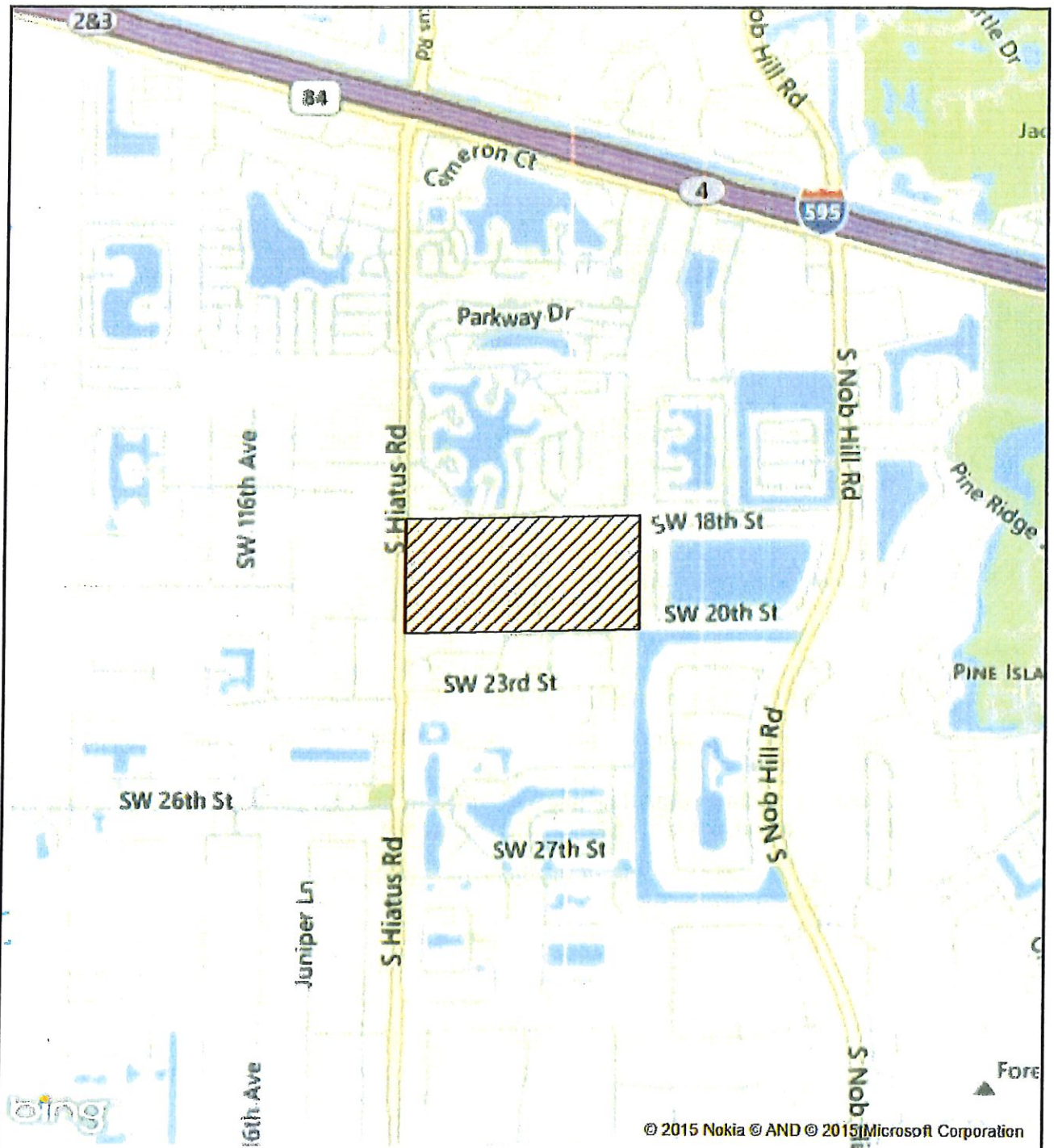




LEGEND

 - SITE (89.1+/- AC)

SIERRA RANCH LOCATION MAP



EW CONSULTANTS, INC.

601 HERITAGE DRIVE, SUITE 124
JUPITER, FLORIDA 33458
561-623-5475 FAX 561-623-5481
WWW.EWCONSULTANTS.COM

APRIL 2015

FIGURE

1



BROWARD COUNTY AERIALS DATED 2015

0 600
SCALE IN FEET



SIERRA RANCH AERIAL MAP

SIERRA RANCH.dwg AERIAL



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APRIL 2015

FIGURE

3

Broward County EEPD

Page 2 of 25

07/31/18



SIERRA RANCH.dwg FLUCFCS

BROWARD COUNTY AERIALS DATED 2015

LEGEND

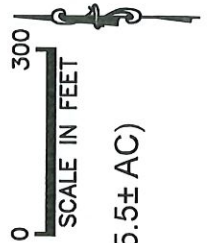
422 - BRAZILIAN PEPPER (16.2± AC)

510 - DITCHES (3.7± AC)

619 - EXOTIC WETLAND HARDWOODS (65.5± AC)

641 - FRESHWATER MARSHES (3.7± AC)

TOTAL SITE (89.1± AC)



SIERRA RANCH FLUCFCS MAP



EW CONSULTANTS, INC.
601 N. W. 1st Ave., Suite 100
Jupiter, Florida 33450
561-423-5478 FAX 561-423-5481
WWW.EWCONSULTANTS.COM

