

QUESTION 12 - VEGETATION AND WILDLIFE

A. Identify the dominant species and other unusual or unique features of the plant communities on Map F. Identify and describe the amount of all plant communities that will be preserved in a natural state following development as shown on Map H.

Eighteen vegetative land cover types occur on the Scripps Florida – Phase II/Briger Tract site. All communities have been categorized according to *Florida Land Use, Cover, and Forms Classification System (FLUCFCS)* (Florida Department of Transportation, State Topographic Bureau, Thematic Mapping Section 1999) and each is identified by a FLUCFCS number. This information is depicted on Table 12-A. Wetland boundaries shown on Map F are in review by regulatory agencies and are subject to revisions based on that review.

TABLE 12-A LAND USES AND VEGETATIVE COVER TYPES SCRIPPS FLORIDA PHASE II/BRIGER TRACT DRI		
Community	FLUCFCS	Approximate Acreage
Residential, Low Density, Mobile Home Units	112	2.21
Improved Pastures	211	37.90
Unimproved Pastures	212	11.67
Horse Farm	251	13.08
Herbaceous (Dry Prairie)	310	0.29
Herbaceous (Dry Prairie) / Melaleuca	310/424	7.21
Pine Flatwoods	411	309.97
Disturbed Pine Flatwoods	411D	120.26
Pine/Mesic Oak	414	17.50
Brazilian Pepper	422	15.37
Melaleuca	424	28.40
Temperate Hardwoods	425	11.21
Upland Scrub, Pine and Hardwoods	436	34.66
Australian Pine	437	0.37
Wetland Hardwood Forest	610	11.46
Exotic Wetland Hardwoods	619	36.84
Freshwater marsh	641	16.51
Wet Prairies	643	6.78
Total		681.69

Residential, Low Density, Mobile Home Units (FLUCFCS 112). This community type is found in one location along the southern boundary of the western parcel. This area contains a mobile home and various sheds. The canopy is dominated by scattered slash pine (*Pinus elliotii*), cabbage palm (*Sabal palmetto*), oak (*Quercus* spp.), Brazilian pepper (*Schinus terebinthifolius*), various exotic ornamentals, and mowed grasses.

Improved Pastures (FLUCFCS 211). The improved pastures vegetative community type is found in the southeastern corner of the eastern parcel. This area is used as cattle and horse pasture and has been historically cleared of the majority of the native canopy and groundcover vegetation. Existing vegetation is comprised of scattered slash pine, cabbage palm, oak, and grazed pasture grasses. Also present in these areas are drainage ditches and cattle watering ponds.

Unimproved Pastures (FLUCFCS 212). The unimproved pastures vegetative community type is found in small patches towards the southern ends of both western and eastern parcels. These areas have been historically cleared of the majority of the native ground cover while the canopy has been left intact. The canopy is dominated by scattered slash pine, oak, and cabbage palm. The subcanopy, where present, is dominated by Brazilian pepper and the ground cover is dominated by various non-native pasture grasses.

Horse Farm (FLUCFCS 251). This community type is located in the southern portion of the eastern parcel and is occupied by horse stables, barns, equipment storage areas, sheds, and living quarters. This vegetative community type is dominated by scattered slash pine, Brazilian pepper, and non-native grasses.

Herbaceous (Dry Prairie) (FLUCFCS 310). The herbaceous dry prairie vegetative cover type is found scattered throughout both eastern and western parcels. These areas appear to be former wet prairies that, because of hydrologic changes, have lost their hydric characteristics. They are dominated by herbaceous vegetation including shrubby false buttonweed (*Spermacoce verticillata*), dog-fennel (*Eupatorium capillifolium*), Caesar weed (*Urena lobata*), scattered St. John's wort, beakrush (*Rhynchospora* spp.), buttonbush (*Cephalanthus occidentalis*), and various grasses.

Pine Flatwoods (FLUCFCS 411). The pine flatwoods vegetative community type is the dominant vegetative community observed on the property. The canopy is dominated by slash pine with a subcanopy of laurel oak (*Quercus laurifolia*), cabbage palm, scattered Brazilian pepper, gallberry (*Ilex glabra*), dahoon holly (*Ilex cassine*), myrsine (*Rapanea punctata*), scattered melaleuca (*Melaleuca quinquenervia*), and gallberry. The ground cover is dominated by a thick growth of saw palmetto (*Serenoa repens*), beautyberry (*Callicarpa americana*), shrubby false buttonweed, wild coffee (*Psychotria nervosa*), pineland three-awn, love-vine (*Cassytha filiformis*), bracken fern (*Pteridium aquilinum*), and wild grape (*Vitis rotundifolia*).

Disturbed Pine Flatwoods (FLUCFCS 411-D). The disturbed pine flatwoods vegetative cover type is found scattered throughout both eastern and western parcels. The canopy is dominated by a mix of young slash pine, with scattered melaleuca, earleaf acacia and Brazilian pepper. The midstory and ground cover exhibit disturbance probably because of reduced hydrology and are dominated by Brazilian pepper, melaleuca, old world climbing fern and other nuisance species.

Pine/Mesic Oak (FLUCFCS 414). The pine/mesic oak vegetative community type is found in the southeastern corner of the western parcel and near the center of the east parcel. This community is dominated in the canopy by slash pine, cabbage palm and oaks, with a subcanopy dominated by wax myrtle, wild coffee, scattered Brazilian pepper and dahoon holly. The ground cover is dominated by swamp fern, Caesar weed, and various grasses.

Brazilian Pepper (FLUCFCS 422). The Brazilian pepper vegetative community type, in addition to being found scattered throughout the property and along property boundaries, is found in a number of dense growths on both parcels. These areas are dominated in the subcanopy and ground cover by dense Brazilian pepper.

Melaleuca (FLUCFCS 424). The melaleuca vegetative community type is found within many former wetland areas that, because of changes in hydrology, have lost their hydric characteristics. The canopy and subcanopy are dominated by a dense growth of melaleuca. Ground cover, where present, is comprised of scattered swamp fern and shrubby false buttonweed.

Temperate Hardwoods (FLUCFCS 425). The temperate hardwoods vegetative community type is found in a number of large hammocks on both parcels. These areas are dominated in the canopy by live oak (*Quercus virginiana*), laurel oak, and scattered slash pine. The subcanopy is dominated by cabbage palm, wax myrtle, scattered Brazilian pepper, wild coffee, and myrsine. The ground cover is dominated by Caesar weed, scattered old world climbing fern (*Lygodium microphyllum*), dog-fennel, beautyberry, scattered saw palmetto, wild grape, Virginia chain fern, and swamp fern (*Blechnum serrulatum*).

Upland Scrub, Pine and Hardwoods (FLUCFCS 436). This community is similar to the temperate hardwoods community, but comprises more pines and disturbance in the subcanopy and groundcover. The area is dominated in the canopy by slash pine, live oak (*Quercus virginiana*), laurel oak, cabbage palm and scattered exotics such as java plum (*Syzygium cumini*) and earleaf acacia (*Acacia auriculiformis*). The subcanopy is dominated by cabbage palm, wax myrtle, Brazilian pepper, and myrsine. The ground cover is dominated by Caesar weed, wild grape, scattered old world climbing fern (*Lygodium microphyllum*), dog-fennel, scattered saw palmetto, and swamp fern (*Blechnum serrulatum*).

Australian Pines (FLUCFCS 437). The Australian pine vegetative community type is found in two small areas on the eastern parcel. The first area is located on the southern property boundary, adjacent to Hood Road, while the second area is located on the eastern side of the main north-south trail, approximately midway up. The canopy and subcanopy are dominated by a thick growth of Australian pine (*Casuarina equisetifolia*). Ground cover, where found, is sparse and is dominated by scattered swamp fern and cabbage palm.

Exotic Wetland Hardwoods (FLUCFCS 619). The exotic wetland hardwoods vegetative community type is found throughout both parcels and primarily consists of melaleuca-infested wetlands. These wetlands are dominated in the canopy by dense melaleuca. The subcanopy is dominated by dense melaleuca and scattered young slash pines, wax myrtle, Carolina willow, Brazilian pepper, and cabbage palm. The ground cover in these wetlands consists of red root, marsh fleabane (*Pluchea* sp.), swamp fern, dog fennel, shrubby false buttonweed, spikerush (*Eleocharis* sp.), broomgrass, hatpins (*Eriocaulon* sp.), Caesar weed, royal fern, scattered old world climbing fern, sawgrass, maidencane, and chalky bluestem.

Freshwater Marshes (FLUCFCS 641). The freshwater marsh vegetative community type is found scattered throughout both parcels. These areas are dominated in the subcanopy by scattered Carolina willow, red maple, melaleuca, Brazilian pepper, buttonbush, wax myrtle, and pond apple. The ground cover is dominated by fireflag, swamp fern, sawgrass, spikerush, red root, Virginia chain fern, dog fennel, marsh fleabane, frog-fruit (*Phyla nodiflora*), and maidencane.

Wet Prairies (FLUCFCS 643). The wet prairies vegetative community type is found scattered throughout both parcels and while showing signs of reduced hydrology, still exhibit hydric characteristics. These areas are dominated in the subcanopy by small pines, melaleuca, red maple, Brazilian pepper, and wax myrtle. The ground cover is dominated by St. John's wort, shrubby false buttonweed, swamp fern, sawgrass, dog-fennel, yellow-eyed grass, buttonbush, redroot, broomgrass, maidencane, and various grasses.

B. Discuss what survey methods were used to determine the absence or presence of state or federally listed wildlife and plants. (Sampling methodology should be agreed to by the regional planning council and other reviewing agencies at pre-application conference stage). State actual sampling times and dates, and discuss any factors that may have influenced the results of the sampling effort. Show on Map G the location of all transects, trap grids, or other sampling stations used to determine the on-site status of state or federally listed wildlife and plant resources.

Prior to conducting site surveys, Environmental Services Inc. conducted a literature review to determine listed species that occur in the region of the project site. The literature review and prior site visits were used to determine preferred habitat of each

species, and the probability of occurrence on the Scripps Florida Phase II/ Briger DRI project site. Table 12-B identifies the listed wildlife and plant species potentially occurring on the project site.

ESI coordinated with Florida Fish and Wildlife Conservation Commission (FWC) in regard to the wildlife and plant surveys required for the Application for Development Approval (ADA). Mary Anne Poole of FWC and Jennifer Goff of FWC were contacted, and both had input in the preparation of our wildlife survey methodology. However, because FWC is currently reorganizing and there is not a person dedicated to DRI reviews, we were guided to utilize the new draft Wildlife Conservation Planning Tool and to comply with the 1988 methodology protocol.

