Letter of Transmittal

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TO: Mr. Russ Smith
Lennar Homes
10481 Ben C Pratt/6 Mile Cypress Parkway
Ft. Myers, FL 33966-6460

PROJ. CODE HOME-96
DATE December 4, 2007
JOB NO.
RE:

WE ARE SENDING YOU ✔ Attached ☐ Under separate cover via _____ the following items:

☐ Permit Sketches ☐ Site Survey ☐ Aerial Photos ☐ Construction Plans & Specifications

☐ Copy of Letter ☐ Completeness Summary ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	11/2007		**RCW Non-Nesting Season Foraging Survey Report**
1	11/2007		**(Exhibit A) FLUCCS Map with Survey Transects**
1	11/2007		**(Exhibit B) Vegetation Map**
1	11/2007		**(Exhibit C) FLUCCS Map with Aerial and Survey Transects**
1	11/2007		**(Exhibit D) Project Location Map**

THESE ARE TRANSMITTED as checked below:

☐ For approval ✔ As requested ☐ To be signed and returned to this office

☐ For your use/information ☐ For review and comment

☐ _____

☐ FOR BIDS DUE _____ 20___ PRINTS RETURNED AFTER LOAN TO US

REMARKS: Mr. Smith,
I have attached the Caloosa Lakes Red-Cockaded Woodpecker 2007 Non-Nesting Season foraging survey report for your review. Please call if you have any questions.

Please file w/ Caloosa Lakes
RCW Survey 12/4/2007

COPY TO:

SIGNED:
John D. Stark

If enclosures are not as noted, kindly notify us at once

CALOOSA LAKES
RED-COCKADED WOODPECKER
2007 NON-NESTING SEASON
FORAGING SURVEY REPORT

November 2007

Prepared for:

Lennar Homes
10481 Ben C Pratt/6 Mile Cypress Parkway
Fort Myers, FL 33966-6460

Prepared by:

W. Dexter Bender and Associates, Inc.
2052 Virginia Avenue
Fort Myers, FL 33901

INTRODUCTION

W. Dexter Bender & Associates, Inc. (DBA) has conducted a red-cockaded woodpecker (*Picoides borealis*) (RCW) non-nesting season survey of the 503.8± acre Caloosa Lakes project. This property is located within a portion of Sections 19 and 20, Township 43 South, Range 28 East, Hendry County, Florida. The property is bordered to the north by County Road 78 (North River Road); to the east and west by undeveloped lands, single family homes, and row crops; and to the south by the Caloosahatchee River (see attached location map). The site has been substantially impacted by previous land management practices. Approximately two thirds of the site has either been previously cleared or is vegetated by greater than 50 percent coverage by exotics. The goal of this survey was to determine if RCWs utilize areas of the property as foraging habitat. A search of the Florida Fish and Wildlife Conservation Commission (FWC) species database (updated in September 2007) revealed a RCW sighting approximately 7.8± mile to the northeast. The type of RCW occurrence (inactive cavity tree, active RCW cluster, individual bird sighting, etc.) and current activity status of RCWs at that location is not known.

METHODOLOGY

DBA has previously mapped the major vegetation communities on-site using the 1999 edition of the Florida Land Use, Cover, and Forms Classification System (FLUCCS). That mapping identified potential RCW foraging habitat types (i.e. areas dominated by slash pines) and quantified the degree of exotic infestation throughout the site. Based on the vegetation mapping, there are 87.8± acres of potential low quality foraging habitat on the property (Exhibit A). This habitat is generally located in the central portion of the property. Areas that were left out of the survey contained high levels of exotics or had very sparse amounts of slash pine habitat suitable for RCWs. DBA has spent hundreds of man hours on the property over the past years conducting various tasks including vegetation mapping, wetland flagging and listed species surveys. During all of these activities ecologists also looked for listed animal and plant species. Neither RCWs nor their cavity trees have been observed on-site. A protected species survey report conducted by Johnson Engineers,Inc. on the subject parcel in October 2003 revealed similar results with no RCWs or cavity trees having been observed on the subject parcel.

