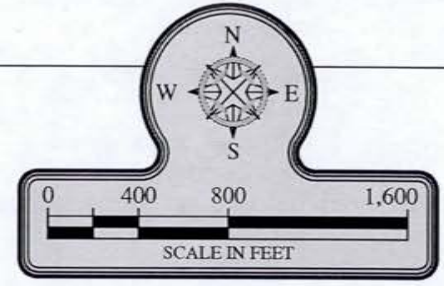
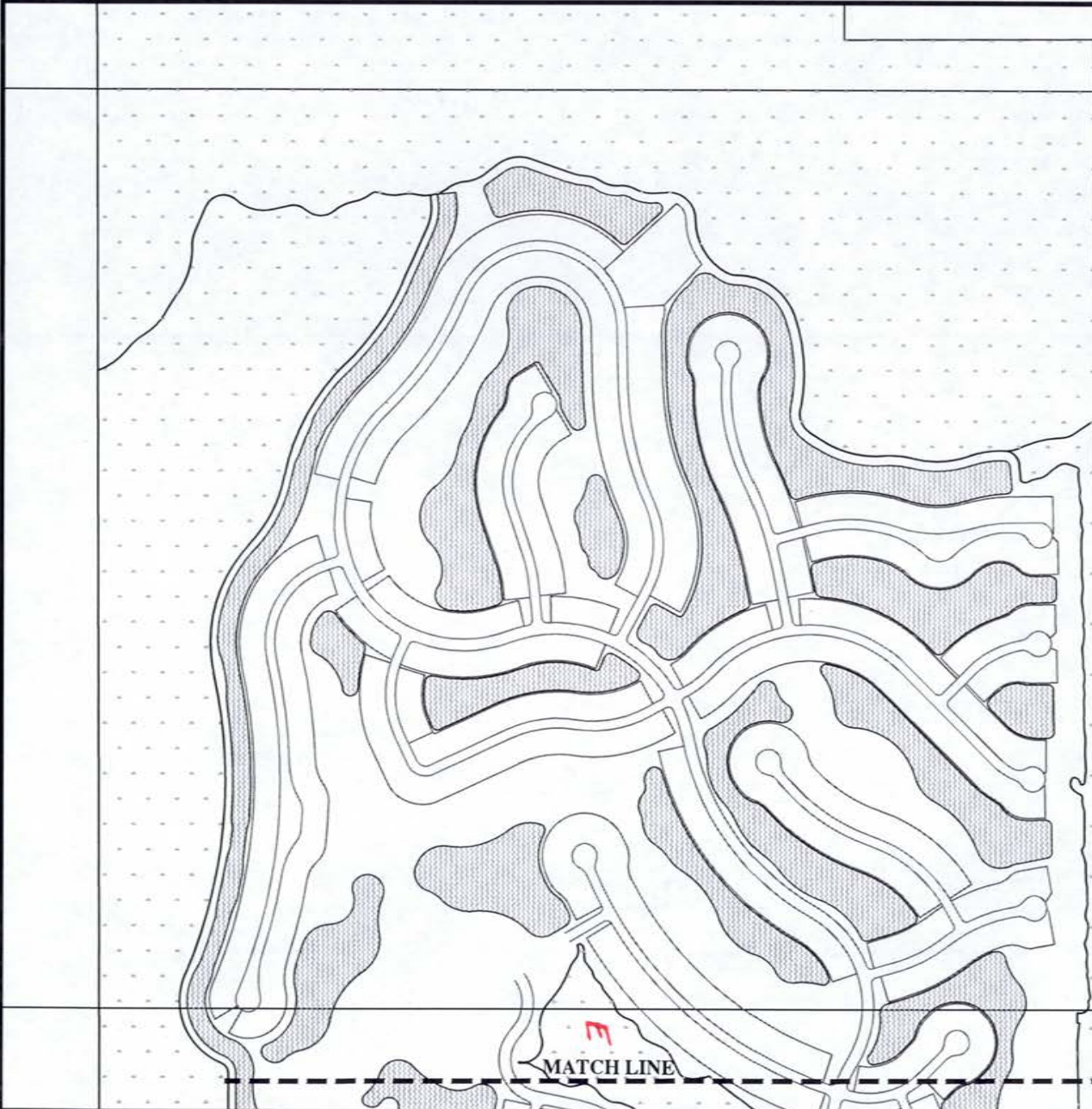
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SITE DEVELOPMENT PLAN (SECTION 22)

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	SDP 22
DRAWN BY:	SS	02-22-12	SHEET:	
CREATED:	04-25-08	06-05-2012	SCALE:	1"=800'
JOB NO.:	9418	N/A		
SECTION- 22		TOWNSHIP- 48 S	RANGE- 26 E	

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 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
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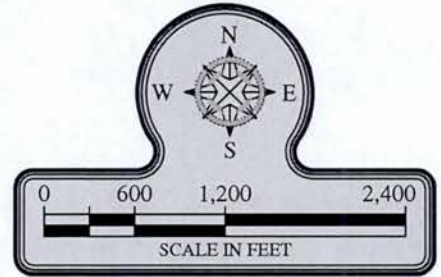
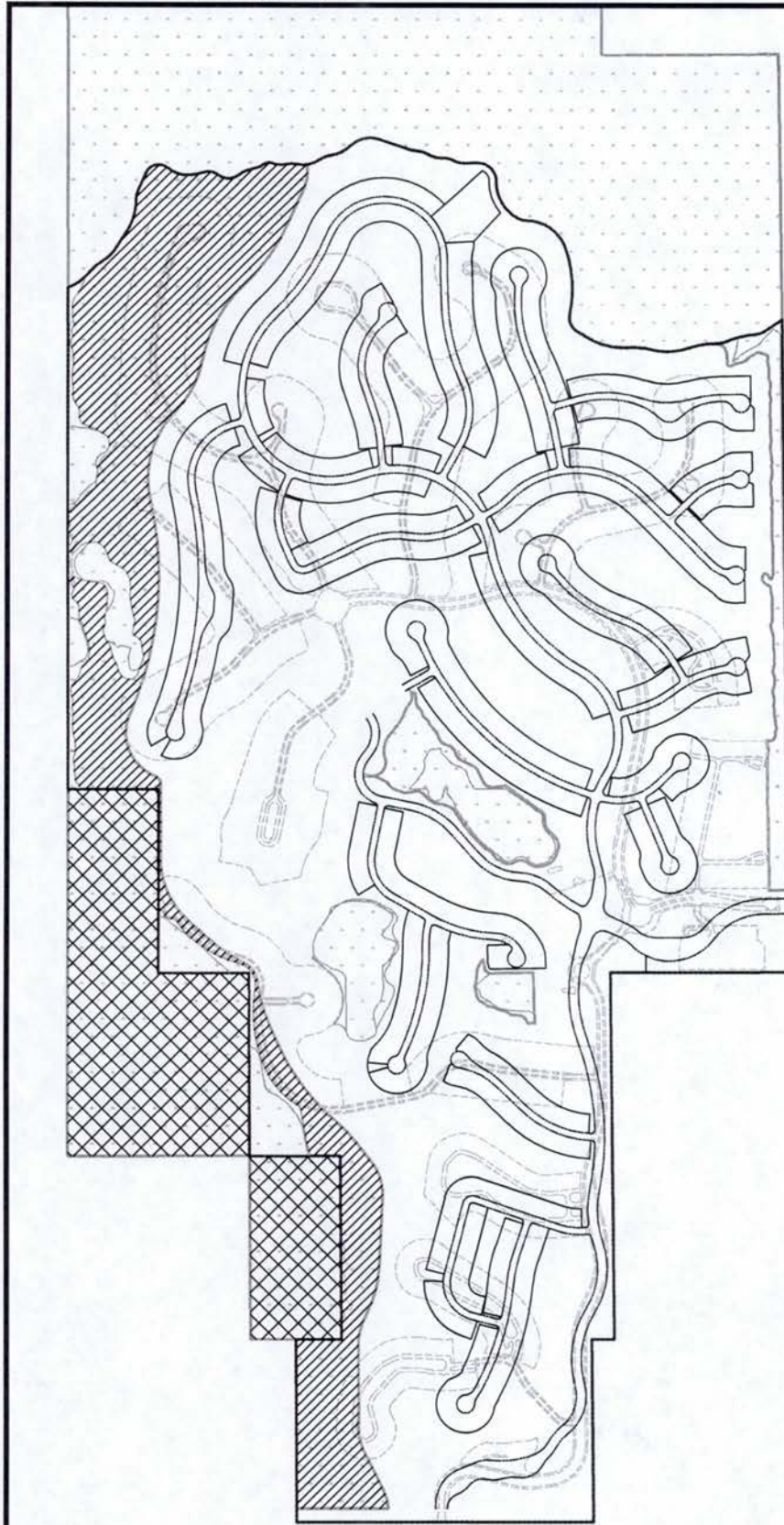
NOTES:
 <> SITE DEVELOPMENT PLAN PROVIDED BY WALDROP ENGINEERING
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MIRASOL
 SITE DEVELOPMENT PLAN (SECTION 15)

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	SDP 15
DRAWN BY:	SS	02-22-12		SHEET:	
CREATED:	04-25-06	06-05-2012		SCALE:	1"=800'
JOB NO.:	9418	N/A			
SECTION- 15		TOWNSHIP- 48 S		RANGE- 26 E	



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 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:
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 ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 <> ACREAGE CALCULATIONS ARE APPROXIMATE: NO
 SURVEY DATA AVAILABLE



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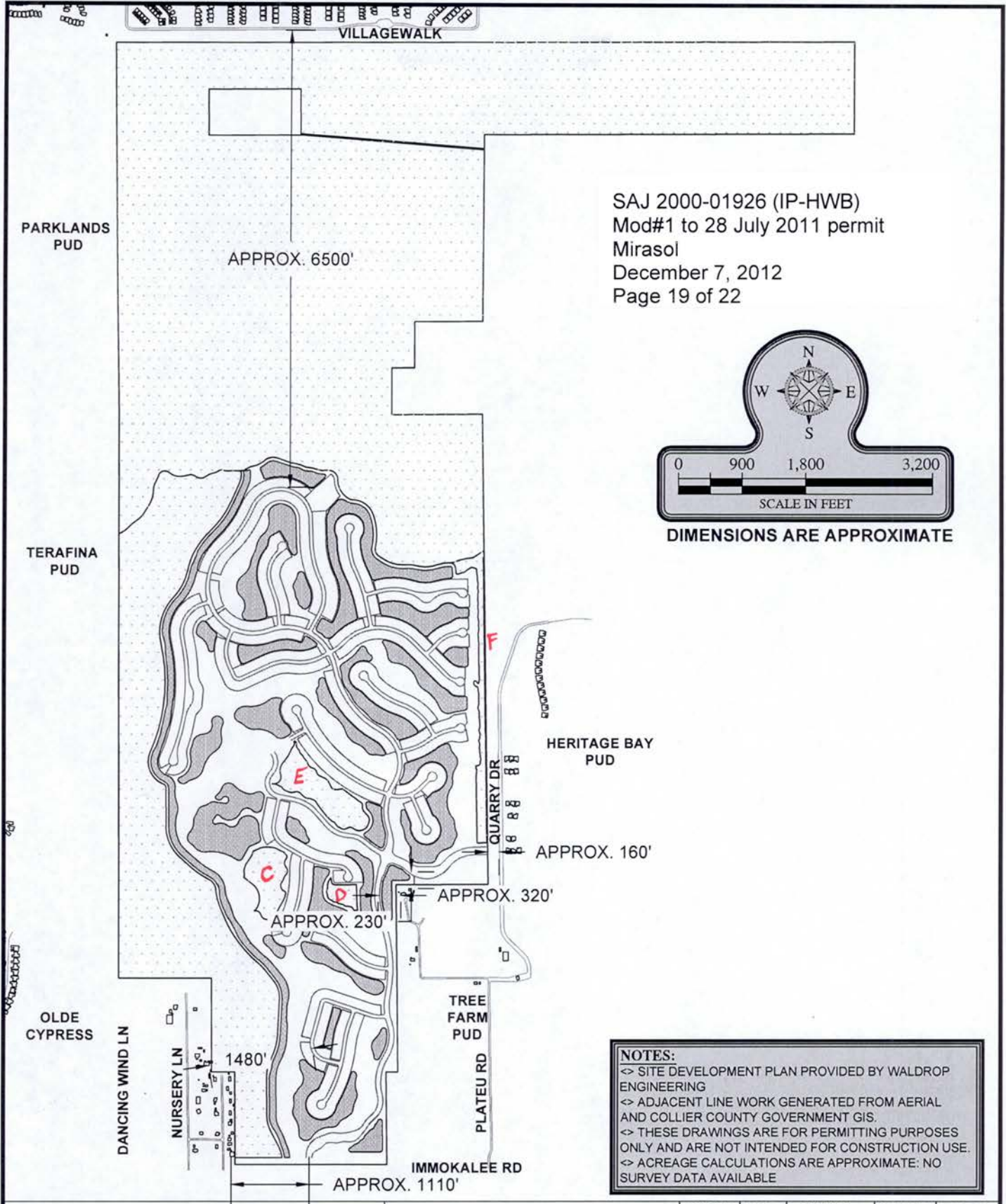
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Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL

