



NATIVE ENDANGERED & THREATENED SP. HABITAT CONSERVATION PLAN
ENDANGERED & THREATENED WILDLIFE; MIGRATORY BIRDS

Permit Number: TE15009C-0

Effective: 12/05/2017 Expires: 12/31/2047

Issuing Office:

Department of the Interior
U.S. FISH & WILDLIFE SERVICE
Ecological Services Permit Office
1875 Century Boulevard
Atlanta, GA 30345
permitsR4ES@fws.gov

Kevin D. Reynolds
acting DEPUTY REGIONAL DIRECTOR

Permittee:

**CORAL REEF RETAIL LLC, CORAL REEF RESI PH 1 LLC,
RAMDEV LLC, AND UNIVERSITY OF MIAMI
4801 PGA BOULEVARD
PALM BEACH GARDENS, FL 33418
U.S.A.**

Name and Title of Principal Officer:

KEITH L. CUMMINGS - PRESIDENT, VICE PRESIDENT, AND MANAGER

Authority: Statutes and Regulations: 16 USC 1539(a), 16 USC 1533(d), 16 USC 703-712; 50 CFR 17.22, 50 CFR 17.32, 50 CFR 21.23 & 21.27, 50 CFR 13.

Location where authorized activity may be conducted:

Richmond Pine Rocklands, Coral Reef Commons development site, 137.9 acres, sections 25 and 26, Township 55, Range 39, conservation area, 50.96 acres, section 25, Township 55, Range 39, Miami-Dade County, Florida.

Reporting requirements:

Reports will be provided to the U.S. Fish and Wildlife office appearing in Condition M of this Permit.

Authorizations and Conditions:

A. General conditions set out in Subpart B of 50 CFR 13, and specific conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accord with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local tribal, or other federal law.

C. Valid for use by Permittees named above, and by authorized agents, successors and assigns. University of Miami, 1320 South Dixie Highway, Suite 1250, Coral Gables, Florida, 33146; Aileen M. Ugalde, Esq., Vice-President and General Counsel. Permittees will establish a governing association which will assume this Permit in accordance with Condition G.33, below.

D. Acceptance of this Permit serves as evidence that the Permittee and its authorized agents understand and agree to abide by the terms of this Permit and all sections of Title 50 Code of Federal Regulations, Parts 13 and 17, pertinent to issued permits. Section 11 of the Endangered Species Act of 1973, as amended, provides for civil and criminal penalties for failure to comply with permit conditions.

THIS PERMIT CONSISTS OF CONDITIONS A - M (19 PAGES TOTAL).



- E. The Project Area consists of the Coral Reef Commons development site and the UM Richmond Campus conservation area identified above. The Permittees plan to construct a mixed-use commercial and residential development, Coral Reef Commons, on the 137.9-acre tract, and manage the 50.96-acre, UM Richmond Campus property, as off-site mitigation. The Project Area lies within a larger region known as the "Richmond Pine Rocklands," which is a 1,200-acre block of relatively contiguous pine rockland habitat.

The Project Area contains habitat that is suitable for use, or known to be occupied by, the following wildlife and plant species:

Wildlife

Endangered:

Bartram's scrub-hairstreak butterfly	<i>Strymon acis bartrami</i>
Florida bonneted bat	<i>Eumops floridanus</i>
Florida leafwing butterfly	<i>Anaea troglodyta floridalis</i>
Miami tiger beetle	<i>Cicindelidia floridana</i>

Threatened:

Eastern indigo snake	<i>Drymarchon corais couperi</i>
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Candidate:

Gopher tortoise	<i>Gopherus polyphemus</i>
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State-Listed:

Rim rock crowned snake	<i>Tantilla oolitica</i>
White-crowned pigeon	<i>Patagioenas leucocephala</i>

Plants

Endangered:

Carter's small-flowered flax	<i>Linum carteri</i> var. <i>carteri</i>
Crenulate lead-plant	<i>Amorpha crenulata</i>
Deltoid spurge	<i>Chamaesyce deltoidea</i>
Florida brickell bush	<i>Brickellia mosieri</i>
Florida bristle fern	<i>Trichomanes punctatum</i> ssp. <i>Floridanum</i>
Florida prairie clover	<i>Dalea carthagenensis</i> var. <i>floridana</i>
Sand flax	<i>Linum arenicola</i>
Small's milkpea	<i>Galactia smallii</i>
Tiny polygala	<i>Polygala smallii</i>

Threatened:

Blodgett's silver bush	<i>Argythamnia blodgettii</i>
Everglades bully	<i>Sideroxylon reclinatum</i> ssp. <i>Austrofloridense</i>
Florida pineland crabgrass	<i>Digitaria pauciflora</i>
Garber's spurge	<i>Chamaesyce garberi</i>

State-listed:

Clamshell orchid	<i>Encyclia cochleata</i> var. <i>triandra</i>
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These are the "Covered Species" under this Permit.