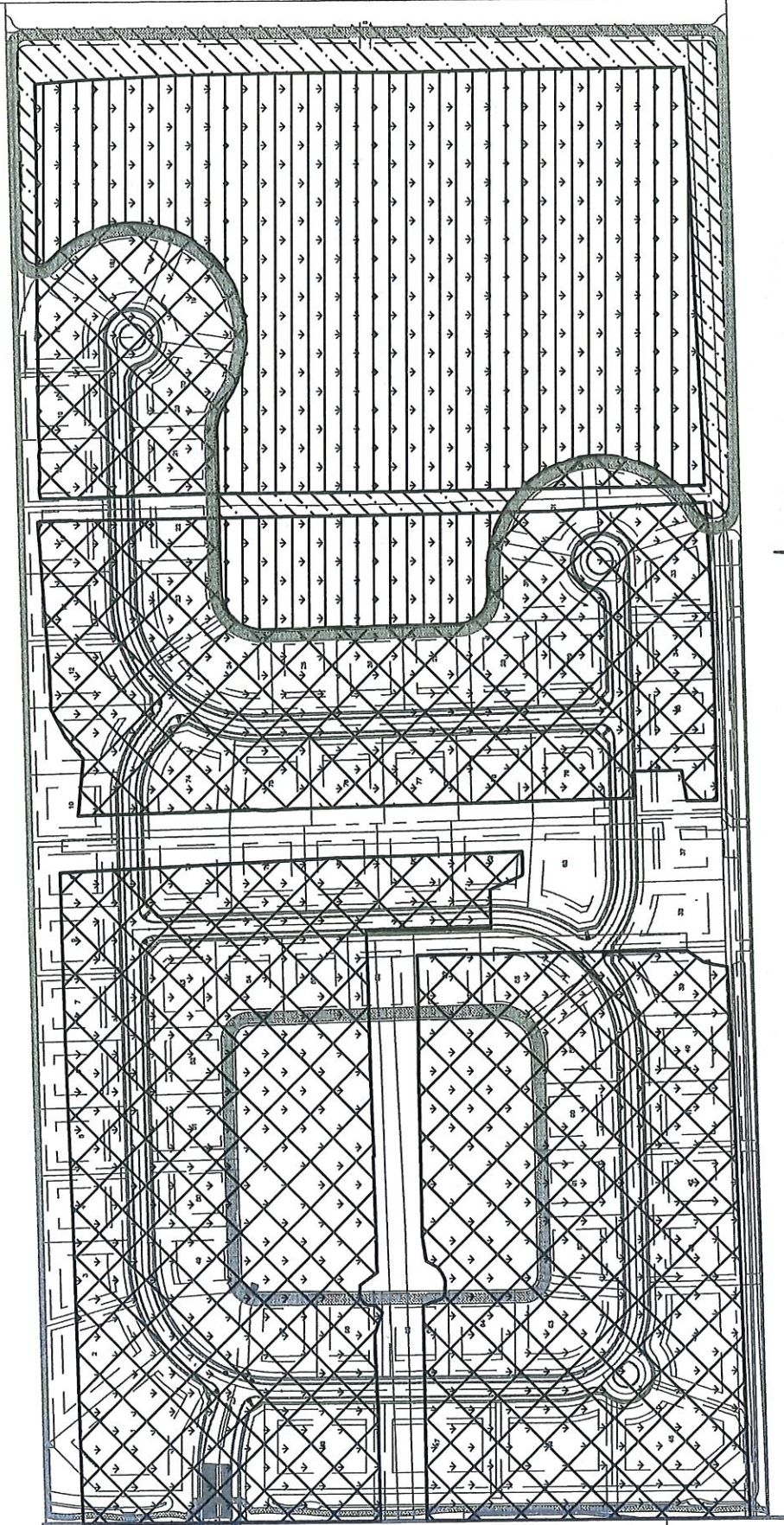
APRIL 2015
FIGURE
4

Broward County DEP

Page 3 of 25

07/31/18

SW 112TH AVE



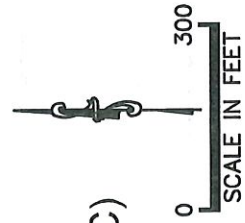
LEGEND

- WETLAND ENHANCEMENT (20.30± AC)
- WETLAND RESTORATION (3.56± AC)
- WETLAND IMPACT (48.90± AC)

Broward County **WETLAND**

Page 4 of 25

07/31/18



SIERRA RANCH
WETLAND IMPACT



EW CONSULTANTS, INC.
601 HENTON DRIVE, SUITE 124
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888-433-6476 FAX 888-433-6481
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JUNE 2017
FIGURE
5



LEGEND

- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- PROPOSED DRAINAGE CANAL
- DRAINAGE MANHOLE
- YARD DRAIN WITH CONCRETE ANCHOR
- HIGH DENSITY POLYETHYLENE PIPE
- INDICATES STORM DRAIN STRUCTURE NUMBER
- INDICATES STORM DRAIN PIPE ELEVATION
- INDICATES STORM DRAIN STRUCTURE TYPE
- DRAINAGE DETAIL
- FLOW ARROW
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- DRAINAGE ELEVATION
- LAKE MAINTENANCE ELEVATION
- UTILITY ELEVATION
- ADJACENT PROPERTY
- CONCRETE DETAILING
- STABILIZED SOIL



