

EXHIBIT "D"

**Harborview DRI Land Management Plan  
A Manual of Best Management Practices for Preserve Areas,  
Wetland Buffers, Green Zone, Nutrient Management, Wildlife  
Utilization Area, and Listed Species  
Prepared by EarthBalance®  
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I Purpose

The purpose is to establish an integrated management program that assures that the environmentally-sensitive areas within the Harborview DRI are protected and adjacent development is designed, developed and maintained with high environmental standards. One of the primary benefits of these best management practices is greater protection of water quality. Effective stormwater treatment, water conservation, and nitrogen load reduction serve to protect the adjacent Peace River and the Charlotte Harbor. These best management practices also are intended to be compatible with maintaining and improving the environmental quality of the Wildlife Utilization Area to sustain habitat for on-site wildlife and allow unhindered movement across the site. Map "F-1", entitled the Harborview DRI Post-Environmental Plan, depicts the various protected environmental areas including preserves, wetland buffers, Wildlife Utilization Area and an area unique to the Harborview DRI that we call the "Green Zone". The "Green Zone" is designed to more efficiently and effectively provide a similar or greater environmental value and function of the variable 100-foot wide upland buffer adjacent to the jurisdictional wetland boundary which included the Salt Marsh preserve originally approved as part of the Harborview DRI in 1993. In addition, to effectively manage urban stormwater and minimize impacts to the natural systems, Harborview DRI is proposing to develop a nutrient management plan for the DRI which will adhere to the newly developed Statewide Stormwater Treatment Rule (July 2010). The Harborview DRI will develop a treatment train approach and utilize Low Impact Development (LID) concepts as well as traditional stormwater ponds to meet water quality standards.

The safeguards described in the Listed Plant Species Management Plan herein, also part of the Harborview DRI Development Order, are incorporated into these best management practices. In addition, these best management practices (BMP's) are compatible with the management recommendations of the Florida Cooperative Extension Landscape Service, the Florida Green Building Coalition, Inc., and consistent with all Charlotte County, Southwest Florida Water Management District

(SWFWMD), Florida Wildlife Commission (FWC) and U.S. Army Corps of Engineers permits.

## II. Green Zone

### A. Location

The Green Zone depicted on Map F-1 is located a minimum of 100 feet landward of the wetland jurisdictional boundary including the Salt Marsh and wetland buffers required by SWFWMD. Outside the landward extent of these wetland buffers, the following BMP's are established to guide design of stormwater management facilities, landscaping and compatible development that protect the water quality of the Peace River. Some typical cross-sections of the Green Zone are provided in this plan herein.

### B. Wetland Buffers

- Vegetated upland buffers along the wetland preserve areas, an average of 25 feet in width and not less than 15 feet, will be maintained unless otherwise approved by the Southwest Florida Water Management District.
- Exotic and nuisance plants within the upland buffers will be eradicated to allow regrowth of preferable native plants and in some areas as needed, supplemental native plants will be planted.
- The application of fertilizer within 25 feet of the jurisdictional boundary of the Salt Marsh and Bay Swamp preserve, lakes, canals, marina basin, and stormwater management facilities is prohibited.
- In accordance with State and federal permits, a long-term monitoring and maintenance program will be implemented and annual monitoring reports will be submitted to the SWFWMD, U.S. Army Corps of Engineers, and Charlotte County Natural Resources Section.

### C. Stormwater and Water Quality Management

- Outside the wetland buffers and within the Green Zone, areas of managed lawn or turf grass will be limited with more emphasis on protecting native vegetation clusters consisting of trees and understory plants. Cleared areas for foot paths and viewsheds will be mulched to the extent practicable to reduce the installation of managed turf grass and pavement.

- Any heritage trees are protected during the design, construction and maintenance of the development in accordance with the intent of the Charlotte County adopted code
- Bioswales or spreader swales will be constructed in parking lots, as appropriate and in grass areas along the green zone to allow treatment of overland stormwater runoff prior to flowing into the upland buffers.
- The design, construction and maintenance of the development and associated lake system will implement best management practices consistent with the SWFWMD permit.
- Routine maintenance of stormwater facilities such as removal of accumulated debris occurs in accordance with the Southwest Florida Water Management District permit.
- Impervious surface areas including parking will be encouraged within the Green Zone to the extent practicable.
- A Stormwater Prevention Plan will be established at the marina based upon the guidelines listed in Florida Department of Environmental Protection's (FDEP)'s Clean Marina Program.
- The stormwater design at the marina will include a littoral zone, grassy swale, a vegetative buffer, and oil/grit filters.
- Impervious surfaces in the marina will be designed and constructed such that run-off water flows away from surface waters and wetlands prior to treatment.
- The application of fertilizer within 25 feet of the jurisdictional boundary of the Salt Marsh and Bay Swamp preserve, lakes, canals, marina basin, and stormwater management facilities is prohibited.

#### D. Integrated Management

- Industry standards are used in establishing proper levels and frequency of management of grasses including mowing, fertilization, pesticide control and irrigation.
- Debris and clippings are routinely removed or dispersed to minimize areas that may harbor pests.
- A turf and landscape plant manager or designee oversees the fertilization program such that the frequency of application and nutrient supplements are adjusted in promoting healthy root and soil microbial growth. The manager considers seasonal changes, weather, and the best management practices embodied in the "*Florida Green Industries Best Management Practices for Protection of Water Resources in Florida, June 2002*" or other equivalent document as may be amended from time to time by the Florida Department of Agriculture and Consumer Services, Division of Agricultural and Environmental

Services, in making the proper adjustments in the fertilization program according to the turf and landscape plant needs.