1. Subject to the continuing validity of this Permit, the Permittees and their designated agents, successors, and assigns are authorized to take the wildlife Covered Species in the form of harassment, harm, or mortality incidental to demolition, land clearing, grading, construction, occupation, maintenance, and habitat management throughout the Project Area as described in the Permittees' October 2017, habitat conservation plan (HCP) and as conditioned herein. A total of 86.5 acres of the Coral Reef Commons parcel will be permanently developed with the remaining 55.3 acres managed and protected as habitat for the Covered Species. The entire 50.96-acre UM Richmond Campus parcel will serve as off-site mitigation and be managed and permanently protected as habitat for the Covered Species. This Permit does not authorize take of the Covered Species by activities that are not described in the HCP or that are unlawful.
 2. The authorizing statutes and regulations cited on page 1 of this Permit do not prohibit "incidental take" of threatened or endangered plant species. Additionally, the removal or destruction of threatened or endangered plant species is not prohibited on non-Federal lands. Implementation of the HCP and this Permit is expected, however, to provide a conservation benefit to the plant Covered Species that occur or become established on the Project Area.
- F. The Permittee, upon reasonable notice, shall allow personnel from the contact office of the U.S. Fish and Wildlife Service (Service) identified in Condition M, below, or other properly permitted and qualified persons designated by the Service to enter the Project Area at reasonable hours and times for the general purposes specified in 50 C.F.R. §13.21(e)(2).
- G. The Permittee shall implement the construction, long term management, and monitoring plans described in the HCP in a manner so as to ensure that take of the Covered Species is minimized and mitigated. The Permittee is responsible for strict compliance with the terms and conditions of this Permit and implementation of the HCP. Where a conflict occurs between the HCP and this Permit, the Permit shall control.

Conservation Design

1. On Coral Reef Commons, the Permittees will preserve and restore over 51.41 acres of "on-site preserves", and devote 3.88 acres of the site to create "stepping stones" of native pine rockland plantings throughout the development area. Collectively, the on-site preserves and stepping stones comprise the "on-site conservation," as shown on Figure 7-1 of the HCP.
2. As described in the HCP, the 50.96 acres at the UM Richmond Campus will be enhanced, preserved, and managed to maintain the value of its pine rockland habitat value for the Covered Species.
3. Any substantive changes to the conservation plan prescribed by the HCP will be processed and reviewed in accordance with Conditions H and I, below.
4. The following minimization measures and best management practices will be implemented during the Project development and will govern any major Project maintenance or approved amendments to the HCP and/or this Permit.



Project Construction

5. Pre-Construction Surveys and Activities for the Florida bonneted bat on Coral Reef Commons.
 - a. Florida bonneted bat roost surveys will occur no more than 60 days in advance of the initiation of construction. In the event a survey is conducted more than 60 days prior to construction, the Permittees will conduct a verification of the survey no more than 60 days in prior to the start of construction.
 - b. If a Florida bonneted bat roost is identified on the development site during the pre-construction roost surveys, the Permittee will contact the Service and implement the following measures to minimize take of individuals.
 - i. Properly qualified and authorized biologists will wait until the bats have emerged from the roost on their own accord for nighttime foraging and then peep the roost to confirm that no juveniles or adults remain. If no juveniles or adults are found, the entrance to the roost structure will be blocked with grating or other appropriate exclusion material. If peeping is not practicable, an observer will be stationed to monitor activity at the roost. The observation monitoring will start 30 minutes to an hour before sundown and the roost structure will be blocked with a one-way, exit-only barrier one hour after the last bat has been observed leaving the roost.
 - ii. The building or roosting structure will be demolished the following day under the supervision of an ecologist so as to ensure that no bats have returned to the roost and an artificial bat box will be established in the closest conservation area preserve.
 - iii. If young bats are found within a roost, the measures specified in section 6.2.2.1 of the HCP will be implemented so as to avoid or ameliorate abandonment of the young bats.
 - iv. In the event a roost is inadvertently knocked down and young bats are found alive, the same protocol described in the preceding Condition G.5.iii will be implemented.
6. Construction Worker Education. All construction personnel will be advised of the requirements and protocols contained in the HCP. The Permittee will give the general contractor a copy of this Permit and identification material on the Covered Species (HCP, Appendix E.1). A copy of section 6 of the HCP, Permit, and identification materials will be included as an attachment to all contractors' contracts. Large, durable, weather-resistant construction educational material posters will be displayed at the entrance of the Project site as well as within and throughout the construction areas. Laminated sets of cards with information about the Covered Species will be distributed to construction workers to keep on their persons as a quick reference for identifying a species.
7. Construction management practices, or "best management practices," are standard practices to be implemented during Coral Reef Commons construction activities. All contractors will be required to adhere to the best management practice standards for their respective industry.
 - a. Eastern Indigo Snake Standard Protection Measures (see HCP, Appendix H, or as updated by



Service) will be implemented. The same measures will be tailored to and implemented for the rim rock crowned snake.

- b. Signs restricting vehicular speed to 15 miles per hour will be posted within and throughout Coral Reef Commons, and the speed limit will be strictly enforced.
- c. Silt fencing will be installed around all ground disturbing activities.
- d. Construction materials and equipment will be staged within previously disturbed areas within the site but outside of the boundaries of the on-site preserves.
- e. Construction limits will be surveyed and flagged prior to commencing construction activities.
- f. The boundaries of all on-site preserves will be delineated and marked with orange "enviro-fencing" that is a minimum of three feet in height and staked to ensure the fencing remains upright.
- g. Signs stating "Nature Preserve Area - Unauthorized Access Prohibited" will be placed every 300 feet along the boundaries of the on-site preserves.
- h. Construction workers will be required to report all observations and sightings of Covered Species to the HCP Coordinator, who in turn will relay such information to the Service. Information regarding species' sightings may also be relayed to the Service by the Preserve Biologist.
- i. All lighting required for night time construction or safety purposes will be directed towards the intended illumination target and not towards the on-site preserves.
- j. In the event that a gopher tortoise is found on the development site during construction, Permittees will follow the Florida Fish and Wildlife Conservation Commission requirements for gopher tortoise relocation (incorporated herein by reference).