Formal wildlife and plant surveys were conducted in September and October, 2008 in accordance with the 1988 methodology protocol (*Florida Fish and Wildlife Conservation Commission, Wildlife Methodology Guidelines, January 1988*). Large portions of the project area were analyzed for the presence of state or federally listed species during the course of the wetland and habitat evaluations, and then more intensive survey work was completed during the formal surveys in September and October 2008.

After a review of the site habitat types, transects were designed to survey the property for the presence of state or federally listed species. A series of pedestrian transects was located throughout the property, concentrating on the habitat types with the greatest probability of being occupied by the species identified as potentially occurring on-site. Transect locations are shown on Map G, Wildlife and Plant Resources Map.

Comprehensive wildlife surveys

The wildlife surveys were conducted in September and October 2008. The time period was chosen to coincide with cooler temperatures and fall avian migration to maximize potential wildlife observations. The surveys were conducted using pedestrian belt transects and pedestrian loop trail transects based on FWC methodology. The area evaluated far exceeds the FWC requirement of 1,500 linear feet per 100 acres. Each belt transects covered an area that was approximately 810 feet long and 65 feet wide. The transects were placed throughout upland habitat with a focus on areas where gopher tortoises or species associated with gopher tortoise burrows may be observed.

Pedestrian loop trail transect locations were chosen to maximize the number of habitat types encountered while minimizing the disturbances caused by heavy understory which can impact wildlife sightings. The morning pedestrian loop transects were conducted between 7:00 and 9:00 am, and the evening pedestrian loop transects were conducted between 5:00 and 7:00 pm. During these surveys, surrounding habitat was also monitored for scat, tracks, or other physical indications of wildlife utilization.

**TABLE 12-B
STATE AND FEDERALLY LISTED SPECIES POTENTIALLY OCCURRING
IN PALM BEACH COUNTY, FLORIDA
Scripps Florida Phase II / Briger Tract DRI**

Scientific Name and Common Name	Federal Status	State Status	Preferred Habitat	Probability of Occurrence on Project Site
Plants				
<i>Acrostichum aureum</i> (Golden leather fern)		T	Mangrove forests	NSH
<i>Argusia gnaphalodes</i> (Sea lavender)		E	Coastal dunes and scrub	NSH
<i>Asimina tetramera</i> (Four petal paw-paw)	E	E	Scrub habitat	NSH
<i>Calopogon multiflorus</i> (Many-flowered grasspink)		E	Wet prairie/flatwood habitat	Possible habitat present
<i>Chamaesyce cumulicola</i> (Sand-dune spurge)		E	Coastal dunes	NSH
<i>Cladonia perforata</i> (Perforate reindeer lichen)	E	E	Scrub habitat	NSH
<i>Clitoria fragrans</i> (Scrub pigeon-wing)	T	E	Scrubby habitat	NSH
<i>Coccothrinax argentata</i> (Silver palm)		T	Coastal forest	NSH
<i>Conradina grandiflora</i> (Large-flowered rosemary)		T	Scrub habitat	NSH
<i>Cucurbita okeechobeensis</i> (Okeechobee gourd)	E	E	Lake Okeechobee shores	NSH
<i>Dicerandra frutescens</i> (Scrub mint)	E	E	Scrub habitat	NSH

<i>Glandularia maritime</i> (Coastal vervain)		E	Coastal dunes and hammocks	NSH
<i>Halophila johnsonii</i> (Johnson's seagrass)	T		Tidal deltas and inlets	NSH
<i>Jacquemontia reclinata</i> (Beach jacquemontia)	E	E	Coastal dunes and hammocks	NSH
<i>Lantana depressa</i> var. <i>floridana</i> (Atlantic Coast Florida Lantana)		E	Coastal dunes and scrub	NSH
<i>Lechea cernua</i> (Nodding pinweed)		T	Scrub habitat	NSH
<i>Lechea divaricata</i> (Pine pinweed)		E	Scrub and scrubby flatwoods	NSH
<i>Linum carteri</i> var. <i>smallii</i> (Carter's large-flowered flax)		E	Pine rocklands and flatwoods	Possible habitat present
<i>Nemastylis floridana</i> (Celestial lily)		E	Freshwater and grassland habitat	Possible habitat present
<i>Okenia hypogaea</i> (Burrowing four-o'clock)		E	Coastal dunes	NSH
<i>Ophioglossum palmatum</i> (Hand fern)		E	Hammock/cabbage palm habitat	Observed
<i>Osmunda regalis</i> (Royal fern)		CE	Forested wetlands, hammocks	Observed
<i>Panicum abscissum</i> (Cutthroat grass)		E	Depression marshes	Possible habitat present
<i>Polygala smallii</i> (Tiny polygala)	E	E	Pine rocklands and scrub	NSH
<i>Pteris bahamensis</i> (Bahama brake)		T	Pine flatwoods with limestone outcrops	NSH

<i>Pteroglossaspis ecristata</i> (Giant orchid)		T	Sandhill scrub habitat	NSH
<i>Okenia hypogaea</i> var. <i>paludicola</i> (Fakahatchee ladies' tresses)		T	Coastal dunes	NSH
<i>Schizaea pennula</i> (Ray fern)		E	Everglades tree islands	NSH
<i>Tephrosia angustissima</i> var. <i>curtissii</i> (Coastal hoary-pea)		E	Pine rocklands and scrub	NSH
<i>Thelypteris serrata</i> (Toothed maiden fern)		E	Cypress swamps, sloughs, floodplains	NSH
<i>Tillandsia flexuosa</i> (Banded wild pine)		T	Pine and oak hammocks	Possible habitat present
<i>Tolumnia bahamensis</i> (Dancing-lady orchid)		E	Costal scrub	NSH
Amphibians				
<i>Rana capito</i> (Gopher frog)		SSC	Sandhill scrub	Possible habitat present (gopher tortoise burrows present)
Reptiles				
<i>Alligator mississippiensis</i> (American alligator)	T(S/A)	SSC	Marshes, swamps, lakes, rivers, ponds	Possible habitat present
<i>Caretta caretta</i> (Loggerhead)	T	T	Coastal and oceanic waters	NSH
<i>Chelonia mydas</i> (Green turtle)	E	E	Coastal and oceanic waters	NSH
<i>Crocodylus acutus</i> (American crocodile)	T	E	Coastal estuarine marshes	NSH
<i>Dermodochelys coriacea</i> (Leatherback)	E	E	Coastal and oceanic waters	NSH

<i>Drymarchon couperi</i> (Eastern indigo snake)	T	T	Tracts of sandhill and gopher tortoise burrows	Possible habitat present
<i>Eretmochelys imbricata</i> (Hawksbill)	E	E	Coastal and oceanic waters	NSH
<i>Gopherus polyphemus</i> (Gopher tortoise)		T	Sandhill, scrub, dry hammocks	Observed
<i>Lepidochelys kempii</i> (Kemp's ridley)	E	E	Coastal and oceanic waters	NSH
<i>Pituophis melanoleucus mugitus</i> (Florida pine snake)		SSC	Sandhills, pasture, scrubby flatwoods	Possible habitat present
Birds				
<i>Aphelocoma coerulescens</i> (Florida scrub-jay)	T	T	Oak scrub habitat	NSH
<i>Aramus guarauna</i> (Limpkin)		SSC	Marshes, swamps, rivers, pond margins	Possible habitat present
<i>Athene cunicularia floridana</i> (Florida burrowing owl)		SSC	Dry prairies and sandhill	NSH
<i>Caracara cheriway</i> (Crested caracara)	T	T	Prairies, savannahs, scrub, and coastal areas.	NSH
<i>Charadrius melodus</i> (Piping plover)	T	T	Sandy beaches and tidal mudflats	NSH
<i>Egretta caerulea</i> (Little blue heron)		SSC	Marshes, swamps, streams, ponds, lakes	Possible habitat present
<i>Egretta thula</i> (Snowy egret)		SSC	Marshes, swamps, streams, ponds, lakes	Observed
<i>Egretta tricolor</i> (Tricolored heron)		SSC	Marshes, swamps, streams, ponds, lakes	Possible habitat present

<i>Eudocimus albus</i> (White ibis)		SSC	Marshes, swamps, ditches	Observed
<i>Falco peregrinus</i> (Peregrine falcon)		E	Rocky cliffs/ledges, seacoasts	NSH
<i>Falco sparverius paulus</i> (Southeastern American kestrel)		T	Open forests, prairies, pastures	Possible habitat present
<i>Grus canadensis pratensis</i> Florida sandhill crane)		T	Marshes, open fields, and pastures	Possible habitat present
<i>Haematopus palliatus</i> (American oystercatcher)		SSC	Sandy beaches and tidal mudflats	NSH
<i>Haliaeetus leucocephalus</i> (Bald eagle)		T	Large trees near open water bodies	NSH
<i>Mycteria americana</i> (Wood stork)	E	E	Cypress swamps, marshes	Possible habitat present
<i>Pandion haliaetus</i> (Osprey)		SSC	Large, dead trees near open water bodies	NSH
<i>Pelecanus occidentalis</i> (Brown pelican)		SSC	Coastal estuarine waters	NSH
<i>Picoides borealis</i> (Red-cockaded woodpecker)	E	SSC	Mature, open pine woodlands	NSH
<i>Platalea ajaja</i> (Roseate spoonbill)		SSC	Coastal mangroves islands, marine tidal flats	NSH
<i>Rostrhamus sociabilis plumbeus</i> (Snail kite)	E	E	Hydric pine flatwoods, marshes, ponds, swamps	NSH
<i>Rynchops niger</i> (Black skimmer)		SSC	Coastal areas, lakes, flooded fields	NSH

<i>Sterna antillarum</i> (Least tern)		T	Coastal waters	NSH
Mammals				
<i>Podomys floridanus</i> (Florida mouse)		SSC	Scrub, sandhill, gopher tortoise burrows	Possible habitat present
<i>Puma concolor coryi</i> (Florida panther)	E	E	Large forested communities with large wetlands	NSH
<i>Sciurus niger shermani</i> (Sherman's fox squirrel)		SSC	Pine forests or savannahs	Possible habitat present
<i>Trichechus manatus</i> (Manatee)	E	E	Coastal waters, bays, and rivers	NSH
<i>Ursus americanus floridanus</i> (Florida black bear)		T	Large tracts of undeveloped land	NSH
Invertebrates				
<i>Orthalicus reses reses</i> (Stock Island tree snail)	T	E	Tropical hardwood hammock	NSH
<i>Strymon acis bartrami</i> (Bartram's scrub hairstreak)	C		Pine rocklands	NSH
Status Key				
E – Endangered (so few or depleted in number or so restricted in range that it is in imminent danger of extinction)				
T – Threatened (facing a very high risk of extinction in the future)				
T(S/A) – Threatened due to similarity of appearance				
SSC – Species of Special Concern (facing a moderate risk of extinction in the future)				
C – Candidate species				
NSH – No Suitable Habitat				
*Probability of occurrence based on biogeographic occurrence of the species and availability of habitat on the project site.				