SITE DEVELOPMENT PLAN PRESERVE COMPARISON

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	SDP All
DRAWN BY:	SS	2-22-12	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 26 E				

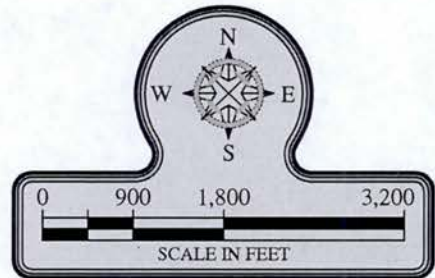
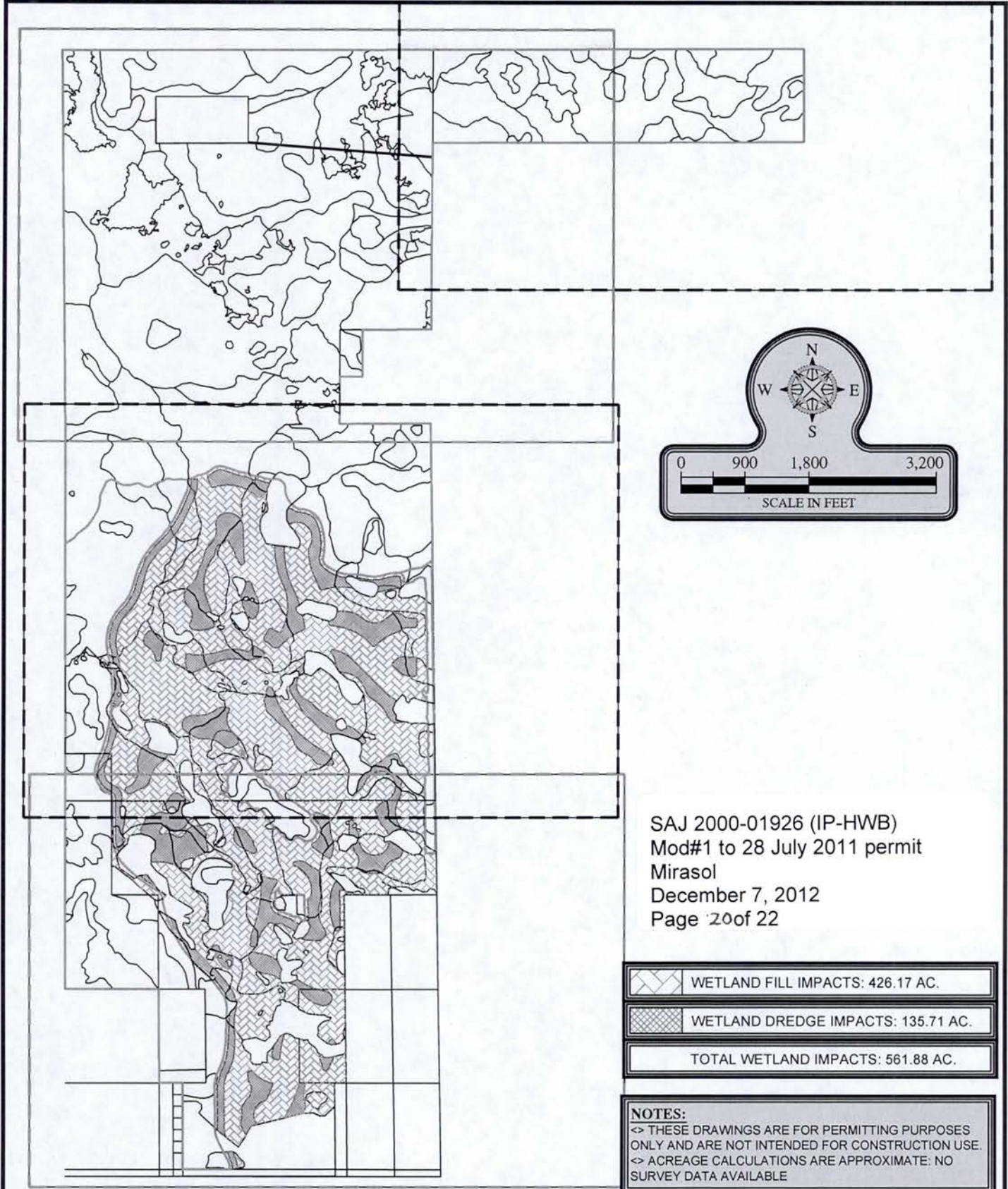


NOTES:
 <> SITE DEVELOPMENT PLAN PROVIDED BY WALDROP ENGINEERING
 <> ADJACENT LINE WORK GENERATED FROM AERIAL AND COLLIER COUNTY GOVERNMENT GIS.
 <> THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 <> ACREAGE CALCULATIONS ARE APPROXIMATE: NO SURVEY DATA AVAILABLE


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
 SITE DEVELOPMENT PLAN WITH DIMENSIONS

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	SDP All
DRAWN BY:	SS	2-22-12	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 26 E				



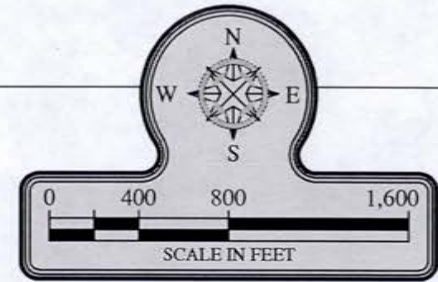
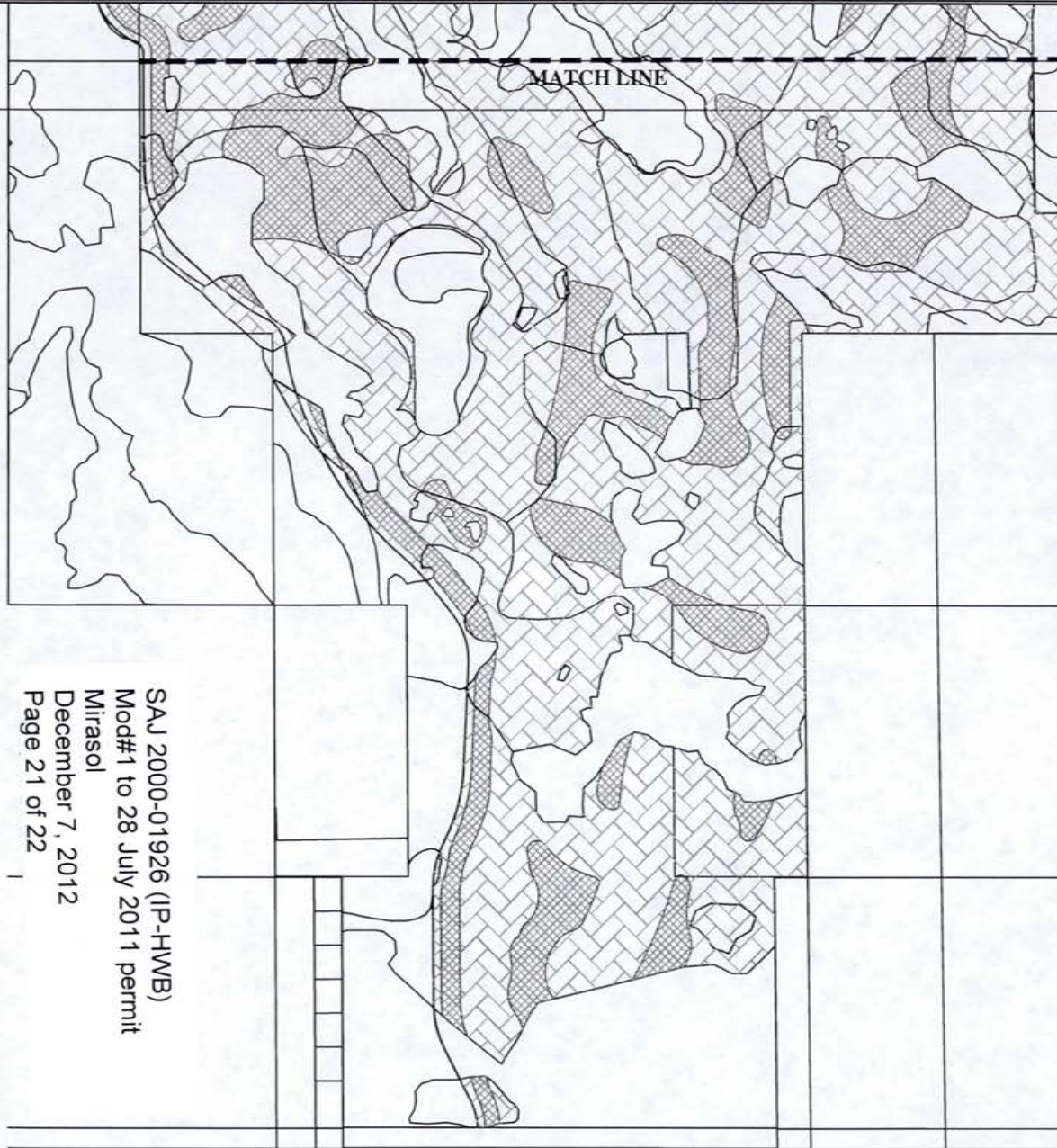
SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 20 of 22

	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.
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DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Imp All
DRAWN BY:	SS	02-22-12	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 26 E				

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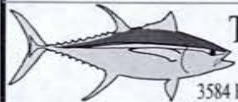
SAJ 2000-01926 (P-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Page 21 of 22

 WETLAND FILL IMPACTS: 426.17 AC.