LEAVE BLANK FOR CITY USE ONLY

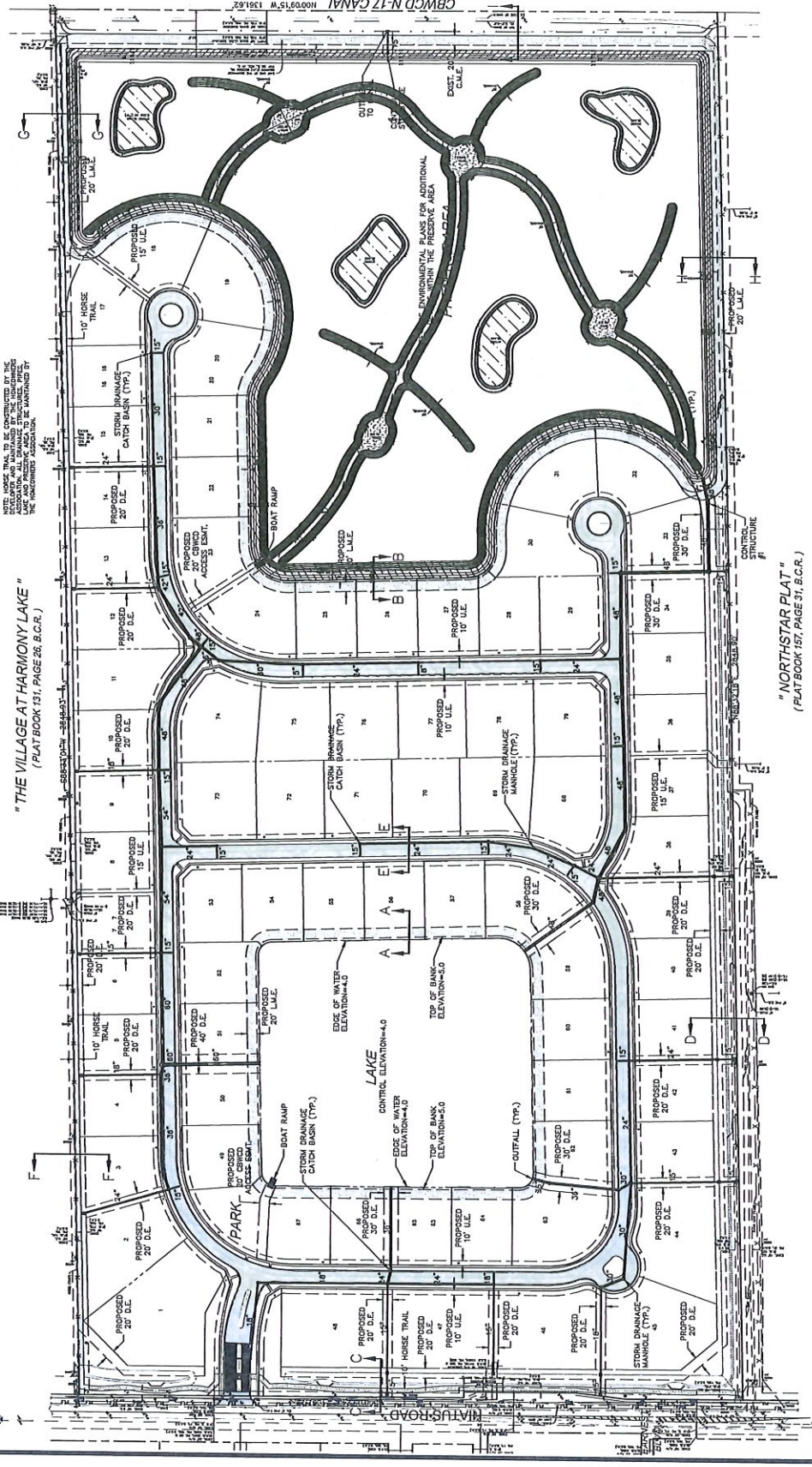
DATE	10/28/16
DRAWN BY	CH
CHECKED BY	
APPROVED BY	
PROJECT #	12-0093-001-06

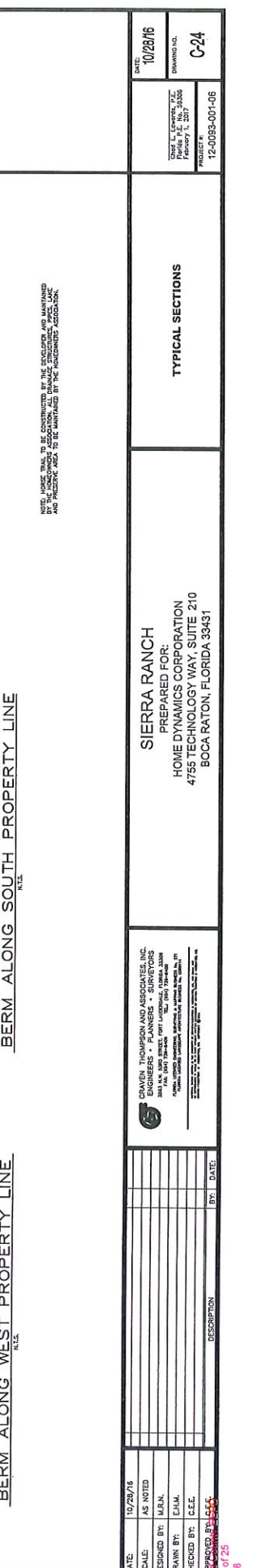
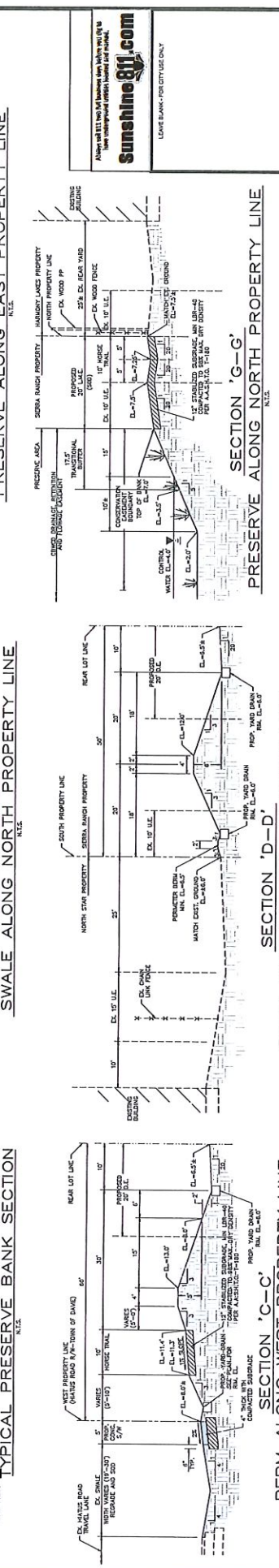
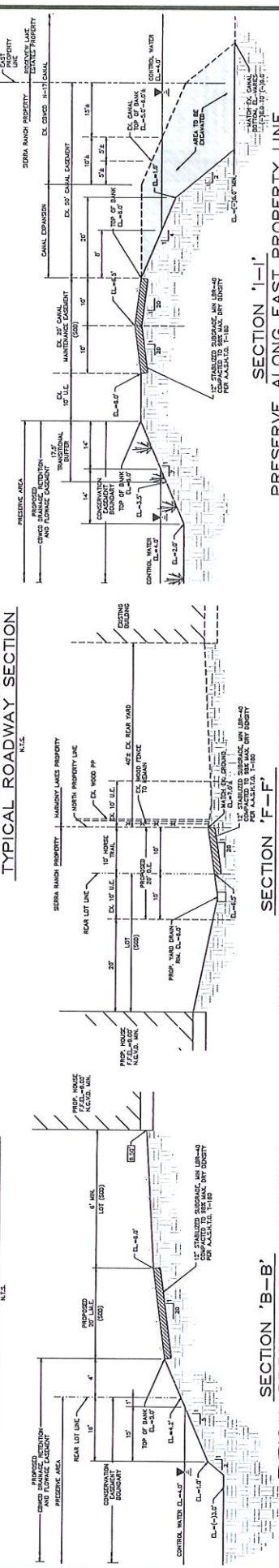
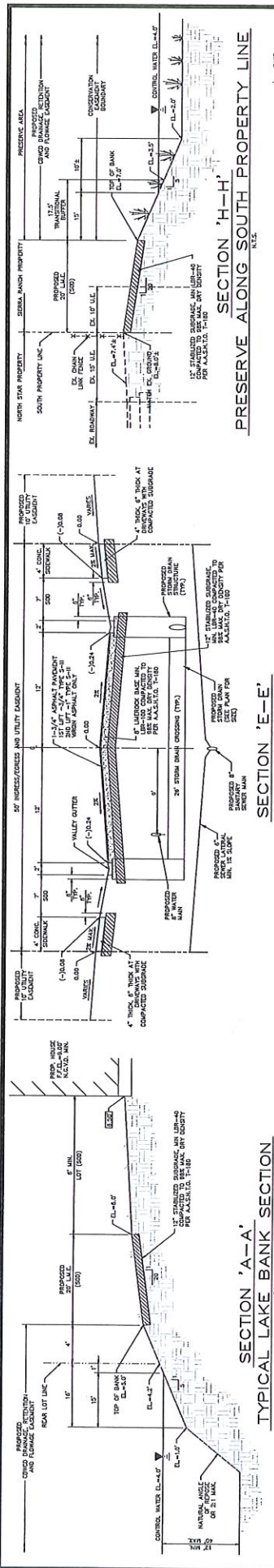
OVERALL DRAINAGE PLAN

