

**JEKYLL ISLAND
CONSERVATION PLAN
INTERNAL PROTOCOL FOR
ASSESSING ENVIRONMENTAL
IMPACTS OF
DEVELOPMENT & REDEVELOPMENT**

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INTERNAL PROTOCOL FOR ASSESSING ENVIRONMENTAL IMPACTS OF DEVELOPMENT & REDEVELOPMENT

INTRODUCTION

Most homeowners rate the environment and wildlife around their homes as important amenities. The majority of vacationers to destinations similar to Jekyll Island select their destination specifically because of the environment. The Jekyll Island Authority is committed to working with land use planners, developers, and homeowners to assist with development designs that protect the environment & provide not only homes & habitats for people, but also our native wildlife and the habitat variable they depend upon.

Development and redevelopment are going to occur, and the Jekyll Island Authority desires that it be sustainable development and will strive to promote and reward good development.

Ian L. McHarg (1969) is a noted historic land planner who summarized a set of development principles that apply to Jekyll Island, which are quoted below:

“The area is beautiful and vulnerable;

Development is inevitable and must be accommodated;

Uncontrolled growth is inevitably destructive;

Development must conform to regional goals;

Observance of conservation principles can avert destruction
and ensure enhancement;

The area can support the prospective growth without
despoliation;

Planned growth is more desirable than uncontrolled growth, and more profitable;

Public and private powers can be joined in partnership in a process to realize the plan.”

Trying to balance human uses of Jekyll Island with preservation & enhancement of natural values and processes includes looking not just at individual parcels, but also their cumulative impact on and off-site. There are many people advocating sustainable communities and green development, and the practices promoted by these people include many of the metrics that one would use to measure the environmental impact of proposed development or redevelopment. Wilson et. al. (1998) outline green development strategies that are less wasteful of land and resources, healthier and more comfortable to occupy, cheaper to run, more productive to work in, and ultimately more profitable to build and operate.

While all development of necessity has negative environmental impacts, much of the development that has taken place on Jekyll Island within the last 60 years has despoiled valuable habitats and interrupted ecological processes. Through proper planning and careful implementation, the development could have occurred without stressing the especially sensitive resources found on Jekyll Island. Planning and implementing with regard for our long-term resources values has been called green development.

Rombouts (2005) divided green development practices into developer-controlled practices and builder-controlled practices and summarized them as below.

Table L1. Developer controlled, environmentally friendly development practices.

SELECT DEVELOPER CONTROLLED PRACTICES	
Ecologically Sensitive Areas	inventory and mapping, land use suitability analysis, avoidance/protection, restoration/enhancement, edge transition/buffering, linkage, monitoring
Land Use Planning	mixed-use cores, collocation of uses to reduce vehicle miles traveled, reduced development footprint, integration of open space, balanced mix of services, jobs/housing balance
Transportation	increased connectivity, pedestrian oriented design, transit-ready design, multi-modal orientation, higher minimum level of service, traffic calming, trails and bikeways, shared parking
Cultural Resources	survey, avoidance, integration, interpretation
Site Planning	solar orientation, wind orientation, reduced grading, natural drainage, clustering, reduced street widths, reduced heat islands
Stormwater	siltation control, low flow bio-filtration, retention/detention, polishing, wetlands reclamation, aquifer recharge, low-velocity design
Community Landscape	ecological associations, reduced water consumption, design for shade, renewable hardscape materials, ambient light, habitat creation (e.g. butterfly sanctuary, backyard wildlife)
Irrigation	weather station monitoring, central computer control, zoning, effluent reuse, total water balance planning
Technology	high-speed digital systems, telecommuting, and community intra-net

Table L2. Builder controlled, environmentally friendly development practices.

SELECT BUILDER CONTROLLED PRACTICES	
Energy Conservation	increased insulation, Low-E windows, primary room orientation, sealing, ENERGY STAR* appliances, tankless water heaters, shading devices, operable windows, photovoltaic panels
Resource Conservation	low-flow fixtures, recycled content, recycled materials, sustainably produced materials, gray waste systems
Construction Waste Reduction	landfill diversion, waste management practices, coordinated recycling/waste removal, engineered wood
Architectural Design	simple/efficient forms, compact design, dimensional economies, adaptability, reduced solar loading
Occupant Environmental Quality	cross-ventilation, natural light, air filtration systems, noise control, low-emission materials, and allergen reduction

A set of metrics or practices has been developed for internal use by the Jekyll Island Authority to rate the environmental impact of proposed development or redevelopment. All practices do not fit every site, development or situation; what is important is that a variety of practices are presented and available for use on individual projects. While some practices may be required by a federal, state, or local agency, going beyond the minimum or doing something that is beneficial, but not strictly required should be rewarded. By establishing a published set of metrics that the Jekyll Island Authority will use to help review the environmental impacts of proposed development or redevelopment, everyone involved can be encouraged to help Jekyll Island retain its natural values and processes. Basically, we are building upon Aldo Leopold's (Meine and Knight, 1999) environmental ethic in individual and corporate decision-making. Perhaps in time with funding secured by grants, the Jekyll Island Authority (perhaps working with others) will develop a "green builder" program similar to the City of Austin, Texas, the Florida Green Building Coalition, and other locations in order to help

developers better develop and re-develop properties and individual homeowners to make decisions about remodeling that have better impacts on all of our environment (Smart Communities Network, 2005).

FEDERAL, STATE, COUNTY, & LOCAL STATUTES & REGULATIONS

It is obvious that when a property is developed or redeveloped that it must meet or exceed applicable federal, state, county, and local statutes and regulations. The purpose of the Jekyll Island Authority's metrics for measuring the environmental impact of a proposed development activity is not to insure that the legal criteria for development have been met. It is assumed that all appropriate legal standards have been met and that plans developed in meeting those standards are being implemented. The purpose of the additional metrics is to encourage developers to *exceed* the legal requirements and actively plan for ways to help integrate the proposed activity into Jekyll Island's natural environment.

IMPORTANCE OF ENVIRONMENT WITHIN DEVELOPMENT

While making an economically successful and practical development is always a goal, the preservation of & melding with nature and sustainability may make more long-term economic sense for the residents and all the citizens of Georgia. It is crucial to understand that nature is a dynamic process, and that things will change over time. Natural values are sorely missing in many developed areas and are being maintained under duress in many natural areas. Designing with nature to maintain or even enhance the existing natural values is an ultimate goal when developing on such a jewel as Jekyll Island.

With prior planning and commitment to environmental stewardship, a site can be surveyed for natural values and developed in ways to preserve and enhance those values. While this is not the way development is typically done, the benefits to the developers, residents, citizens, and the environment make the extra planning and thought well worthwhile. The internal system for measuring environmental impact of development and redevelopment has enough option & flexibility that if it is truly used, it can help drive benefits while preserving long-term value of the property and development.

Table L3. Benefits of decreasing the negative environmental impacts of development and redevelopment.