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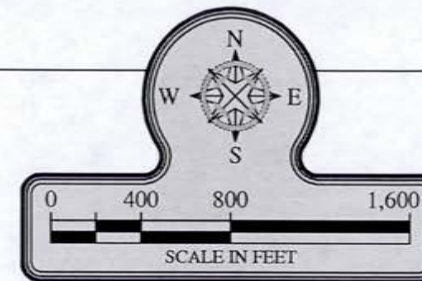
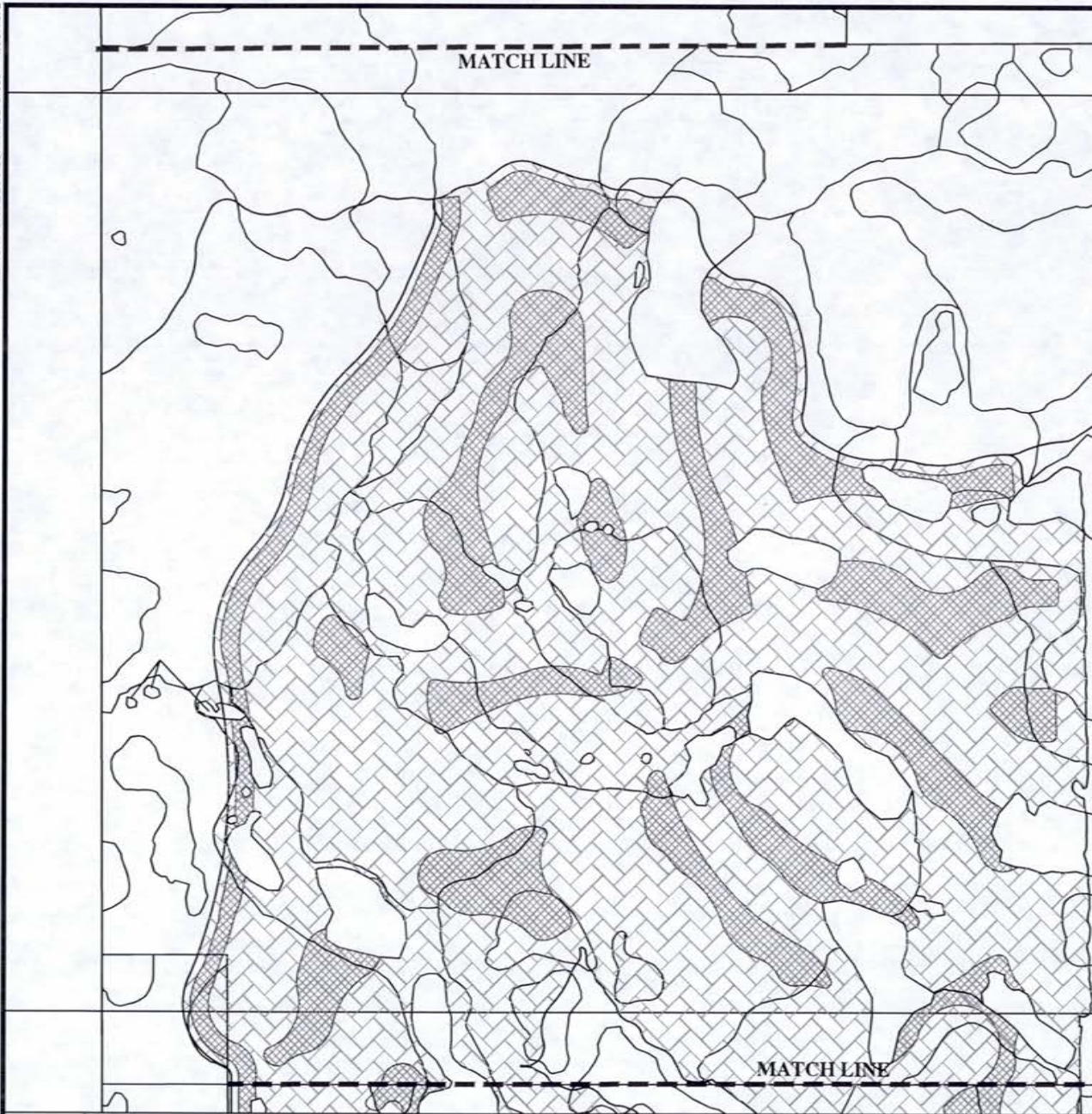


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 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 IMPACTS (SECTION 22)

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	Imp & Pre 22
DRAWN BY:	SS		02-22-12	SHEET:	
CREATED:	04-25-06		06-05-2012	SCALE:	1"=800'
JOB NO.:	9418		N/A		
SECTION-22		TOWNSHIP- 48 S		RANGE- 26 E	

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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.

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 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL

IMPACTS (SECTION 15)

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	Imp 15
DRAWN BY:	SS	2-22-12		SHEET:	
CREATED:	04-25-06	06-05-2012		SCALE:	1"=800'
JOB NO.:	9418	N/A			
SECTION- 15		TOWNSHIP- 48 S		RANGE- 26 E	

**ATTACHMENT B:
ENVIRONMENTAL RESOURCE PERMIT**

SFWMD Permit Modification to Permit No. 11-02031-P issued November 5, 2012

34 Special Conditions

7 pages

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. ' 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

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

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).

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

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 depression 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.

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 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.

ATTACHMENT C:
Mitigation, Maintenance & Monitoring Plan
On-Site

Pages 1-10 of 10 (text)
Dated December, 2012
Tables 1 & 2
Exhibits 1 & 2

**MITIGATION / MONITORING /
MAINTENANCE PLAN
FOR
INTERNAL PRESERVES**

REVISED: NOVEMBER 26, 2012

PREPARED BY:



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

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.

Attach
D

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)

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.

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.

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.

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

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 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 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 elliottii)</i>	Wax Myrtle <i>(Myrica cerifera)</i>	Wiregrass <i>(Aristida stricta, 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 var. glaucus)</i>
		Yellow-eyed Grass <i>(Xyris fimbriata, 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

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.

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
1	624/424	Pine / Cypress / Melaleuca (>75%)		2.37			1.35					1.02
2	411	Pine Flatwoods	31.61						8.68	0.57	0.45	
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					0.86				
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	0.85									
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			3.96				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%)		0.69						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	0.15									
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%)		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	0.68									
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									

TABLE 1

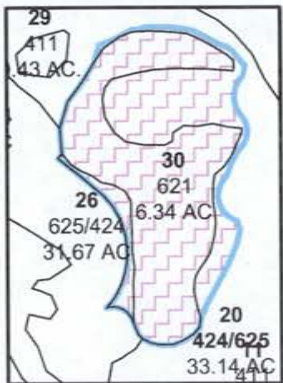
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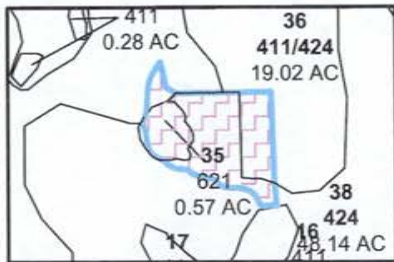
ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
78	411	Pine Flatwoods	1.43									
79	625/424	Pine 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%)		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 (>50%)		67.73			40.25			8.88	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				

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		13.36			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	949.56	122.93	14.55	135.52	426.35	561.87

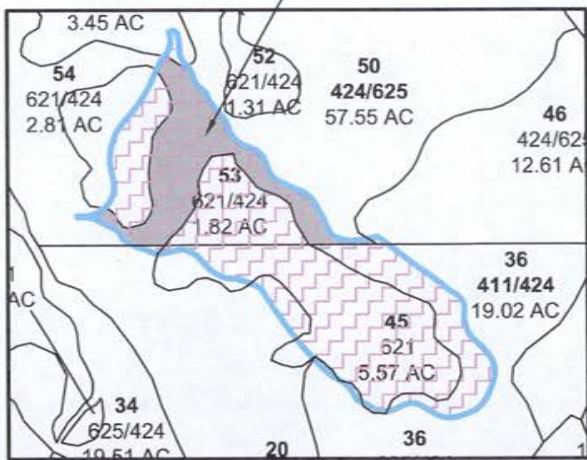
PRE PROJECT ACREAGES BY HABITAT TYPE											
FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
140	Commercial 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	3.57			3.57	11.90				
424	Melaleuca		399.78	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	6.88		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	949.56	122.93	14.55	135.52	426.35	561.87
POST PROJECT ACREAGES 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	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					



PRESERVE
"C"

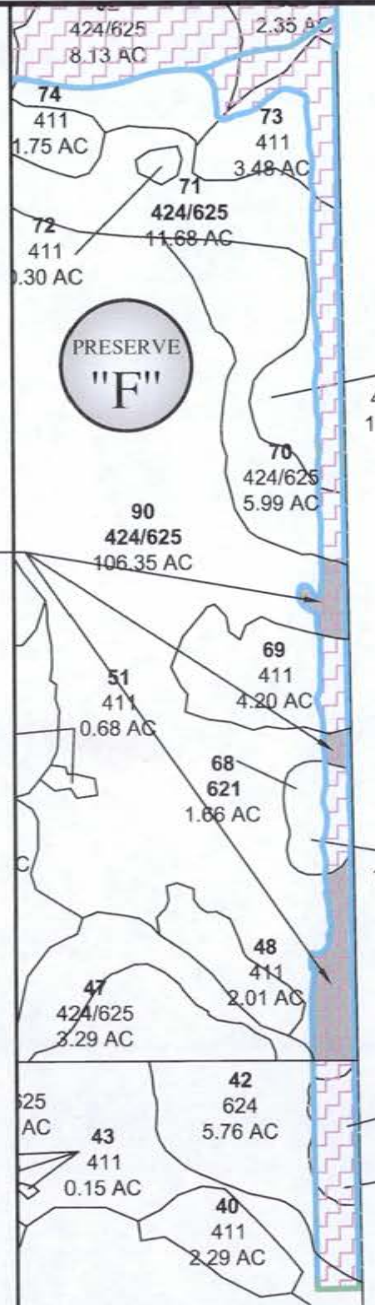


PRESERVE
"D"

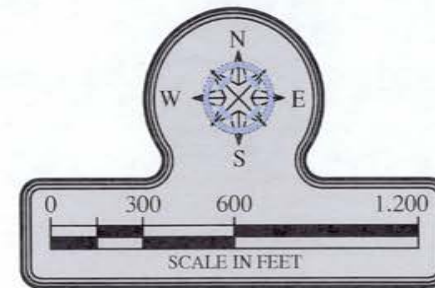


PRESERVE
"E"

MECHANICAL CLEARING
OF EXOTICS MAY OCCUR
IN THESE AREAS



PRESERVE
"F"



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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	10.61
TOTALS	2.09	34.75	36.84

NOTES:

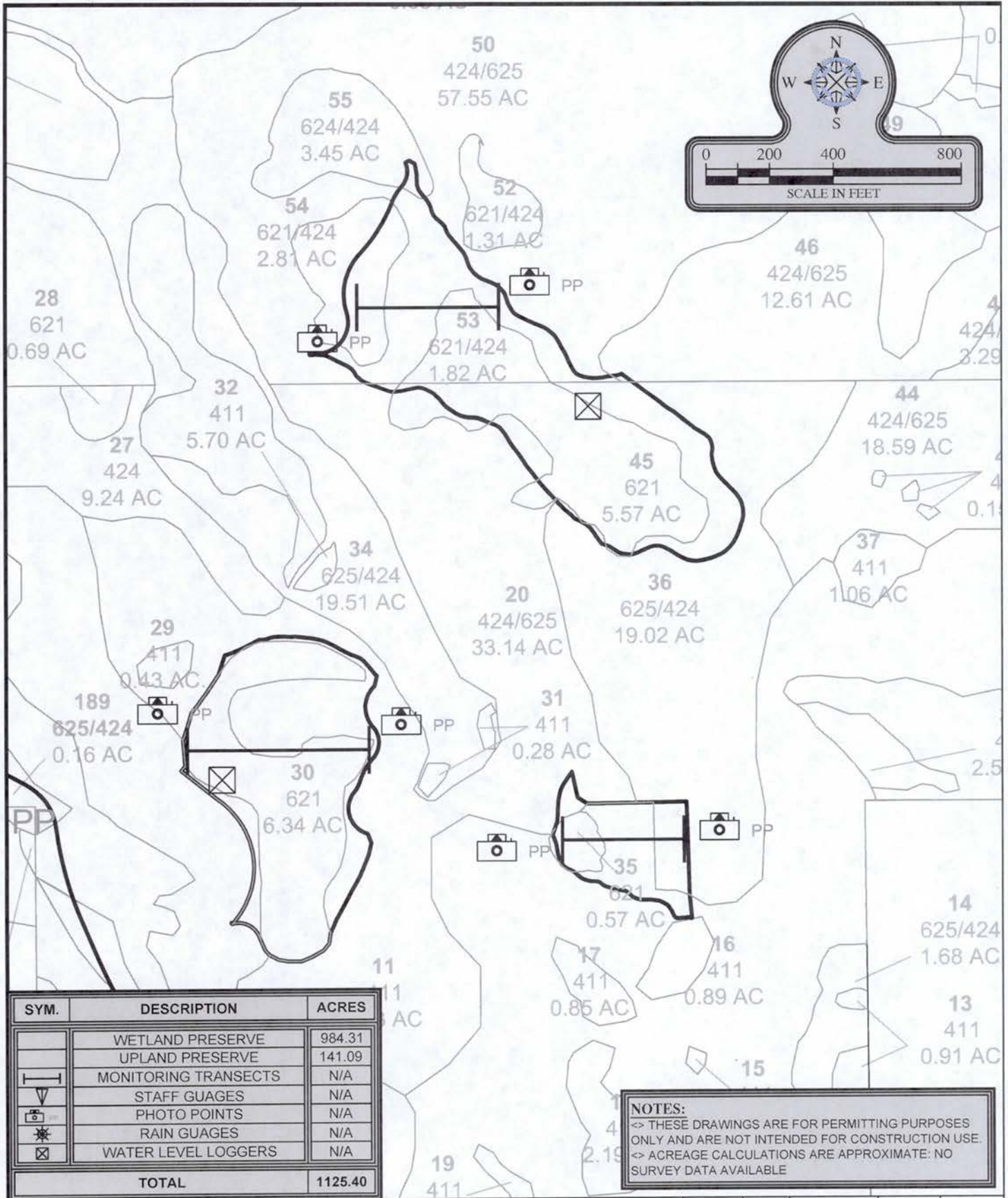
<> THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
<> ACREAGE CALCULATIONS ARE APPROXIMATE. NO SURVEY DATA AVAILABLE



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
INTERNAL PRESERVES CLEARING

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Internal
DRAWN BY:	SS	02-16-2012	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=600'
JOB NO.:	9418	N/A		
SECTION- 15		TOWNSHIP- 48 S		RANGE- 26 E



SYM.	DESCRIPTION	ACRES
	WETLAND PRESERVE	984.31
	UPLAND PRESERVE	141.09
— —	MONITORING TRANSECTS	N/A
▽	STAFF GUAGES	N/A
📷	PHOTO POINTS	N/A
☀	RAIN GUAGES	N/A
⊗	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

IC. ing
 1732
 5632

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-48 S RANGE-26 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**

**MITIGATION / MONITORING /
MAINTENANCE PLAN
FOR
MAIN PRESERVE**

REVISED: NOVEMBER 26, 2012

PREPARED BY:



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

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"

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

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.

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 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 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 elliottii)</i>	Wax Myrtle <i>(Myrica cerifera)</i>	Wiregrass <i>(Aristida stricta, 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, 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.

Zone 1: ≥ high water (12.75' – 14' NGVD)	Zone 2: ≤ 1' below high water (11.75' – 12.5' NGVD)	Zone 3: 1' to 2' below high water (10.75' – 11.5' NGVD)	Zone 4: 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>

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

conservation easement for this area will be filed and recorded as required in the ACOE 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 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 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

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)

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

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.

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.

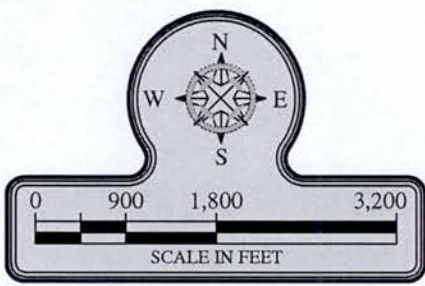
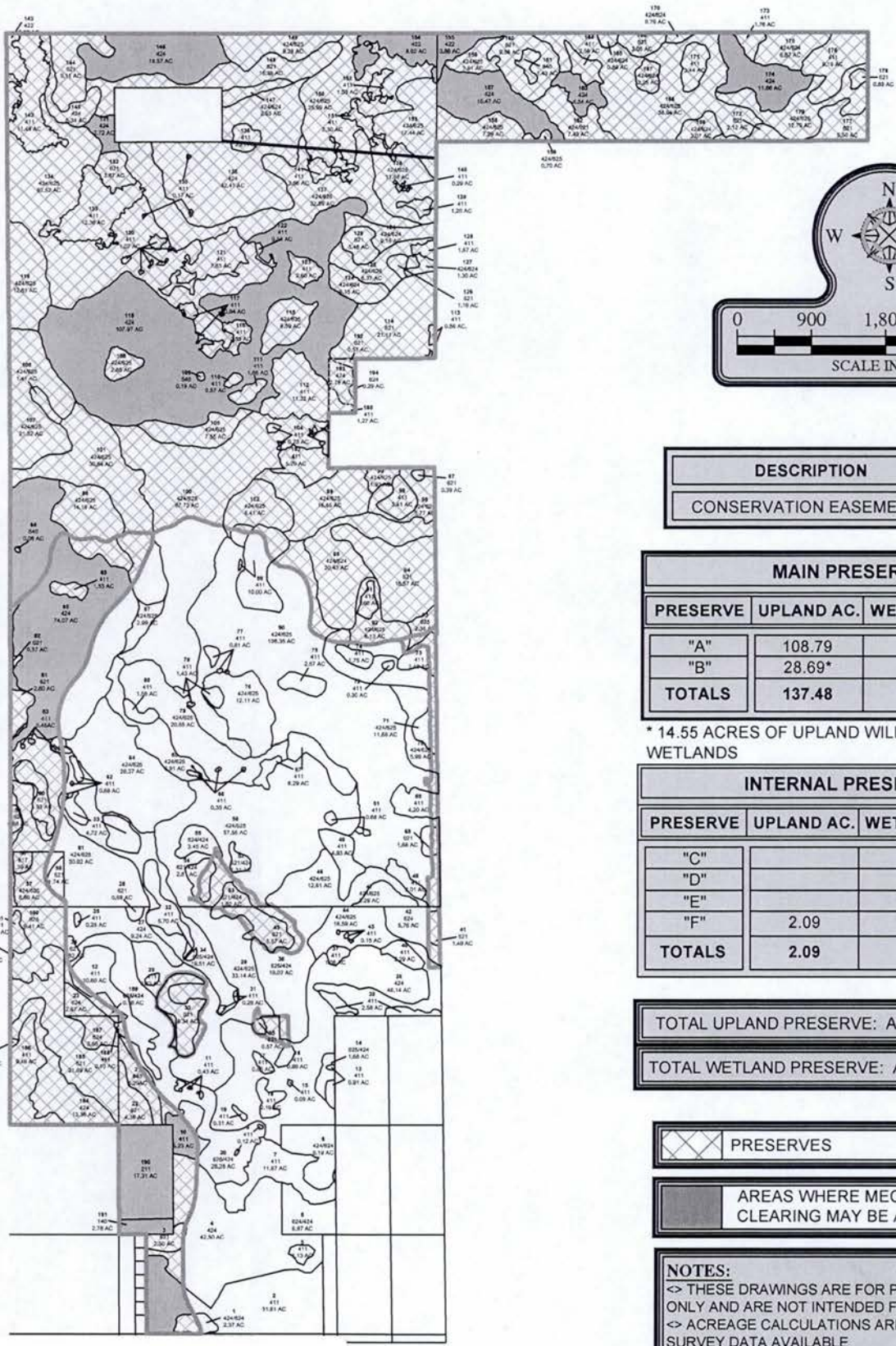
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ACOE AREA	FLUCCS CODE	DESCRIPTION	ACOE Upland Acreage	ACOE Wetland Acreage	Internal Wetland Preserve	Internal Upland Preserve	Main Wetland Preserve	Main Upland Preserve	Created Wetlands	Wetland Dredge Impacts	Wetland Fill Impacts	Total Wetland Impacts
78	411	Pine Flatwoods	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%)		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 (>50%)		67.73			40.25			8.88	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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1	624/424	Pine / Cypress / Melaleuca (>75%)		2.37			1.35			0.57	0.45	1.02
2	411	Pine Flatwoods	31.61						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					0.86				
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	0.85									
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			3.96				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%)		0.69						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	0.15									
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%)		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	0.68									
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									

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		13.36			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	949.56	122.93	14.55	135.52	426.35	561.87

PRE PROJECT ACREAGES BY HABITAT TYPE											
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
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	3.57			3.57	11.90				
424	Melaleuca		399.78	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	6.88		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	949.56	122.93	14.55	135.52	426.35	561.87
POST PROJECT ACREAGES 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	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					



DESCRIPTION	ACRES
CONSERVATION EASEMENTS	1123.88

MAIN PRESERVES			
PRESERVE	UPLAND AC.	WETLAND AC.	TOTAL
"A"	108.79	779.76	888.55
"B"	28.69*	169.80	198.49
TOTALS	137.48	949.56	1087.04

* 14.55 ACRES OF UPLAND WILL BE CONVERTED TO WETLANDS

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

TOTAL UPLAND PRESERVE: APPROX. 139.57 AC.
 TOTAL WETLAND PRESERVE: APPROX. 984.31 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