DBA conducted one non nesting season (October 15th through December 15th) RCW foraging survey on the subject property. The surveys were conducted on October 23-26, 29, 30, 31, and November 1, 2, 5 - 9, 2007 (14 days) from approximately 8:00 a.m. to 11:00 a.m. Each survey event consisted of one qualified ecologist walking meandering transacts through potential RCW foraging habitat. During each event the ecologists surveyed different portions of the site. The location and direction of these

transacts varied on a daily basis and were recorded on an aerial vegetation map (Exhibit A). The ecologist stopped at 5± minute intervals, played a 30 second continuous RCW vocal call tape, and listened for RCW vocalizations. The location and number of RCW's seen/heard (if any) were also recorded on the aerial vegetation map. In addition to looking for individual RCW, the ecologists carefully examined all pine tree of sufficient age/size to contain RCW cavities for the presence of cavities or start holes.

The following documents have been reviewed prior to the preparation of this RCW survey methodology:

Beever, James W. 2003. Standardized State-Listed Animal Survey Procedures for SFWMD ERP Projects (June 13, 2003, Third Edition) Florida Fish and Wildlife Conservation Commission, Office of Environmental Services.

Florida Game and Fresh Water Fish Commission. 1988. Wildlife Survey Methodology Guidelines for Section 18.D of the Application for Development Approval (January 15, 1988). Office of Environmental Services.

Henry, V. George. 1989. Guidelines for Preparation of Biological Assessments and Evaluations for the Red-cockaded Woodpecker (September 1989). U.S. Fish and Wildlife Service, Southeast Region, Georgia.

U.S. Fish and Wildlife Service. 2002. Red-cockaded Woodpecker Survey Protocol (July 23, 2002 DRAFT). South Florida Ecological Services Office.

U.S. Fish and Wildlife Service. 2002. Standard Local Operating Procedures for Endangered Species Red-cockaded Woodpeckers (July 23, 2002 DRAFT). South Florida Ecological Services Office.

U.S. Fish and Wildlife Service. 2003. Recovery plan for the red-cockaded woodpecker (*Picoides borealis*): second revision. U.S. Fish and Wildlife Service, Atlanta, Georgia.

RESULTS

Vegetative Communities

The predominant upland and wetland vegetation associations were mapped in the field on Lee County 2005 digital color 1" = 300' scale aerial photography. Twenty-one vegetation associations were identified using the FLUCCS. The attached vegetation map (Exhibit B) depicts the approximate location and configuration of these vegetation associations. The acreage is summarized by FLUCCS code on Table 1. A brief description of each FLUCCS association is provided below.

Table 1. Acreage Summary by FLUCCS

FLUCCS	Description	Approximate Acres
211	Improved Pastures	0.3
211E	Improved Pastures invaded by Exotics (5-9%)	227.8
211H	Improved Pastures - hydric	3.9
321	Palmetto Prairie	1.0
321D	Palmetto Prairie – Disturbed	40.0
411D	Pine Flatwoods – Disturbed	29.8
414	Pine – Mesic Oak	51.5
422	Brazilian Pepper	0.3
427	Live Oak	2.7
427/428	Live Oak/Cabbage Palm	7.6
427E	Live Oak invaded by Exotics (5-9%)	7.9
428E4	Cabbage Palm invaded by Exotics (76-90%)	95.9
436	Upland Scrub, Pine and Hardwoods	6.0
510D	Ditches	6.2
621E	Cypress invaded by Exotics (5-9%)	9.8
621E2	Cypress invaded by Exotics (26-50%)	2.3
631	Wetland Shrub	1.6
641	Freshwater Marshes	3.8
641/211H	Freshwater Marshes/Improved Pastures - hydric	1.9
742	Borrow Areas	0.6
743	Spoil Areas	2.9
	Total	**503.8**

FLUCCS 211, Improved Pastures (0.3± ac.)

This upland association is dominated by various pasture grasses including Bahia grass (*Paspalum notatum*) and Bermuda grass (*Cynodon dactylon*). Additional species present include scattered flat-top goldenrod (*Euthamia minor*), sweet broom (*Scoparia dulcis*), dog fennel (*Eupatorium capillifolium*), beggar's ticks (*Bidens alba*) and widely scattered paw paw (*Asimina* sp.).

FLUCCS 211E, Improved Pastures invaded by Exotics (5-9%) (227.8± ac.)