Wetland boundaries and interiors were not surveyed as part of the formal comprehensive wildlife surveys, but were surveyed extensively over an extended time period within which wetland delineations and many site visits were conducted with local, state and federal agency staff. The boundary and interior of each wetland was traversed a minimum of 8 times between the months of April and October 2008. Any observations or signs of wildlife species in and around the wetlands were documented and are included in Table 12-C, Observed Wildlife.

ESI scientists traversed approximately 49,410 linear feet of pedestrian belt transects and 90,000 linear feet of pedestrian loop transects over the five consecutive day survey period. The documentation accumulated during the surveys included sampling dates, times, a record of species observed and any notes or factors that may have influenced the results of the sampling effort. Additionally, wetland areas were evaluated extensively between the months of June and October 2008. Wetland observations are included in the documented observed wildlife.

Listed Plant Survey

In the absence of specific guidelines for sampling state and federally listed plant species, the property has been reviewed using the above described pedestrian transect techniques, as well as numerous site evaluations over a six month period to review habitat quality and wetland boundaries. All habitat types have been analyzed with greatest emphasis placed on habitats in which listed plant species are potentially occurring. Those plants are listed in Table 12-B.

Factors Influencing Sampling Results

Despite thorough and comprehensive sampling methodologies, there are limitations to documenting the presence or absence of listed plant or animal species. This is sometimes due to inherently low populations, brief periods when the species can be identified or observed, and obscure or secretive habitats associated with some species. The surveys conducted meet and exceed established sampling guidelines for FWC. The surveys provide meaningful data for the evaluation of on-site listed species and for determining suitable preservation, relocation or management guidelines to ensure sustainability of listed species found on the project site.

C. List all state or federally listed wildlife and plant resources that were observed on the site and show location on Map G. Given the plant communities on-site, list any additional state or federally listed wildlife and plant resources expected to occur on the site and show the location of suitable habitat on Map G. Additionally, address any unique wildlife and plant resources, such as colonial bird nesting sites and migrating bird concentration areas. For species that are either observed or expected to utilize the site, discuss the known or expected location and population size on-site, existence (and extent, if known) of adjacent, contiguous habitat off-site, and any special habitat requirements of the species.

TABLE 12-C
Wildlife Species Observed On-Site, Palm Beach County, Florida 2008
Scripps Florida Phase II / Briger Tract DRI

Common Name and Scientific Name	Status	Habitat Type at Observation Point(s)	Comments
Amphibians			
Cuban Treefrog <i>Osteopilus septentrionalis</i>		Throughout site	Abundant
Oak toad <i>Bufo quercius</i>		Herbaceous (Dry Prairie) and Pine flatwoods	Common
Reptiles			
Black racer <i>Coluber constrictor priapus</i>		Pine flatwoods and Pine flatwoods disturbed	Common
Box turtle <i>Terrapene Carolina</i>		Pine flatwoods	Uncommon
Brown anole <i>Andis sagrei</i>		Pine flatwoods and Pine flatwoods disturbed	Uncommon
Eastern diamondback rattlesnake (<i>Crotalus horridus</i>)		Pine flatwoods and Pine flatwoods disturbed	Uncommon
Gopher tortoise <i>Gopherus polyphemus</i>	T (FL)	Pine flatwoods, pine flatwoods disturbed and Upland scrub-pine and hardwoods	Abundant
Southeastern five-lined skink <i>Eumeces inexpectatus</i>		Pine flatwoods	Uncommon
Southern ringneck snake <i>Diadophis punctatus punctatus</i>		Pine flatwoods	Uncommon
Birds			
American redstart <i>Setophaga ruticilla</i>		Pine flatwoods, Pine-mesic oak and Temperate hardwoods	Abundant
Barred owl <i>Strix varia</i>		Pine flatwoods	Uncommon
Black and white warbler <i>Minotilta varia</i>		Pine flatwoods and Pine-mesic oak	Common
Blue jay <i>Cyanocitta cristata</i>		Upland scrub-pine and hardwoods, Pine flatwoods, Pine flatwoods disturbed and Temperate hardwoods	Abundant
Blue-gray gnatcatcher <i>Polioptila caerulea</i>		Pine flatwoods, Pine flatwoods disturbed and Pine-mesic oak	Abundant
Boat-tailed grackle <i>Quiscalus major</i>		Pine flatwoods and Pine flatwoods disturbed	Uncommon
Brown thrasher <i>Toxostoma rufum</i>		Pine flatwoods	Common
Cattle egret <i>Bubulcus ibis</i>		Improved pasture	Uncommon
Common nighthawk <i>Chordeiles minor</i>		Upland scrub-pine and hardwoods and Pine flatwoods	Common
Downy woodpecker <i>Picoides pubescens</i>		Pine flatwoods, Pine flatwoods disturbed and Pine -mesic oak	Common
Gray catbird <i>Dumetella carolinensis</i>		Upland scrub-pine and hardwoods, and Pine flatwoods	Common

Great blue heron <i>Ardea Herodias</i>		Freshwater marsh	Uncommon
Great horned owl <i>Bubo virginianus</i>		Pine flatwoods	Uncommon
Mallard <i>Anas platyrhynchos</i>		Improved pasture	Uncommon
Mourning dove <i>Zenaida macroura</i>		Pine flatwoods	Uncommon
Northern Cardinal <i>Cardinalis cardinalis</i>		Pine flatwoods and Pine –mesic oak	Abundant
Northern Mockingbird <i>Mimus polyglottos</i>		Pine flatwoods	Common
Ovenbird <i>Seiurus aurocapillus</i>		Pine flatwoods	Uncommon
Pileated woodpecker <i>Dryocopus pileatus</i>		Upland scrub-pine and hardwoods	Uncommon
Pine warbler <i>Dendroica discolor</i>		Upland scrub-pine and hardwoods, Pine–mesic oak and Pine flatwoods	Abundant
Red shoulder hawk <i>Buteo lineatus</i>		Upland scrub-pine and hardwoods and Pine flatwoods	Common
Red-bellied woodpecker <i>Melanerpes carolinus</i>		Pine flatwoods and pine flatwoods disturbed	Abundant
Snowy egret <i>Egretta thula</i>	SSC (FL)	Improved pastures	Uncommon
White ibis <i>Eudocimus albus</i>	SSC (FL)	Improved pastures	Uncommon
Yellow-rumped warbler (<i>Dendroica coronata</i>)		Pine flatwoods	Common
Mammals			
Armadillo <i>Dasypus novemcinctus</i>		Pine flatwoods disturbed	Uncommon
Eastern gray squirrel <i>Sciurus carolinensis</i>		Upland scrub-pine and hardwoods, Pine flatwoods and Pine flatwoods disturbed	Common
Opossum <i>Didelphis virginiana</i>		Pine flatwoods disturbed	Uncommon
Raccoon <i>Procyon lotor</i>		Pine flatwoods disturbed and Melaleuca	Common
Listed Plant Species			
Hand fern <i>Ophioglossum palmatum</i>	E (FL)	Pine flatwoods and Upland scrub-pine and hardwoods	Abundant
Wild pine <i>Tillandsia valenzuelana</i>	T (FL)	Upland scrub-pine and hardwoods and Pine flatwoods	Common
Insects			
Swallowtail butterfly <i>Popilio glaucas</i>		Upland scrub-pine and hardwoods and Pine flatwoods	Common
Zebra long winged butterfly <i>Heliconius charitonius</i>		Upland scrub-pine and hardwoods	Abundant
Palmetto walkingstick <i>Anismorpha buprestoides</i>		Pine flatwoods	Uncommon

Wandering glider <i>Pantala flavescens</i>	Herbaceous (Dry Prairie) and Pine flatwoods, disturbed	Common
Common green darner <i>Anax junius</i>	Herbaceous (Dry Prairie) and Pine flatwoods, disturbed	Common

Status Key
 * Species with designations in the status column are listed under federal or state protected species regulations. The list below provides a key to the identifiers used in this column.

T (FL) = Threatened
 E (FL) = Endangered
 S (FL) = Species of Special Concern

*Species given a frequency designation in the COMMENTS column were identified during the wildlife surveys, and the frequency is based on the direct observation of the species or observed evidence of the species (e.g. call, scat, tracks, etc) made during that period. Categories are as follows:
Comment
 Uncommon = 0-3 Observations
 Common = 4-9 Observations
 Abundant = >9 Observations

Known and Expected Occurrences Table 12-B summarizes state and federally listed wildlife and plant species potentially occurring on the site. The probability of occurrence on the project site for each of these species was evaluated based on known habitat needs and the quality and type of habitat existing on the site.

Observed listed species include:

- Gopher tortoise (*Gopherus polyphemus*)
- Hand fern (*Ophioglossum palmatum*)
- Royal fern (*Osmunda regalis*)
- Snowy egret (*Egretta caerulea*)
- White ibis (*Eudocimus albus*)

Possible or expected listed species include:

- Many-flowered grass pink (*Calopogon multiflorus*)
- Carter's large flowered flax (*Linum carteri var. smalii*)
- Celestial lily (*Nemastylis floridana*)
- Cutthroat grass (*Panicum abscissum*)
- Banded wild pine (*Tillandsia flexuosa*)
- Gopher frog (*Rana capito*)
- American alligator (*Alligator mississippiensis*)
- Eastern indigo snake (*Drymarchon couperi*)
- Florida pine snake (*Pituophis melanoleucus*)
- Limpkin (*Aramus guarana*)
- Little blue heron (*Egretta caerulea*)
- Tricolored heron (*Egretta tricolor*)
- Southeastern Amer Kestrel (*Falco sparverius paulus*)
- Florida sandhill crane (*Grus Canadensis pratensis*)
- Florida mouse (*Podomys floridanus*)
- Shermans fox squirrel (*Sciurus niger shermani*)

Gopher tortoises were observed in scattered locations throughout the site, but primarily in the pine flatwoods habitat. Gopher tortoises require habitat comprising upland soils suitable for burrowing and having a vegetative component that supplies adequate herbaceous plants for foraging. The surveys indicated that tortoises are mainly found in areas of the driest upland soils, but near disturbed edges of clearings or wetlands where more herbaceous plants are found. Although there are very large areas of pine flatwoods habitat, the habitat has not burned in many years and the understory of saw palmetto and other shrubs has become too dense in much of the habitat, prohibiting growth of herbaceous plants that tortoises need to forage. It is estimated that less than 50% of the pine flatwoods habitat is currently suitable for gopher tortoises. Locations of observed gopher tortoises are depicted on Map G. Because the population of gopher tortoises is small and fragmented due to lack of suitable habitat, it is not anticipated that commensal species such as the gopher frog, Florida mouse and eastern indigo snake are utilizing the site. These species typically prefer upland habitat with more scrub characteristics than what is found on the project site. Although these species tend to be secretive and are not easily observed, no signs of them were observed on the property.