#### E. Pest Monitoring and Controlled Pesticide Application

- The turf and landscape plant management team has on-going training and knowledge in Integrated Pest Management (IPM) for controlling pests. The targeted pests include diseases, insects, weeds and nematodes that affect the turf grasses and landscape plants.
- The turf and landscape plant management team has technical knowledge in accurate pest identification, pest development and feeding strategies. The accuracy of their diagnosis may be confirmed by test results from an independent lab.
- Consistent with the IPM goals, cultural or biological control methods are used as the first defense against pest control. When the pesticide/herbicide option is the only means available, a selective chemical that has a minimal effect on beneficial organisms is used. If the desired results are not achieved through the use of the environmentally-safe chemical, then a stronger chemical may be considered. The only exception to this protocol is when a detrimental pathogen appears on a lawn or turf area, others lawns or turf grasses may be treated as a preventative measure.
- No chemical application is allowed in the native habitats, wetlands, buffers, and native vegetation clusters except for protection from and control of disease threatening mosquitoes by the Charlotte County Mosquito Control or other licensed operator.
- An established protocol is followed concerning fertilizer/pesticide/herbicide/insecticide storage and handling, application, container cleaning, rinse water, cleaning materials, wastes, unused quantities and container disposal methods and procedures.

#### F. Controlled Fertilizer Application

- The application of fertilizer within 25 feet of the jurisdictional boundary of the Salt Marsh and Bay Swamp preserve, lakes, canals, marina basin, and stormwater management facilities is prohibited.
- No application of fertilizers to turf or landscape plants during "rainy season" (July 1 through Sept. 30 of each calendar year).
- Slow release, granulated fertilizers will be applied with components by guarantee analysis label, as follows:
  - Maximum of 2% phosphorous

- Maximum of 20% nitrogen with at least 70% slow release nitrogen
- Maximum of 1 pound of nitrogen per 1,000 square feet per application
- Maximum of 4 pounds of nitrogen per 1,000 square feet per year
- These criteria may be changed based on revision to SWFRPC Resolution #07-01 or any subsequent rule adopted by Charlotte County.
- Spread deflector shields will be used to avoid impervious surfaces and water bodies, including wetlands.
- Exemptions as identified under SWFRPC Resolution #07-01 apply including newly established turf and landscape plantings.

#### G. Quality Control and Assurance Procedures

- The turf and landscape plant manager or designee oversees the quality control and quality assurance procedures that ensure that these best management practices are implemented in an effective, accurate and consistent manner.
- The turf and landscape plant management and staff perform a structured monitoring to catch pest problems early allowing more effective treatment.
- The turf and landscape plant management has state-certified herbicide and pesticide licenses such that staff applies chemicals under the direct supervision of a state-certified applicator.
- The turf and landscape plant management participates in fertilizer application courses sponsored by IFAS Cooperative Extension or Charlotte County and attains certifications and licenses.
- The turf and landscape plant manager or designee will request proof of any license and records required by either the State or Charlotte County for all commercial fertilizer and pesticide applicators and landscapers.
- The turf and landscape plant management is informed on current techniques in the field
- Education/awareness enhancement programs for all grounds keeping and maintenance staff occur at least twice a year that cover proper management and maintenance activities and quality control and assurance procedures.

#### H. Water Conservation

- The turf and landscape plant management team will monitor weather data, including rainfall, humidity, temperature and wind,

collected from an on-site weather station to adjust the irrigation schedules according to turf and landscape plant requirements and prevention of excess watering conditions.

- The turf and landscape plant management team routinely maintains the irrigation system including checking, adjusting and repairing irrigation devices to ensure optimum operating efficiency, and resetting the automatic controllers according to season and weather conditions.
- Xeriscaping is utilized in the Green Zone to the extent practicable.
- No irrigation is provided in wetland buffers and native habitat areas except in landscaped areas that depend on a low volume irrigation system.
- Deed restrictions and covenants guide homeowners to apply waterwise irrigation methods in their yards that promote water and energy efficient landscapes

### III. Nutrient Management Plan

To manage urban stormwater and minimize impacts to the natural systems, Harborview DRI is proposing to adhere to the newly developed Statewide Stormwater Treatment Rule (July 2010). The Statewide Stormwater Treatment Rule will increase the level of nutrient removal required of stormwater treatment systems serving the development. This rule is based on a performance standard that the post-development nutrient load will not exceed the nutrient load from natural, undeveloped areas. The Harborview DRI will develop a treatment train approach, which will utilize Low Impact Development (LID) concepts as well as traditional stormwater ponds.

Successful LID projects propose to reduce land development area and infrastructure costs while protecting a property's natural resources and functions. Considerations such as soil permeability, depth of water table, and slope are considered when assessing the appropriate LID measure. In addition, the use of LID will not completely replace the need for conventional stormwater controls. Homeowners associations will develop documents that will provide for long-term maintenance of these areas. Overall, LID projects include:

1. Reduction of development area
2. Preserve open space and minimize land disturbance
3. Protect and incorporate natural systems such as wetlands stream/wildlife corridors as design elements
4. Utilize neo-traditional street and lot layouts and designs
5. Decentralize and micromanage stormwater at its source using LID stormwater management practices.