Similar in composition to FLUCCS 211 described above, this upland area contains additional species such as scattered wax myrtle (*Myrica cerifera*), cabbage palm (*Sabal palmetto*), rabbit tobacco (*Pterocaulon pycnostachyum*), smutgrass (*Sporobolus indicus*), ragweed (*Ambrosia artemisiifolia*), slash pine (*Pinus elliottii*), widely scattered buckthorn (*Bumelia reclinata*) and Caesar weed (*Urena lobata*). Brazilian pepper (*Schinus terebinthifolius*) has invaded this association and now comprises between five and nine percent of the vegetative cover.

FLUCCS 211H, Improved Pastures – hydric (3.9± ac.)
Species present in this wetland habitat include yellow eyed grass (*Xyris* sp.), pennywort (*Hydrocotyle umbellata*), water hyssop (*Bacopa monnieri*), star rush (*Dichromena colorata*), frog-fruit (*Phyla nodiflora*), water-primrose (*Ludwigia octovalvis*), torpedo grass (*Panicum repens*) and various sedges (*Cyperus* spp.)

FLUCCS 321, Palmetto Prairie (1.0± ac.)
The understory of this upland is dominated by saw palmetto. Other species present here include scattered wiregrass (*Aristida stricta*), pennyroyal (*Piloblephis rigida*), grapevine (*Vitis* sp.), greenbrier (*Smilax* sp.), beautyberry (*Callicarpa americana*) and rusty lyonia (*Lyonia ferruginea*).

FLUCCS 321D, Palmetto Prairie – Disturbed (40.0± ac.)
This upland habitat contains the same species described for FLUCCS 321 above. However, portions of this association have been converted to pasture and now include species such as smutgrass, Bahia grass and other vegetation typically found within the improved pastures located on the subject parcel.

FLUCCS 411D, Pine Flatwoods – Disturbed (29.8± ac.)
Saw palmetto, slash pine, rusty lyonia, beautyberry, pennyroyal, shiny blueberry (*Vaccinium myrsinites*), scattered live oak (*Quercus virginiana*), Bahia grass, smutgrass and dahoon holly (*Ilex cassine)* are present in this disturbed upland habitat.

FLUCCS 414, Pine – Mesic Oak (51.5± ac.)
Species present in this upland habitat include slash pine, live oak, saw palmetto, laurel oak (*Quercus laurifolia*), scattered beautyberry, greenbrier, poison ivy (*Toxicodendron radicans*) and grapevine.

FLUCCS 422, Brazilian Pepper (0.3± ac.)
This area is a monoculture of Brazilian pepper.

FLUCCS 427, Live Oak (2.7± ac.)
Live Oak dominates the canopy in this upland habitat. Other species present here include scattered saw palmetto, beautyberry, poison ivy, greenbrier and Virginia creeper (*Parthenocissus quinquefolia*).

FLUCCS 427/428, Live Oak/Cabbage palm (7.6± ac.)
The canopy of this upland association includes a mixture of live oak and cabbage palm. Scattered saw palmetto, beautyberry, poison ivy, greenbrier, Virginia creeper and wild coffee (*Psychotria nervosa*) are present here as well.

FLUCCS 427E, Live Oak invaded by Exotics (5-9%) (7.9± ac.)
Except for the presence of Brazilian pepper, which currently occupies between five and nine percent of the vegetative cover, this association is identical to FLUCCS 427 described above.

FLUCCS 428E4, Cabbage Palm invaded by Exotics (76-90%) (95.9± ac.)
Brazilian pepper and scattered cabbage palm form the primary vegetation within this habitat. Very widely scattered pockets of Bahia grass, beggar's ticks and Caesar weed are also present within the interior of this upland.

FLUCCS 436, Upland Scrub, Pine and Hardwoods (6.0± ac.)
Species present within this upland include myrtle oak (*Quercus myrtifolia*), sand live oak (*Quercus geminata*), saw palmetto, runner oak (*Quercus pumila*), scattered pennyroyal and narrow-leaf aster (*Pityopsis graminifolia*).