BENEFITS OF DECREASED ENVIRONMENTAL IMPACT
Benefits to Jekyll Island & Georgia Citizens
Preservation of green space
Less traffic congestion
Natural resource conservation – wildlife, water, energy
Decreased water and air pollution
Benefits to the Developer
Gain valuable promotion, advertising, & good will
Show leadership in community
Potential local incentives
Differentiate project from similar projects
Benefits to Residents
Reduced operating expenses
Value of community amenities
Healthier atmosphere
Pride in purchasing in a green development
Potential financing incentives

All of the potential benefits of minimizing environmental impact mean an increase the quality of life on Jekyll Island and have wider impacts into supporting communities. All of these values that are preserved are values that have been identified as being important to the state of Georgia, homeowners, and visitors.

IMPORTANT SPECIES, CRITICAL HABITATS, AND IMPORTANT AREAS

Full understanding of the complex, interacting natural systems on Jekyll Island may never be resolved even if a great team of the best minds available were tasked with the mission. What we do know is that the system is constantly changing, storm events may have a great impact upon the natural & human elements on the island, natural processes have been interrupted or shifted by man for centuries on the island, invasive species are constantly looking for a foothold, and every habitat change has consequences to plant and wildlife communities, water quantity and quality, and air quality.

It is important that especially valuable habitats and important species be identified. Once they are identified, then development guidelines can be written to help protect or enhance these areas. The favored option will be to route development and access with their associated impacts away from high-value wildlife habitat such as important nesting sites, riparian zones, and similar critical areas. It is important to note that some of the impacts will be indirect, such as the impacts of increased beach use on nesting AND roosting birds or the impacts of increased numbers of boats in the water on manatees and right whales.

Twenty-two species found on or near Jekyll Island have been afforded official status as unusual, rare, threatened, or endangered by the Georgia or United States Government. Some of these species have specific guidelines to follow to avoid negatively impacting them. Others require site specific evaluation and planning. Each of these species is important to the natural history and function of not only Jekyll Island, but the interactive southeastern ecosystems.

Care should be taken during development and redevelopment not only to not harm these species, but to enhance them where possible.

Table L4. Protected species found on or near Jekyll Island.

COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS*	STATE STATUS*
PLANTS			
Ball Moss	<i>Tillandsia recurvata</i>		T
Climbing Buckthorn	<i>Sageretia minutiflora</i>		T
FISH			
Shortnose Sturgeon	<i>Acipenser brevirostrum</i>	E	E
REPTILES			
Green Sea Turtle	<i>Chelonia mydas</i>	T	T
Hawksbill Sea Turtle	<i>Eretmochelys imbricate</i>	E	E
Atlantic Ridley	<i>Lepidochelys kempii</i>	E	E
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	E	E
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	T
Diamondback Terrapin	<i>Malaclemys terrapin</i>		U
BIRDS			
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T	E
Swallow-tailed Kite	<i>Elanoides forficatus</i>		R
Peregrine Falcon	<i>Falco peregrinus</i>		R
American Oystercatcher	<i>Haematopus palliatus</i>		R
Black skimmer	<i>Rynchops niger</i>		R
Gull-billed Tern	<i>Sterna nilotica</i>		T
Least Tern	<i>Sterna antillarum</i>		R
Piping Plover	<i>Charadrius melodus</i>	T	T
Wood Stork	<i>Mycteria americana</i>	E	E
Wilson's Plover	<i>Charadrius wilsonia</i>		T

* E = Endangered, T = Threatened, R = Rare, U = Unusual

Table L4 - continued. Protected species found on or near Jekyll Island.

COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS*	STATE STATUS*
MAMMALS			
Humpback Whale	<i>Megaptera novaeangliae</i>	E	E
Northern Right Whale	<i>Eubalaena glacialis</i>	E	E
West Indian Manatee	<i>Trichechus manatus</i>	E	E

* E = Endangered, T = Threatened, R = Rare, U = Unusual

The waters around Jekyll Island have been formally designated as critical habitat for the northern right whale. This has impacts on boat operations and has been an issue for some coastal developments with large marina plans in the recent past.

While all of the habitats on Jekyll Island are important and special, there are some that are either more important than other because of either their relative rarity or the relative rarity of one or more species that depend upon them. The coastal dune system, marsh system, early successional habitats, grassy depressional wetlands, and maritime oak forest are all habitats that should be conserved to the degree possible during development and redevelopment efforts. Active management within the development to mimic the structure and function of these habitats in landscaping and natural areas protection is desired. Active restoration of these habitats, particularly coastal dune systems and grassy depressional wetlands, is advantageous over the long term.

Beaches as Buffers

The wider zone of beach (to include active beach, primary dunes, interdunal flats, and secondary dunes) is an important buffer protecting the island

from extreme weather events. Anything that destroys dunal vegetation, decreases soil water to an unacceptably low level, or interrupts natural littoral drift will have a negative and perhaps cumulatively negative impact on future protection offered by our natural buffer.

Historical evidence tying intact shoreline ecosystems to protection of developed areas during major storm events is readily available from the March storms of 1962 through Hurricanes Katrina and Rita in 2005.

Beaches as Habitat

The beaches may serve as important habitat for sea turtles and shorebirds. They are important for nesting for both groups of animals and are additionally important for foraging, resting, roosting, & nestling habitat for birds. Direct, even in unintentional, disturbance of a nest site by people, pets, or equipment may eradicate an entire year's reproductive success for two individuals. Erosion of nesting beaches causes a loss of habitat. Beachfront development may result in beach fortification to protect property from erosion, which can result in loss of dry nesting beach. Disturbance of the sand, vegetation, and invertebrate life may degrade the habitat for the birds. Repeated disturbance or flushing of birds by people and pets may make an otherwise beneficial habitat practically unavailable to birds and turtles.

Sea Turtles and Lights

Residents & businesses on the islands should turn out or shield those interior & exterior lights from beachfront structures that shine on the beach from May 1st through October 31st of each year to help turtles. Adult sea turtles &

hatchlings can use natural light to help find their way to the ocean, but may become disoriented if lights from beachfront structures shine on the beach. Artificial lighting can cause disorientation or misorientation of both adults and hatchlings. Turtles are attracted to light, ignoring or coming out of the ocean to go towards a light source, increasing their chances of death or injury. In addition, as nesting females avoid areas with intense lighting, highly developed areas may cause problems for turtles trying to nest. A serious threat of nighttime use of a beach is the disturbance of nesting females. Heavy utilization of nesting beaches by humans may also result in lowered hatchling success due to sand compaction. The use of off-road vehicles on beaches is a serious problem in many areas. It may result in decreased hatchling success due to sand compaction, or directly kill hatchlings. Tire ruts may also interfere with the ability of hatchlings to get to the ocean.

A model lighting ordinance for marine turtle protection is attached as an appendix. To summarize in practical terms what this ordinance says is that beach front lighting usually has to be modified in several ways to provide light-safe beaches for sea turtles. Turning off unnecessary lights and not using decorative lighting that shines up in the trees is important. Facing lights away from the beach and shielding lights so that they are not visible from the top, bottom, or side from the beach is important. Directional lighting pointing away from the beach should be used to replace omni-directional lighting. Use more low-profile lights instead of larger lights on poles. Replace incandescent, fluorescent, and high intensity lighting with the lowest wattage low-pressure

sodium vapor lights suitable or replace white incandescent bulbs with the yellow “bug” light variety of 50 watts or less. Plant or improve native vegetation buffers between light sources and the beach. Use shielded motion detector lights on the shortest time setting possible. Move indoor lighting away from windows, apply window tint to windows that meets the 45% inside to outside transmittance standards, and use blinds and curtains on windows.