Hand fern was observed in several locations within temperate hardwoods, and pine/hardwoods habitat. Locations of observed hand fern are depicted on Map G.

Royal fern was observed in several locations within the exotic wetland hardwoods habitat.

Snowy egret and white ibis were observed within open pasture areas at the southeastern portion of the property. They were observed after an extended period of heavy rainfall, and were likely foraging in the flooded open grass area.

No unique wildlife or plant resources have been observed or are expected to occur on the project site.

D. Indicate what impact development of the site will pose to affected state or federally listed wildlife and plant resources.

The project will not have significant impact on state or federally listed wildlife or plant resources. Gopher tortoises that fall within proposed development areas on the project site will be relocated to on-site or off-site appropriate recipient areas in accordance with FWC guidelines and permitting procedures. Because the population of gopher tortoises is small and fragmented due to lack of suitable habitat, it is not anticipated that commensal species such as the gopher frog, Florida mouse and eastern indigo snake are utilizing the site. However, if any of these species were observed during tortoise relocation activities, they would be captured and relocated with the gopher tortoises.

Listed plant species including hand fern and royal fern that fall within proposed development areas may possibly be relocated to unimpacted areas of the project site. The applicant will consult with local government and FWC to determine if a relocation

effort for these species would be desired and necessary to support the existing populations of the species in the region.

Listed species of birds observed on the project site were observed foraging or resting within temporarily flooded pasture areas. Because much of the wetland habitat on the site is overgrown with exotic species and does not provide suitable foraging habitat year-round, it is not anticipated that the project will have significant impacts on listed bird species. No nesting or roosting activities by listed bird species have been observed on the project site.

E. Discuss what measures are proposed to be taken to mitigate impacts to natural communities and state and federally listed wildlife and plant resources. If protection is proposed to occur on-site, describe what legal instrument will be used to protect the site, and what management actions will be taken to maintain habitat value. If protection is proposed to occur off-site, identify the proposed amount and type of lands to be mitigated as well as whether mitigation would be through a regional mitigation land bank, by acquisition of lands that adjoin existing public holdings, or by other means.

Natural Communities

Proposed impacts to environmentally significant natural communities will be offset with on-site preservation areas. More than 25% of the significant upland habitat will be preserved in on-site upland preservation areas located throughout the project site as shown on Map H. Additionally, a portion of the most significant wetland habitat will also be preserved on the project site as shown on Map H. All on-site preservation areas will be protected by perpetual conservation easements prohibiting future impact to the habitat.

Listed Species

Prior to any site development, a detailed gopher tortoise survey will be completed and gopher tortoises within proposed impact areas will be relocated according to the provisions of a FWC approved Gopher Tortoise Relocation Permit. Any commensal species associated with gopher tortoise burrows and habitat will also be relocated during this process. Many tortoises will remain unimpacted within preserved upland habitat areas.

As discussed above listed species of plants may be relocated to unimpacted areas of the development, depending on guidance received from FWC and local government agencies reviewing the project. A portion of the listed plant species will remain unimpacted within preserved habitat on the project site.

QUESTION 13 - WETLANDS

A. If there are wetlands on the site, discuss and specify the following:

1. Acreage and percentage of property which is currently wetlands. These wetlands should be shown on Map F, Vegetation Associations, and identified by individual reference numbers. (These numbers should be utilized in responding to the other sub-questions.)

Three agencies regulate jurisdiction wetlands in this region. U.S. Army Corps of Engineers (COE), Florida Department of Environmental Protection (DEP), and South Florida Water Management District (SFWMD). Because of a delegation agreement between DEP and SFWMD, SFWMD will regulate the state jurisdictional wetlands for the Environmental Resource Permit required to develop the land.

Jurisdictional wetlands on the site have been field flagged and mapped based on current delineation methodologies for SFWMD and COE. These regulatory agencies are in the process of reviewing the delineated wetland boundaries at this time. The anticipated jurisdictional boundaries are depicted on Map F, Existing Site Conditions.

The wetlands have been identified by vegetation composition consistent with the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (Florida DOT, 1999). These community associations are shown on Map F. Wetlands comprise approximately 71.6 acres or 10% of the property.

2. Historic hydroperiods and seasonal water elevations of on-site wetlands.

Historically, hydroperiods on the site were likely longer in duration and encompassed more of the site. Review of historical aerials indicates that changes in historical surface flow patterns, regional drainage, and consumptive use of groundwater withdrawals have likely reduced the depth and duration of inundation on the site. As a result, the wetland areas on the property appear to have reduced in size, connectivity and quality over the past 50 years.

Preliminary data collected on the site suggests that seasonal high water elevations may range from 13.5 to 15 feet in elevation. However, only preliminary data has been collected and it has not been verified by SFWMD or COE. Information also suggests that water table elevations may vary across the large site, and the data collected is not representative of the entire site as it represents only a few wetland areas.

3. Acreage and location of wetlands which are to be preserved in their natural or existing state, including proposed hydroperiods, seasonal water elevations and methods for preservation.

As shown on Map H, large areas of herbaceous and forested wetlands will be enhanced and preserved in the southern portion of the eastern and western parcels. The existing hydrological connection for these wetlands that runs under I-95 will remain in place. These wetlands will likely be scraped down to improve the hydrology and ensure long term sustainability. An enhancement and preservation plan, including long-term conservation easement will be presented to SFWMD as part of the application for Environmental Resource Permit.

4. Acreage and location of areas to be enhanced, including proposed hydroperiods, seasonal water elevations and methods of enhancement.

As described above, several wetland areas are proposed for enhancement and preservation, as shown on Map H.

5. Actions taken to minimize or mitigate impacts on wetland areas, including maintaining the hydroperiod and providing buffers.

Efforts have been made in planning the Scripps Florida Phase II/Briger DRI project to avoid and minimize development impacts to wetlands where possible. Most wetlands on the property have been severely impacted by reduced hydrology and encroachment of exotic species. The wetlands proposed for enhancement and preservation are the least impacted and have the most potential for long-term sustainability under the proposed plans. The project will be designed to incorporate upland buffers and upland preserve areas around the preserved wetlands to provide connectivity between the different habitats.

Wetland impacts that cannot be mitigated on-site through enhancement and preservation of wetlands, will be mitigated at an appropriate off-site area.

6. Acreage and location of wetland which will be disturbed or altered, including a discussion of the specific alterations and disturbances.

The project design has not been finalized and total wetland impact and mitigation acreages will be determined in the ERP process. Most of the proposed wetland impacts are to wetlands of low functional quality. The master plan for the project considers preservation and contiguity of the higher quality wetlands, and reduces impacts to those wetlands. The project mitigation proposal that will be finalized and reviewed in the ERP process, will ensure that there is no net loss of wetland function resulting from this project.

7. Precautions to be taken during construction to protect wetland areas.

All necessary precautions will be taken during construction and for the duration of the project to prevent any adverse impacts to wetlands or to water quality. This may include, but not be limited to, installation of silt fences or hay bales between

development area and wetland areas. All newly exposed areas will be seeded or sodded as quickly as practicable. Specific erosion and sediment control plans will be developed and incorporated into construction plans. Also, all appropriate best management practices (BMPs) relative to the construction proposed, will be followed.

8. *If available, provide jurisdictional determinations.*

At this time, the wetland jurisdictional determination (as shown on Map F) is still in review by SFWMD and COE. An application for formal wetland determination was submitted in April 2008. ESI has been coordinating with SFWMD and COE by conducting numerous field reviews to examine wetland boundaries and responding to requests for additional information. Confirmation of the wetland jurisdictional determination is anticipated to be finalized in the near future.

9. *Please create a Table providing a wetland and deepwater habitat assessment (TCRPC supplemental application)*

The wetland jurisdictional determination is not finalized at this time. The applicant is in the preliminary stages of preparing the Environmental Resource Permit application and wetland mitigation plan; therefore, the requested table and acreages is not being provided at this time. The requested table and acreages will be provided as soon as they are available.

B. *Provide any proposed plans (conceptual or specific) for created or enhanced wetland areas, including littoral lake slopes, buffers, vegetative species to be planted, etc.*

Plans for wetland enhancement activities will be further detailed once the wetland jurisdictional and impacts plan are finalized. The mitigation plan will include enhancement and preservation of on-site wetlands as well as a plan for regionally significant off-site mitigation to compensate for proposed wetland impacts. The mitigation plan will ensure that the project will not result in net loss of wetland function and values.

QUESTION 14 - HYDROLOGY

A. Describe the existing hydrological conditions (both ground and surface water on and abutting the site, including identification and discussion of any potential aquifer recharge areas. Please identify and describe any Outstanding Florida Waters, Wild and Scenic Rivers, Florida Aquatic Preserves or Florida Class I or II Waters within, abutting or downstream of the site.

The site and surrounding area is situated on the Surficial Aquifer. The Surficial Aquifer, which is an unconfined aquifer, is classified as G-II and is the main source for potable water in Palm Beach County and South Florida. This aquifer is directly recharged from rainfall as well as surface water bodies. Surface water bodies on the property include ditches and wetland areas scattered throughout the property. In general, the groundwater flow direction in Palm Beach County is eastward toward the Atlantic Ocean. However, the groundwater flow direction can be locally controlled by the presence of wells, ditches, canals or lakes.

Town of Jupiter and Seacoast Utility Authority wellfields in the vicinity of the site may have impacts on the groundwater levels and the wetlands within the site. The Town of Jupiter has mitigated the wetland impacts associated with their wellfields through the Loxahatchee Mitigation Bank in accordance with their SFWMD Consumptive Use Permit issued on November 10, 2004. Seacoast Utility Authority is currently in the process of renewing their Consumptive Use Permit with SFWMD. A Wetland/Lake Contingency Plan is proposed for monitoring wetland and lake impacts associated with the Authority's wellfield withdrawals as part of this renewal.

There are no Outstanding Florida Waters, Wild and Scenic Rivers, Florida Aquatic Preserves, Class I or Class II Waters within, abutting or downstream of the site.