Conservation Restoration and Management

8. Florida bonneted bat surveys and activities for on-site preserves and UM Richmond Campus. A Florida bonneted bat roost survey encompassing a 100-meter radius around bat monitoring stations as shown in the HCP, Figure 6-1, will be conducted in each of the on-site preserves. The areas of these surveys may exclude development areas that were surveyed prior to the commencement of construction. A Florida bonneted bat roost survey also will be conducted on the UM Richmond Campus prior to the initial prescribed burn. Periodic roost surveys are recommended on the on-site preserves and UM Richmond Campus so that prescribed burns can be planned to minimize harm to the roost.
 - a. Within the survey areas, all trees with a diameter at breast height (DBH) equal to or greater than 10 inches, all snags with a DBH of greater than or equal to 8 inches, and all utility poles will be visually surveyed for cavities. All cavities suitable for Florida bonneted bat roosting will be documented with GPS points. If a roost location is recorded, the interior of the cavity



will be peeped using a camera.

- b. Florida bonneted bat roost surveys will occur no more than 60 days in advance of canopy thinning and fuel reduction activities. If a survey is conducted more than 60 days prior to canopy thinning and fuel reduction activities, the Permittee will conduct a verification of the previous survey no more than 60 days in advance of either of these activities.
- c. If a roost is identified in an on-site preserve or in the off-site mitigation area during the survey, a 100-foot buffer will be established around the roost. The use of chemical treatments will be limited within the 100-foot buffer, and applicable Service guidelines for Red Cockaded Woodpecker Cavity Tree Protection will be implemented to protect the roost structure during burning activities. For example, subcanopy within the 100-foot buffer will be removed by hand such as raking fine fuels from the base of the roost structure and establishing a wetline around the roost structure.

9. Best management practices for Land Management Activities in the On-site Conservation Areas

- a. Restoration activities (e.g., hardwood removal and prescribed burning) will be conducted first in degraded areas that have been demonstrated to have a reduction in the use or presence of the Covered Species.
- b. To the extent practicable, new firebreaks will not be established in areas where covered plant species populations are known to occur. Moreover, the new firebreaks will be made using non-permanent methods such as mowing or mastication by machinery that does not penetrate the ground surface.
- c. Known populations of plant Covered Species will be marked with flagging or delineated on contractor's maps to prevent disturbance during hardwood reduction, treatment of invasive species and establishment of new firebreaks.
- d. Any plant Covered Species discovered during field inspections or monitoring will be recorded with GPS coordinates and marked with flagging to prevent damage during management activities.
- e. Locations of known listed plants in all management units of the on-site preserves will be flagged prior to the initial hardwood removal in Year 1.
- f. When feasible, the removal of pines, management of invasive species and hardwoods will be done by hand rather than by mechanical treatments that involve heavy equipment.
- g. Roller-chopping and similar ground-disturbing methods are prohibited for mechanical vegetation treatment.
- h. Debris from mechanical treatment and thinning will be stacked in burn piles or transported from the Project Area.
- i. If available, rubber tracked vehicles will be used for mechanical treatments of hardwoods



within the on-site preserves. If not available, rubber tired vehicles will be used.

- j. All mechanical equipment utilized within the on-site preserves will be of the minimum size and weight necessary to perform the task.
- k. Heavy equipment will not be stored within the on-site preserves boundaries.
- l. Mechanical equipment will be brought into the on-site preserves via adjacent development and/or along fire breaks.
- m. When mastication and mowing result in fuel accumulation, prescribed burning will be conducted before the chips and fine fuels dry out. Raking will be used to reduce fuel loads that could lead to a destructively hot burn.
- n. To minimize the introduction of exotic and nuisance plant species, all equipment will be decontaminated prior to being used in land management activities.
- o. To the extent practicable, pesticides will be applied by hand in adherence to product label and in conformity with applicable Environmental Protection Agency (EPA) requirements. To reduce drift and non-target damage, chemicals to control invasive plants will not be administered on days with excessive windy conditions. Pesticides will not be stored within the on-site preserves boundaries. Pesticide containers and application equipment will be rinsed in a manner to minimize drainage to water bodies.
- p. All prescribed burns will be conducted to promote a mosaic pattern as described in Appendix J of the HCP.
- q. If a roost or other (non-ephemeral) occupied refuge (e.g., gopher tortoise burrow) becomes established within an on-site preserve, the area will be flagged and avoided during management activities.
- r. A wetline will be established around half-acre portions of pineland croton (*Croton linearis*) patches during the initial prescribed burning as described in Appendix J of the HCP.

General Community Operations

- 10. Community, residential and commercial operations, minimization measures and best management practices. To minimize impacts and contribute to meeting the biological goals and objectives of the HCP, the following best management practices will be implemented within the community including both residential and commercial operations.
 - a. A speed limit of 15 mph will be posted within the residential complex and of 25 mph in commercial areas.
 - b. All tenants, lessees and property owners whether commercial or residential (collectively "tenants") will be required to sign documentation acknowledging notice and receipt of pet and waste disposal regulations, of applicable regulations for pesticide, insecticide, and treatment