SIERRA RANCH
PREPARED FOR:
HOME DYNAMICS CORPORATION
4755 TECHNOLOGY WAY, SUITE 210
BOCA RATON, FLORIDA 33431

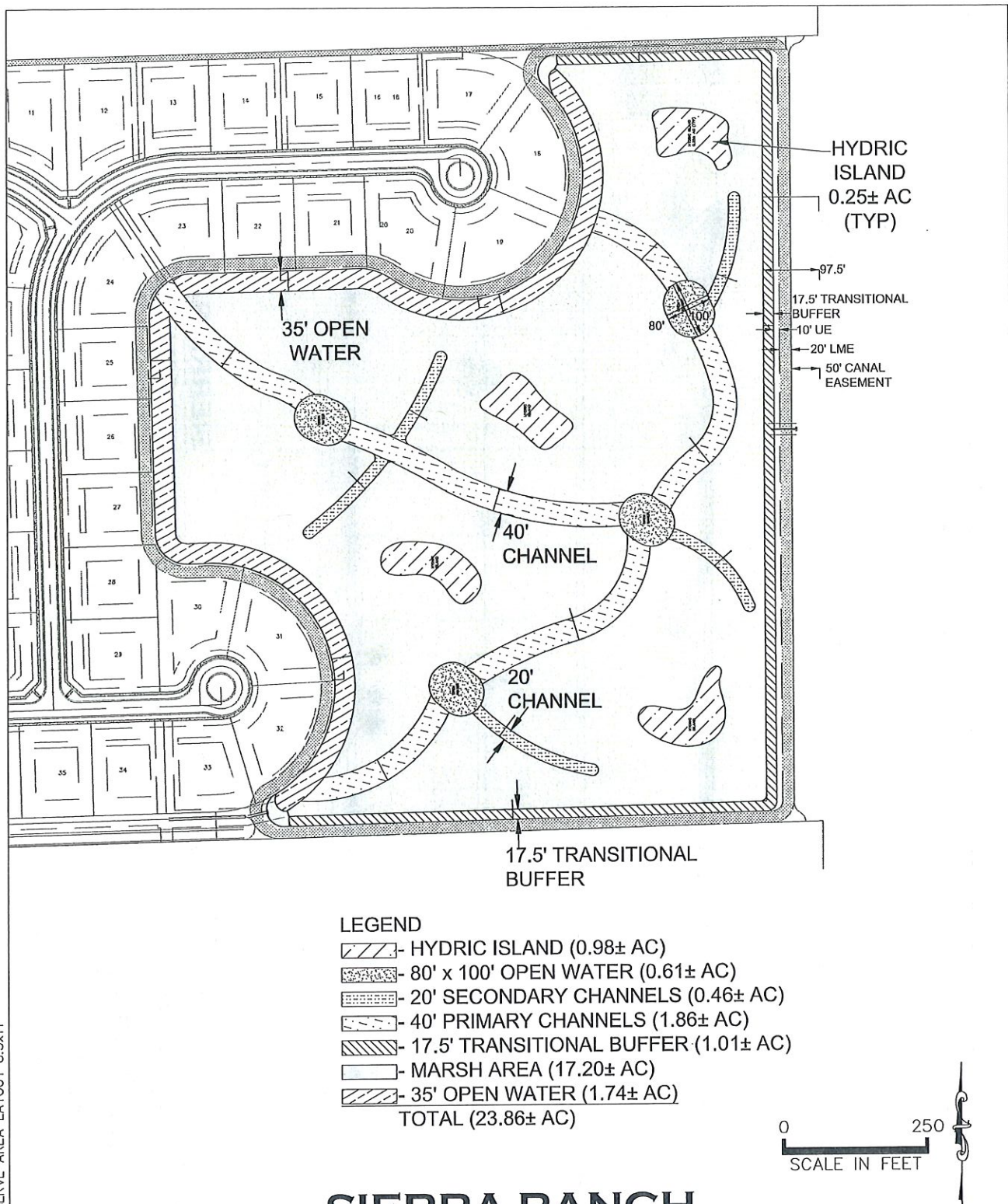
CRANFORD THOMPSON AND ASSOCIATES, INC.
ENGINEERS - PLANNERS - SURVEYORS
3000 N.W. 20TH AVENUE, SUITE 100, BOCA RATON, FLORIDA 33431
PHONE: (561) 995-1100 FAX: (561) 995-1101
WWW.CRTA-INC.COM

DATE	10/28/16	BY	DATE
SCALE	AS NOTED		
DESIGNED BY	M.E.N.		
DRAWN BY	E.H.M.		
CHECKED BY	C.E.E.		
APPROVED BY	C.E.E.		
DESCRIPTION			





SIERRA RANCH 05-2017.dwg PRESERVE AREA LAYOUT 8.5x11



SIERRA RANCH PRESERVE AREA LAYOUT



EW CONSULTANTS, INC.