These concepts of LID have been developed throughout the project design process and are echoed throughout the development of the site. Within the Harborview DRI project examples are:

- Reduction of development area - Based on existing Future Land Use Map (FLUM) designations, a maximum of 6,092 dwelling units could have been justified. However, the project's goal is not to create a dense, waterfront city-like development but one that provides a sense of open space, and is consistent with the general scale and existing feel of the development in the region. Therefore a significant reduction of dwelling units to 3,859 units is proposed.
- The project proposes to decrease the non-residential uses by over a half-million square feet from the approved previously Harborview DRI. If the half-million commercial/retail square footage remained, the opportunity to provide a unique mixed use marine-orientated community that preserves, enhances, and reflects the marine heritage along the Peace River and the Charlotte Harbor estuary would not be achieved.
- The Harborview DRI is an innovative mixed-use development that is designed as a walkable community with three villages. The project will incorporate a variety of pedestrian and bicycling infrastructure. Enhancing this infrastructure, specific areas will also include pedestrian-scaled architecture with minimal setbacks, on-street parking and public space in a mixed use environment. Consistent with this theme, commercial and office centers will be located within walking/bicycling distances of residential units. The "Complete the Streets" theme of sidewalks, bicycle lanes, raised pedestrian islands, landscaped medians, cross-walks with advanced warning signs and transit amenities are being incorporated into the project design.
- Maintain the natural shoreline to protect the functions of the estuary by providing buffer, stormwater treatment systems, and separation of the private marina basin from the Peace River estuary via a weir and boat lift facility.
- Upland buffers will meet State requirements will be provide adjacent to all preserved wetland area. The Green Zone will be designed with bioswales to mimic pre-development surface run-off patterns.
- The Green Zone area will also provide additional travel paths and areas for wildlife utilization. This area will provide linear, shallow stormwater features. These features allow treated stormwater to flow out to the Salt Marsh across shallow spreader swales planted with native vegetation as surface water sheet flow, which mimics pre-development surface water run off patterns

- The buffer areas are currently infested with exotic plant species. The exotic species will be removed and native upland plantings will be installed where there is not adequate cover by native plants after exotic removal
- All impervious surfaces in the marina will be designed and constructed such that run-off water flows away from surface waters and wetlands prior to treatment.
- Stormwater runoff from upland contributing areas will be conveyed to proposed stormwater facilities for treatment before being discharged, via control structures, to the existing and proposed canals as well as to on-site wetlands. The existing wetland maximum stages will not be adversely impacted following development of the site
- Stormwater facility control elevations will be designed to provide storage capable of meeting required SWFWMD water quality standards. Pond berm elevations shall be designed to provide one (1) foot of free board above the design maximum stage. Minimum side-slope, berm width and spacing requirements will be met per the SWFWMD and local standards. According to the SWFWMD and Charlotte County guidelines, treatment volume for one (1) inch of rainfall over the site will be provided for both on-site and offsite improvements.
- Stormwater facilities will use both structural and non-structural BMPs (Handbook, Urban Runoff Pollution Prevention and Control Planning. EPA/625/R-93/004, September 1993). Stormwater management facilities and conveyances will have easements to enable maintenance around culverts, storm drains, and other enclosed conduit drainage systems.
- The Harborview DRI will incorporate landscaping that is consistent with the County Land Development Code and Policy 11.1.2 for the use of Florida drought-tolerant plants. As appropriate selection of native plants, trees, and other vegetation and landscape design features that reduce requirements for water, fertilizer, and maintenance will be designed.
- Native shade trees will be planted consistent with Land Development Code requirements to provide reasonable shade for recreation areas, streets, and parking areas.
- The project will establish Best Management Practices and Marina Environmental Measure at the proposed marina and the boat ramp. Care will be taken to minimize and contain hazardous material generated at the marina and boat ramp.
- Harborview will establish a Petroleum Spill Recovery Plan/Fueling Contingency Plan, a Stormwater Pollution Prevention Plan, and other preventatives at the proposed



private marina and public boat ramp as described in the FDEPs Clean Marina Program.

- The proposed waterway systems and freshwater marina basin will be designed to minimize pollutant loading and to facilitate circulation. Thereby improving water quality within the system.
- It is anticipated that non-potable water demands will utilize reclaimed water from Charlotte County's system and a potential expansion of that system.
- Alternative sources will be least quality sources first; reclaimed stormwater from lined and wet ponds will be an alternative

#### IV. Wildlife Utilization Area Management or WUA (includes all preservation areas, upland buffers and Green Zone

Prior to any land clearing within each Harborview Village, a more detailed management plan for the Wildlife Utilization Areas will be prepared and submitted to the Charlotte County Natural Resources Section. This plan will address proper management practices as follows:

- Identification of the management entity (e.g., Community Development District or designee).
- Selection of a plant palette to be used in supplemental plantings that provide food and shelter for the wildlife in the area where needed.
- Provision of more details on the exotic plant removal program including the monitoring of exotic plant removal from preservation areas by a professional environmental scientist.
- In accordance with State and federal permits, a long-term monitoring and maintenance program will be implemented and annual monitoring reports will be submitted to the SWFWMD, U.S. Army Corps of Engineers, and Charlotte County Natural Resources Section.

The BMP's for the Wildlife Utilization Areas are described below.