- for rodents and other household pests.
- c. As per section 6.2.3 of the HCP, Property Management will enforce the community best management practices.
 - d. Landscaping standards will utilize native and non-invasive plant species, in accordance with Miami-Dade County zoning approval.
 - e. Materials identifying the Covered Species will be distributed to commercial and residential tenants.
 - f. Tenants will be educated to recognize the eastern indigo snake and rim rock crowned snake and requested to report observations and sightings in the community of either snake to the HCP Coordinator (HCP, Chapter 10) and instructed to not collect or move the snake.
 - g. Tenants will be advised to notify the HCP Coordinator of any sighting of a gopher tortoise outside the boundaries of an on-site preserve and instructed to not collect or move the tortoise.
 - h. Engineering designs will be incorporated to discourage bats and other wildlife from using buildings or structures.
11. Lighting for the Coral Reef Commons property. Lighting for streets and parking lots will be engineered to accepted cutoff standards, and exposed light sources will not be installed. Lighting shall be directed downward with no more than 10 % of light output above 80 degrees. All lighting will be installed in a manner that does not directly illuminate any of the on-site preserves.
12. Firewise Community for Coral Reef Commons property. The following best management practices will be implemented to make the Coral Reef Commons property a firewise community.
- a. All tenants within the Coral Reef Commons property will be required to sign documentation acknowledging that they have been informed that fire management activities will be implemented within the Coral Reef Commons property and on adjacent properties in the Richmond Area.
 - b. The HCP Coordinator and Property Management will maintain electronic and hard copies of the HCP Administrative Report, which will include on-site preserves management, planned burns, approximate timing and areas. Electronic or hard copies will be provided upon request.
 - c. Prior to the prescribed burning of the on-site preserves, signs will be posted at the entrance of the Coral Reef Commons property notifying tenants of the expected date(s) on which the prescribed burns will occur. To promote and educate about the important benefits of prescribed burning, Permittees will engage in outreach and coordination activities with adjacent landowners.
 - d. Upon request, the HCP Coordinator and/or Property Management will provide designated contacts of adjacent landowners or homeowner associations with copies of the HCP Administrative Report recommendations for burn management of the on-site preserves.



- e. Presidents of residential homeowner association of adjacent communities north of and within 0.5 mile of the Coral Reef Commons property will be notified prior to any prescribed burn.
 - f. Signs will be posted along SW 152nd Street with dates of planned prescribed burns.
 - g. Outreach and education will include additional mechanisms detailed in section 6.2.4 of the HCP.
13. Community Pesticide Use for Coral Reef Commons property. Integrated pest management that will involve a planned approach to pest related problems by identifying pests and taking appropriate action as needed shall be utilized to the extent practicable. The term "pesticide" shall include insecticides, fungicides, herbicides, etc., unless otherwise specified.
- a. All contractors and workers will be provided with the educational and identification material referenced in Condition G.6, above.
 - b. Application of herbicides will conform to the standards established for the on-site preserves management and set forth in section 6.2.3.3 of the HCP.
14. Mosquito control. The Miami-Dade County Mosquito Control District or state-licensed applicators will provide mosquito control within the Coral Reef Commons property.
- a. All tenants within Coral Reef Commons property will be required to sign documentation acknowledging:
 - i. The mosquito control restrictions within the Coral Reef Commons property that are contained in this Permit; and,
 - ii. Any Service requirements imposed on the State or County Mosquito Control District's operations independently of this Permit are expected to apply to the Coral Reef Commons property and on adjacent properties located in the Richmond Pine Rocklands area.
 - b. Tenants will request mosquito control through the Permittee or Association. No truck-spraying will be permitted. Use will be limited to individual unit treatment, such as local larvicide treatment of puddles. Any treatment must have zero drift and impact on the on-site preservation areas.
15. Community outreach and education (section 7.3 of the HCP). The Conservation Program includes community outreach and education, which are important to increasing awareness of the need to protect and manage pine rocklands. Outreach and education will continue throughout the life of the permit. The goals of the public outreach and education program will promote the following:
- a. An understanding of pine rockland habitats;
 - b. The ability to identify the Covered Species and other pine rockland associated species;



- c. Understanding the role and importance of prescribed fire in pine rocklands.
 - d. An understanding of the importance of prescribed fire in benefitting the Covered Species' habitat, reducing hazardous fires, and promoting community safety on the Coral Reef Commons property and adjacent Richmond Pine Rocklands Area lands;
 - e. Knowledge of pest management practices appropriate for the residential and commercial development of the Coral Reef Commons property; and,
 - f. Tenant and resident education of the HCP and ITP requirements and on applying the BMPs within residences and businesses, as applicable.
16. Education will be accomplished through the following mechanisms as provided in section 7.3 of the HCP.
- a. Creation and distribution of informational pamphlets on pine rocklands, prescribed fire, pest management, and HCP commitments.
 - b. Creation and distribution of Covered Species' identification material to construction contractors and workers as well as contractors conducting restoration activities on the Coral Reef Commons property.
 - c. Posting educational information in common areas (residential and commercial) of the Coral Reef Commons property.
 - d. Coordination with adjacent land owners and homeowner associations regarding notice of the on-site prescribed fire activities and schedule.
 - e. Placement of educational signage adjacent to some stepping stones or along the perimeter of the on-site preserves within the residential and commercial areas of the Coral Reef Commons property.
 - f. Distribution of copies of this Permit, the HCP, and HCP administrative reports to tenants of the Coral Reef Commons community on request (section 10.3 of the HCP).
 - g. Designation of an HCP Coordinator (per section 10.1 of the HCP), who will be responsible for implementing outreach and education efforts that may include an interactive annual education program.
 - h. Distribution of educational material to tenants.



Species Management
Coral Reef Commons On-Site Preserves and UM Richmond Campus

17. Contractor Education

- a. All contractors and their personnel conducting work within the on-site preserves will be educated regarding pine rockland habitat, Covered Species, and other species potentially present in the areas. The Preserve Biologist will hold a kick-off meeting with each contractor (glossary in section 10.1 of the HCP) to discuss the specifics of undertaking activities within this habitat type.
- b. Each contractor will be provided with a copy of this Permit and material on identifying Covered Species. Best management practices, restrictions, and other applicable conditions also will be incorporated into all contracts. Educational material will include photographs of the Covered Species, information on conspicuous signs that species may be present (e.g., tree cavity or burrow), written descriptions of the Covered Species, and information on actions to take if a Covered Species is observed, including whom to contact to reporting species' sightings. Educational material will also include sets of laminated cards with information about the Covered Species that can be kept on workers as a quick reference to identify a species. All workers and treatment crews will be provided education materials regarding identifying the Covered Species.