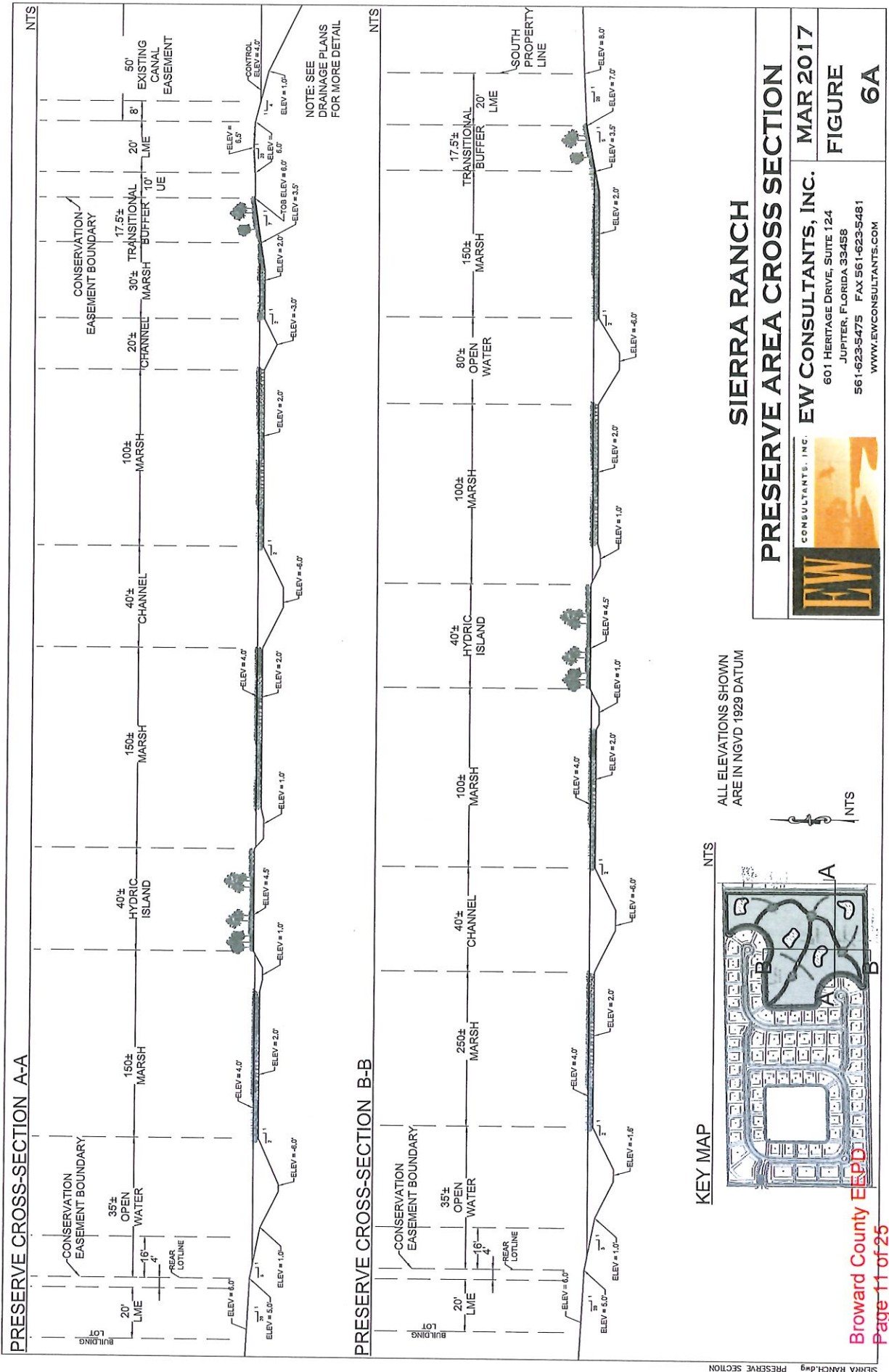
2581 METROCENTRE BLVD., SUITE 1
WEST PALM BEACH, FL 33407

561-291-7950 PHONE 561-530-4908 FAX
WWW.EWCONSULTANTS.COM

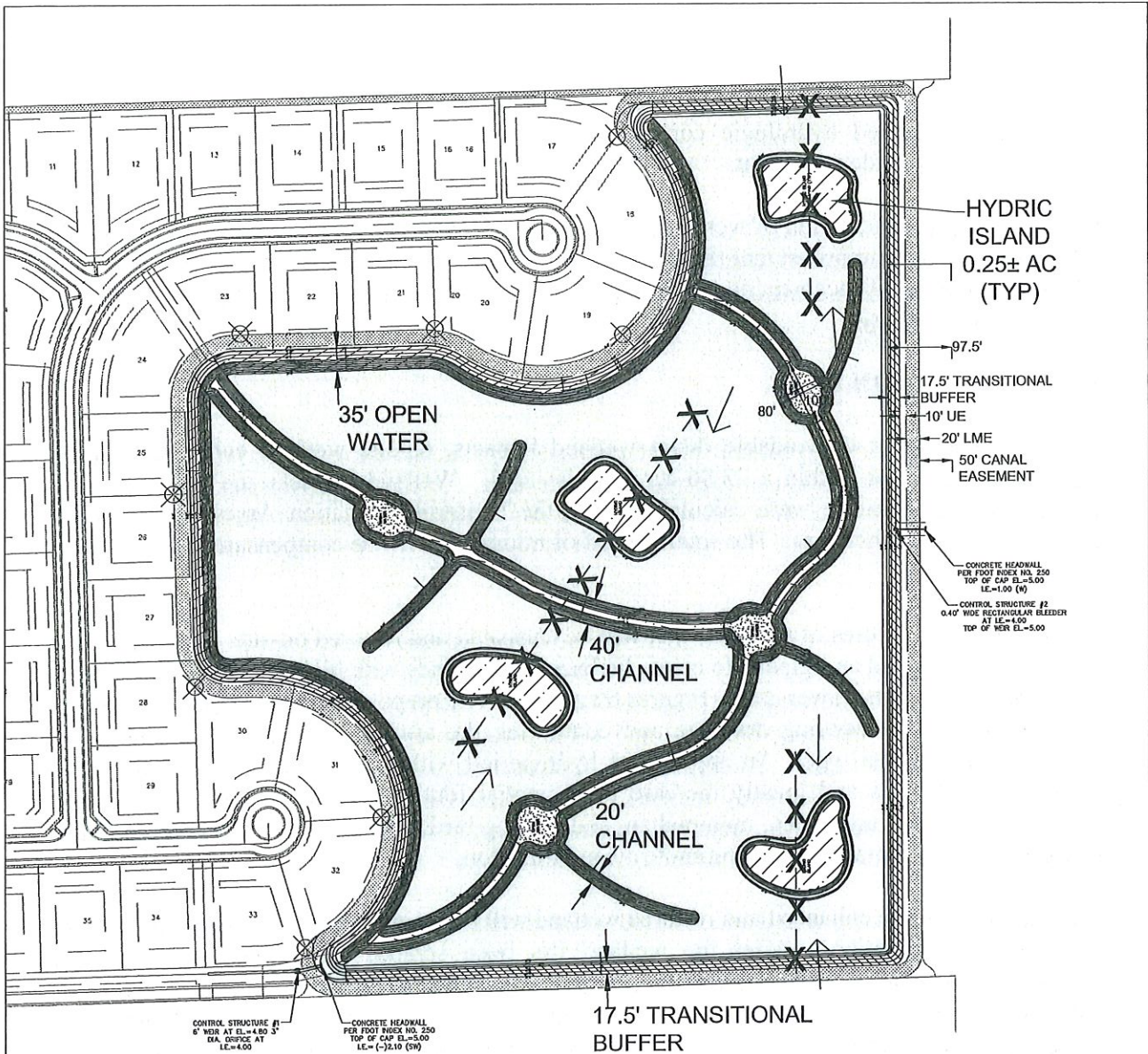
JUNE 2017

FIGURE

6



SIERRA RANCH.dwg PRESERVE SECTION



TYPICAL PRESERVE SIGN



LEGEND

- MONITORING TRANSECT WITH PHOTO STATIONS AT EACH END
- X - MONITORING QUADRAT
- X - PRESERVE SIGN
- CONTINUOUS-READ MONITORING WELL

0 250
SCALE IN FEET

SIERRA RANCH MONITORING MAP



EW CONSULTANTS, INC.

2581 METROCENTRE BLVD., SUITE 1
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JUNE 2017

FIGURE

7

The quality of the 69.2-acres of wetland is poor and has been highly impacted by exotic vegetation and altered hydrologic conditions resulting from previous agricultural uses and surrounding regional development.