##### A. Xeriscape Plantings

- Supplemental plantings consisting of native, stress tolerant, and/or pest resistant vegetation will be installed within native vegetation clusters and vegetated upland buffers. These supplemental plants are selected to provide food sources and shelter for wildlife species that may occur or pass through the site. These species include: small mammals, bobcat, deer, turkeys, and song birds.
- Native trees within development pods may be transplanted into the Wildlife Utilization Area when practical

- Existing native vegetation that may be supplemented with native plantings are retained in areas along canals and other wetland areas that enhance wildlife travelways and shelter.
- Native aquatic plants are maintained in littoral zones consistent with Southwest Florida Water Management District requirements that enhance the food chain of benthic organisms, amphibians, reptiles, and fish that live in the on-site stormwater lakes. These aquatic plants support the food chain for other wildlife in the area including river otters and wading birds.
- The on-site oak hammocks are protected within the linear park along realigned Discovery Drive. Supplemental native plantings along the watercourse are added along the banks for stabilization and wildlife shelter.

#### B. Wildlife Crossings

- All bridge crossings of wetlands are on pilings and elevated at least three feet in height and at least 15 feet in width along the entire length of the crossing, providing an upland travelway under each road crossing.
- Cleared areas resulting from construction of the roadway crossings are replanted with native vegetation including oaks, pines, wax myrtles and sand cordgrass to enhance the wildlife travelways and provide cover.
- Cautionary wildlife crossing signs are strategically placed on roadway approaches to slow speeds and alert motorists to potential wildlife crossings

#### C. Removal of Nuisance Plant Species

- A long-term maintenance program will be implemented which will include the preservation areas to be managed in perpetuity for the control of invasive exotic vegetation as defined by the Florida Exotic Pest Plant Council's Pest Plant List Committee's List of Invasive Species (Category 1) (2005).
- Nuisance species management involves a combination of manual and mechanical removal and selective herbicide treatments performed by a state-certified applicator with a frequency to allow the native, beneficial plants to become dominant. The amount of chemical used is minimized to the stump area alone or selective foliar applications if necessary.
- The enhancement of on-site protected wetland buffers involves the removal of Brazilian pepper trees and other nuisance plant species that have invaded these areas and may be contribute toward enhancement credits for the Harborview DRI

- Control of nuisance plants within and in vicinity of lakes also involves a combination of manual removal and selective herbicides specifically labeled and designed for aquatic use and applied by a state-certified applicator.

D. Artificial Lighting Control

- All lighting including street lighting are shielded to reduce glare.

E. Nature Trails

- Nature trails are designed and maintained to avoid removal of native trees and utilization of existing trails to the extent possible.
- Informative signs provide biological descriptions of plants and animals that may be observed from the trail with cautionary instructions on their protection.
- Nature trails are mulched to the extent possible.
- Nature trails are integrated into the overall pedestrian system for Harborview DRI including connectivity with sidewalks.
- Motorized vehicles are strictly prohibited on the nature trails except those necessary for ecological maintenance of the preservation areas.
- Water routes are marked to allow safe navigation and rescue of any boaters in need.

F. Land Management Plan Details

- Prior to any land clearing, a more detailed management plan for the Wildlife Utilization Area will be prepared and submitted to Charlotte County Natural Resources Section. This plan shall address the proper management practices as follows:
  - Identification of the management entity (e.g., Community Development District or designee).
  - Selection of a plant palette to be used in supplemental plantings that provide food and shelter for the wildlife in the area, where needed.
  - Provision of detailed design for each wildlife crossing.
  - Provision of more details on the nuisance plant removal program including the monitoring of nuisance plant removal from the conservation areas by a professional environmental scientist.
  - In accordance with State and federal permits, a long-term monitoring and maintenance program will be implemented and annual monitoring reports will be submitted to the

## V. Wildlife Habitat Protection

### A. Gopher Tortoise Habitat Management Plan

Gopher tortoises (*Gopherus polyphemus*) are currently listed as Threatened by the State of Florida due to habitat destruction, fragmentation, and degradation. Gopher tortoises occupy a wide range of upland habitat types including well drained sandy soils, areas with an open tree canopy and areas with an abundance of herbaceous ground cover. Gopher tortoise burrows located within the Wildlife Utilization Areas (WUA) will be protected.

A minimum of 16 acres of upland habitat currently utilized by gopher tortoises located within the northeastern and eastern portions, and an additional 12.5 acres of xeric oak hammock located within the central portion of the Harborview site (refer to Maps H, and F-1) will be managed for gopher tortoises. The 16-acre upland preservation area was selected based on the greatest concentration of active gopher tortoise burrows on site, desirable gopher tortoise habitat, restoration potential, and isolation from surrounding construction activities with the use of temporary buffers.

#### Pre-Construction

- Prior to on-site earthmoving, additional surveys will be conducted in all identified gopher tortoise habitat.
- When a gopher tortoise burrow is identified, it will be scoped with a gopher tortoise camera to identify the presence or absence of an individual tortoise and any commensals
- Prior to on-site earthmoving and subject to permitting, silt fencing will be installed along preserve areas within or directly adjacent to development pods.
- Prior to on-site earthmoving and subject to permitting, gopher tortoises and commensal species will be excavated and relocated into the upland preservation areas.

#### Excavation Procedures

- Excavations will take place when weather is appropriate i.e., the overnight lows for the actual capture/relocation day and two days thereafter do not fall below 50 °F as forecasted by the U.S. National Weather Service. This criterion ensures that the tortoises will have optimum weather conditions for acclimation to their new surroundings.