B. Describe, in terms of appropriate water quality parameters, the existing ground and surface water quality conditions on and abutting the site. (The appropriate parameters and methodology should be agreed to by the regional planning council and other reviewing agencies at the pre-application conference stage.

As part of Palm Beach County's due diligence process, in March, 2006, Ardaman & Associates, Inc. performed a Phase I Environmental Site Assessment (ESA) at the County's 70 acre tract within the project site. This assessment is indicative of the site conditions for the entire project. The site is currently undeveloped wooded land with no evidence of recognized environmental conditions in connection with the subject property. The findings from the ESA indicate that no further assessment is recommended. Based on the findings in this report, water quality sampling is not required.

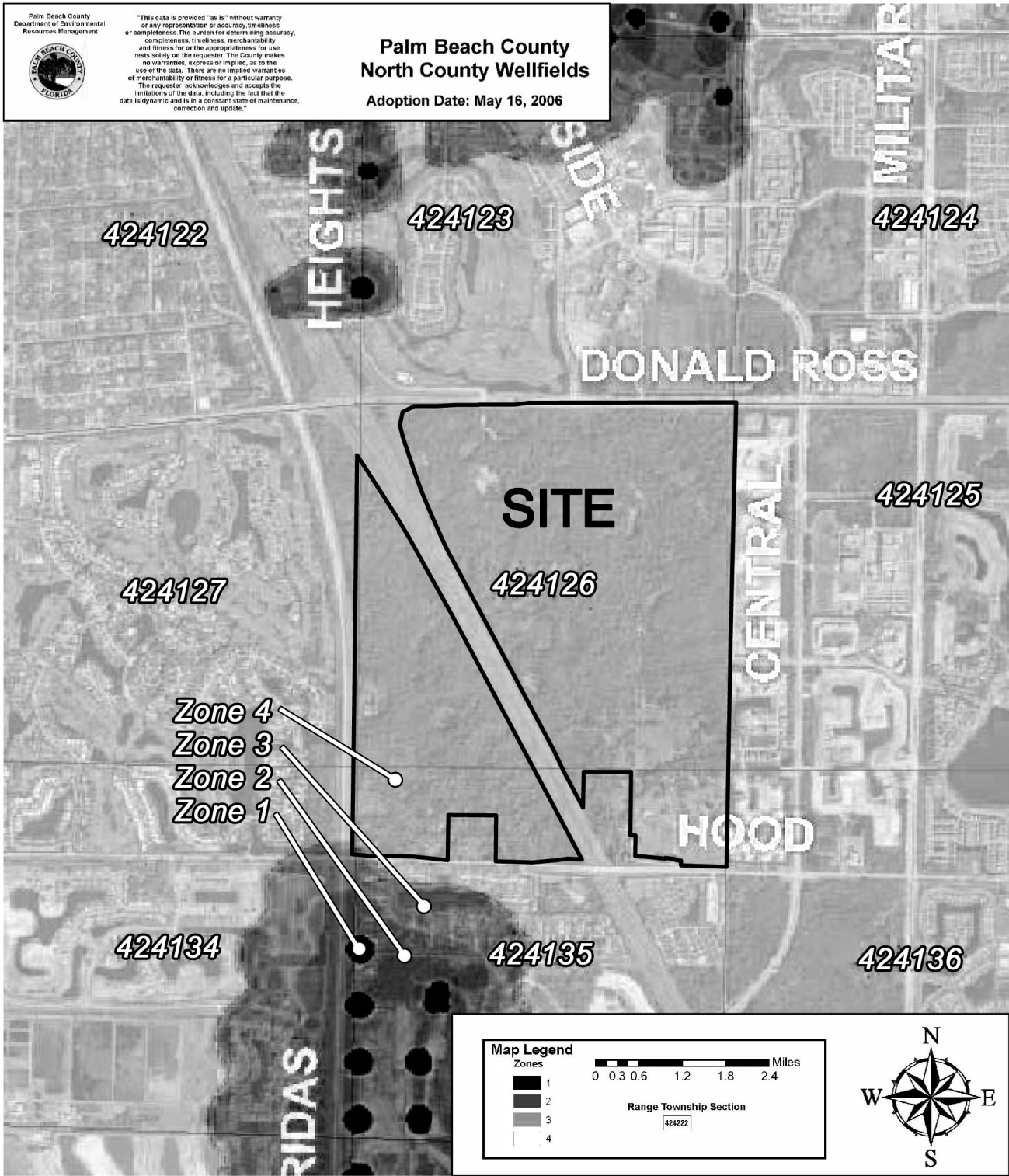
C. Describe the measures which will be used to mitigate (or avoid where possible) potential adverse effects upon ground and surface water quality, including any resources identified in Subquestion A.

The volume and quality of run-off from the site will be improved by the proposed water management system. The existing undeveloped site discharges directly into the drainage structures provided by the downstream developments (Legends of the Gardens and San Michele) without any water quality detention. The proposed water quality detention volume (50% greater than required) provides an additional amount of stormwater treatment prior to discharge. The proposed littoral shelf areas in the on-site lakes will cover a greater area than the City of Palm Beach Gardens typically requires for development projects. Although the level of water quality being discharged from the existing site is unknown, it is intended that the design criteria for the proposed site will result in discharge that exceeds all agency water quality requirements.

During construction of the project, the County will adhere to Florida's NPDES Generic Construction Permit requirements for sediment and erosion control.

D. Please show the location of any municipal well fields within two miles of the project.

According to the attached Exhibit 14-A, prepared by Palm Beach County's Department of Environmental Resources Management, the entire project site is in Wellfield Protection Zone 4.



QUESTION 15 - SOILS

A.1. Provide a description of each of the soils indicated on Map E utilizing the following format:

Surficial mapping of near-surface soils at the site is provided on Map E as reported in the December 1978, "Soil Survey of Palm Beach County, FL.," published by the U.S. Department of Agriculture/Soil Conservation Service. The information provided in this document is intended for use in land-planning projects in Palm Beach County, Florida. Review of this document indicates that eleven (11) different soil associations exist within the site. The soil associations are briefly described and interpreted in Table 15-A below.

Table 15-A Soil Descriptions and Interpretations

Soil Name & Map Symbol	Brief Soil Description	Seasonal High Water Table Depth Duration	Permeability Rate (In./Hour)	Degree & Kind Of Limitation For Proposed Uses	Degree & Kind Of Limitation For Pond Embankments
Anclote Fine Sand (2)	Nearly level, very poorly drained deep sandy soil, depressional	0'-1' below ground surface from June through November	6.0 - 20	Severe / wetness	Severe / seepage
Basinger fine sand (6)	Nearly level, poorly drained sandy soil, depressional	0'-1' below ground surface from June through November	> 20	Severe / wetness	Severe / seepage
Basinger and Myakka sands, depressional (8)	Nearly level, very poorly drained sandy soil, depressional	1' above ground from June through February	6.0 - 20	Severe / wetness, floods	Severe / seepage
Holopaw fine sand (17)	Nearly level, poorly drained soil with a thick sandy surface and a loamy subsoil	0'-1' below ground surface from June through November	2.0 - 20	Severe / wetness	Severe / seepage

Table 15-A Soil Descriptions and Interpretations (cont'd)

Immokalee fine sand (18)	Nearly level, poorly drained deep sandy soil, weakly cemented with organic matter, flatwoods	0'-1' below ground surface from June through February	0.6 – 20	Severe / wetness	Severe / seepage
Myakka sand (21)	Nearly level, poorly drained deep sandy soil, weakly cemented with organic matter, flatwoods	0'-1' below ground surface from June through February	0.6 – 20	Severe / wetness	Severe / seepage
Okeelanta muck (24)	Nearly level, very poorly drained organic soils, depressional	0'-1' above ground from June through January	6.0 – 20	Severe / excess humus, low strength, wetness	Severe / excess humus
Oldsmar sand (25)	Nearly level, poorly drained sandy soil with a loamy subsoil	0'-1' below ground surface from June through November	0.6 – 20	Severe / wetness	Severe / seepage
Pinellas fine sand (30)	Nearly level, poorly drained soil with a calcareous sublayer and a loamy subsoil	0'-1' below ground surface from June through November	0.6 – 20	Severe / wetness	Moderate / seepage

Table 15-A Soil Descriptions and Interpretations (cont'd)

Sanibel muck (39)	Nearly level, very poorly drained deep sandy soil with a thin organic layer on the surface	0'-1' above ground from June through February	6.0 – 20	Severe / excess humus, low strength, wetness	Severe / excess humus, seepage
Wabasso fine sand (49)	Nearly level, poorly drained with a weakly cemented sublayer on a loamy subsoil	0'-1' below ground surface from June through October	0.6 - 20	Severe / wetness	Severe / seepage

A.2. Describe the potential for subsidence and any unique geologic features (such as sand dunes, bluffs, sinkholes, springs, steepheads, etc.) on the site. Discuss what aspects of the site plan will be used to compensate for or take advantage of these features.

Geological features such as sand dunes, bluffs, sinkholes, springs and steepheads do not exist within the geological setting of the site area. Therefore Map H does not need to include any special provisions to compensate for these geologic features.

B. Where a soil presents a limitation to the type of use proposed in the development, state how the limitation will be overcome. Specify construction methods that would be used for building, road and parking lot foundations, and for lake or canal bank stabilization as relevant.

In general, the site is mantled by sandy materials that are considered suitable as a foundation for support of the planned structures and appurtenant infrastructure. Map H indicates that organic materials exist as “pockets” in the southern half of the site.

Organic materials found within the immediate vicinity of building areas and roadways will be excavated and replaced with suitable, engineered fill. Conventional engineering and construction methods will be used to ensure that fill placement conforms to the applicable standards. During site development, temporary dewatering operations will be utilized to facilitate construction of utilities and site earthwork particularly in the wet season months of June to November. Post-construction lake banks will be inclined at modest slopes and vegetated to provide long-term stability.

The master stormwater management system constructed during site development will be designed to account for fluctuations in water table elevations during wet and dry

seasons. Moderate slopes, landscaping and earthen berms will stabilize lake banks. Detailed information regarding the design and location of various components of the drainage system will be provided as part of the stormwater management plan during the permitting process. Refer to Question 19 (Stormwater Management).

C. What steps will be taken during site preparation and construction to prevent or control wind and water soil erosion? Include a description of proposed plans for clearing and grading as related to erosion control.