Colonial Nesting Wading Birds

A colonial nesting wading bird rookery exists at the Amphitheater Pond on Jekyll Island. A buffer surrounding this rookery should be protected from development. Extensive renovations of the amphitheater or the adjacent golf course might impact the rookery, so thought should be given to minimizing disturbance to the rookery during nesting season. In fact, since the federally and state endangered wood stork nests in this rookery, excessive disturbance of the rookery between the end of February and the middle of August is basically prohibited.

METRICS OF IMPACT

The metrics of impact initially suggested for the Jekyll Island Authority’s use borrow heavily from the Florida Green Building Coalition’s *Green Development Reference Guide* (2005) with adaptations for Jekyll Island’s use. It is suggested that the Jekyll Island Authority join the Florida Green Building Coalition since they are on the forefront of developing these types of metrics and many of their metrics are directly applicable to coastal southern Georgia.

The metrics of impact for development are broken down into 6 divisions: 1) conservation of natural resources and ecosystems, 2) transportation, 3) utilities, 4) amenities, 5) covenants and deed restrictions, and 6) environmental education. A total of 400 points are required for a development project. There are minimum requirements in each category as well as a maximum that can be contributed by that category to the required total.

Table L5. Suggested point criteria for applying metrics of impact to help minimize the negative impacts of development and redevelopment.

Category	Total Points	Minimum Required	Maximum from Category
Conservation	310	30	175
Transportation	97	15	75
Utilities	75	12	50
Amenities	32	5	25
Covenants	50	8	50
Education	100	15	75
TOTAL	664	400	

Division 1 – Conservation of Natural Resources and Ecosystems

Conversion from a more or less natural array of habitats to an area used for human residences or businesses usually has a negative impact on wildlife, habitats, air, and water. Directing activities to the most appropriate sites and minimizing impacts on the most sensitive sites helps to less the negative impacts of habitat conversion.

C-1 Redevelop an already developed area (0 to 60 pts)

Redevelopment instead of increasing the developed area minimizes negative impacts. Choosing areas that have been subject to degradation before

is usually much less harmful than developing areas that have not been as impacted by man.

Earn 3 points for each 10% of the development (by land area) that is undergoing redevelopment from some other form of built environment. Earn an additional 3 bonus points for each 10% of the site that is being restored from a built environment to an appropriate natural habitat.

C-2 Develop management plan for preserved, created or restored habitats (20 pts)

Credit requires submittal of a written management plan. This plan is required in order to receive credit for activities in C-3. The management plan must address how:

1. Exotic species will be removed and kept from becoming reestablished;
2. Appropriate management activities will be used to replicate appropriate ecosystem processes (prescribed fire in wildflower beds, etc.);
3. Significant wildlife species will be protected and habitat enhanced;
4. People will be educated with respect to wildlife;
5. Negative interference from domestic animals will be addressed;
6. The site will be monitored for detrimental changes;
7. Site maintenance will be perpetually funded;
8. Appropriate persons (residents, volunteers, contractors, etc.) will be selected to perform necessary management.

The points earned in this category reward a well thought out, practical conservation management plan. At least 10% of the site must be conserved in order to earn credit. The formula for computing preserved land is as follows: Non-state required land preserved (acres) divided by total development size (acres) minus state required land preserved (acres) times 100.

For example, if a development was 100 acres and 15 acres were designated wetlands, 18 acres for water retention, 40 acres buildings and roads, 7 acres recreational open space, and 20 acres were preserved lands not mandated for protection, the formula would be: 20 acres divided by 100 acres minus 15 acres times 100 equals 23.5% conserved.

C-3 Conduct a vegetation and tree, topographical, soil, and wildlife survey prior to design (0-18 pts)

Credit requires submittal of tree/important understory vegetation, topographical, soil, wetland, and wildlife survey and design showing how the design tried to preserve the most significant resources. This would include measures taken to preserve soil and trees; attach erosion and sediment control plan if applicable.

In many developments, the development plans are made before natural features are surveyed. The surveys are simply seen as a requirement to be met before the “real” work can begin which often results in valuable natural resources being needlessly lost or degraded because initial decisions were made with knowledge of natural resources. Designs should be made to preserve the most valuable resources on a site, and an inventory of the site must be made first to

determine what and where those natural features are. Earn 3 points for each of these surveys submitted; earn one point for a wetland survey. Earn 16 points by submitting all of them. With each survey, indicate how the designs preserve or enhance the most significant resources. Tree surveys must include all trees that are equal or greater than 4 inches at breast height and any strands of smaller caliper trees. Earn two bonus points if the tree survey is signed off by a certified arborist, registered forester, or certified wildlife biologist regarding the correct identity of the trees. The site must be preserving at least 12” of caliper per acre or 500 feet of caliper total to claim tree survey credit – assuming that amount of caliper is present prior to project initiation.

C-4 Conservation areas and nature parks (0-50 pts)

Credit requires submittal of any environmental permits, covenants, deeds, and marketing material that provides assurance that the land will be kept as conservation area over time. This category has a 50 point maximum.

Preserving land in an undeveloped state allows for natural ecosystems to continue functioning to some degree, particularly when larger areas remain intact. Earn 1 point for each 1% of buildable acreage that is being conserved in or restored to its natural state (required stormwater retention areas, off-site mitigation areas, and any land that must be left undeveloped because of state or federal agency regulations do not count towards buildable acreage). Land being sold for construction purposes or land temporarily preserved until the next planned phase will not be considered conservation area.

C-5 Conserve the most valuable spaces for biodiversity (0-8 pts)

Credit in this category requires that the wildlife and vegetation survey be submitted with the management plan which explains why credit is deserved showing that the highest diversity/most important communities available on the site were conserved. At least 10% of the site must be conserved to receive any credit and the management plan must be submitted to receive this credit. Earn 1 point for community type 2, 3 points for community type 3, 5 points for community type 4, and 8 points for community type 5.

Biodiversity is simply the number of different species in a given area. The given area might include not only the proposed site, but the entire state. While biodiversity of the site might be low, the presence of rarer or important species on the site may make it more valuable from a statewide perspective. From vegetation and wildlife surveys, land portions in the proposed area can be ranked from 1 (poor quality) to 5 (high quality). Issues to consider when dividing the site into quality categories include whether the species and community type is relatively rare on Jekyll Island or with the state, is the conservation status fairly high as identified by DNR, is the number of native species and natural function fairly high, and is the parcel connected to other conserved habitat.

C-6 On and near site conservation plan for a specific wildlife species (15 pts)

Credit requires submittal of wildlife surveys and a management plan that includes monitoring of the species and why credit is deserved.