- An experienced backhoe operator will be utilized to minimize the potential of harming a tortoise during the excavation.
- When a burrow is excavated, small flexible tubing will be inserted into the mouth of the burrow to gauge the depth and direction of the burrow. The backhoe bucket will have a flat plate scoop, rather than teeth, to minimize potential of harming the tortoise
- The backhoe will be positioned behind the burrow mouth, such that the backhoe is pulling dirt from the mouth, along the length and to the end point of the burrow.
- Excavation will be done by making deep narrow trenches in small incremental scoops across a wide swath of ground to ensure that collapse is avoided.
- When backhoe excavation is within 5 feet of the identified tortoise, digging by hand will commence to ensure the safety of the tortoise. The tortoise will be hand removed from the burrow and placed in a shaded container and relocated to an approved recipient site.

#### Starter Burrows

- When relocating tortoises, a starter burrow will be dug prior to the arrival of the tortoise. The starter burrows will provide initial refuge and shelter and may even become the new burrows, which the tortoises will excavate to full size.
- A starter burrow will be created by digging approximately 1 foot in width at a 45- degree angle into the ground until the burrow reaches at least 2 feet in length. When tortoises are released, they will be placed directly into the mouth of the starter burrow.

#### Penning

- To ensure that translocated tortoises stay within their new home ranges, the upland preserve areas will be enclosed with silt fence. This will provide both a visual and physical barrier to the tortoises. The silt fence will be entrenched into the ground at least 8 inches deep to prevent burrowing underneath the fencing
- The fencing will be checked regularly to identify any weak areas or areas where the fencing has failed. The problem areas will be addressed immediately to ensure that tortoises are not harmed by construction activities. After construction is complete, the fencing will be removed. The upland preserve will have silt fence along the entire boundary where tortoises could possibly escape, with special emphasis on sides facing construction activities.

#### Post-Construction

- Long-term management activities will be developed to maintain compliance with the Charlotte County Development Order and Florida Fish and Wildlife Conservation Commission wildlife permits issued for this site.
- A Monitoring Program will be implemented which will include maintenance activities, relocation activities, and an estimated gopher tortoise population count within the WUA. Annual reports to be submitted in accordance with Charlotte County Development Order.
- Nuisance plant species will be removed to enhance the quality of habitats utilized by gopher tortoises.
- Access to the gopher tortoise preserve by the public will be restricted to foot traffic only and the boundary will be marked in the field using permanent signs. These signs will be installed at regular intervals along the boundary of the preservation areas to inform the public that these areas must remain undisturbed in perpetuity.
- Prior to any request for relocation, a more detailed management plan for the upland conservation area, which serves as a gopher tortoise recipient site, will be prepared and submitted to the Florida Fish and Wildlife Conservation Commission and Charlotte County Natural Resources Section. This plan will address the proper management practices as follows:
  - Identification of optimum tree canopy coverage, saw palmetto height, and forage grass coverage to create sustainable gopher tortoise habitat.
  - Description of management techniques and frequency that address mechanical thinning, removal of nuisance vegetation, and restoration and maintenance of desirable vegetation with the objective of ultimately creating a low-maintenance ecosystem.
  - Possible vegetative thinning by mechanical means prior to any relocation including measures to protect existing burrows during these activities.
  - Identification of the management entity (e.g., Community Development District of designee).
  - Identification of a professional environmental scientist(s) to monitor the protective strategies and management activities described in the management plan

Upon locating a dead, injured, or sick threatened or endangered species, initial notification must be made to the nearest Service Law Enforcement Office; Fish and Wildlife Service. Secondary notification should be made to the FWC, South Region.

## B. Florida Scrub Jay Habitat Management Plan

The Florida scrub jay (*Aphelocoma coerulescens coerulescens*) is protected under both the federal Endangered Species Act as well as the Florida Wildlife Code. Florida scrub jays are non-migratory birds that inhabit open, low-growing scrub communities endemic to Florida. Optimal habitats include xeric oak scrub interspersed with bare sand, open sand pine scrub, and scrubby flatwoods with slash pine and rosemary. Scrub habitat located within the Wildlife Utilization Areas (WUA) is protected.

A minimum of 16 acres of upland habitat currently utilized by scrub jays located within the northeastern and eastern portions, and an additional 12.5 acres of xeric oak hammock located within the central portion of the Harborview site (refer to Maps H, and F-1), are part of the WUA and will be managed for scrub jays. There will be no development within the preserve areas. The 16-acre upland preservation area is selected based on the results of scrub jay surveys conducted on site, nest locations, foraging habitat, restoration potential, and isolation from surrounding construction activities with the use of temporary buffers.

### Pre-construction

- On-site earthmoving in the vicinity of the WUA will take place outside of scrub jay nesting season, March through June.
- Prior to on-site earthmoving and subject to permitting, silt fencing will be installed along preserve areas within or directly adjacent to development pods.

### Post-Construction

- Long-term management activities will be developed to maintain compliance with Charlotte County Development Order, the U.S. Army Corps of Engineers Individual Permit, and U.S. Fish and Wildlife Service wildlife permits issued for this site.
- A Monitoring Program will be implemented which will include maintenance activities, relocation activities, and an estimated scrub jay population count within the WUA. Annual reports to be submitted in accordance with Charlotte County Development Order.
- Traditionally, scrub jay habitat is managed through prescribed burning. The WUA located on the Harborview property includes remnant scrubby flatwoods and disturbed xeric oak habitat. As a result of the proximity of homes, a fire regime is not appropriate to manage this land. Hand and mechanical removal of nuisance and exotic vegetation will be used to enhance the habitat. Replanting with native vegetation suitable for scrub jays and

other upland species will be provided by the applicant, if necessary.