So after careful consideration of wetland impact minimization and on-site mitigation options for this project, it was determined that the majority of the mitigation for wetland impacts will consist of on-site wetland enhancement and restoration. The restored areas will then be maintained and preserved in perpetuity.

IX. MITIGATION PLAN

As compensation for unavoidable direct wetland impacts, on-site wetland enhancement and restoration will occur within a 23.86-acre on-site area. Wetland impacts and mitigation for impacts occurring on-site were calculated using the Uniform Mitigation Assessment Method (UMAM) (See Attachments). The small deficit of mitigation will be compensated for at an off-site mitigation bank.

There will be 23.86 acres of wetlands that will be enhanced and restored on-site. This mitigation area will be excavated and graded to create herbaceous wetlands with higher areas of tree islands interspersed among the lower areas (Figures 6 and 6A). The proposed wetland enhancement and restoration involves reducing drainage and contouring the area to provide appropriate water levels for each habitat type. An appropriate hydroperiod within the wetland area will sustain native wetland plants and greatly increase the potential forage base for a variety of wetland dependent reptilian, amphibian, mammalian, and wading bird species. Avian perches and duck boxes will be incorporated also to promote avian utilization.

Habitat quality of the enhanced and restored wetland will be maintained by the removal of exotic and nuisance vegetation. After the wetland has been scraped down and contoured, the herbaceous portions of the wetland will be planted with appropriate native vegetation, two and a half feet on center. Tree islands will be planted with trees 10 feet on center and shrubs and grasses planted five feet on center. The plantings on the tree islands will be larger material to ensure diversity and survivability.

Planting Plan:

<u>Common Name</u>	<u>Species</u>	<u>Size</u>	<u>Density</u>	<u>Quantity</u>
<u>Marsh (elevation 1.0 to 2.0 NGVD) 17.4 acres</u>				
Pickerelweed	<i>Pontedaria cordata</i>	bare-root	3' oc	6,500
Duck potato	<i>Sagittaria latifolia</i>	bare-root	3' oc	6,000
Knotted spikerush	<i>Eleocharis interstincta</i>	bare-root	3' oc	12,000
Alligator flag	<i>Thalia geniculata</i>	bare-root	3' oc	6,000
Blue flag iris	<i>Iris virginica</i>	bare-root	3' oc	6,000
Beak rush	<i>Rhynchospora microcarpa</i>	bare-root	3' oc	6,000
Maidencane	<i>Panicum hemitomon</i>	bare-root	3' oc	8,000

Soft rush	<i>Juncus effuses</i>	bare-root	3' oc	12,000
Sawgrass	<i>Cladium jamaicense</i>	bare-root	3' oc	15,000
Soft stem bulrush	<i>Scirpus validus</i>	bare-root	3' oc	10,000
Giant bulrush	<i>Scirpus spp.</i>	bare-root	3' oc	10,000

Hydric Tree Islands (elevation 2.5 to 4.5 NGVD) 1.0 acre

Dahoon holly	<i>Ilex cassine</i>	10 gallon	10' oc	126
Red maple	<i>Acer rubrum</i>	10 gallon	10' oc	126
Red bay	<i>Persea borbonia</i>	7 gallon	10' oc	126
Pond apple	<i>Annona glabra</i>	7 gallon	10' oc	126
Wax myrtle	<i>Myrica cerifera</i>	3 gallon	5' oc	1,010
Coco plum	<i>Chrysobalanus icaco</i>	3 gallon	5' oc	1,010
Sand cordgrass	<i>Spartina bakeri</i>	1 gallon	3' oc	2,800
Fakahatchee grass	<i>Tripsacum floridanum</i>	1 gallon	3' oc	2,800

Transitional Buffer (elevation 3.5 to 7.0 NGVD) 1.0 acre

Slash pine	<i>Pinus elliottii</i>	10 gallon	10' oc	450
Cabbage palm	<i>Sabal palmetto</i>	10-12'	10' oc	160
Firebush	<i>Hamelia patens</i>	7 gallon	5' oc	815
Coco plum	<i>Chrysobalanus icaco</i>	3 gallon	5' oc	815
Wax myrtle	<i>Myrica cerifera</i>	3 gallon	5' oc	815
Sand cordgrass	<i>Spartina bakeri</i>	1 gallon	3' oc	3,390
Fakahatchee grass	<i>Tripsacum floridanum</i>	1 gallon	3' oc	3,390

The wetland mitigation area will be placed in a conservation easement. The preserve area will be posted with permanent signs and boundary markers. Boundary markers will be placed at the back of lots abutting the preserve area. Signs will be at least 11 x 14 inches in size and will be posted in conspicuous locations along the preserve area boundary, at a frequency of no less than one sign per 500 feet.

X. MAINTENANCE AND MONITORING

The enhanced and restored wetland will be maintained in perpetuity and monitored for a period of five years. Quarterly and annual monitoring reports will include vegetation analysis along established transects, panoramic photographs and water level data.

Monitoring of the on-site mitigation area will ensure success of the mitigation activities. The survival rate of planted vegetation is expected to be maintained at least 80 percent. The vegetative coverage is expected to reach at least 80 percent areal coverage by the end of the second year monitoring period, with at least 40 percent coverage achieved in the first year. Maintenance will be conducted in perpetuity to ensure that the wetland is free of exotic vegetation (as currently defined by the Florida Exotic Pest Plan Council) immediately following a maintenance activity and that total coverage of exotic and nuisance plant species should constitute no more than 3 percent of the total preserve area between maintenance activities.

The preserve area will be posted with signage alerting adjacent property owners of the conservation status. Signs are depicted on the Mitigation Monitoring Plan Map. The property owner's association will be responsible for the maintenance and monitoring of the preserve area. Monitoring will occur in compliance with SFWMD and Broward County wetland monitoring guidelines with annual report for five years to SFWMD and quarterly reports for five years to Broward County to document wetland functional success. Upon completion of construction activities, a time zero baseline report will be filed. Anticipated transect and monitoring station locations are shown in Figure 7.