18. Prescribed Fire Management. Prescribed burning will be conducted in accordance with all applicable state and local requirements and carried out by a Certified Prescribed Burn Manager licensed by the Florida Forest Service. Prescribed burn plans, Appendices J and J1 of the HCP.

On-site Preserves

19. General On-site Preserves Management

- a. Eastern Indigo Snake Standard Protection Measures will be implemented (see HCP, Appendix H, or as updated by the Service). The same measures will be tailored to and implemented for the rim rock crowned snake;
- b. Recommendations for management will be developed by the Preserve Biologist in coordination with the HCP Coordinator, Burn Manager and Service and included in the HCP Administrative Report. The recommendations will detail management activities within specific management units for the coming year. Management units will be evaluated based on site conditions, previous land management activities, monitoring results, and restoration or burn objectives. The recommendations will identify and prioritize management actions for each unit as well as provide an annual implementation schedule;
- c. Public utilization, including tenant use, of the on-site preserves will be prohibited in their respective leases;
- d. On-site preserves will be marked with signs spaced no more than 300 feet apart to limit



- unauthorized access;
- e. Dumping, littering, and unauthorized clearing within the on-site preserves is prohibited; and,
 - g. Unauthorized collection of plants is prohibited.
20. **On-site Preserves Mitigation Plan.** The on-site preserves consist of 51.41 acres that will be preserved and placed under a perpetual conservation easement within 180 days of Permit issuance. The details of the conservation easement are described in section 7.9 and Appendix N of the HCP.
- a. **Pine Rockland Enhancement and Preservation:** Mitigation activities for the 45.53 acres of pine rockland within the East and West Preserves (HCP, Table 7.1 and Figure 7.1) consist of eradication and continued control of invasive plant species, canopy thinning, fuel reduction and prescribed burning. Mitigation activities for the pine rocklands in the southern corridor preserve (2.16 acres) consist of pine thinning and maintenance of invasive plant species.
 - b. **Pine Rockland Plantings:** The 0.39-acre sod area located within the on-site preserves along the southern boundary (southern corridor preserve) of the Coral Reef Commons property will be chemically treated and planted with the pine rockland species identified in the "Dade County Native Plant Communities - Pine Rocklands and Rockland hammocks (HCP, Appendix I) and Covered Species forage plants identified in Table 7- 2 of the HCP as well as other pine rockland species native to the area. If available, plantings may also include deltoid spurge and tiny polygala.
 - c. **Upland Enhancement:** The mitigation plan for the 3.85 acres of upland enhancement areas will consist of invasive plant management per County NFC permits.
 - d. **The On-site Preserves Mitigation Plan includes the creation of 3.88 acres of pine rockland landscaping within the development areas.** The stepping stones will be planted with pine rockland species and consist predominantly (50-75% composition) of pineland croton complimented by other plant species. A list of plant species that may be used in the landscaping of the stepping stones can be found in Table 7-2 of the HCP. The remaining 25-50% of the plantings will consist of pine rockland plant species listed in "Dade County Native Plant Communities - Pine Rocklands" (HCP, Appendix I).
 - e. **Stepping Stones Invasive Plant Management.** Invasive exotic plant species will be managed so as not to exceed 15% total coverage. Invasive exotic species are defined as Category I species in the Florida Exotic Plant Council (FLEPPC) List of Invasive Plant Species and Prohibited Plant Species in Miami-Dade County (MDC Code Section 24-49.9). Herbicides will be applied by hand-held or backpack sprayers within the stepping stones and target only invasive exotic species.
 - f. **Stepping Stones Monitoring.** Qualitative monitoring of the stepping stones will be conducted during the monitoring events prescribed for on-site preserves in section 7.7 of the HCP. Qualitative monitoring will include visible estimates on survival of planted species, invasive plant species coverage, and photographic documentation. Results of the qualitative monitoring of the stepping stones will be included the annual monitoring reports.



- g. **Stepping Stones Success Criteria.** The success criteria for the stepping stones will be 85% relative coverage by desirable pine rockland and native species with invasive exotic plant species constituting no more than 15% total coverage. "Relative coverage" is the cover of pine rockland species as a percentage of the total plant cover. "Total plant cover" is defined as all plants including pine rockland plants, non-pine rockland plants, natives and exotic species. "Invasive exotic species" are defined as the Category I species in the FLEPPC List of Invasive Plant Species.
- h. **Bat Boxes.** Six bat boxes will be installed, monitored, and maintained in the on-site preserves. Two bat boxes will be installed each year over the first-three years after Permit issuance. The location of the bat boxes will be determined after completion of the initial restoration activities, including the initial prescribed burn, and coordinated with the Service. Bat boxes will be constructed based on the most recently recommended schematics provided by the Florida Bat Conservancy or the Service, if available. During the annual monitoring events, bat boxes will be inspected for evidence of use by roosting bats. Any bat species identified utilizing bat boxes will be reported to the Service and Florida Fish and Wildlife Conservation Commission.
- i. **Invasive Exotic Plant Management.** Invasive plant management will occur in all on-site preserves as prescribed in section 7.5.1 of the HCP, similar to Condition G.15.e, above.
- j. **Prior to creation or maintenance, all firebreaks will be treated for invasive plants.** Treatment prior to maintenance will be a standard practice to prevent linear spot infestations that can serve as sources for spreading inwards.
- k. **Chemical treatments of invasive species will be timed to occur after a prescribed burn or mechanical treatment in order to reduce the amount of herbicide used and increase the effectiveness of control by exhausting plant reserves.** Burma reed might create high intensity fires and, therefore, will be removed prior to prescribed burning. Any necessary follow-up treatments will be timed to occur before target species are able to reproduce. To the greatest extent practicable, systemic herbicides that exhibit low soil activity will be the preferred method of herbaceous chemical control. In cases where there is a particularly problematic herbaceous species that has extensive rhizomatic structures or plants that have become resistant to a particular herbicide, it might be necessary to use minor amounts of herbicides that exhibit some soil activity. In such instances, such type of herbicide would be utilized in the minimum amount necessary for effective control.
- l. **Chemical control of hardwoods will involve the treatment of stumps (HCP, section 7.5.1).** Large hardwoods will be horizontally cut and immediately treated with an U.S. Environmental Protection Agency approved herbicide with a visual tracer dye applied. Cut hardwoods will be transported off site or piled and burned in appropriate locations. Follow-up treatments or treatments of smaller hardwoods may involve basal bark treatments provided the treated hardwoods can reasonably be consumed by prescribed fire and/or would not contribute substantially to fuel loading. To minimize the potential for drift and non-target damage, foliar chemical treatments will not be conducted when winds exceed 10 mph or when rain is reasonably predicted to be imminent.