FLUCCS 510D, Ditches (6.2± ac.)
These man-made water bodies include species such as torpedo grass (*Panicum repens*), pennywort (*Hydrocotyle umbellata*) and red ludwigia (*Ludwigia repens*). The drier portions of the ditches contain scattered Bahia grass and frog-fruit (*Phyla nodiflora*).

FLUCCS 621E, Cypress invaded by Exotics (5-9%) (9.8± ac.)
The canopy of this wetland habitat is dominated by cypress (*Taxodium distichum*). Other species present here include cabbage palm, laurel oak, swamp bay (*Persea palustris),* false nettle (*Boehmeria cylindrical*) and dahoon holly. Brazilian pepper has invaded this association and now comprises between five and nine percent of the vegetative cover.

FLUCCS 621E2, Cypress invaded by Exotics (26-50%) (2.3± ac.)
Similar in composition to FLUCCS 621E described above, this wetland association has become more extensively invaded by Brazilian pepper which now comprises between 26 and 50 percent of the vegetative cover.

FLUCCS 631, Wetland Shrub (1.6± ac.)
Wax myrtle, saltbush (*Baccharis halimifolia*), saw grass (*Cladium jamaicense*), beakrush (*Rhynchospora indundata*), yellow-eyed grass, bushy broomsedge (*Andropogon glomeratus*), needle rush (*Juncus roemerianus*), scattered red maple (*Acer rubrum*), buttonbush (*Cephalanthus occidentalis*) and widely scattered Brazilian pepper are present in this wetland habitat.

FLUCCS 641, Freshwater Marsh (3.8± ac.)
This wetland includes species such as smartweed (*Polygonum punctatum*), torpedo grass, arrowhead (*Sagittaria lancifolia*), pickerelweed (*Pontederia cordata*), road grass (*Eleocharis baldwinii*), coinwort (*Centella asiatica*) and fire flag (*Thalia geniculata*).

FLUCCS 641/211H, Freshwater Marsh/Improved Pasture – hydric (1.9± ac.)
Species present in this wetland include a mixture of those found in both FLUCCS 211H and FLUCCS 641. They include yellow-eyed grass, coinwort, pennywort, red ludwigia, water-hyssop, scattered arrowhead and smartweed.

FLUCCS 742, Borrow Areas (0.6± ac.)
While mostly unvegetated, the fringes of these man-made cattle ponds contain scattered arrowhead, smartweed and spikerush (*Eleocharis* sp.)

FLUCCS 743, Spoil Areas (2.9± ac.)
This upland consists of spoil and vegetative debris. Species present here include natal grass (*Rynchelytrum repens*), southern sandspur (*Cenchrus incertus*), Bahia grass, Bermuda grass, sweet broom, beggar's ticks, scattered wax myrtle, Brazilian pepper and very widely scattered myrtle oak.

Wildlife

No RCW's were seen or heard on, or immediately adjacent to, the property during the November-December 2007 non nesting season foraging surveys. During the surveys, weather conditions were primarily sunny, calm, and warm and thereby covered the range of weather conditions that typically occur in southwest Florida during the late fall. As shown Exhibit A the location, orientation, and length of the RCW monitoring transects varied from day to day. For example, the survey conducted on October 31st (shown by the green transects on Exhibit A) consisted of one ecologist traversing the eastern, central, and western potential RCW foraging habitat. By varying the transect locations over time, the property was adequately surveyed and all potential RCW foraging habitats were surveyed at differing times of the morning. The pattern of transects was designed so that the slash pine habitat areas were adequately surveyed insuring any RCWs would be detected. The location, orientation, and length of the RCW monitoring transects also varied from day to day during the fall survey (Exhibit C). In total 26.7± miles of transects were surveyed during the non nesting season survey event.

CONCLUSION

No RCW's were observed during the 2007 non nesting season RCW foraging survey. The survey had adequately covered the potential RCW foraging habitat on-site and was sufficient to detect any utilization of the property by RCWs (Exhibit C). The pine forest habitats on-site are marginal potential RCW foraging habitat due to the abundance of exotics in the midstory and canopy. Few slash pine of sufficient size/age for RCW cavities are present on-site. Given the poor habitat quality, adjacent land uses, and lack of any RCW sightings in spite of the extensive effort expended over the years by DBA ecologists, it is concluded that RCW do not forage or nest on this 503.8± acre property.