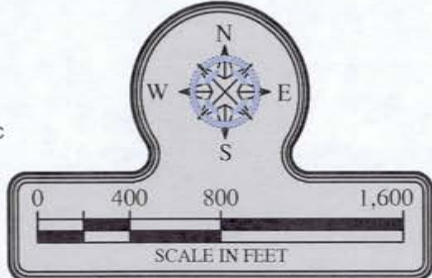
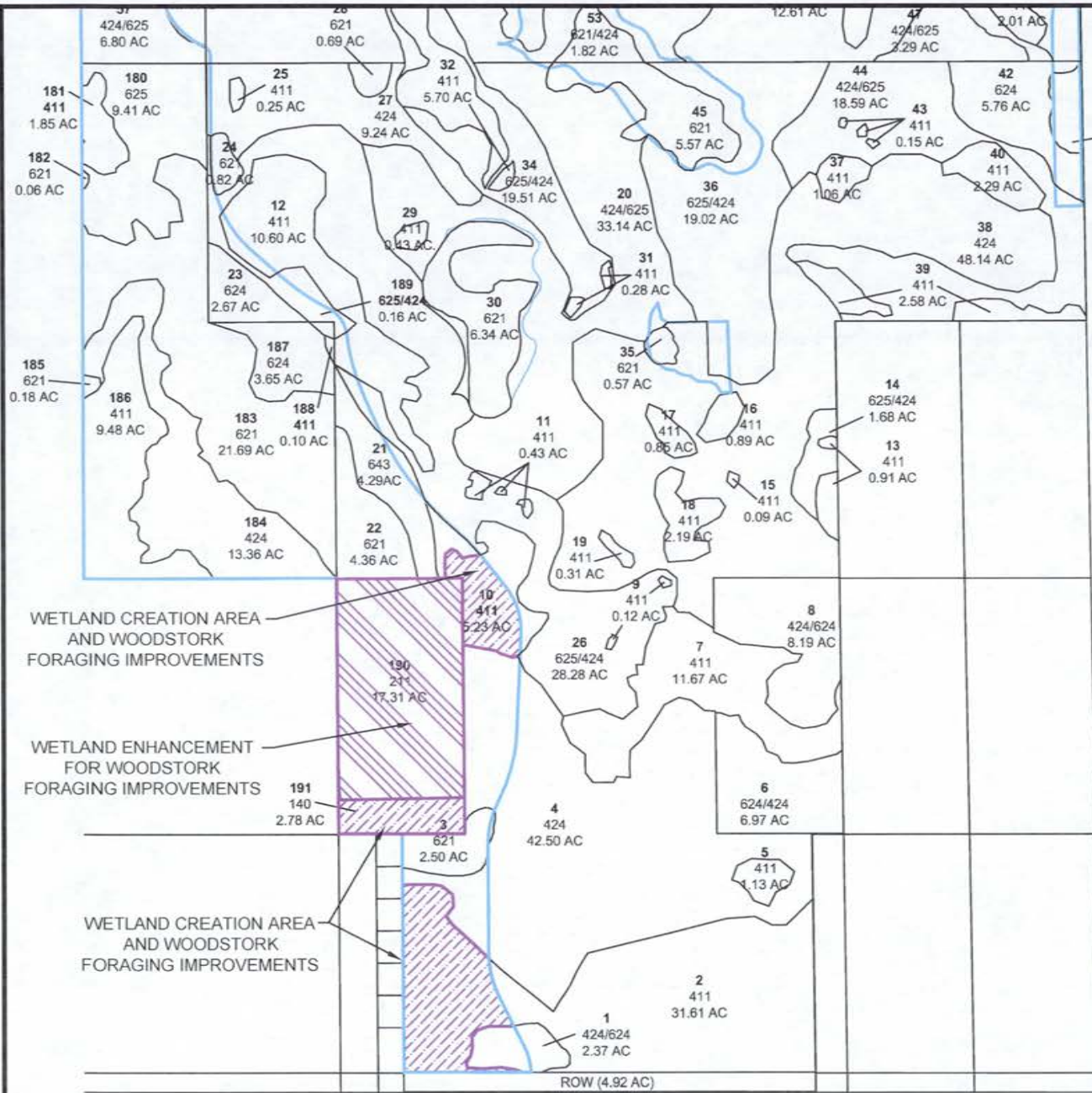
SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 1

nc. lting
 -3732
 -6632

MIRASOL
 MAIN PRESERVES CLEARING

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	ADD PRESERVE
DRAWN BY:	SS	02-15-2012	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 26 E				

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SAJ 2000-01926 (P-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 2

WETLAND CREATION AREA
 AND WOODSTORK
 FORAGING IMPROVEMENTS

WETLAND ENHANCEMENT
 FOR WOODSTORK
 FORAGING IMPROVEMENTS

WETLAND CREATION AREA
 AND WOODSTORK
 FORAGING IMPROVEMENTS

	CREATED WETLANDS: 14.55 ACRES
	FARM SITE ENHANCED WETLANDS: 17.31 ACRES
	TOTAL WOODSTORK FORAGING IMPROVEMENTS: 31.86 ACRES

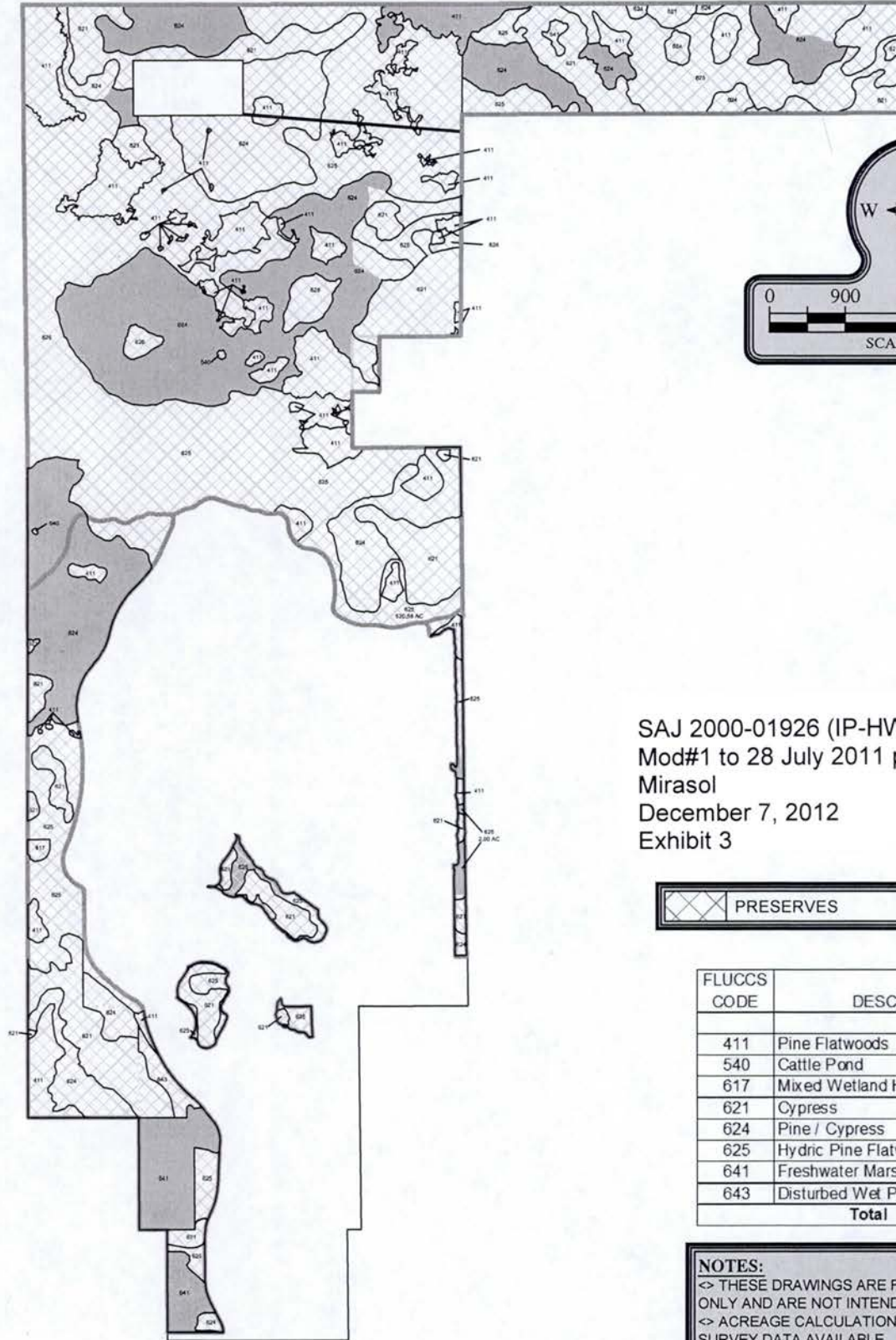
NOTES:
 <> THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
 <> ACREAGE CALCULATIONS ARE APPROXIMATE: NO SURVEY DATA AVAILABLE



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
 WETLAND CREATION AND ENHANCEMENTS
 FOR WOODSTORK FORAGING IMPROVEMENTS

DESIGNED: T.T.T.	REVISION: 06-05-2012	TAB NAME: WET CREATE
DRAWN BY: RMJ		SHEET:
CREATED: 02-20-2012		SCALE: 1"=800'
JOB NO.: 9418		
SECTION-22		TOWNSHIP-48 S
		RANGE-26 E



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	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: NO SURVEY DATA AVAILABLE

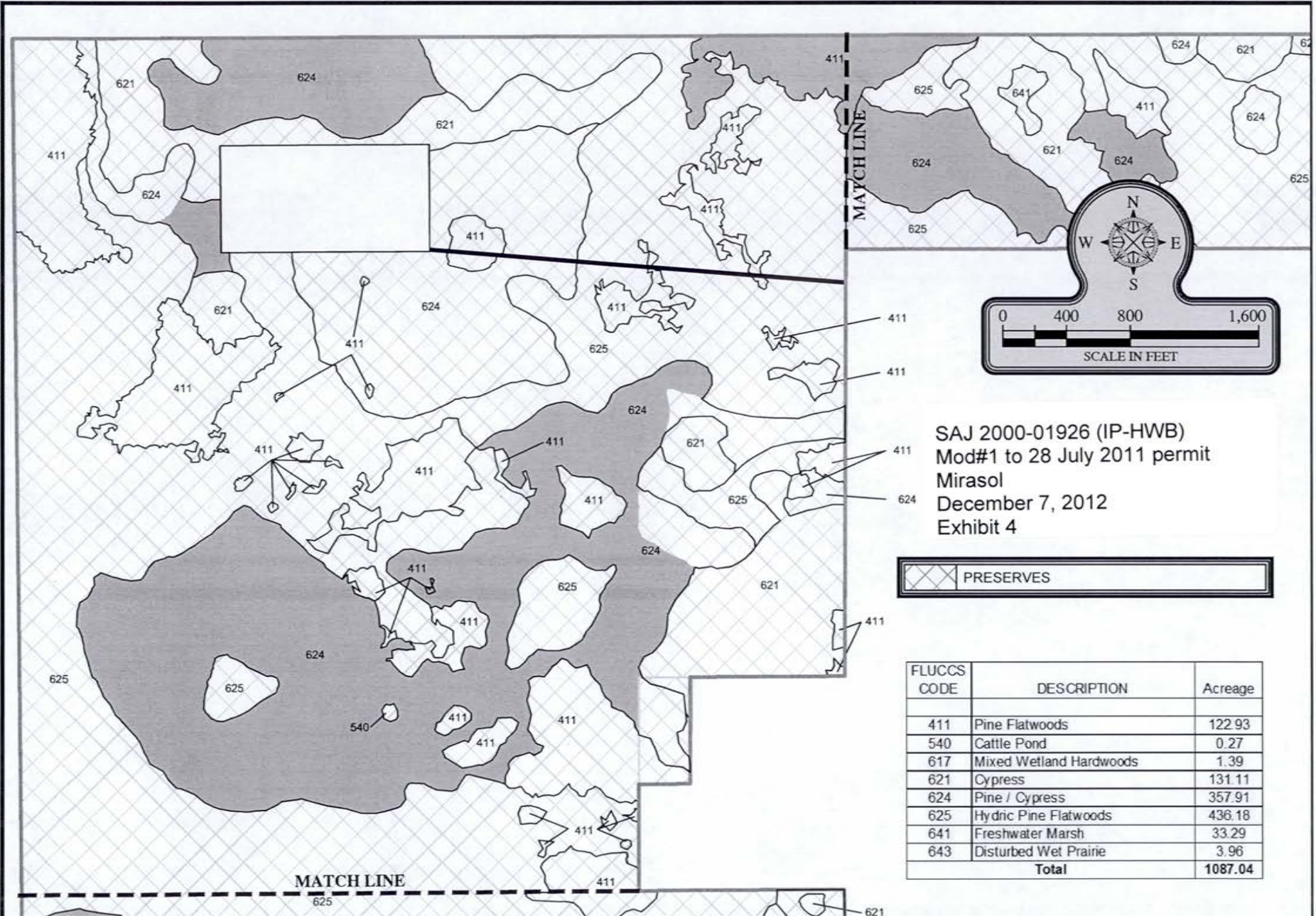


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 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL
 PRESERVES POST FLUCCS