- m. **Mechanical Treatment.** Dense pine or hardwood canopy requires thinning to reach optimal canopy cover, achieve target herbaceous diversity, and prevent fire from creating high intensity fires. Canopy will be hand thinned where feasible but in some areas may need to be mechanically thinned. Additionally, areas of dense understory would be selectively masticated to reduce fuel load. Mastication and mowing will be conducted for the creation and management of firebreaks. The "CRC Fire Reintroduction and Prescribed Burn Plan" (CRC Burn Plan) in Appendices J and J1 of the HCP provides details on mechanical treatment for canopy thinning, fuel reduction and firebreaks as well as during times when burning is not feasible.
 - n. **Prescribed Burning.** Burns in the on-site preserves will be conducted in accordance with the CRC Burn Plan in Appendix J of the HCP.
 - o. **Planting** will occur within the 0.39-acre sod area of the southern boundary of the Coral Reef Commons property and the stepping stones. Plantings may also be used in other areas as needed to meet success criteria. In general, planting will consist primarily of the species identified in the "Dade County Native Plant Communities" for pine rocklands and rockland hammocks (Appendix I of HCP) and Covered Species forage plants identified in Table 7-2 of the HCP. Other pine rockland species native to the area may also be used. If available, deltoid spurge and tiny polygala will be planted in areas that do not conflict with the On-site Preserves Mitigation Plan.
21. **On-site Preserves and Stepping Stones Long Term Management.** Long term maintenance will primarily consist of periodic invasive plant treatments and prescribed burning on a 3 to 7 year frequency. To ensure that the on-site preserves and stepping stones achieve their respective success criteria, the Preserve Biologist or HCP Coordinator will develop an annual work plan that identifies management activities for the next year. The annual work plan will identify areas requiring invasive plant treatment, management units planned for burning, an implementation schedule, and remedial measures, if needed. The annual work plan will be included in the monitoring reports and the HCP Administrative Report, as appropriate, and considered at the annual meeting per section 10.3 of the HCP.

UM Richmond Campus

22. **Off-site Mitigation Area Mitigation Plan.** The off-site Mitigation Area consists of 50.95 acres on the UM Richmond Campus that will be preserved and subject to a prescribed burn plan. Within 90 days of Permit issuance, the Permittees will record and file a deed restriction or other conservation encumbrance (collectively "encumbrance") in Miami-Dade County. The encumbrance will incorporate the General Services Administration easement dated November 15, 2000 (Appendix O of the HCP) and section 7.10 of the HCP for enhanced protection on the off-site mitigation Area. Currently, the off-site mitigation area is already subject to a deed restriction pertaining to the deltoid spurge. The restriction may be vacated by the owner, however. The encumbrance associated with this Permit will contain language that broadens the deed restriction to facilitate and not impair implementation of the HCP and this Permit.
23. **UM Richmond Campus, Off-site Mitigation Area Prescribed Burn Plan and HCP section 7.10.2 and**



Appendix J.1. The Permittee will implement the prescribed burn plan on a 3-7 year rotation. When feasible, canopy reduction and pine thinning will be performed by hand. Rubber-tracked or rubber-tired vehicles will be used in areas that required mechanical harvesting. The overall burn plan for off-site mitigation area will require continued maintenance of the fire breaks.

Monitoring/Reporting

24. On-site Preserves Mitigation Monitoring.

- a. **Short-Term Monitoring.** The short-term monitoring program will document and report on baseline (prior to the start of the mitigation activities) conditions, time zero conditions (after commencement of initial mitigation activities), and annual monitoring events to track the success of the preserves. The short-term monitoring period lasts for five (5) years. During this period, the Permittee will submit seven (7) reports (a Baseline report, Time-Zero report, and five annual reports). The 5-year period may be shortened if the preserves are deemed to have met the level 3 success criteria in less than five (5) years. Conversely, if the level 3 success criteria are not reached in 5 years, annual monitoring and reporting will continue until the criteria are satisfied. Each monitoring report will be included as an attachment to the annual HCP Administrative Report and submitted to the Service and the Florida Fish and Wildlife Conservation Commission within sixty days (60) of data collection. Once success criteria have been met, the long-term monitoring program will be implemented.
- b. **Long-Term Monitoring.** Following the achievement of the success criteria of the short-term monitoring program, quantitative monitoring and reporting will occur every five years. Vegetation monitoring, canopy coverage, wildlife utilization, and photographic documentation will occur in accordance with Chapter 7 of the HCP. Qualitative monitoring and reporting will be conducted annually for the life of the permit. If, during the long-term monitoring period, portions of the on-site preserves or stepping stones fail to continue to meet the success criteria for two consecutive years, the HCP Coordinator will meet with the Service to determine whether additional quantitative monitoring requirements are needed. To ensure that the on-site preserves and stepping stones remain in compliance with the level 3 success criteria, the Preserve Biologist or HCP Coordinator will develop an annual work plan identifying management activities to be implemented for the year in conjunction with other elements of the Conservation Program. The annual work plan will identify areas requiring invasive plant treatment, management units planned for burning, planned community outreach and education, an implementation schedule and remedial measures, if needed. The annual qualitative reports will include a summary of annual work plan activities completed during the previous year as well as the annual work plan for the following year. The HCP Coordinator will meet with the Service and the Florida Fish and Wildlife Conservation Commission annually or as otherwise mutually agreed upon to review the HCP and Conservation Program.