- Access to the scrub jay preserve by the public will be restricted to foot traffic only, and the boundary will be marked in the field using permanent signs. These signs will be installed at regular intervals along the boundary of the preservation areas to inform the public that these areas must remain undisturbed in perpetuity.
- Prior to any earthmoving and subject to permitting, a more detailed management plan for the upland WUA will be prepared and submitted to the U.S. Fish and Wildlife Service and Charlotte County Natural Resources Section. This plan will address the proper management practices as follows:
  - Identification of optimum tree canopy coverage and height, sub-canopy species, and open foraging areas to create sustainable scrub jay habitat.
  - Description of management techniques and frequency that address mechanical thinning, removal of nuisance vegetation, and restoration and maintenance of desirable vegetation with the objective of ultimately creating a low-maintenance ecosystem.
  - Identification of the management entity (e.g., Community Development District of designee).
  - Identification of a professional environmental scientist(s) to monitor the protective strategies and management activities described in the management plan.

Upon locating a dead, injured, or sick threatened or endangered species, initial notification must be made to the nearest Service Law Enforcement Office; Fish and Wildlife Service. Secondary notification should be made to the FWC, South Region.

### C Florida Mouse Habitat Management Plan

The Florida Fish and Wildlife Conservation Commission (FWC) lists the Florida mouse (*Podomys floridanus*) as a Species of Special Concern (SSC) because of habitat loss throughout its limited range in the central peninsula. This mouse is the only species of mammal entirely restricted to Florida. The Florida mouse is larger than other deer mice and its closest relatives apparently are in southern Mexico. The habitat favoring Florida mouse communities has characteristics similar to those favoring the Florida scrub jay. The Florida mouse is a mammalian species restricted to xeric upland habitats in Florida. They are found in open scrub, scrubby flatwoods, scrubby high pine, and high pine communities where they often inhabit gopher tortoise burrows.



The Florida mouse is nocturnal, and grows to an average length of 5-8 inches, with their tail spanning an additional 3-5 inches. They are mainly covered with brown fur, with white fur appearing on their underbellies. They have large, round ears that have little to no fur. Florida mice are distinguished by their odor, which is like that of a skunk. The Florida mouse, like most mice, is an omnivore who feeds on seeds, plants, insects, nuts, fungi, and acorns.

#### Pre-Construction

- Florida mice have been observed on site utilizing gopher tortoise burrows. Prior to on-site earthmoving, an appropriate survey of all gopher tortoise burrows will be conducted in all suitable habitats to identify any gopher tortoises and commensal species.
- Subject to permitting, Florida mice will be trapped using Sherman live-traps. The traps will be placed at gopher tortoise burrow entrances or if burrow entrances are not present or difficult to find, a trapping grid will be established.
- Trapping will occur over a minimum of 3 seasons. According to FWC, fall, winter, and spring are the preferred seasons.
- Trapping will occur for 3 consecutive nights during each season. If trapping is interrupted, the 3 consecutive nights must be restarted.
- According to FWC, a minimum of 15% of all suitable habitats within the project site should be sampled (and a minimum of 50 trapping stations should be used).
- If gopher tortoise burrows are not present, or if they are hard to find in certain portions of the project site containing suitable habitat, a trapping grid will be established. Two traps should be placed at each trapping station, whether in a grid formation or at burrows.
- If the temperature falls below 60°F, a large amount of cotton batting or similar synthetic material will be placed in the trap. Trapping will not occur below 45°F.
- Traps should be set late each afternoon, and checked 2 hours after sunrise each day. All traps should be closed after checking and reset late each afternoon to preclude mortality of mice and other small mammals during the day.
- Traps will be baited with a combination of crimped oats, rolled oats, and sunflower seeds. Peanut butter will not be used. Trap stations will be monitored for fire ants, and if ants are present, the traps will be moved.
- If a Florida mouse is caught, the mouse will be relocated to a designated upland preservation area along with other gopher

tortoise and commensals. Excavation procedures for gopher tortoises are outlined below.

#### Excavation Procedures

- Excavations will take place when weather is appropriate i.e., the overnight lows for the actual capture/relocation day and two days thereafter do not fall below 50°F as forecasted by the U.S. National Weather Service.
- An experienced backhoe operator will be utilized to minimize the potential of harming Florida mice, gopher tortoises, and commensals during the excavation. When a burrow is excavated, flexible tubing will be inserted into the mouth of the burrow to gauge the depth and direction of the burrow. The backhoe bucket will have a flat plate scoop, rather than teeth to minimize potential of harming any animals in the burrow. The backhoe will be positioned behind the burrow mouth, such that the backhoe is pulling dirt from the mouth, along the length and to the end point of the burrow. Excavation will be done by making deep narrow trenches in small incremental scoops across a wide swath of ground to ensure that collapse is avoided.

#### Post Construction

- Long-term management activities will be developed to maintain compliance with the Charlotte County Development Order and Florida Fish and Wildlife Conservation Commission wildlife permits issued for this site.
- A Monitoring Program will be implemented which will include maintenance activities, relocation activities, and an estimated Florida mouse population count within the WUA. Annual reports to be submitted in accordance with Charlotte County Development Order
- Mowing and/or hand removal of vegetation will be used to maintain the appropriate density and coverage of vegetation within the preservation areas.
- If necessary, native vegetation suitable for the Florida mouse, gopher tortoise, scrub jay, and other species that live in xeric habitats will be planted.
- Maintenance, as needed, will be conducted in perpetuity to maintain a low grassy area.