Local, state and federal regulations that are designed to prevent soil erosion and sedimentation will be followed. Best management practices will also be utilized to control erosion and sedimentation and to minimize the erosion potential during construction. Erosion control measures will be implemented prior to and immediately after earthwork activities, as appropriate. The clearing and removal of vegetative cover will occur only within the areas to be developed. Grading and contouring of land surfaces will be done in a manner which minimized the creation of steep side slopes. Slopes will be mulched or vegetated as soon as possible after clearing and grading.

Numerous sediment control practices will be utilized to prevent stormwater run-off from discharging silt to bodies of water. Berms or diversion structures will be constructed to reroute stormwater run-off. Settling basins and retention areas will be created, as needed, to trap sediment produced during construction and carried in stormwater run-off. Silt control, such as hay bales or silt screens, will be placed appropriately to prevent siltation from occurring. Both wind and water erosion will be controlled by mulching, seeding, sodding and planting vegetation in cleared areas as soon as practical. If wind erosion becomes a problem during extended dry periods, soil wetting will be performed.

D. To what degree and in what location(s) will the development site be altered by fill material? If known, specify the source location and composition of the fill. Also identify the disposal location for any overburden or spoil.

The level of master planning done for the DRI Application for Development Approval does not address fill areas in detail. An average of about 2 feet or more of fill material will be placed within the proposed building areas.

Filling of the land will be accomplished in accordance with the master grading plan for the project. Overall, the objective will be to balance earthwork operations so that fill requirements will be met as nearly as possible by the soil generated from on-site lakes in the master drainage system and from contouring the lower graded areas. However, some imported fill may be required to achieve design final grades. This imported fill material will meet the applicable standards for its intended use.

Disposal locations for overburden and spoils will mostly be limited to landscaped berms, perimeter berms and other green space areas. Should off-site disposal be required, material will be transported to a designated and accredited dumping station, in accordance with state regulations.

QUESTION 16 – FLOOD PLAINS

A. Identify any pre-and post-development flood prone areas.

No flood prone areas known to exist on the subject property. No flood prone areas are expected in the post-development condition.

B. Is any development proposed within a 100-year flood prone area as identified by the Federal Emergency Management Area? If so, indicate the appropriate Flood Insurance Rate Map (FIRM) zone designations and their locations, etc.

The Flood Insurance Rate Maps, Community Panel Numbers 120192 0120 B and 120192 0115 B, published by the Federal Emergency Management Agency identify the property as lying within Zone B. Zone B is identified as “Areas between the 100-year and 500-year flood”. Accordingly, the site is not prone to 100-year flooding.

C. If any structures, roadways or utilities are proposed within the post-development 100-year flood prone area, identify their location and indicate what measures will be taken to mitigate the potential flood hazard and to maintain the 100-year floodplain storage volume.

N/A

D. Discuss any potential increases in the off-site flooding due to the development of this project.

Stormwater discharge is limited to rates established by Northern Palm Beach County Improvement District. Post-development discharge will be equal to or less than pre-development discharge. Additionally, the surface water management system will allow pass-through flow from off-site sources (Interstate I-95, Outparcels and Hood Road). The surface water management system will be designed to ensure that upstream and downstream stages are not raised.

QUESTION 17 – WATER SUPPLY

A.1. Provide a projection of the average daily potable and non-potable water demands at the end of each phase of development. If significant seasonal demand variations will occur, discuss anticipated peaks and duration.

Table 17-A Potable and Non-Potable Water Demand

PHASE / LAND USE	POTABLE WATER DEMAND (MGD)	NON-POTABLE WATER DEMAND (MGD)		TOTAL WATER DEMAND (MGD)
		IRRIGATION	OTHER	
PHASE 1 2009-2013				
Scripps – Biotech	0.045	0.006	0	0.051
Briger- Biotech/Ancillary				
Office	0.010	0.002	0	0.012
Biotech	0.045	0.004	0	0.049
Hotel	0.030	0.003	0	0.033
Apartment Site	0.088	0.015	0	0.103
FPL (Utility) Site	0.001	0.005	0	0.006
Commercial/Retail	0.050	0.027	0	0.077
Residential – Multi- Family	0.075	0.039	0	0.114
Residential – Single Family	0.053	0.055	0	0.108
Total Phase 1	0.397	0.156	0	0.553
PHASE 2 2014-2018				
Scripps – Biotech	0.075	0.004	0	0.079
Briger- Biotech/Ancillary				
Office	0.020	0.003	0	0.023
Biotech	0.045	0.002	0	0.047
Apartment Site	0.088	0.015	0	0.103
Residential – Multi- Family	0.088	0.041	0	0.129
Residential – Single Family	0.053	0.052	0	0.105
Total Phase 2	0.369	0.117	0	0.486
Total Phases 1 – 2	0.766	0.273	0	1.039

Table 17-A Potable and Non-Potable Water Demand (cont'd)

PHASE / LAND USE	POTABLE WATER DEMAND (MGD)	NON-POTABLE WATER DEMAND (MGD)		TOTAL WATER DEMAND (MGD)
		IRRIGATION	OTHER	
PHASE 3 2019-2023				
Scripps – Biotech	0.075	0.004	0	0.079
Briger-Biotech/Ancillary				
Office	0.020	0.004	0	0.024
Biotech	0.045	0.003	0	0.048
Residential – Multi-Family	0.088	0.041	0	0.129
Residential – Single Family	0.053	0.052	0	0.105
Total Phase 3	0.281	0.104	0	0.385
Total Phases 1 – 3	1.047	0.377	0	1.424
PHASE 4 2024-2028				
Scripps – Biotech	0.285	0.019	0	0.304
Briger-Biotech/Ancillary				
Office	0.070	0.012	0	0.082
Biotech	0.165	0.009	0	0.174
Residential – Multi-Family	0.100	0.047	0	0.147
Residential – Single Family	0.053	0.051	0	0.104
Total Phase 4	0.673	0.138	0	0.811
Total Phases 1 – 4	1.720	0.515	0	2.235

A.2. Describe how this demand information was generated, including the identification of the consumption rates assumed in the analysis.

Generation information is based upon Seacoast Utility Authority (SUA) Uniform Extension Policy. See Table 17-B.

Table 17-B: Generation Methodology

Residential:

Single Family	350 GPD/Unit	(SUA Uniform Extension Policy)
Multi-Family	250 GPD/Unit	(SUA Uniform Extension Policy)
Apartments	250 GPD/Unit	(SUA Uniform Extension Policy)

Commercial:

Office	0.10 gpd/sf	(SUA Uniform Extension Policy)
Biotech	0.30 gpd/sf	(SUA Uniform Extension Policy)
Commercial/Retail	0.10 gpd/sf	(SUA Uniform Extension Policy)
Hotel	100 gpd/rm	(SUA Uniform Extension Policy)

<u>Utility (FPL):</u>	0.10 gpd/sf	(SUA Uniform Extension Policy)
-----------------------	-------------	--------------------------------

B. Provide a breakdown of sources of water supply, both potable and non-potable, by development phase through project completion.

Table 17-C Potable / Non-Potable Water Supply (MGD)

PHASE / LAND USE	ON-SITE SUPPLY				OFF-SITE SUPPLY*
	GROUNDWATER	SURFACE WATER	OTHER	TOTAL	
PHASE 1 2009-2013					
Scripps Biotech	0	0.006	0	0.006	0.045
Briger-Biotech/Ancillary					
Office	0	0.002	0	0.002	0.010
Biotech	0	0.004	0	0.004	0.045
Hotel	0	0.003	0	0.003	0.030
Apartment	0	0.015	0	0.015	0.088
FPL (Utility) Site	0	0.005	0	0.005	0.001
Commercial/Retail	0	0.027	0	0.027	0.050
Residential Multi-Family	0	0.039	0	0.039	0.075
Residential Single-Family	0	0.055	0	0.055	0.053
Total Phase 1	0	0.156	0	0.156	0.397

Table 17-C Potable / Non-Potable Water Supply (MGD) (cont'd)

PHASE / LAND USE	ON-SITE SUPPLY				OFF-SITE SUPPLY*
	GROUNDWATER	SURFACE WATER	OTHER	TOTAL	
PHASE 2 2014-2018					
Scripps Biotech	0	0	0	0	0.079
Briger-Biotech/Ancillary					
Office	0	0	0	0	0.023
Biotech	0	0	0	0	0.047
Apartment	0	0	0	0	0.103
Residential Multi-Family	0	0	0	0	0.129
Residential Single-Family	0	0	0	0	0.105
Total Phase 2	0	0	0	0	0.486
Total Phases 1 – 2	0	0.156	0	0.156	0.883
PHASE 3 2019-2023					
Scripps Biotech	0	0	0	0	0.079
Briger-Biotech/Ancillary					
Office	0	0	0	0	0.024
Biotech	0	0	0	0	0.048
Residential Multi-Family	0	0	0	0	0.129
Residential Single-Family	0	0	0	0	0.105
Total Phase 3	0	0	0	0	0.385
Total Phases 1 – 3	0	0.156	0	0.156	1.268

*Note: Off-Site irrigation and potable water will be supplied by Seacoast Utility Authority

Table 17-C Potable / Non-Potable Water Supply (MGD) (cont'd)

PHASE / LAND USE	ON-SITE SUPPLY				OFF-SITE SUPPLY*
	GROUNDWATER	SURFACE WATER	OTHER	TOTAL	
PHASE 4 2024-2028					
Scripps Biotech	0	0	0	0	0.304
Briger-Biotech/Ancillary					
Office	0	0	0	0	0.082
Biotech	0	0	0	0	0.174
Residential Multi-Family	0	0	0	0	0.147
Residential Single-Family	0	0	0	0	0.104
Total Phase 4	0	0	0	0	0.811
Total Phases 1 – 4	0	0.156	0	0.156	2.079

*Note: Off-Site irrigation and potable water will be supplied by Seacoast Utility Authority

C. If water wells exist on-site, locate them on Map H and specify those that will continue to be used. Also locate on Map H all proposed on-site wells. (For residential developments, if individual wells for each lot are proposed, simply indicate the number of units to be served, general locations, and any plans for eventual phase-out.) Indicate the diameter, depth, and pumping rates (average and maximum) for each of the existing wells and project this information for the proposed wells (for lots served by individual dual wells, this information may be grouped for projection purposes). Also provide a breakdown of the wells with regard to potable and non-potable sources.

Water wells do not exist on the site.

D. If on-site water wells are used, will this result in interference with other water wells or result in adverse impacts to underlying or overlying aquifers? Document the assumptions underlying this response.

Water wells are not proposed for the site.

E. Who will operate and maintain the internal water supply system after completion of the development?

The internal water supply system will be owned and operated by Seacoast Utility Authority.