25. **On-site Preserves Success Criteria.** Restoration of the on-site preserves pine rockland mitigation areas is expected to be attained once habitat parameters depicted in Table 7-3 in the HCP reach level 3: 1 to 15 percent canopy cover with less than 5 percent of the total cover consisting of non-native plants, a 3 to 7-year fire frequency, 25 percent bare rock or soil, at least 85 percent composition of pine rockland herbaceous plants, and a pine croton density index of 9 through 17 (HCP, section 7.7).



26. Evaluation of the on-site preserves success criteria will be included in each monitoring report. Once monitoring data demonstrates that the level 3 success criteria have been achieved, the Permittees will seek concurrence from the Service. If verified by the Service, the annual monitoring will transition into the long term maintenance and monitoring phase.
27. UM Richmond Campus, Off-site Mitigation Area Monitoring. The current monitoring program applies only to the General Services Administration requirements (HCP, Appendix K). The current monitoring program for the off-site mitigation area will continue and include reporting on the Off-site Mitigation Area Burn Plan. The reports will be submitted annually to the Service and the Florida Fish and Wildlife Conservation Commission. The annual monitoring reports will include an assessment of the previous year's vegetation management, prescribed burning activities, and identify land management activities for the coming year. (HCP, Appendices J.1, K, and O).
28. UM Richmond Campus, Off-site Mitigation Area Success Criteria. Restoration and enhancement of the pine rockland habitat on the off-site mitigation area will be attained once the percent composition of pine rockland desirable herbaceous species equals or exceeds 85 percent; a 3 to 7-year fire frequency is established; and, ground cover comprises at least 25 percent bare rock or soil.
29. Permittees will use the monitoring program, the annual HCP Administrative Report, and annual meetings with the Service to work with the Service in identifying and implementing appropriate adaptive management strategies to assure that HCP goals are achieved. Annual meetings will transition to a five-year recurrence once the Project enters the maintenance phase, also see Condition H, below.

Project Funding

30. Within 30 days of Permit issuance, the Permittees will establish an escrow account to fund the costs for implementation of the management activities required to be performed during first year's work at Coral Reef Commons. For purposes of this Condition, "First year" or "Year 1" means the 12-month period commencing with demolition, land clearing, and construction activities and is further described in Table 11-1 and section 11.2 of the HCP.
31. Prior to the beginning of second year of work at the Coral Reef Commons property, the Permittee shall establish a letter of credit, which must be approved by the Service in the amount specified in Table 11-1 of the HCP to guarantee payment of and cover the costs for implementation of the work/management activities required to be performed during the second through fifth years of the Coral Reef Commons project. Designation of the beneficiary of the letter of credit is also subject to Service approval. The work to be performed is described in Table 11-1 and section 11.2 of the HCP. For the purposes of this Permit Condition, and for drawing from the letter of credit, years two through five of Project work will be calculated from the first year as defined in Condition G.30, above.
32. Upon entering the maintenance phase, the Association will assume funding responsibility for Project management activities on Coral Reef Commons, as provided in Condition G.34, below. If for any reason the Association fails to uphold its funding responsibility, a special taxing district will be created, as provided in the Association Covenants, and Miami-Dade County laws, to assume the funding responsibility.



Permit Transfer

33. Any transfer of the Permit must be done in accordance with 50 CFR §13.25. Upon completion of the Project, attainment of the success criteria of the HCP both onsite and offsite (Condition G.20.g, G.25, and off-site, Condition G.28), and certification of such attainment by the Service, the Project will enter the "Maintenance Phase" as defined in the Project covenants. At such time, the Permittees intend to transfer this Permit to a master property owners' Association that will serve as the long term operating entity responsible for managing and maintaining the Coral Reef Commons property in accordance with the HCP and ITP (HCP, section 11.3.1 and Appendix M). The preceding sentence does not preclude Permittees' requesting a transfer of the Permit prior to attainment of the success criteria. Upon transfer of the Permit to the Association, the Association will fund implementation of the management and maintenance activities via assessments on Coral Reef Commons owners. When the Service approves the Association covenants in final form, the Permittee will record the covenants within 120 days.
34. The University of Miami will retain ownership and responsibility for managing and maintaining its UM Richmond Campus property in accordance with the HCP, ITP and deed of restriction/encumbrance. At the time the Association assumes responsibility as a Permittee, or if the University of Miami requests prior to the attainment of on-site success criteria, the Service will coordinate with the Permittees to effect a partial transfer of the UM Richmond Campus portion of the Permit to University of Miami so that the Permittees will each hold individual Permits for their respective responsibilities defined in the HCP. I.e., the Association, or Ram Coral Reef, will be responsible for the On-site Preserves Mitigation Plan and University of Miami will be responsible for the Off-site Mitigation Area Mitigation Plan, as these are defined in the HCP.