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	ADD PRESERVE
DRAWN BY:	SS	02-15-2012	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=1,800'
JOB NO.:	9418	N/A		
SECTION- TOWNSHIP- 48 S RANGE- 26 E				

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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	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

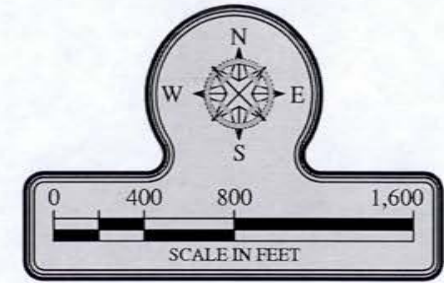
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 Marine & Environmental Consulting
 3584 Exchange Ave. Suite B. Naples, FL 34104-3732
 Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL

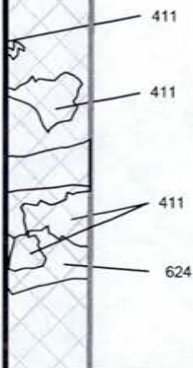
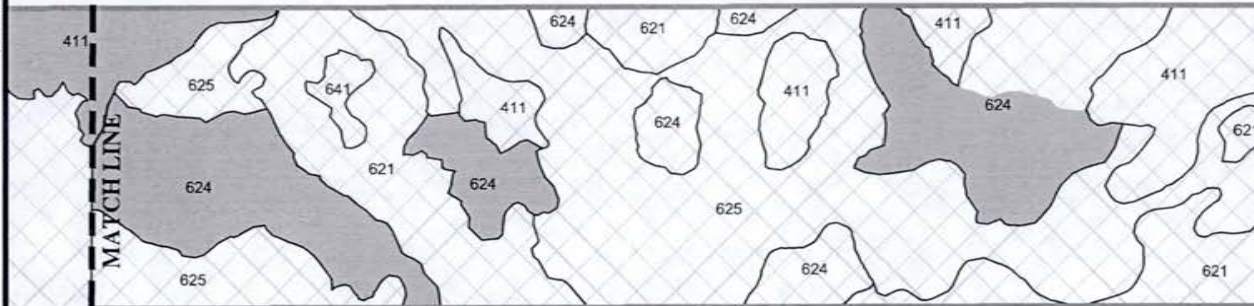
PRESERVES POST FLUCCS (SECTION 10)

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	FlucCs 10
DRAWN BY:	SS		02-15-2012	SHEET:	
CREATED:	04-25-06		06-05-2012	SCALE:	1"=800'
JOB NO.:	9418		N/A		
SECTION- 15		TOWNSHIP- 48 S		RANGE- 26 E	

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SAJ 2000-01926 (P-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
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

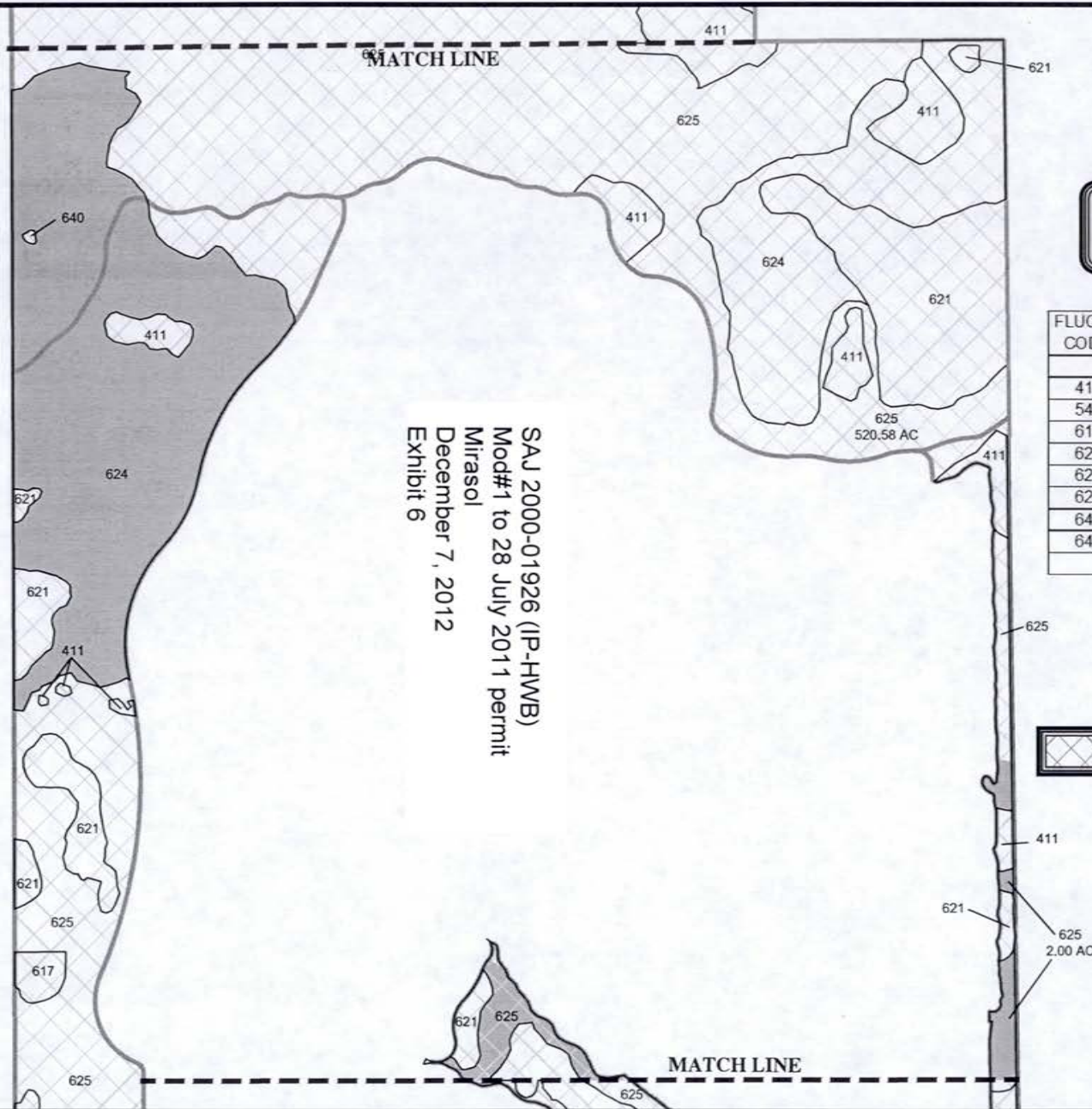


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MIRASOL
 PRESERVES POST FLUCCS (SECTION 11)

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	Flucfcs 11
DRAWN BY:	SS	02-15-2012	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=800'
JOB NO.:	8418	N/A		
SECTION- 15		TOWNSHIP- 48 S	RANGE- 26 E	

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SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 6

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

 PRESERVES

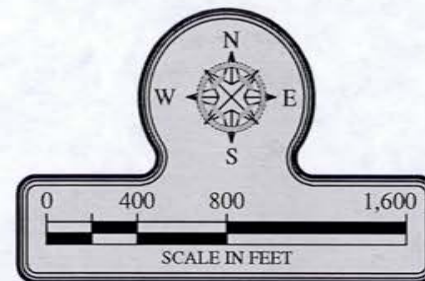
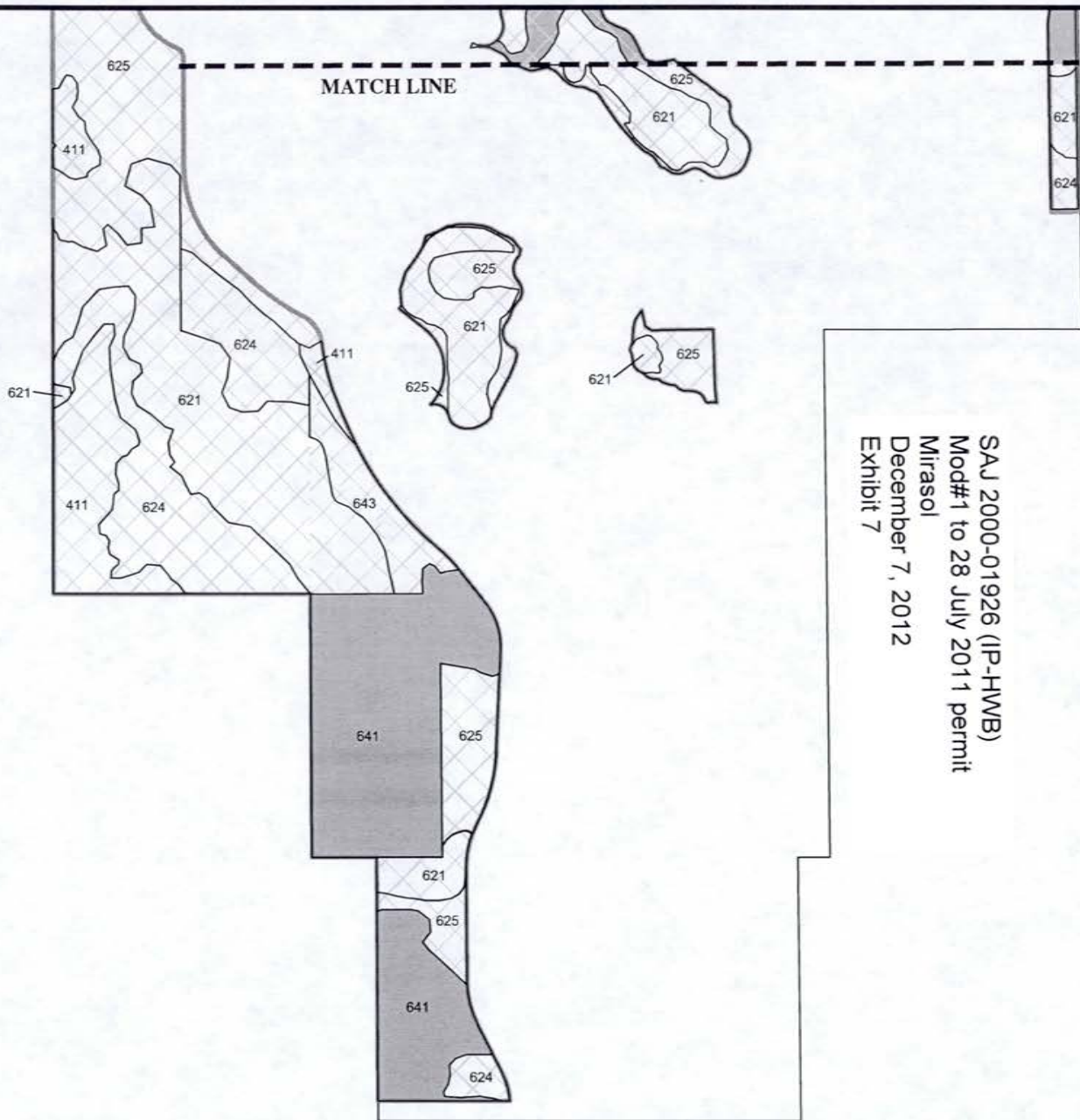