F.1. If an off-site water supply is planned, attach a letter from the agency or firm providing service outlining:

- (a) the projected excess capacities of the water supply facilities to which connection will be made at present and for each phase through completion of the project,***
- (b) Any other commitments that have been made for this excess capacity,***
- (c) A statement of the agency or firm's ability to provide services at all times during and after development. (this agency must be supplied with the water demand and supply tables in paragraphs A and B above).***

Seacoast Utility Authority will provide potable and irrigation quality water supply as outlined in a letter dated September 5, 2008, which is attached as Exhibit 17-A.

F.2. If service cannot be provided at all times during and after development, identify the required capital improvements, timing cost and proposed responsible entity for each phase in which service is unavailable.

Seacoast Utility Authority will provide service at all times.

G. Please describe any water conservation methods or devices incorporated into the plan of development. What percentage of reduction is anticipated over conventional plans?

The City of Palm Beach Gardens Land Development Code promotes the conservation of freshwater resources through the use of drought-tolerant plants and mulch, promoting the planting of less sod and water efficient irrigation systems. These concepts will be employed throughout the site. Also, reclaimed water will be introduced for irrigation and will greatly reduce or eliminate the need for freshwater supply.

H. Indicate whether proposed water service will be provided within an established service area boundary.

Scripps Florida Phase II / Briger Tract DRI currently lies within the Seacoast Utility Authority service area as presented in a map prepared by Seacoast Utility Authority, which is attached as Exhibit 17-B.

I. If on-site water wells are planned, please illustrate all well location and one-foot drawdown contours expected to occur around all wellfields on an 8 ½" by 11" black and white site/plan/land use map. Simulated contours should reflect a condition of 120 days without recharge by rainfall. If simulated contours extend beyond project boundaries, land uses occurring within the contour should be provided.

On-site water wells are not proposed. Potable water and irrigation water are proposed to be supplied by off-site source and surface waters, respectively. Surface water irrigation supply will be replaced by off-site reclaimed source after phase one.

J. Please create a Table 17-D as follows:

Table 17-D Total Number of On-Site Wells Needed

PHASE	WELLS NEEDED FOR POTABLE DEMAND		ADDITIONAL WELLS NEEDED TO MEET IRRIGATION DEMAND		TOTAL WELLS NEEDED	
	SHALLOW AQUIFER	FLORIDAN AQUIFER	SHALLOW AQUIFER	FLORIDAN AQUIFER	SHALLOW AQUIFER	FLORIDAN AQUIFER
1 – 4	N/A	N/A	N/A	N/A	N/A	N/A



EXECUTIVE OFFICE

Seacoast Utility Authority

Mailing Address:
P.O. Box 109602
Palm Beach Gardens,
Florida 33410-9602

September 5, 2008

Shannon Larocque-Baas, P.E.
Palm Beach County
P. O. Box 1989
West Palm Beach, FL 33402-1989

Re: Scripps Site/Briger Tract Service Availability Information

Dear Ms. Larocque-Baas:

Seacoast Utility Authority is pleased to offer the following response to your service availability request. This response is based upon project information provided to Seacoast by Michael B. Schorah and Associates, Inc. on September 4, 2008 as reflected on Exhibit A attached hereto.

The referenced project lies within Seacoast's water and sewer service area. Subject to prevailing fees, charges, policies, practices and regulatory constraints, Seacoast therefore proposes to provide the project with water, sewer, and reclaimed water service. A statement of current treatment plant capacity and projected service demand follows.

CAPACITY DEMAND SUMMARY EXPRESSED AS MILLION GALLONS PER DAY

	Current Plant Capacity (7/31/08)	Committed and in Use (7/31/08)	<u>This Project</u>
WATER (Avg. Day)	24.60	16.45	1.982
SEWER (3 Mo. Max. Day)	12.00	7.78	1.671
RECLAIMED WATER	12.00	10.59	0.974

Seacoast will be pleased to provide an adjusted Capacity Demand Summary upon receipt of more detailed project information.

Sincerely,

SEACOAST UTILITY AUTHORITY

Rim Bishop
Executive Director

cc: Kara Irwin
Bruce Gregg
Dee Giles

EXHIBIT A

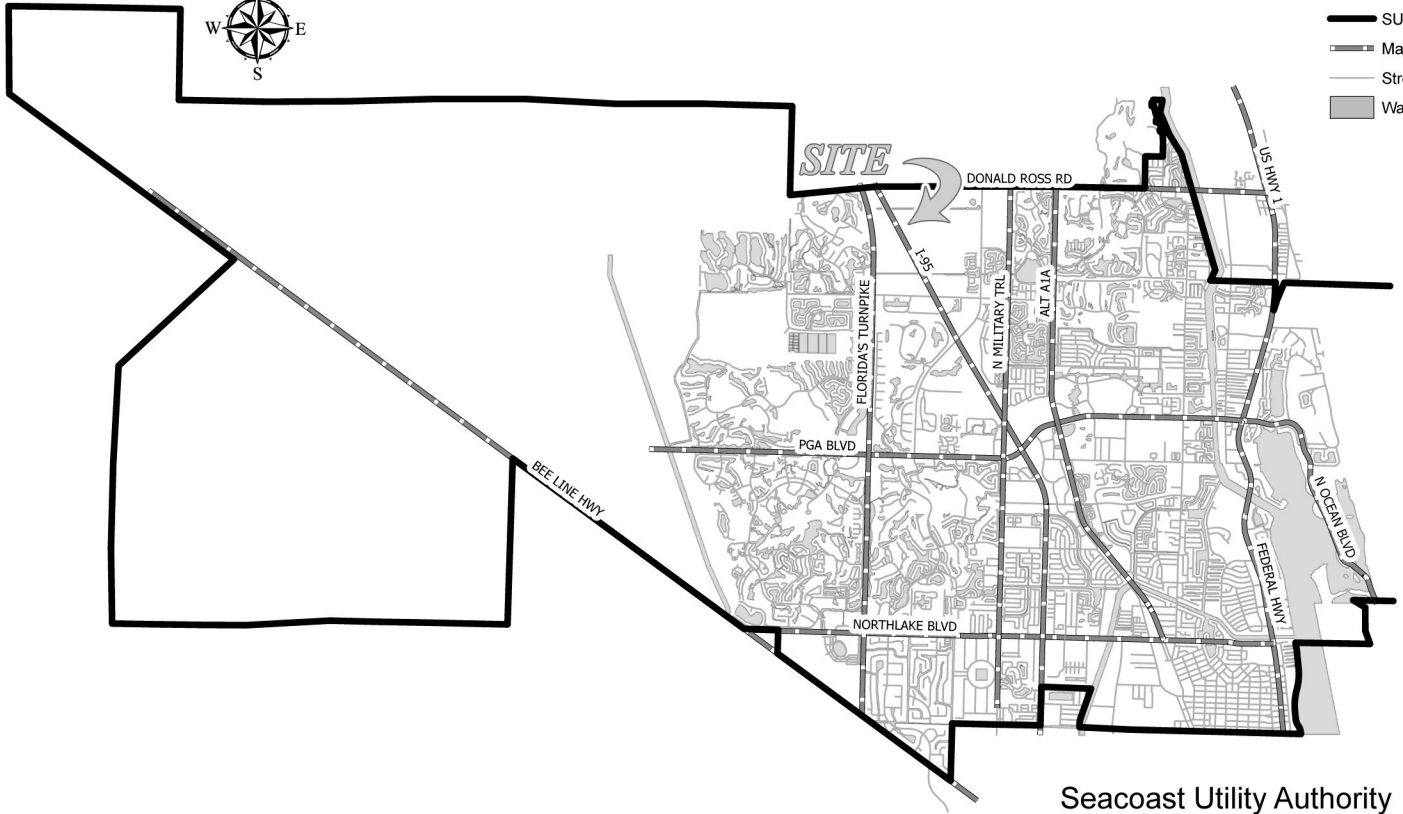
Projected Water/Sewer Capacity Requirements for Briger Tract Development
 (September 4, 2008 Land Use Summary Provided by Michael B. Schorah and Associates)

<u>Acres</u>	<u>Land Use</u>	<u>Units</u>	<u>WW Flow Equiv.</u>	<u>Water (Gal/Day) Annual Avg. Day</u>	<u>Wastewater Gal/Day) Max 3 MADE</u>	<u>Reclaimed (Gal/Day) Peak Month ADF</u>
70	Biotech (Scripps)	1,600,000	sq. ft.	610,909	480,000	
100	Biotech	1,000,000	sq. ft.	381,818	300,000	
	Office	1,200,000	sq. ft.	152,727	120,000	
	Hotel	300	rooms	38,182	30,000	
452	Residential (SF)	600	units	210,000	165,000	
	Residential (MF)	2,100	units	524,937	525,525	
56	Retail	500,000	sq. ft.	63,636	50,000	
5	Utilities	-		-	-	
	Irrigation (Blaney Criddle)	6,739,600	sq. ft.			974,000
683	Total			1,982,210	1,670,525	974,000



Legend

- SUA Service Area
- Major Roads
- Streets
- Water Bodies



Seacoast Utility Authority
Service Area

11,000 5,500 0 11,000 Feet

QUESTION 18 – WASTEWATER MANAGEMENT

A. Provide, in the table given below, the projected wastewater generation at the end of each phase of development and proposed wastewater treatment. Identify the assumptions used to project this demand.

Table 18-A Wastewater Generation / Treatment

PHASE / LAND USE	WASTEWATER GENERATION (MGD)	ON-SITE WASTEWATER TREATMENT (MGD)	OFF-SITE WASTEWATER TREATMENT (MGD)
PHASE 1 2009-2013			
Scripps – Biotech	0.045	0	0.045
Briger- Biotech/Ancillary			
Office	0.010	0	0.010
Biotech	0.045	0	0.045
Hotel	0.030	0	0.030
Apartment Site	0.088	0	0.088
FPL (Utility) Site	0.001	0	0.001
Commercial/Retail	0.050	0	0.050
Residential – Multi-Family	0.075	0	0.075
Residential – Single Family	0.041	0	0.041
Total Phase 1	0.385	0	0.385
PHASE 2 2014-2018			
Scripps – Biotech	0.075	0	0.075
Briger- Biotech/Ancillary			
Office	0.020	0	0.020
Biotech	0.045	0	0.045
Apartment Site	0.088	0	0.088
Residential – Multi-Family	0.088	0	0.088
Residential – Single Family	0.041	0	0.041
Total Phase 2	0.357	0	0.357
Total Phases 1 – 2	0.742	0	0.742

Table 18-A Wastewater Generation / Treatment (cont'd)

PHASE / LAND USE	WASTEWATER GENERATION (MGD)	ON-SITE WASTEWATER TREATMENT (MGD)	OFF-SITE WASTEWATER TREATMENT (MGD)
PHASE 3 2019-2023			
Scripps – Biotech	0.075	0	0.075
Briger- Biotech/Ancillary			
Office	0.020	0	0.020
Biotech	0.045	0	0.045
Residential – Multi- Family	0.088	0	0.088
Residential – Single Family	0.041	0	0.041
Total Phase 3	0.269	0	0.269
Total Phases 1 – 3	1.011	0	1.011
PHASE 4 2024-2028			
Scripps – Biotech	0.285	0	0.285
Briger- Biotech/Ancillary			
Office	0.070	0	0.070
Biotech	0.165	0	0.165
Residential – Multi- Family	0.100	0	0.100
Residential – Single Family	0.041	0	0.041
Total Phase 4	0.661	0	0.661
Total Phases 1 – 4	1.672	0	1.672

Generation information is based upon Seacoast Utility Authority (SUA) Uniform Extension Policy. See Table 18-B.