Upon locating a dead, injured, or sick threatened or endangered species, initial notification must be made to the nearest Service Law Enforcement Office; Fish and Wildlife Service. Secondary notification should be made to the FWC, South Region.

#### D. Wood Stork Habitat Management Plan

The wood stork (*Mycteria americana*) is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging. Wood storks nest in colonies and will return to the same colony for many years as long as the site and surrounding feeding habitat continue to supply the needs of the birds. Nesting colony life averages 115 to 120 days. Wood storks typically construct their nests in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water (Ogden 1991; Rodgers et al. 1996). Successful colonies are those that have limited human disturbance and low exposure to land-based predators. Nesting colonies protected from land-based predators are characterized as those surrounded by large expanses of open water or where the nest trees are inundated at the onset of nesting and remain inundated throughout most of the breeding cycle.

The Florida Fish and Wildlife Conservation Commission (FWC) considers 30 kilometers (km) (18.6 miles) as the core foraging area (CFA) for nesting wood storks (Cox et al. 1994). The Harborview Development or Regional Impact (DRI) is located along the Peace River and is approximately 2.2 miles west of a known wood stork rookery (#619012) located in Shell Creek. The Harborview DRI is located within the CFA and is near other rookeries that support egrets and herons.

The project will result in the loss of approximately 12.5 acres of isolated and degraded wetlands. Wood stork habitat within these wetlands is generally poor because it is heavily vegetated and does not have open canopies. Extensive drainage and other alterations have reduced the area and number of natural wetlands on site that limit the essential density of fish required by the wood stork. According to information in the biological opinion issued for wood storks and Florida panthers by the U.S. Fish and Wildlife Service on May 3, 2007, wood storks forage most efficiently in habitats where prey densities are high, the water shallow, and canopy open enough to hunt successfully and quickly take flight to avoid predators. Calm water about 2 to 16 inches in depth and free of dense aquatic vegetation is ideal.

No wood storks are known to have nested within the project area. Approximately 3.84 acres of wood stork habitat lost by the development will be offset by the preservation and enhancement of approximately 150 acres of high quality Salt Marsh along the Peace River and within the wood stork CFA. Suitable habitat along the Salt Marsh will be preserved and enhanced by removing nuisance

and exotic vegetation such as Brazilian pepper, which covers approximately 70% of the land along the Salt Marsh and Cabbage Palm Hammock. If necessary, native vegetation, including canopy trees suitable for wood stork nesting and roosting, will be planted.

#### Pre-Construction

- All wood stork rookeries within the CFA will be identified and labeled on a quality aerial photograph.
- Development phasing of the Harborview DRI site and large preservation area (approximately 150 acres) along the Salt Marsh will provide opportunity for wood storks to safely forage away from construction activity.
- When construction begins in a new development phase during nesting season, wetland habitats will be surveyed for wood storks prior to initiation of construction activities.
- Protective strategies include no human disturbance during critical times such as nesting.

#### Post-Construction

- Foraging and roosting habitat located along the Salt Marsh will be protected and enhanced by exotic vegetation removal. If necessary, replanting with canopy trees may be required to enhance habitat within the CFA.
- Wetland enhancement including exotic removal and/or hydrologic restorations may occur within the primary and secondary zones outside nesting season and any time of the year for the remainder of the CFA.
- Long-term management activities such as wetland enhancement and/or restoration matching the hydroperiod of the wetlands affected may be provided. Foraging habitat similar to, or higher than, that of impacted wetlands will be developed to maintain compliance with Charlotte County Development Order, the U.S. Army Corps of Engineers Individual Permit, and U.S. Fish and Wildlife Service wildlife permits issued for this site.
- In accordance with State and federal permits, a long-term Monitoring Program will be implemented and annual monitoring reports will be submitted to the SWFWMD, U.S. Army Corps of Engineers, and Charlotte County Natural Resources Section.
- The preservation areas will be managed in perpetuity for the control of invasive exotic vegetation as defined by the Florida Exotic Pest Plant Council's Pest Plant List Committee's List of Invasive Species (Category 1) (2005).

Upon locating a dead, injured, or sick threatened or endangered species, initial notification must be made to the nearest Service

Law Enforcement Office; Fish and Wildlife Service Secondary notification should be made to the FWC, South Region.

#### E. Wading Birds Habitat Management Plan

Wading birds are most commonly associated with wetlands, streams, and other aquatic habitats. Most wading birds possess long legs and toes, and long and sometimes curved bills - adaptations enabling them to live and feed in shallow water habitats. Wading birds rely heavily on wetland habitat including inland and coastal emergent marshes and wooded swamps.

The project will result in the loss of approximately 12.5 acres of isolated wetlands and other surface waters (ditches). These impacts will be offset by the preservation and enhancement of approximately 150 acres of high quality Salt Marsh, Bay Swamp, and Mangrove habitat along the Peace River. Newly created lakes within the development and the addition of a large littoral shelf within the existing borrow pond will provide additional habitat for wading birds. Proposed on-site mitigation along the Salt Marsh includes exotic removal and replanting with native species, if necessary. Currently, portions of the Salt Marsh and the Cabbage Palm Hammock are dominated by Brazilian pepper, which covers approximately 70% of the land along the fringe of the Salt Marsh. If necessary, native vegetation, including canopy trees, suitable for wading bird nesting and roosting will be planted.