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 Marine & Environmental Consulting
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MIRASOL
 PRESERVES POST FLUCCS (SECTION 15)

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	FluCCS 15
DRAWN BY:	SS	02-15-2012		SHEET:	
CREATED:	04-25-06	06-05-2012		SCALE:	1"=800'
JOB NO.:	9418	N/A			
SECTION- 15		TOWNSHIP- 48 S		RANGE- 26 E	

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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	436.18
641	Freshwater Marsh	33.29
643	Disturbed Wet Prairie	3.96
Total		1087.04



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 Marine & Environmental Consulting

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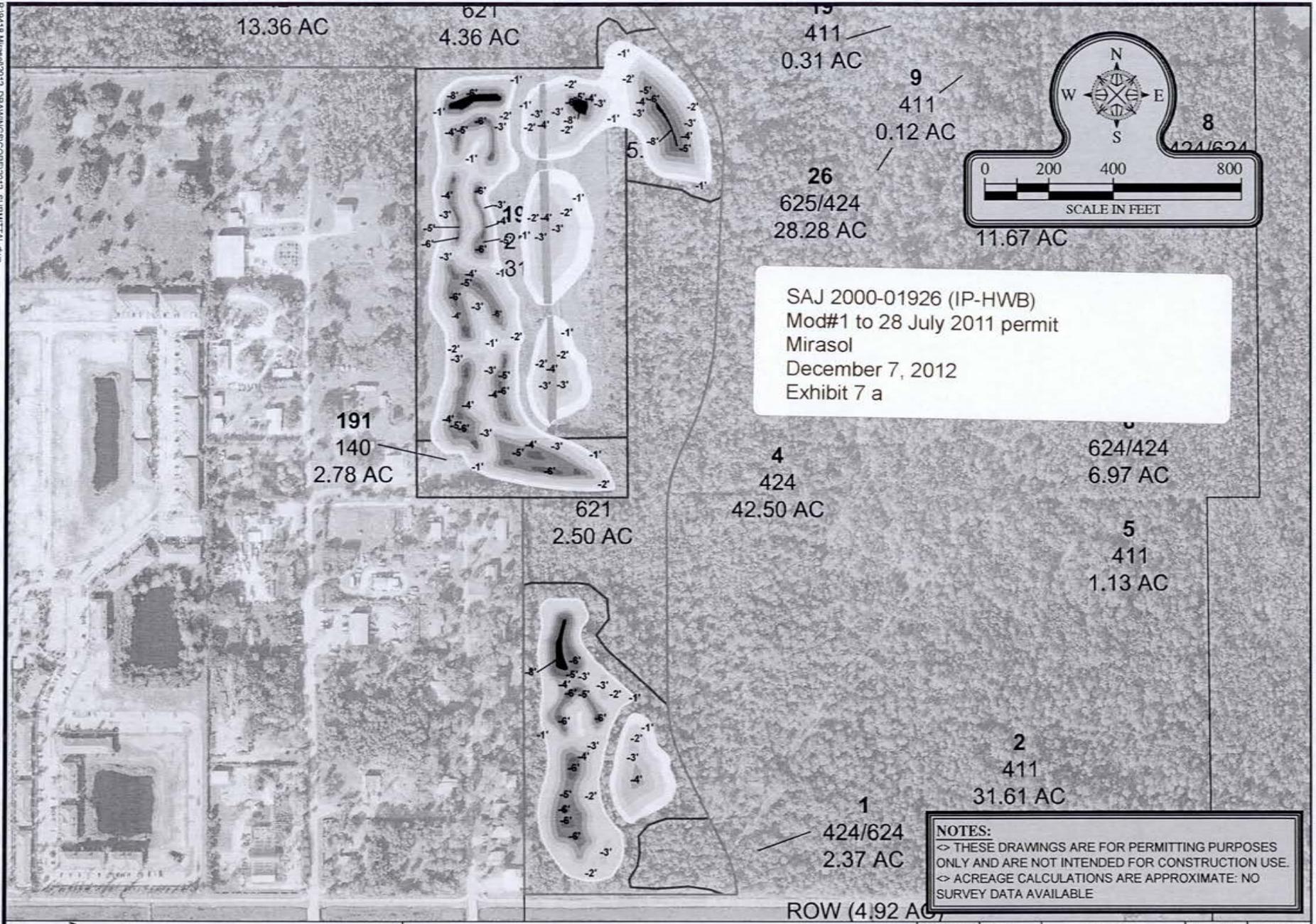
Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

MIRASOL

PRESERVES POST FLUCCS (SECTION 22)

DESIGNED:	T.T.T.	REVISION:	TAB NAME:	FlucCs 22
DRAWN BY:	SS	02-15-2012	SHEET:	
CREATED:	04-25-06	06-05-2012	SCALE:	1"=800'
JOB NO.:	9418	N/A		
SECTION-22		TOWNSHIP- 48 S	RANGE- 26 E	

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SAJ 2000-01926 (IP-HWB)
 Mod#1 to 28 July 2011 permit
 Mirasol
 December 7, 2012
 Exhibit 7 a

NOTES:
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MIRASOL
 FORAGING IMPROVEMENTS

DESIGNED:	T.T.T.	REVISION:		TAB NAME:	FORAGING
DRAWN BY:	RMJ		06-05-2012	SHEET:	
CREATED:	04-06-2012			SCALE:	1"=200'
JOB NO.:	9418				
SECTION-22		TOWNSHIP-48 S		RANGE-26 E	

**ATTACHMENT E:
As Built Conditions/
Self Certification**

2 pages

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

Deviations from the approved permit drawings and special conditions:
(attach additional pages if necessary)

Attachment F
Notice of Permit Recordation
2 Pages

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

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 _____

Attachment G
U.S. Fish & Wildlife Service
Biological Opinion Amendment
(41420-2006-FA-0674-R002)
Dated September 18, 2012
13 pages



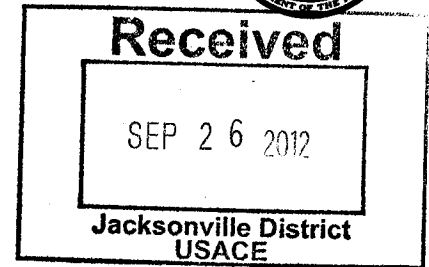
United States Department of the Interior



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



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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.



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.

- 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.

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

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

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

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).

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.

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.

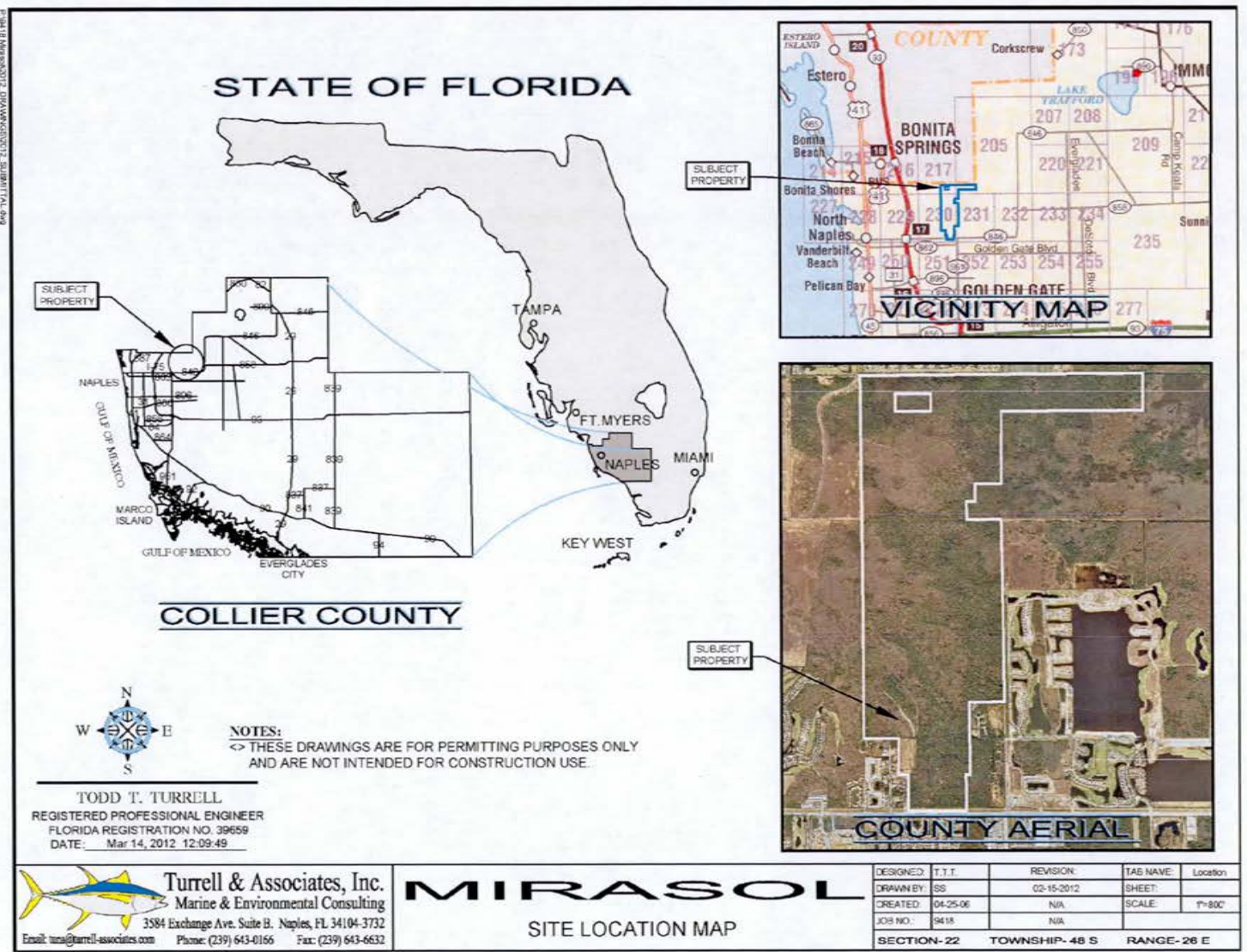
Turrell, Hall & Associates, Inc. 2012. Biological assessment updating Florida panther mortality data, panther habitat units, wood stork biomass data, created wetland couture data, and vehicle traffic projections for the Mirasol Development. Naples, Florida.

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.