XI. CONSTRUCTION SEQUENCE

Mitigation activities will occur commensurate with site construction activities. Site construction and mitigation activities will occur immediately upon permit issuance. A time zero baseline monitoring report will be submitted upon completion of all mitigation activities. Estimated dates for completion of these activities are as follows:

October 2017	Permit Issuance
December 2017	Recorded Conservation Easement and Financial Assurances Submitted
March 2018	Mitigation Area Grading complete, As-Builts Submitted
May 2018	Completion of Mitigation Activities and Planting
May 2018	Time Zero Monitoring Report to SFWMD, Broward, and ACOE
May 2019	First Annual Monitoring Report to SFWMD, Broward and ACOE
May 2020	Second Annual Monitoring Report to SFWMD, Broward and ACOE
May 2021	Third Annual Monitoring Report to SFWMD, Broward and ACOE
May 2022	Fourth Annual Monitoring Report to SFWMD, Broward and ACOE
May 2023	Fifth Annual Monitoring Report to SFWMD, Broward and ACOE

XII. COST ESTIMATES

The estimated cost for mitigation activities including earthwork and grading, wetland enhancement, restoration and planting, buffer creation and planting, and required maintenance and monitoring is approximately \$718,744. The breakdown of these costs is as follows:

Description	Unit*	Quantity	Unit Cost	Estimated Cost
Wetland Earthwork / Scrape down	CY	116,644	\$ 3.50	\$ 408,254.00
Wetland Planting	AC	23.86	\$ 7,500	\$ 178,950.00
Wetland Maintenance	EA	20	\$ 2,500	\$ 50,000.00
Wetland Monitoring	EA	20	\$ 810	\$ 16,200.00
Subtotal				\$ 653,404.00
+10% =				<u>\$ 718,744.40</u>

anoxia and stratification can result in artificial water bodies excavated deeper than twenty (20) feet. As such, Broward County typically does not approve excavation proposed in excess of this depth. If the proposed lakes will exceed 20', please revise the proposed design accordingly, or provide detailed hydrologic information or evidence which addresses and alleviates this concern.

Response: The applicant proposes the maximum lake depth to remain at 35' NGVD as noted on the plans. This depth is required to generate the necessary fill. The applicant has developed several other projects in Broward County with lakes of this depth. The lakes appear to be healthy and support wildlife typical of lake habitat. Examples are the Pembroke Isles and Silver Lakes developments, both in West Pembroke Pines. However, to help alleviate concern regarding anoxia or stratification, the applicant proposes an aerating fountain to be placed near the center of the lake.

12. Provide a soil containment and handling plan for all excavated material. Please indicate the use of the dredged material, locations of staging areas for equipment, type of containment for the stockpiling/drying of dredged material and the locations of temporary and final disposal areas.

Response: The dredged material will be used for fill of development areas on the property. The material will be staged temporarily in a location adjacent to the lake. Best management practices will be implemented during the short time that the material is stockpiled. These BMP's will include silt fences placed at perimeters of stockpile when not actively worked to ensure no sedimentation during rain events, and implementation of a dust control plan when necessary. Dust control measure may include wetting of the stockpile, or covering of the stockpile if it remains undisturbed for more than 14 days. Additionally, stockpiles will be located a minimum of 50' away from any surface waters, canals or drainage ditches.

13. When all plans have been finalized, please submit at least one set of final project drawings signed and sealed by a professional engineer registered in the State of Florida (or provide a SHA-1 report).

Response: No changes are proposed to the project Engineering Plans at this time. Upon review of our responses above, if any changes are required such as the addition of a fountain in the lake, then we will make changes and submit final signed/sealed drawings.

We believe that the above information addresses the relevant questions and concerns and we look forward to working with you for processing of this permit.

Sincerely,
EW Consultants, Inc.



Mary Lindgren
Environmental Project Manager

cc: Alejandro Delfino, Home Dynamics Corporation

[illegible]

Mitigation Bank Wetland Function Evaluation Matrix

Project: Sierra Ranch

Reviewer: EW Consultants Inc.

Date: 5/10/2017

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Parameter/ Function	Scoring Criteria	Ratings	Polygot	Polygot	Polygot	Polygon
1. Fish & Wildlife Functions Apply to freshwater, saltwater, brackish and mitigation systems						
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High specie count w/ low pop. #'s score 1)	7 or more species commonly observed	3				
	3-6 species commonly observed	2				
	1-2 species commonly observed	1				
	0 species commonly observed	0	0.5			
	7 or more species commonly observed	3				
b. Fish (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	3-6 species commonly observed	2				
	1-2 species commonly observed	1				
	0 species commonly observed	0	0			
	Top predator (carnivore) &/or large mammals	3				
	Medium sized mammals, (adult weight > 6 lbs.)	2				
c. Mammals (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Small animals (rodents, etc.), (adult weight < 6 lbs.)	1				
	0 species present	0	0.5			
	7 or more species commonly observed	3				
	3-6 species commonly observed	2				
	1-2 species commonly observed	1				
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	0 species commonly observed	0	0.5			
	Large species observed	3				
	Aquatic turtles	2				
	Snakes & lizards	1				
	No evidence of species present	0	1			
e. Aquatic reptiles (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)						

Mitigation Bank Wetland Function Evaluation Matrix

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from
 EPA, FDEP, ACOE, NMFS, USF & W. SWMD & Dade County

Project: Sierra Ranch

Reviewer: EW Consultants Inc.
 Date: 5/10/2017

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon
2. Vegetative Functions Apply to freshwater, saltwater, brackish and mitigation systems					
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3			
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2			
	Inappropriate trees/shrubs shading or overtopping desirable trees/shrubs very little or no desirable trees/shrubs present (evidence suggests there should be)	1			
	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	0	0.5		
b. Vegetative ground cover	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30%	3			
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	2			
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	1			
	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	0	1		
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	3			
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	2			
	Periphyton (Blue-green algae) not present or if present with average thickness of 0.0 to 1/4 in. (active & dead layer)	1			
	< (or = to) 1 % exotic plant cover	0	0.5		
d. Category 1 and Category 2 exotic plants or (non-native) species	>1 % to 10 % exotic plant cover	3			
	>10 % to 65 % exotic plant cover	2			
	> 65 % exotic plant cover	1			
	>3 native species communities on site within assessment area	0	0.5		
e. Habitat diversity (vegetative) (within assessment area)	2 or 3 native species communities on site within assessment area	3			
	1 native species community with 75 % to 90 % coverage within assessment area	2			
	1 native species community has > 90 % coverage within assessment area	1			
	> 3 alternative habitats available (including upland)	0	0.5		
f. Biological diversity within 3000 feet (approximately 1/2 mile from edge of assessment area)	2 to 3 alternative habitats	3			
	1 alternative habitat	2			
	Same habitat type, or inappropriate / impacted	1			
		0	0		

Mitigation Bank Wetland Function Evaluation Matrix

Project: Sierra Ranch

Reviewer: EW Consultants Inc.