A federally or state listed species may occur on or adjacent to the property and require some mitigation. Some wildlife species on or near the property may not be listed but are of importance to the community and state. Credits will be given to a developer that does on site conservation for a specific species. In many instances, the on site conservation strategy for a particular species is the best strategy for that species. While gopher tortoises do not occur on Jekyll Island, they will be used as an example. If gopher tortoises are present, a developer has a couple of different options: 1) bury them by buying mitigation bank credits, 2) transport them to another site, and 3) provide on-site habitat and management. Obviously the on-site option is better for the species as a whole, the associated species, and the specific individuals. Plans to conserve or enhance species identified as important on the island, such as painted buntings, sea turtles, shorebirds, and similar species are encouraged. Another example is a shorebird area near a proposed development. The developer in his plan documents that a large buffer is to be left between the shorebird area and the development, but also outlines educational efforts that will be made to educate users in the area about the birds, funding made available to better conserve the birds, and deed restrictions that keep free-ranging pets out of the area. The plan would include a monitoring component, whether by residents or a consultant.

C-7 Maintain or provide wildlife corridors (0-18 pts)

Many species of wildlife require a larger area than a single site. In some cases, animals travel long distances for food, shelter, water, and specific habitats. By not allowing a natural way for animals to get where they need to go,

the species may not use an otherwise acceptable area, which means that the species is lost from that area, even though the habitat is preserved. Larger areas are better and narrow or otherwise restricted areas may actually be ecological traps where predators are given excessive advantages. Thus credit is given for large average widths with minimum widths as well. Corridors should follow natural features that will contribute to the value of the corridor and are best if they include wet and dry areas. Ponds and berms may be included in corridor widths if they are planted or occupied by native species.

Earn 2 points for a wildlife corridor that is at least 20-feet wide minimum and averages 50-feet wide that connects two or more wildlife habitat areas; each of those areas must be at least 2,500 square feet in area. Earn 5 points if the corridor is 50-feet wide minimum and averages 250-feet, 10 points if 75-feet minimum averaging 500-feet, 16 points if 100-feet minimum and averaging 1000-feet. Earn two bonus points for designing corridor to not go across any roads OR for providing tunnels at each roadway OR for connections to aquatic habitats.

C-8 Conserve upland buffers to enhance preserved wetlands (12 pts)

Upland habitats surrounding wetlands are important for biodiversity, wetland function, and overall ecosystem health. Earn 4 points if there is a fifteen-foot minimum buffer preserved around all wetlands, 8 points if there is a twenty-five foot minimum buffer, 12 points if there is a fifty foot minimum buffer. There must be a total of three acres or 3% of the development (whichever is less) of wetlands preserved in order to receive credit. For a development that preserves

more than 1 wetland area, points may be scaled based on the percentage of wetlands that have an upland buffer.

C-9 Preserve or provide groundwater recharge areas (12 pts)

For credit to be received, the water recharge areas must be identified as well as how the developer plans to maintain or enhance the recharge potential.

Water recharge of the aquifer generally occurs from some of the higher, sandier areas. Preserving these areas is important for preserving the future quantity and quality of water while providing natural filtering for runoff. Earn one point for each 1% of acreage that is preserved for a prime aquifer recharge area that meets the following criteria:

- a) have highly permeable soils
- b) are above 12 feet mean sea level
- c) have a potentiometric surface below the high water table preserved for water recharge

C-10 Restore native wildlife habitat (10-50 pts)

Restore and maintain at least 10% of the land from a previously developed, significantly disturbed, invaded by exotics, or similar condition to its historical natural habitat or other more appropriate habitat relating to current soils, plants, and water. Photographs or a survey indicating the prior use and a design outlining restoration and management are required for credit. Receive 10 points for restoring inland habitats and 50 points for restoring beach-related habitats.

C-11 Reuse or recycle materials on site (0-10 pts)

Although soil removed for retention areas is often used on site, other resources are not. Trees can be successfully relocated or used for lumber, mulch, or future construction activities. Any existing buildings could have resources that can be recycled to the construction industry. Earn 1 point for each 10% of possible total “material” being reused. No points for mulching any invasive species unless there is a documented plan that insures to seed or vegetative propagation will occur. Credit requires that materials being reused be identified.

C-12 Treating stormwater from neighboring sites or in pre-existing developments (0-12 pts)

Historical developments often did not have mandated stormwater treatment minimums. If the proposed site is handling run-off or stormwater from an adjacent site in addition to stormwater generated on-site, then it is generating a substantial environmental benefit. Earn one point for each 10% beyond the minimum required that the stormwater system is handling up to a maximum of 12 points (120% more). Stormwater calculations and correspondence from local government indicating the minimum required are necessary to receive this credit.

C-13 Conserve land via dry stormwater areas that serve other amenities (0-10 pts)

Stormwater areas are often wet only during major storm events. The land may be used for other uses such as a ball field or park during much of the year. By using the area for two purposes, land is conserved providing environmental

benefit. Earn 1 point for each 10% of stormwater area that is designed for dual land use. Earn two bonus points if it used for stormwater AND conserves native vegetation. Maximum 10 points credit. Drawings and calculations indicating the expected periods of dryness are needed to receive credit.

C-14 Community food plots or garden plots (0-10 pts)

Designating an area as an agricultural area or community garden plot in a planned development provides a cultural amenity while reducing environmental impacts. Growing some food and plants locally can reduce environmental impacts from shipping of plants and in some cases may be the best use of a tract of land. Earn 5 points for incorporating an area of at least 5 acres or 5% of the site (whichever is less) with an established or planned agricultural area. Earn 5 bonus points if the agricultural area is deed restricted to be managed organically. Credit requires that deed restrictions and other measures that will assure the area remains in agricultural use (and organic if credit is sought) even if development pressures increase in future years.

C-15 Non-listed environmental benefits (0-5 pts)

Provide description of any significant environmental benefits achieved, beyond typical new development, that are not covered in the above categories. The points attributed should be computed, if possible, relative to environmental benefit achieved by other measures. Off-site mitigation activities that are conducted but not required are one example of an environmental benefit. Note, that one will only receive discretionary points for projected environmental results; not for meeting existing code in a creative manner or money spent to alter some

existing land feature, or other troubles one went through to obtain an already listed green feature. Credit requires that a detailed description with projected environmental benefits be submitted.

Division 2 – Transportation

Approximately one third of the state's primary energy is spent on transportation. Motor vehicles are documented to emit several pollutants that the Environmental Protection Agency classifies as known or possible human carcinogens. The EPA estimates that car, truck, and bus emissions of air toxics account for as much as half of all cancers attributed to outdoor sources for air toxics. Road and parking surfaces that are impervious lead to runoff that must be controlled in order to protect our water bodies. Collocation of residences businesses, & government facilities, providing alternatives to automobile use, and minimizing road areas all produce to environmental benefits.

T-1 Pedestrian structure (0-12 pts)

Earn 2 points if a 4' or wider sidewalk is continuous on one side of each street and 6 points if a 4' or wider sidewalk is continuous on both sides of each street. Sidewalks must be installed at the time streets are built & extend along all roads, including those past conservation areas, water retention areas, and non-residential property to insure continuous transportation system for bicycles, wheelchairs, pedestrians, and others. Bonus points are available for using porous materials for pedestrian structure (6 additional points). Bonus points are available for additional miles of pedestrian/bicycle trails that are available to all

property owners or citizens as a percentage of road miles in the project on a sliding scale. There is a 12 point maximum.