##### Pre-Construction

- Prior to the implementation of construction, a 100% survey will be conducted at all aquatic habitats to look for any solitary wading bird nests.
- A silt fence will be installed around all preservation areas including wetlands to prevent any adverse impacts.
- Protective strategies include no human disturbance during critical times such as nesting.

##### Post-Construction

- Maintain or restore sufficient quality habitat of all types.
- Foraging habitat located along the Salt Marsh will be protected and enhanced by exotic removal along the Salt Marsh, which will increase the shallow open water at the edge of the marsh to increase wading bird feeding.
- Long-term management activities such as wetland enhancement and/or restoration matching the hydroperiod of the wetlands affected and providing foraging value similar to, or higher than, that of impacted wetlands will be developed to

maintain compliance with Charlotte County Development Order, the U.S. Army Corps of Engineers Individual Permit, and U.S. Fish and Wildlife Service wildlife permits issued for this site.

- In accordance with State and federal permits, a long-term Monitoring Program will be implemented and annual monitoring reports will be submitted to the SWFWMD, U.S. Army Corps of Engineers, and Charlotte County Natural Resources Section.
- The preservation areas will be managed in perpetuity for the control of invasive exotic vegetation as defined by the Florida Exotic Pest Plant Council's Pest Plant List Committee's List of Invasive Species (Category 1) (2005).

Upon locating a dead, injured, or sick threatened or endangered species, initial notification must be made to the nearest Service Law Enforcement Office; Fish and Wildlife Service. Secondary notification should be made to the FWC, South Region.

## VI. Outreach and Education Program

### A. Florida Yards and Neighborhood Program

- Deed restrictions and covenants guide homeowners to apply xeriscape and IPM methods in their yards consistent with the Florida Yards and Neighborhood Program (FY&N).
- A general education program, utilizing resources from the FY&N on the proper use of fertilizer and the environmental and health problem associated with mis-use. Homeowners will be encouraged to water efficiently, mulch, recycle, select the least toxic pest control measures, put the right plant in the right spot, fertilize only when necessary, provide food, water and shelter for wildlife, protect surface water bodies and minimize stormwater runoff.
- Florida Yards and Neighborhood lecturers are invited to make presentations to homeowners' meetings to elaborate on the techniques and answer questions.

### B. Welcome Center or Reception Area

- Ecological pamphlets are provided to resort guests that highlight the on-site environmental attributes and need for protection.
- Guidelines for water conservation also are available for the visitors.

### C. Eco Program and Green Community

- The Eco Program offers environmental training and appreciation for all ages, for resort visitors and residents alike.
- An emphasis on safety is provided during the use of boats, non-motorized vessels such as kayaks and nature trails.
- Participants are alerted to the prohibitions against littering, hunting and plant removal
- Sales and travel brochures, newsletters, and other media material aimed at marketing the Harborview DRI have a portion devoted towards environmental education.
- The mission statement that includes dedication towards being an exemplary environmental community will be printed on all marketing material using recycled content paper.
- Outdoor environmental education and interpretative signs will be posted in strategic locations to educate residents and guest on environmental consequences of their actions, as follows:
  - Signs that show where stormwater drains.
  - Signs that indicate the environmental benefit of pedestrian transportation.
  - Signs that indicate Wildlife Utilization Areas.
  - Signs that educate about the need/benefit of conserving water.
  - Signs that indicate the benefit of outdoor lighting that does not brighten the sky.
  - Signs that educate about the types of native plants and any environmental benefits.
  - Signs that educate about minimizing impact on preserved, created or restored areas and how to enhance the environment.
  - Signs that educate on how to create and maintain habitats for native species in their yards.
  - Signs and pamphlets at the marina and boat ramp to help ensure boaters comply with the Clean Marina Program, avoid seagrass bed, and observe no wake and slow speed zones within manatee protection areas.
  - Interpretative signs located within the upland preserves for the Florida scrub jay and gopher tortoise.
  - Fertilizer prohibition signs along the landward extend of the buffer for the Salt Marsh and Bay Swamp preserve area.
- The website for the Harborview community highlights environmental information and management strategies within the Green Zone and Wildlife Utilization Areas with links to interpretive signage where the website provides more in-depth information.

## VII. Literature

Biological Research Associates. 2001. "Debrecen Parcel Integrated Pest Management Plan for Pesticides, Herbicides, and Fertilizers". Sarasota, Florida

Garner, Allen, John Stevely, et al. 1996. A Guide to Environmentally Friendly Landscaping: Florida Yards and Neighborhood Handbook. University of Florida, Institute of Food and Agriculture Sciences, Gainesville, Florida.

Southwest Florida Regional Planning Council Fertilizer Resolution, SWFRPC Resolution #07-01, dated March 15, 2007.

"Tern Bay Country Club Resort Notice of Proposed Change", Prepared by Tern Bay Development Co. LLC, Dana L. Gourley AICP, P.A., EarthBalance, Moore and Waksler, P.L., et al., dated November 2003.

Unruh, J. Bryan and Monica L. Elliot. 1998. "Best Management Practices for Florida Golf Courses" University of Florida, Institute of Food and Agriculture Sciences, Gainesville, Florida