Figure 1. Regional Aerial



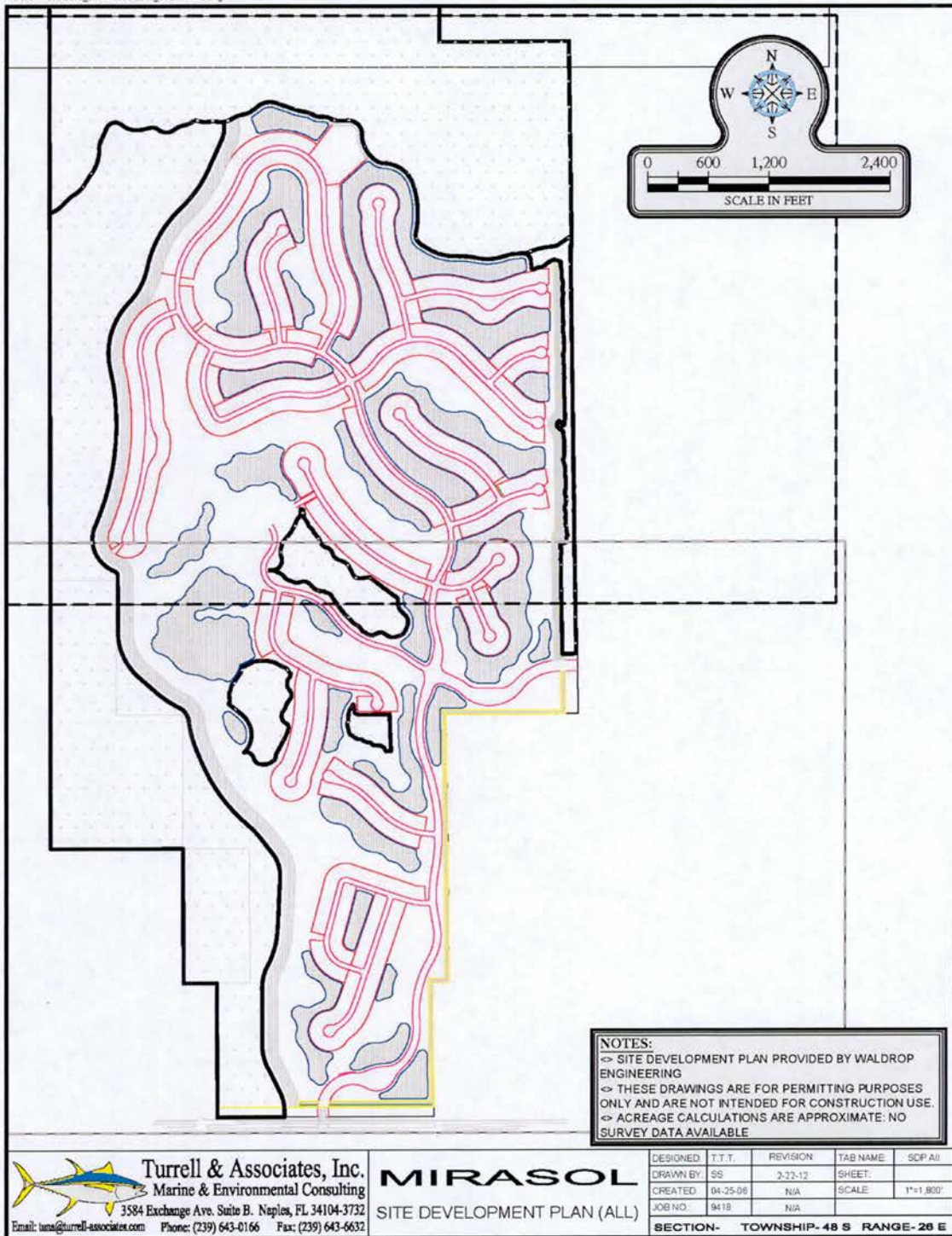


Figure 2. 2012 - Site Plan Development Footprint

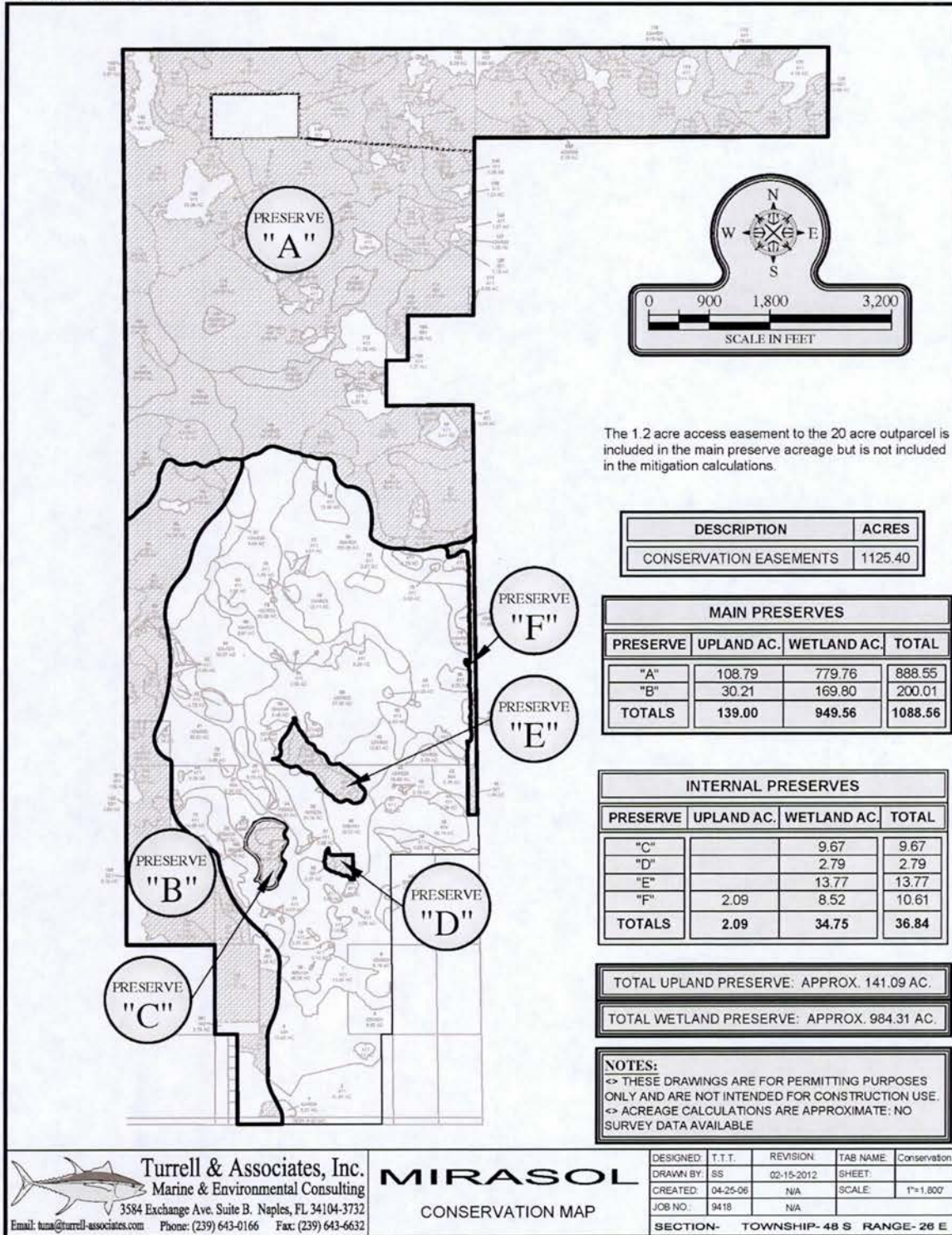


Figure 3. 2012 - Site Plan Preserves

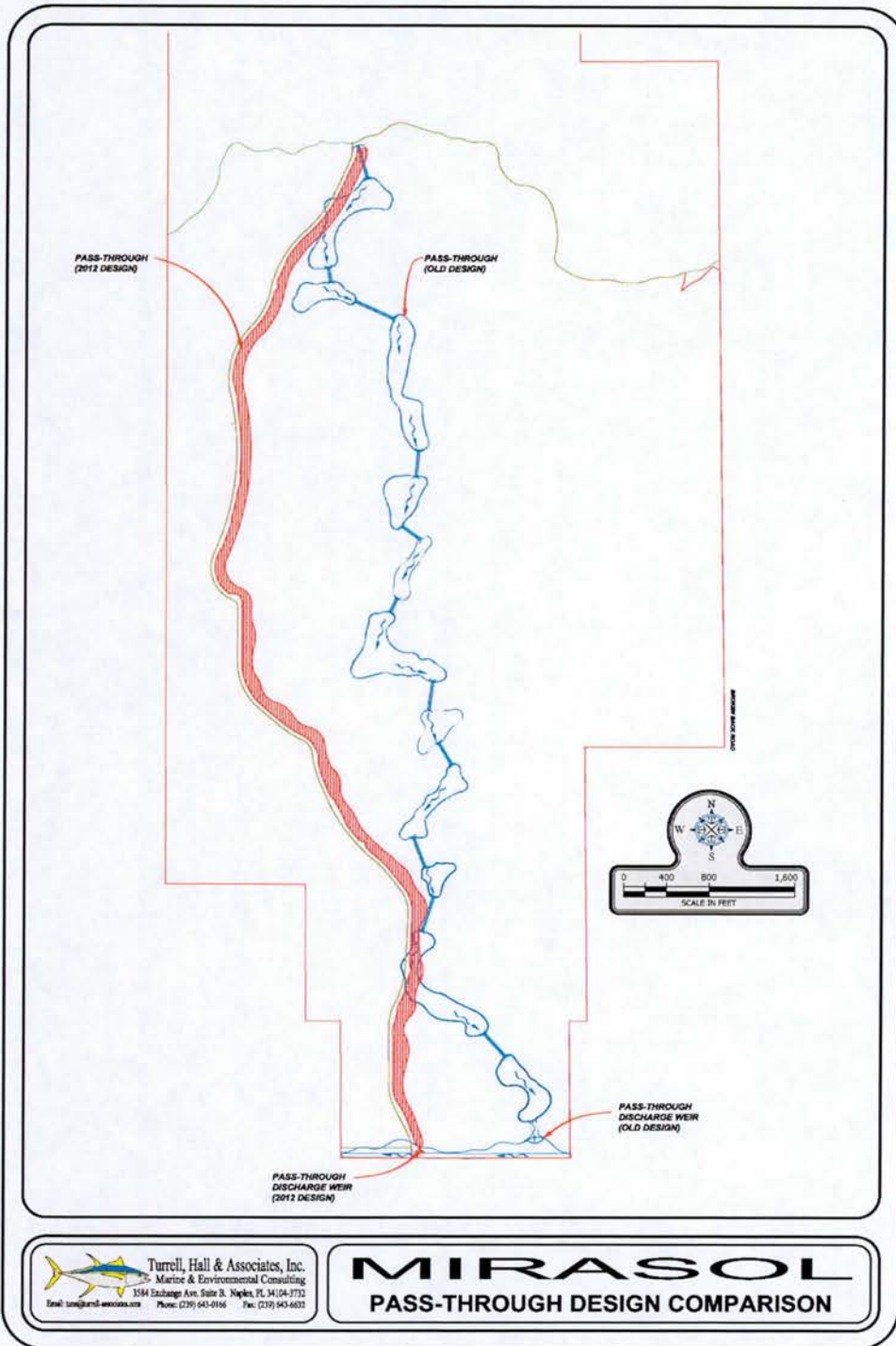


Figure 4. 2012 – Pass-Through Flow way Design

Attachment H
Standard Protection Measures
for the
Eastern Indigo Snake
(revised February 12, 2004)
(1 Page)

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