Table L6. Point system for pedestrian structure.

Percentage additional trails	Points
1-14.9	1
15-29.9	2
30-39.9	3
40-49.9	4
50-59.9	5
>=60	6

T-2 Road design (0-10 pts)

If the road design does not exceed “street design guidelines for healthy neighborhoods” for road widths based on volume or uses published TND standards (3 pts). Also, if the development does not contain any full pavement cul-de-sacs they earn one point. Road design self-enforcing speed limits 25 mph or lower in residential areas through short, narrow roads, many stops, or other traffic calming methods receives two points. Wide radius curves and typical width roads will generally not qualify for these traffic calming points. An additional 4 points are available for using porous materials.

Table L7. Point system for road design.

Healthy Neighborhood Street Design (Burden, 1999)													
Street Type	Max Width (ft)	Max Dsgn Speed (mph)	Max Comer Radius (ft)	Max Ctrline Radius (ft)	Curb	Med-lan	Max Street Lgth (ft)	Veh Vol-Ume	Walk Way	Bike Lane	Trees	2-Way Traffic	Parking
Trail	8-14	20	na	95	No	na	na	na	na	na	Yes	Yes	No
Alley	10-12	10	15	50	No	na	400	200	No	No	No	Yes	No
Lane	16-18	20	15	90	Optn	No	600	200	Both	No	Yes	Optn	1 side
Street Sides	26	20	15	120	Optn	No	1320	600	Both	No	Yes	Yes	2 sides
Avenue	varies	30	25	250	Yes	Optn	na	3-20k	Both	Yes	Yes	Yes	Optn
Main Street	varies	25	25	600	Yes	Optn	2600	3-10k	Both	Optn	Yes	Yes	Optn
Boulevard	varies	35	25	500	Yes	Yes	na	20-40k	Both	Yes	Yes	Yes	Optn
Parkway	varies	45+	25	1000	No	Yes	na	20-60k	No	Trails	Yes	Yes	No

Notes:

- 1) Ideal speeds and widths are given
- 2) Flexibility is permitted, but design speeds are maximums
- 3) These guidelines are not recommended for Conventional Neighborhood Development
- 4) Traditional Neighborhood Design layout, a strict adherence to TND principles of mixed use, walking & bicycling emphasis, a central place, trip containment, open-street parking, trails, traffic volumes and speeds are all linked
- 5) Multiple entries aid fire response times

T-3 Street trees (0-6 pts)

Street trees make more of a defined space out of the street and help with traffic calming as well as provide great relief from southern heat when walking, bicycling, or getting into a parked car. Trees help clean the air and by shading the street can help decrease the heat island effect that increases the temperature of the surrounding area. They can also reduce electrical demand by decreasing the air conditioning costs by temperature reduction and direct shading of nearby buildings.

Earn two points by providing coverage of 70% or more of all streets with native shade street trees and ample room for their survival as recommended by the Architectural Graphic Standards 10th edition. Earn four points for 80% or

more coverage, six points for 90% or more. Trees should not interfere with overhead utilities, which may make earning these points impossible. Tree canopies, when mature, must cover the first 8' of the roadway on each side. To earn credit the site plan should include tree species and locations.

T-4 Street lights (0-10 pts)

Lighting accounts for 20-25% of all electricity used in the United States. Lighting uses energy, alters wildlife habitats, and reduces the visibility of stars and sky. Earn 4 points for installing bulbs that produce 95 lumens per watt on 80% or more of the street lights. Earn 2 points if 80% of the lights are motion activated, 2 bonus points if 80% or more of lights are such that they are full cut-off luminaries if the bulb(s) in the fixture exceed 26W (dark-sky friendly specs). Two bonus points if 80% of the lights are solar-powered. Receive 5 points for no street lights in development if: the development includes road building efforts and two or more intersections and property owners are not forced to have exterior lighting operating. Lose all points if the lights are not sea turtle friendly. Street light specifications must be submitted to receive credit.

Resources include:

Primer on lighting:

www.eren.doe.gov/erec/factsheets/eelight.pdf

Type of lamps & their lumens per watt:

www.darksky.org/~ida/infoshts/is052.html

Government efforts to reduce lighting

www.energy.ca.gov/efficiency/lighting/outdoor_reduction.html

Street lighting study from New Zealand

www.energywise.co.nz/content/ew_government/councils/streetlighting.pdf

International dark sky organization

www.darksky.org

T-5 Parking (0-10 pts)

Earn 1 point if ordinance or development specifications require bicycle parking at all community facilities and businesses to be located closer than all non-handicap parking. Earn 2 points if shared parking is incorporated in plan between residents, business, and other institutions. Earn 3 points for parking area having a porous surface. Earn up to 5 points for requiring incorporation of preserved or planted shade trees in parking areas (1 point for 1 tree per 4 parking spots, 2 points for 1 tree per 2 parking spots, 4 points for 1 tree per parking spot, and 5 points for 2 trees per parking spot). Trees must be planted in areas large enough to support trees for their lifetime in accordance with space requirements given in the Architectural Graphic Standards, 10th edition, or signed off by a certified arborist.

Credit for this category requires that a site plan with surface specifications be submitted with a description of why the developer should receive points for shared parking, written documentation of bicycle parking points, and written documentation showing for tree provisions.

T-6 Connections (0-6 pts)

Multiple connections or paths usually result in fewer vehicle miles traveled saving energy and pollution. Earn 4 points by having at least 4 different connections to surrounding road and pedestrian networks. The connections must be to more than one roadway (that is, the four connections are designed to allow traffic to flow directly in all directions, thus reducing the distances traveled). Earn 2 bonus points if all connections have public access with a minimum of two connections to different roadways (no gated entries).

The submitted site plan should show connections to roadways. If connections will occur in future phases, then the connection should be shown from the current phase to the future phase and then on to the existing network.

T-7 Orientation (8 pts)

The path of the sun is well known, and the east and west building facades receive over twice as much heat gain as the south and north sides in mid-summer. Northeasterly, northwesterly, southeasterly, and southwesterly oriented buildings are not much better than east and west. Thus orienting the streets so the most exposed sides of buildings are close to due north & south will save energy. Even on narrow lots, which may necessitate longer sides than front and back; the front and back generally tend to be exposed to the sun more because adjacent buildings shade the sides. Earn 2 points if 60% of the buildable lots are designed to face within 30-degrees of due north or due south, 4 points for 70%, 6 points for 80%, and 8 points for 90%.

T-8 Road/trail/parking construction materials (0-10 pts)

Pervious or porous road and trail materials will generally reduce stormwater runoff creating a potential environmental benefit. To ensure that these surfaces work as intended, they should be constructed according to the designs and specifications of an engineer with experience in this type of material or that has successfully completed a course in this type of design (such as those offered by the North Carolina State University Cooperative Extension Service). There are also various recycled materials that can be used as part of road and trail construction.

Earn 3 points if 25% of the area is pervious, and 6 points if 50% or more is pervious. Additional points are awarded for each 25% of road construction material that contains recycled content for a maximum of 4 additional points. Documentation showing materials used and calculations of perviousness are needed to receive credit.