H. Unforeseen and/or changed circumstances may become apparent either to the Permittee and its authorized agents or to Service personnel. For purposes of implementation of this condition, unforeseen circumstances are defined as changes in circumstances affecting a species or geographic area covered by the HCP that could not reasonably have been anticipated by the HCP developers and the Service at the time of the HCP's negotiation and development and that result in a substantial and adverse change in the status of the Covered Species. Changed circumstances are defined as changes in circumstances affecting a species or geographic area covered by the HCP that can reasonably be anticipated by HCP developers and the Service and that can be planned for.

The Permittee and the Service acknowledge that even with the above detailed provisions for mitigating and/or minimizing impacts, circumstances could arise which were not fully anticipated by this Permit and which are considered unforeseen. Such circumstances may become apparent either to the Permittee or to personnel of the Service. For purposes of implementation of this condition, unforeseen circumstances are defined as any significant, unanticipated adverse change in the status of species; any significant, unanticipated adverse change in impacts of the Project or in other factors upon which the HCP and Permit are based; or any other significant new information relevant to the Permit and Activity that was unforeseen by the Permittee and the Service that could give rise to the need to review the Permittee's conservation program.

Any amendments made to the HCP or this Permit will be in accordance with Condition I.3, below. In order to better anticipate changes in regional environmental conditions that could, directly or indirectly, affect the status of one or more of the Covered Species, the Service and the Permittees will:



1. After the maintenance phase is attained, the Permittees and the Service will meet every 5 years to review the status of the Covered Species, regional environmental conditions, and cumulative effects. Based on this review, the Permittees and the Service will identify potential amendments to the Conservation Program as appropriate.
 2. If other landowners in the Richmond Pine Rocklands propose activities unknown to the Service at the time of Permit issuance, the Service will assess such proposed activities' effect on Covered Species and meet with the Permittees to discuss necessary or advisable coordination among landowners to enable the new proponents to pursue their proposed activities in compliance with the Endangered Species Act.
 3. Within 30 days of the twenty-fifth anniversary of Permit issuance, the Service and the Permittees will meet to review the status of the Covered Species, the status of regional environmental conditions, as well as the status of Project implementation, to determine if Permit renewal at the end of its term is desirable or possible. If so, the Service and Permittees will use best efforts to ensure any Permit renewal is made in accordance with Condition I.3, below.
- I. The Permittee and the Service agree that modification and amendments to the Permittee's HCP and this Permit may occur through its effective term. The following procedures shall govern the modification and amendment process:
1. Either the Permittee or the U.S. Fish and Wildlife Service may propose modifications and/or amendments to the HCP or this Permit by providing written notice. Such notice shall include a statement of the reason for the proposed modification and an analysis of its environmental effects, including its effects on operations under the HCP and on the Covered Species. This analysis shall be conducted jointly by the Permittee and the Service contact office identified in Condition M, below. The Service or the Permittee will use best efforts to respond to a proposed modification or amendment within sixty (60) days of receipt of such notice. Absent any objection from the Service or the Permittee, and provided such proposed modification or amendment does not fall within the limits of Condition I.2, below, the proposed modification and/or amendment will be determined to be minor and shall become effective upon written approval by the Service or the Permittee. If the Service determines that a proposed modification or amendment would result in either of the conditions set forth in Condition I.2, below, such proposed modification or amendment must be processed in accordance with Condition I.4, below.
 2. The Service will not propose or approve minor modifications or amendments to the HCP or this Permit if the Service determines that such modifications or amendments would result in operations under the HCP and Permit that are significantly different from those analyzed in connection with the HCP, adverse effects on the environment that are new or significantly different from those analyzed in connection with the HCP or additional take of the Covered Species that was not analyzed in connection with the HCP.
 3. Any amendment or modification shall conform to and be in accordance with all applicable legal requirements, including, but not limited to, the Endangered Species Act, the National Environmental Policy Act, and the U.S. Fish and Wildlife Service's regulations at 50 C.F.R. Parts 13 and 17.
- J. This Permit also constitutes a Special Purpose Permit under 50 C.F.R. § 21.27 for the take of white-crowned



pigeon in the amount and/or number authorized by this Permit and subject to the terms and conditions specified herein. Any such take of these species will not be in violation of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 701 - 712).

- K. According to the schedule specified in the HCP, and as conditioned above, the Permittee shall submit reports to the Service office identified in Condition M, below. Reports shall describe implementation of the terms of this Permit and the HCP. The Permittee shall identify each occurrence of non-compliance with this Permit and/or the HCP and identify measures employed to resolve such non-compliance. Each report shall also include the following certification from a responsible official who supervised or directed the preparation of the report:

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

- L. Upon locating a dead, injured, or sick individual of any Covered Species, or any other threatened or endangered species, initial notification must be made to the U.S. Fish and Wildlife Service, Law Enforcement Office, 20501 Independence Blvd., Groveland, Florida 34736; 352/429-1037, and secondary notification should be made to the Florida Fish and Wildlife Conservation Commission, South Region, Lakeland, Florida at 800/282-8002. Notification should also be made, by the next work day, to the Service contact office identified in Condition M, below. Care should be taken in handling sick, injured, or dead specimens to ensure effective treatment and/or the preservation of biological materials for later analysis. In conjunction with the care of sick or injured threatened or endangered species or with the preservation of biological materials from a dead animal, the finder should take responsible steps to ensure that the site is not unnecessarily disturbed.
- M. For purposes of monitoring compliance with the terms and conditions of this Permit and the HCP, including, but not limited to, the review of annual reports and coordination on unforeseen circumstances, the contact, address, and phone number of the local U.S. Fish and Wildlife Service office is:

U.S. Fish and Wildlife Service
South Florida Ecological Services Field Office
1339 20th Street
Vero Beach, Florida 32960
Telephone: 772/562-3909
Facsimile: 772/562-4288

END