Date: 5/10/2017

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from

EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Parameter/ Function	Scoring Criteria	Rating	Polygon	Polygon	Polygon
3. Hydrologic Functions					
a. Surface water hydrology / sheet flow Apply to freshwater, saltwater, brackish and mitigation systems	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3			
	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2			
	Minor connection (Runoff collection point, or uneven flow due to boms, ditches, roadways etc.)	1			
	Hydrologically isolated, no net lateral movement	0			
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown	3			
	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2			
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1			
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0			
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	>10 weeks of continuous inundation including soil saturation	3			
	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2			
	>2 weeks but <6 weeks of inundation, including soil saturation	1			
	<2 weeks of continuous inundation	0			
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides	3			
	Inundated by "spring" high tides (bi-monthly)	2			
	Inundated by "extreme high" tides only (biannually)	1			
	Inundated by storm surges only	0			
b-3 Alternate to b. for High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3			
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2			
	Inundated by high "spring" tides (monthly) and exposed to rain only	1			
	Inundated by >50% high tides and exposed to rain only	0			
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3			
	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2			
	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1			
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0			

Mitigation Bank Wetland Function Evaluation Matrix

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WOI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Project: Sierra Ranch

Reviewer: EW Consultants Inc.
 Date: 5/10/2017

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon
3. Hydrologic Functions continued					
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3			
	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2			
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system.	1			
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wetlands, or these factors cause water depth to be too deep for specific system.	0			
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	>1 ft. water depth <2 ft. on 90% high tides	3			
	> 6 in. water depth <1 ft. on >50% high tides	2			
	< 6 in. water depth, but > than saturated	1			
	Saturated by saline water table only	0			
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>10 in. water depth <2 ft. on regular basis during growing season	3			
	>6 in. to 10in. water depth on regular basis during growing season	2			
	>1 in. to 5 in. water depth on regular basis during growing season	1			
	>0.0 in. to 1 in. water depth sporadically during growing season	0			
c-3 Alternate to c. for Riverine systems	>2 ft. water depth (main channel) <6 ft. for 8 months	3			
	>2 ft. water depth (main channel) <4 ft. for 6 months	2			
	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1			
	<1 ft. water depth, but dry for >4 weeks (dry season)	0			

Mitigation Bank Wetland Function Evaluation Matrix

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from
EPA, FDEP, ACOE, NMFS, USF & W. SFWMD & Dade County

Project: Sierra Ranch
Reviewer: EW Consultants Inc.
Date: 5/10/2017

Parameter/ Function	Scoring Criteria	Rating	Polygon	Polygon	Polygon	Polygon
3. Hydrologic Functions continued						
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3				
	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2				
	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1				
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0				
			1			
e. Intactness of historic topography (soil disturbance)	Unaltered	3				
	Slightly altered soil disturbance, < 10% of assessment area	2				
	Moderately altered soil disturbance, < 25% of assessment area	1				
	Extremely altered soil disturbance, may exceed 50% of assessment area	0				
			0			
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3				
	Organic soil classified hydric soil >6 in. but <12 in. and covering >80% of surface area	2				
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <80% of surface area	1				
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0				
			2			
f.1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3				
	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2				
	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1				
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0				
f.2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam >12 in. and >90 % of surface area	3				
	Calcareous loam >6 in. to <12 in. and >90% of surface area	2				
	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1				
	Calcareous loam <1 in. for >50% of surface area	0				

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Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
4. Salinity Parameters Apply to freshwater, saltwater, brackish, hypersaline and mitigation systems - Choose 1							
a. Optimum salinity for fresh systems during growing season based on mean high salinity for a normal year. Apply to freshwater systems within 5 miles of the coast	<2 parts per thousand (ppt)	3	619				Polygon
	2 to 3 parts per thousand (ppt)	2					
	4 to 5 parts per thousand (ppt)	1					
	>5 parts per thousand (ppt)	0					
a-1. Alternate to a. Optimum salinity for brackish systems during growing season based on mean high salinity for a normal year. Apply to brackish (tidal) systems only	6 to 8 parts per thousand (ppt)	3	NA				
	9 to 13 parts per thousand (ppt)	2					
	14 to 16 parts per thousand (ppt)	1					
	>16 parts per thousand (ppt)	0					
a-2. Alternate to a. Optimum salinity for saline systems during growing season based on mean high salinity for a normal year. Apply to saline march (tidal) systems only	17 to 19 parts per thousand (ppt)	3					
	20 to 22 parts per thousand (ppt)	2					
	23 to 25 parts per thousand (ppt)	1					
	>25 parts per thousand (ppt)	0					
a-3. Alternate to a. Optimum salinity for hypersaline systems during growing season based on mean high salinity for a normal year. Apply to hypersaline (tidal) systems only	26 to 41 parts per thousand (ppt)	3					
	42 to 46 parts per thousand (ppt)	2					
	47 to 51 parts per thousand (ppt)	1					
	>51 parts per thousand (ppt)	0					
a-4 Alternate to a. Optimum salinity for riverine/tidal creek system during growing season based on mean high salinity for a normal year. Apply to riverine systems only	bottom (lower) third between 12 to 25 ppt	3					
	middle third between 5 to 11 ppt						
	upper (top) third between 0 to 4 ppt.						
	bottom (lower) third between 25 to 32 ppt	2					
	middle third between 6 to 24 ppt.						
	upper (top) third between 0 to 5 ppt.						
	bottom (lower) third between 30 to 40 ppt	1					
	middle third between 8 to 29 ppt.						
	upper (top) third between 0 to 7 ppt.						
	bottom (lower) third between 35 to 50 ppt	0					
	middle third between 10 to 34 ppt.						
	upper (top) third between 0 to 5 ppt.						
		Cumulative Score (SC)	11	0	0	0	0
		Maximum Possible Score (MPS)	51.00	0.00	0.00	0.00	0.00
		W.A.T.E.R. = Cumulative Score/Maximum Possible Score	0.22				

W.A.T.E.R. created by: Bill L. Maus
11/1/1988

SIERRA RANCH - WATER Summary

<u>WATER Score</u>	<u>SSM</u>	<u>Acres of Impact</u>	<u>Mitigation Credits</u>
0.22	x 1 x	13.7	3.01
		=	=
		Total	3.01

619 Exotic Wetland Hardwoods

*SSM Not Applicable for Impact Site



August 18, 2017

HD Sierra Ranch, LLC
4755 Technology Way, Suite 210
Boca Raton, FL 33431
Attn: David Schack, Director

**Re: Everglades Mitigation Bank Credit Reservation:
U. S. Army Corps of Engineers Permit Number SAJ-2004-01305,
South Florida Water Management District Permit Application Number
141223-14, Broward County Environmental Protection and Growth
Management Department Permit Number DF15-1259**

Please be advised that the Everglades Mitigation Bank (the "EMB") has reserved 10.86 Freshwater Herbaceous mitigation credits necessary to offset the unavoidable wetland impact for the above referenced project. Phase I of the EMB has a signed Mitigation Banking Instrument acknowledged by both FDEP and USACE and sufficient credits are currently available on the EMB ledger to offset the proposed impacts. **The EMB acknowledges receiving a deposit for the above referenced credits.**

Please contact me at 561-694-6388 for any additional information or questions regarding this matter.

Regards,

A handwritten signature in blue ink, appearing to read "Joseph R. Sicbaldi". The signature is fluid and cursive, with a large loop at the beginning and end.

Joseph R. Sicbaldi
Everglades Mitigation Bank