T-9 Access (0-20 pts if residential, generally no points if non-residential)

Walking, bicycling, and smaller electric vehicles only substitute for gasoline engines if distances are short. Safe walk or bike trip as defined here means a sidewalk or other off-road path that does not cross a 3- or 4-lane roadway with a posted speed of over 30 mph or cross a 2-lane road with a posted speed of more than 35 mph.

School access: Earn 1 point if 50% of all housing is within 1 mile and can access a school grounds by walking or biking safely, 2 points if 100% of housing meets this criteria. Double the points for inclusion of all K-12 meeting the criteria. Earn one bonus point for each K-12 school site donated by the developer to help accomplish this purpose with a maximum of 4 school access bonus points.

Retail access: Receive 1 point if 50% of all housing is within ½ mile safe walk, 2 points if 50% of all housing is within ¼ mile safe walk, 3 points if 100% of all housing is within ½ mile safe walk, and 4 points if 100% of all housing is within ¼ mile safe walk. Receive 2 bonus points if development includes a pedestrian friendly retail center (such as a traditional town center or retail on pedestrian trails). One bonus point if there is a plan for residents to lease or be given shopping carts that can be brought home. Maximum for 4 retail access points.

Transit access: Receive 1 point if 50% of all housing is within ½ mile safe walk, 2 points if 50% of all housing is within ¼ mile safe walk, 3 points if 100% of housing is within ½ mile safe walk, and 4 points if 100% of all housing is within ¼ mile safe walk. To receive credit here, there must be shade, rain shelter, and seating, at any “hub” waiting area.

Park, pool, & beach access: Beaches, parks, pools, and other recreational amenities are frequented destinations. Receive 1 point if 50% of all housing is within ¼ mile safe walk of recreational amenities, 2 points if 50% of all housing is within a 1/8 mile safe walk, 3 points if 100% of housing is within ¼ mile safe walk, and 4 points if 100% are within 1/8 mile safe walk of these amenities.

Employer access: Earn 1 point if the number of jobs within a ½-mile radius is greater than or equal to 50% of the number of housing units, 2 points if greater than or equal to 100% of the housing units, and double the points for “safe walk” to job destinations.

For credit, school sites and types, employer locations and number of employees (projections & estimates for planned facilities), transit types and schedules, and travel routes for safe walks. A maximum of 20 points may be earned in this category.

T-10 Non-listed environmental benefits (0-5 pts)

Provide description of any significant environmental benefits achieved, beyond typical new development, that are not covered in the above categories. The points attributed should be computed, if possible, relative to environmental benefit achieved by other transportation measures. Note, that one will only receive discretionary points for projected environmental results; not for meeting existing code in a creative manner or money spent to alter some existing land feature, or other troubles one went through to obtain an already listed green feature. Credit requires that a detailed description with projected environmental benefits be submitted.

Division 3 – Utilities

A developer makes many choices in providing utility services to a property. These decisions have environmental consequences regarding land use, tree plantings, and irrigation choices for parcel occupants. Like some other categories, local governments or utility companies may not allow for some

suggestions contained in this protocol, while some of these suggestions may be mandatory. The Jekyll Island Authority encourages developers to pursue green alternatives.

U-1 Minimize disturbance caused by utilities (0-15 pts)

Making wise use of land and existing habitat helps maintain the island ecosystems. Underground utilities leave room above ground for tree canopies to grow without interfering with utility lines. Earn four points if all utilities are underground. Earn eight bonus points if all underground utilities are coordinated to be carried in a common sleeve or trench (earn credit even if gas line or other lines are not inside single sleeve) OR if the right-of-way for utilities has been reduced by 30% from the standard practice in our area. This reduces disturbance during construction and for later maintenance. Earn two bonus points for making special provisions to save existing trees while laying utilities (must include tree survey with submittal and have saved at least 12" of tree caliper of trees two-inch or larger). Earn one bonus point for delineating zones of protection around driplines throughout.

Enclose any written agreements with utilities, photographs, or other documentation of utility location, tree survey overlay with utility lines for tree protection credit. If claiming points for right-of-way reduction, include written documentation from local jurisdiction indicating typical rights-of-way for similar situations.

U-2 Deliver green power (0-25 pts)

Energy use in buildings and common areas usually has significant environmental impact off-site. Green power comes from renewable resources such as wind and solar. Earn 2 points for each ten percent of the development's power demand that will be delivered with green power either produced on-site or purchased as part of a green-pricing agreement with a utility. Receive two points if property buyers will receive some financial incentive from the developer or homeowner's association (of at least \$200 in value or 1% of the retail value of the property – whichever is less) to comply with requirements to participate in the green pricing program for at least 12 months. Earn 5 points for delivering common areas with 100% green power or for not using any power in common areas. Maximum of 25 points may be received when agreements with utilities, documentation defining applicable incentives or covenant/deed restrictions, and calculation showing how point credits were arrived at.

U-3 Supply irrigation system that uses stormwater or reuse water (0-15 pts)

Irrigation water does not have to be of the same quality as potable water. Building in a central irrigation system has many benefits. First, watering can be controlled from a central point so water conservation measures, such as a rain sensor may control the entire system. In some instance, a system that runs from local water retention/detention areas can be used. Earn 8 points for connecting each parcel to a reuse system. Earn 2 points for connecting all irrigated common areas. Earn 5 bonus points for any system that would turn off the irrigation for

the entire development based on rain gauges and valves. Irrigation plan with indication of water sources and valve locations needs to be submitted for credit.

U-4 Irrigation meter system (5 pts)

Earn 5 points for a system of metering the reuse water, well water or potable irrigation water on each parcel (even reuse water can be in limited supply during some times of the year).

U-5 Water irrigation budget (10 pts)

Limit withdrawal for irrigation by parcel owners and to common areas based on some budget (such as 1000 gallons per month per tenth of an acre) through controls. Describe the irrigation budget and the enforcement system.

U-6 Submeter parcels by end user (5 pts)

If there are any commercial or multi-family properties, arrange for each end-use to receive a meter for the utility. This will tend to encourage conservation and allow the end-user to receive benefits for efficient operating behavior and conservation measures. Submit sub-metering plan for credit.

U-7 Non-listed environmental benefits (0-5 pts)

Provide description of any significant environmental benefits achieved, beyond typical new development, that are not covered in the above categories. The points attributed should be computed, if possible, relative to environmental benefit achieved by other utility measures. Note, that one will only receive discretionary points for projected environmental results; not for meeting existing code in a creative manner or money spent to alter some existing land feature, or other troubles one went through to obtain an already listed green feature. Credit

requires that a detailed description with projected environmental benefits be submitted.

Division 4 – Amenities

The amenities that a developer provides and how they go about providing them can help or hinder the sustainability of the occupants. The Jekyll Island Authority gives credit for amenities that are likely to have a beneficial impact on the environment relative to the typical practices. Nature parks and common preservation areas earn credit under category A-1. Some of the amenities described here allow for common areas of intense use instead of many parcels trying to provide many less-efficient amenities. The Jekyll Island Authority also encourages individual developers to help promote, enhance, and improve overall island amenities as a part of their development process.

A-1 Neighborhood parks (0-4 pts)

Develop or enhance neighborhood parks that are within: ¼ mile of 50% of households to earn 1 point, 1/8 mile of 50% of households to earn 2 points, within ¼ mile of 100% of households to earn 3 points, and 1/8 mile of 100% of households to earn 4 points. Neighborhood parks are to contain playground equipment that uses green construction materials (i.e., recycled content or recyclable materials) with seating areas and native shade trees.

A-2 Community or regional park (2 pts)

Earn 2 points for developing or enhancing a community or regional park as part of the development plan – generally a regional park will be 10 acres or more and designed to serve a large part of the surround community and tourists.

A-3 Community pool or beach access (0-4 pts)

Swimming pools require water, energy, and chemicals to operate. Beach access requires some degradations of our valuable dune buffers. By providing pools or beach access that can be shared, precious resources can be conserved.

Earn four points for providing a common pool or beach access available for multiple uses, 3 points if there is a common pool or beach access available for each 300 households/rooms, 2 points if there is a common pool or beach access available for each 200 households/rooms, and 1 points if there is one for each 100 households/rooms. These points are not available if deed restrictions require individual pools for any single family lots.

A-4 Compost/mulch facility (3 pts)

Everyone may not choose to invest their real estate and time in creating their own compost pile for yard waste material. Compost piles help create useful fertilizer out of waste products. Although some areas have a common county-wide or municipality-wide facility, convenience results in more regular use.

Earn 3 points for developing a mulching/compost facility within development or for organized system of regular pick-up to carry to island-wide facility with a written compost facility management plan. The compost facility management plan should indicate how propagation of exotics seeds and vegetative propagules will be controlled. The location and management of a mulch facility should also be indicated.

A-5 Golf course management (6 pts)

Golf courses usually use extensive amounts of chemicals and water to keep the playing surface in good condition for the wear that it takes. Becoming an Audubon International certified, minimally treated, or golf-course excluded development earns points. To become an Audubon International certified, a course in the planning stages must successfully complete and implement a natural resource management plan to the Audubon Signature Program's specifications. Existing golf courses can qualify under the Audubon Cooperative Sanctuary Program for Golf Courses. Alternatively, earn the six points for any golf course that has less than 40 percent of its total acreage in maintained area (irrigated, chemically treated, impervious surface, or building). For developments with multiple golf courses, points can be pro-rated as a percentage of total golf courses. Also earn six points if development is over 300 acres and no golf course is planned in present, past, or future phases. Credit earned with submittal of Audubon International certification if golf course included or alternatively calculation of maintained vs total acreage is shown.

A-6 Landscape criteria and management plan for common areas and amenities (0-8 pts)

Earn 2 points for using 80% or more native, drought resistant plant material in non-recreational areas; earn 2 bonus points if plant material is wildlife-friendly or provides significant wildlife benefits. Earn 2 points for water-

conserving irrigation systems in common areas and recreational facilities. Earn 2 points for a detailed management plan for “green” management of amenities.

Subtract all points for inclusion of invasive exotics in landscape plan.

A-7 Non-listed environmental benefits (0-5 pts)

Provide description of any significant environmental benefits achieved, beyond typical new development, that are not covered in the above categories. The points attributed should be computed, if possible, relative to environmental benefit achieved by other amenity measures. Note, that one will only receive discretionary points for projected environmental results; not for meeting existing code in a creative manner or money spent to alter some existing land feature, or other troubles one went through to obtain an already listed green feature. Credit requires that a detailed description with projected environmental benefits be submitted.

Division 5 – Deed Restrictions and Covenants

Developers can exercise considerable influence and control over purchasers by incorporating environmentally sound practices into covenants and restrictions for individual purchasers, lessees, or users. There are many good programs available that are detailed in home and commercial green standards. Instead of referencing individual standards as a part of development planning, the Jekyll Island Authority is trying to encourage developers to make the end users aware of these standards and also from making sure that covenants and deed restrictions to not prohibit a purchaser from implementing green practices under a home or commercial green standard.

D-1 Green construction standards (0-40 points)

Select one of the following:

- a) Include information making property purchasers AWARE of other appropriate green standards (green home/green commercial building) for 1 point OR
- b) Include information ENCOURAGING property purchasers to comply with appropriate green standards (2 points) OR
- c) Provide some tangible INCENTIVE (of at least \$200 in value or 1% of retail price of property, whichever is less) to comply with appropriate green standards for 4 points OR
- d) REQUIRING each property owner to comply with the appropriate green standards (40 points)
- e) REQUIRING each property owner, via the covenants and deed restrictions, to comply with one or more minimum components of green home or green commercial standards as described below either through prescriptive measures or the flexibility within the standard, scoring points per section as follows. The covenants and deed restrictions must include sufficient educational information to aid the buyer in making environmentally sound choices. For details, refer to the Florida Green Building Coalition green home and green commercial designation reference guides.

For homes:

1. Energy Building Envelopes (require score of 130 points on green home standard, easily obtained through Energy Star Home or Building America compliance) – 10 pts
2. Energy Efficient Appliances (10 pts on green home standard – easily obtained through efficient lighting choices) – 3 pts
3. Water Conservation (15 pts minimum on green home standard – easily obtained by choosing friendly landscape practices) – 5 pts.
4. Site (10 pts minimum on green home standard – easily obtained through requiring significant preservation/native vegetation plant choices and reducing pervious surfaces on each building site) – 3 pts\
5. Health (10 pts minimum on green home standard – easily obtained with proper ventilation systems) – 3 pts
6. Materials (10 pts minimum on green home standard – easily obtained by integrating waste management and specifying engineered and recycled content materials) - 3 pts\
7. Disaster Mitigation (5 pts minimum on green home standard – obtainable through strict methods on either flood, hurricane, fire, or termite control) – 2 pts

For commercial buildings:

1. The same as for homes except the energy category is worth 10 points, as there is usually no energy appliances category in commercial standards.

D-2 No language that prohibits green practices – 5 pts

Earn these points only if the covenants and deed restrictions do not prohibit: using available water-efficient or bug-resistant grasses and plants that are not invasive, using solar systems on south-facing roof regardless of the direction of the street, driveways or other surfaces that use porous pavers, not installing irrigation systems, not installing turf, OR any other language that obviously prohibits the ability for site purchasers to pursue green home or green commercial building point criteria.

D-3 Non-listed environmental benefits (0-5 pts)

Provide description of any significant environmental benefits achieved, beyond typical new development, that are not covered in the above categories. The points attributed should be computed, if possible, relative to environmental benefit achieved by other deed and covenant restriction measures. Note, that one will only receive discretionary points for projected environmental results; not for meeting existing code in a creative manner or money spent to alter some existing land feature, or other troubles one went through to obtain an already listed green feature. Credit requires that a detailed description with projected environmental benefits be submitted.

Division 6 – Environmental Education

Educating all members of the development team, builders, future occupants, and tourists about green practices can lead to increased awareness and environmental benefits. Providing these groups with green building information in the form of workshops, signs, and written material on-site will earn points.

E-1 Staff training (0-14 pts)

Earn one point for each member of the development team (e.g., planner, engineer, architect, landscape architect, builder, marketing staff, administrator, sales, etc.) that has earned 6 hours or more of CEU credits in green development or green construction course within 36 months of date of submittal so long as the lead designer/decision-maker is one of the members receiving credit. Earn four points for regular cross-training among team members (developer, engineering, design, sales, marketing, etc.) Maximum credit of 14 points. For each claimed CEU submit a course agenda, team member attending, their role on the development team, and number of CEUs credited. Cross-training should be documented by attendance by all team members at a green seminar/conference/workshop that was six hours or longer.

E-2 Dedicated on-site environmental specialist for parcel owners (0-16 pts)

If the developer, development association, or homeowners association has a dedicated ecologist working on-site conducting research and providing tours to residents and visitors, earn 4 points. Ecologist must devote at least 8 hours per week to the development and adjacent areas (nearby natural areas or

water bodies). Similarly, if the developer or development association has a dedicated “green” landscape specialist, “green” design/construction specialist, and/or “green” interior design specialist available on-site to provide services to parcel owners earn 4 points each (credit only available for each person irregardless of how many fields of expertise the individual is accredited in). Submit documentation of the hiring or the planning to hire the specialists, including advertised minimum requirements or resume of specialist regarding “green” practice experience.

E-3 On-site “green” buyer training or buyer incentives for off-site training (0-8 pts)

Earn up to 8 points for offering courses for potential or existing purchasers regarding green construction and operation practices. Earn one point for each hour of unique training provided quarterly or more often. Submit courses, presenters, qualifications of presenters, how courses are marketed, frequency of courses, and any incentives for buyers taking off-site training.

E-4 Environmental education in marketing material (0-5 pts)

Earn three points if 10% of the marketing dollars spent is aimed towards EDUCATING the recipients of the environmental consequences of their actions or of the environmental features contained. Marketing material consists of any sales office material, signs, displays, newsletters, brochures, or other media sales material and any other efforts aimed at marketing the development. Credit will not be given if marketing material provides exaggerating claims regarding the environmental benefits of development features. Earn 2 points for including

contract addendums that specify green terms and conditions. Submit any brochures, photos of signs, and a description of other marketing efforts including the portion devoted towards environmental education. Include sample contracts for contract addendum points.

E-5 In-house green practices (0-10 pts)

The developer should lead by example, not just as a marketing tool. Points are available in mission, printing, purchasing, and recycling subcategories. Earn 2 points for having a mission statement that clearly states the development company's dedication towards being an exemplary environmental steward in all aspects of their business and having the mission statement printed on all written marketing material. Earn one point if all marketing material is printed on at least 25% recycled content paper or two points if all marketing material is printed on 100% recycled content paper. Earn one point if no paper has been bleached. Earn one point if all inks are soy-based. Earn two points if the development company has a "green" purchasing policy consistent with state recommendations. Earn two points if the developer has an assigned person responsible for assuring recycling of recyclable materials from all aspects of the business. Submit written purchasing policy including writing the printing policy on the brochures (i.e., "Printed on 100% recycled content paper using soy inks"). A copy of the mission statement and a description of recycling coordinator should also be submitted.

E-6 Demonstration green buildings (4 pts)

Earn the 4 points if the first building (residential or commercial) built earns a green designation as an example for others and for a period of at least 2 months upon completion is open to prospective purchasers in the development. Submit a description of the subject property and receipt of appropriate green designation.

E-7 Outdoor environmental education signs (0-22 pts)

The development may continue to function for decades or centuries after construction and initial sales. Long-lasting outdoor signs can be used to educate succeeding users and visitors of the environmental consequences of their actions. Earn two points for each of the following items (up to 20 total points):

- signs that show where stormwater drains,
- signs that indicate the environmental benefit of pedestrian transportation,
- signs that indicate wildlife corridors or provide information about indigenous wildlife and habitat,
- signs that educate about the needs/benefits of conserving water,
- signs that educate about the needs/benefits of conserving energy,
- signs that educate about the benefits of outdoor lighting that does not brighten the sky,
- signs that educated 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 about how to create and maintain habitats for native species in developed areas, and
- any other signs that are for environmental education (bird nesting boxes, butterfly gardens, organic gardening, etc.).

Earn two bonus points if all signs are made of long-lasting green materials. One green specification is a kit of parts that could be bolted together with a pin set type pre-cast concrete pier, then the posts from a wood-plastic composite and the sign itself either a naturally resistant species such as cedar or cypress OR pine with ACQ pressure treatment, or the same wood-plastic composite with recycled content used in the posts.

Indicate planned placement of signs in a site plan and provide copies of the text/graphics to be on the signs. Signs must be of sufficient size and placement to serve their educational purpose. Indicate the green specification that the sign material is meeting if credit is sought.

E-8 Green web site (0-7 pts)

A web site will be constructed that will highlight environmental information and management strategies pertinent to the project. This web site will indicate what the developer has done to produce environmental benefits (2 pts), the current monitoring and maintenance plan (2 pts), and contain content or links to content for advise on proper environmental maintenance of common parcels (1 pt) and green construction (1 pt), and operation (1 pt) of individual parcels. This

web site should be set up originally by the developer and could be maintained by the homeowner or an outside organization. Ideally, the web site would be linked to interpretive signs where the web site would provide more in-depth information. Submit web address.

E-9 Monitoring program (0-9 pts)

A monitoring program will be set up by the developer, allowing for monitoring of wildlife (2 pts), energy (2 pts), water use (2 pts), and water body quality (2 pts). Monitoring will help the neighborhood keep track of environmental variables over time. Results will be given to residents and users which will provide important feedback about how various management strategies affect environmental parameters. One bonus point for making the data available on the web site in E-8. Submit a copy of the monitoring plan.

D-10 Non-listed environmental benefits (0-5 pts)

Provide description of any significant environmental benefits achieved, beyond typical new development, that are not covered in the above categories. The points attributed should be computed, if possible, relative to environmental benefit achieved by other environmental education measures. Note, that one will only receive discretionary points for projected environmental results; not for meeting existing code in a creative manner or money spent to alter some existing land feature, or other troubles one went through to obtain an already listed green feature. Credit requires that a detailed description with projected environmental benefits be submitted.

SUMMARY

The natural values present on Jekyll Island are one of its biggest attractions for tourists, residents, and businesses. Conserving and enhancing those values as development and redevelopment pressures rise is a critical step in insuring that Jekyll Island is available for future generations. Some of the critical environmental areas and important species that could potentially be impacted by development and redevelopment are identified and strategies for avoiding negative environmental impact and enhancing positive impacts are identified.

A series of six categories where development has an opportunity to impact the environment has been identified: 1) conservation of natural resources and ecosystems, 2) transportation, 3) utilities, 4) amenities, 5) deed restrictions and covenants, and 6) environmental education. Each of these categories has options for developers to choose to implement that provide them with the opportunity to earn points. If all of the total of 664 points are applicable, it is recommended that development and redevelopment projects identify 400 points with minimums in each category in order to reduce and mitigate the negative environmental impacts of development.

Implementation of such a system will insure that Jekyll Island's natural values and ecosystem processes continue to function for future generations of residents, visitors, and others to enjoy.

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