Table 18-B Generation Methodology

<u>Residential:</u>		
Single Family	275 GPD/Unit	(SUA Uniform Extension Policy)
Multi-Family	250 GPD/Unit	(SUA Uniform Extension Policy)
Apartments	250 GPD/Unit	(SUA Uniform Extension Policy)

Table 18-B Generation Methodology (cont'd)

<u>Commercial:</u>		
Office	0.10 gpd/sf	(SUA Uniform Extension Policy)
Biotech	0.30 gpd/sf	(SUA Uniform Extension Policy)
Commercial/Retail	0.10 gpd/sf	(SUA Uniform Extension Policy)
Hotel	100 gpd/rm	(SUA Uniform Extension Policy)
<u>Utility (FPL):</u>	0.10 gpd/sf	(SUA Uniform Extension Policy)

B. If applicable, generally describe the volumes, characteristics and pre-treatment techniques of any industrial or other effluents prior to discharge from proposed industrial-related use(s).

Any facilities within the project that meet the description of an industrial facility will be required to meet the pre-treatment requirements of all local, regional, state and federal governing agencies.

C.1. If off-site treatment is planned, identify the treatment facility and attach a letter from the agency or firm providing the treatment outlining present and projected excess capacity of the treatment and transmission facilities through buildout, any other commitments that have been made for this excess and a statement of ability to provide service at all times during or after development. Please also provide a statement of future proposals or existing ability to provide the level of treatment necessary to provide irrigation quality water.

Seacoast Utility Authority will provide wastewater treatment as outlined in a letter dated September 5, 2008, which is attached as Exhibit 17-A. Treatment will be provided at Seacoast Utility Authority on Hood Road in Palm Beach Gardens. The existing off-site transmission facilities servicing the eastern portion of the development are not adequate for the project's anticipated sewage flows. A 16" force main connection from the project site south to the existing 30" force main along the EPB-3C Canal is required to serve this portion of development.

Currently, irrigation quality water is not available for this site. Seacoast Utility Authority will be installing a membrane system to supplement their potable water supply which will also increase their supply of irrigation quality water. Irrigation quality water will be available for the site when this system is operational, which is expected to be in 2013.

C.2. If service cannot be provided, identify the required capital improvements, cost, timing, and proposed responsible entity necessary to provide service at all times during and after development.

Service will be provided by Seacoast Utility Authority. The 16" force main connection from the eastern portion of the project to the existing 30" force main along the EPB-3C Canal will be constructed at the beginning of the Phase 4 development.

C.3. If on-site treatment and disposal is proposed, provide a description of the proposed system, including the method and degree of treatment and the quality of effluent. Specify the expected life of the on-site facility. To what extent will this facility be capable of meeting the demands generated by the project for all phases of development?

Council policy requires the use of appropriately treated wastewater to supplement irrigation demand to the maximum extent possible whenever the source is reasonably available. Will the proposed on-site facility be designed and constructed to provide the level of treatment capable of generating irrigation quality water for irrigation? If spray/drip irrigation will be used, please specify the following:

- a) location and approximate area of spray/drip fields;**
- b) proposed rate of application; and**
- c) other means of disposal when wastewater cannot be disposed of via spray/drip irrigation (e.g., during times of inclement weather).**

If spray/drip irrigation is not a feasible method of disposal or if excess wastewater will be generated beyond the demand for irrigation, specify how and where wastewater will be disposed.

What are the proposed methods for sludge treatment and disposal? If off-site disposal is proposed, please attach a letter from the agency or firm stating their commitment to accept disposal responsibilities. (The agency must be supplied with the sludge generation information in (A) above).

Who will operate and maintain the internal collection and treatment facilities on-site?

On-site treatment is not proposed.

D. If septic tanks will be used on site, indicate the number of units to be served, general locations and any plans for eventual phase-out.

Septic tanks are not proposed for use at the Scripps Florida Phase II / Briger DRI.

E. Indicate whether proposed wastewater service will be provided within an established service area boundary.

Scripps Florida Phase II / Briger DRI currently lies within the Seacoast Utility Authority service area as presented in a map prepared by Seacoast Utility Authority, which is attached as Exhibit 17-B.

QUESTION 19 – STORMWATER MANAGEMENT

A. Describe the existing drainage patterns on-site as shown on Map I, including any potential flooding and erosion problems.

The Scripps Florida Phase II/Briger DRI site is currently undeveloped but has been included within Northern Palm Beach County Improvement District's Unit of Development No. 2. On January 19, 1978, a South Florida Water Management District conceptual permit (Surface Water Management Permit No. 50-00610-S) was issued to Northern Palm Beach County Improvement District for Unit 2. At that time two lateral ditches, the EPB 3A and EPB 3B were indicated as crossing the site from east to west. Several modifications have been made to this permit over the years.

In 1985, I-95 was constructed from PGA Boulevard north, dividing the site into two parcels. As part of this construction, a 60" culvert was provided under I-95 for conveyance of stormwater at the EPB 3B ditch location. A portion of I-95 also discharges at each end of this 60" culvert. Currently, the EPB 3A is indistinguishable and the EPB 3B meanders from I-95 to the site's east property line.

The site is relatively flat with small ditches and wetland areas distributed throughout. The existing perimeter roadways and surrounding developments are generally higher than the undeveloped site, so stormwater runoff generally flows to the low areas and ditches which ultimately flow to two stormwater discharge points provided by the adjacent developments to the east, an overflow inlet at elevation 14.00 NGVD at the south end of Legends of the Gardens and a 48" pipe connection and endwall at invert elevation 7.00 NGVD into the San Michele system (at the EPB 3B location).

B. Describe the various elements of the proposed drainage system shown on Map I, including any wetlands to be used as part of the system, and discuss the design criteria (including stage-storage/stage discharge assumption) to be used for the various elements. Provide typical cross-sections (showing dimensions, slopes and control elevations) for any proposed lakes or swales. Identify the control elevation for all drainage structures. Include information as to what design storm will be used for what portions of the system.

The proposed development project site (Scripps Florida Phase II/Briger DRI) is located within the project area of the Northern Palm Beach County Improvement District (NPBCID) Unit of Development No. 2. The proposed surface water management system will incorporate approximately 83 acres of wet detention areas with extensive littoral shelves, linked by inlets and piping, interspersed throughout the proposed developed areas of the site. Several wetlands exist throughout the site. Many of them will be preserved, enhanced and hydrated as part of the surface water management system. Large upland preservation areas are also proposed as required by the City of Palm Beach Gardens. These natural areas will be distributed throughout the development in large tracts to optimize their worth for the residents within the proposed development.

Two distinct drainage basins (Basins A1 and B1) are proposed with development of the site in accordance with the approved conceptual surface water management permit for Northern Palm Beach County Improvement District's Unit 2. Discharge from the two basins will be through two gravity control structures proposed to be constructed at the two existing discharge locations previously outlined in A. above. The two drainage basins have been divided into several sub-basins representing the various elements of development within these overall basins.

The control elevations determined for the various sub-basins within the project were selected in part based on the following documentation:

SFWMD Permit 50-08169-P/Application 061005-9 issued on November 15, 2007 for S.R. 9/I-95 from South of Donald Ross to South of Indiantown Road – Basins A/B discharging into adjacent land (Briger Tract) at control elevation 12.00 NAVD which is approximately equivalent to 13.50 NGVD.

SFWMD Permit 50-03527-S/Application 060328-14 issued on November 9, 2006 for I-95 from South of PGA to South of Donald Ross Road – Basin 6 discharging into road side swale (Briger Tract) at control elevation 12.50 NAVD which is approximately equivalent to 14.00 NGVD.

SFWMD Permit 50-04682-P-02/Application 000329-9 issued on April 12, 2001 for San Michele – Basins 1 and 2 discharging into NPBCID EPB 3B Canal at control elevation 12.00 NGVD.

SFWMD Permit 50-00610-S-09/Application 030325-24 issued on August 1, 2003 for Legends of the Gardens – Control elevation 12.00 NGVD.

On-site lakes will be constructed with a littoral shelf area exceeding the 8 square feet per linear foot of shoreline as required by the City of Palm Beach Gardens. In addition, a littoral area/filter marsh area will be constructed in the lake on the west side of the 60" culvert under I-95, upstream of the gravity discharge structure between sub-basins B1W and B1E, to further enhance water quality prior to discharge through the existing wetland on the east side of I-95. Any lake edge that does not have a littoral shelf will be constructed in accordance with SFWMD's physical criteria for lake side slopes. See Figures 19.B-1 and 19.B-2.

The design criteria to be used for the development and design of the on-site stormwater management system will include:

Water Quality - A volume in excess of 1.5 inches over the developed area of the project will be stored within the lake systems. This volume is a 50% increase over the required water quality volume. Any additional pre-treatment for specific areas, if required by South Florida Water Management District, will be provided within the individual facilities as they propose development. The bleed-down rate for the system will be limited to

0.50 inches per day in accordance with South Florida Water Management District and Northern Palm Beach County Improvement District criteria.

Discharge – The ICPR data file for the existing overall drainage system for Unit of Development No. 2 was provided by Northern Palm Beach County Improvement District. The proposed water management system will be designed to control the discharge from the developed site in such a way that the overall system for the Unit is not impacted by this development.

Interior Roads/Parking Areas - Elevations will be set for flood protection from the 10-year/1-day design storm event (8.5 inches rainfall).

Perimeter Berm - The elevation will be set at or above the peak stage elevation for the 25-year/3-day design storm event (14.3 inches rainfall).

Buildings - Elevations for building pads will be set for protection from the 100year/3-day design storm event simulated with no discharge (17.0 inches rainfall).

Assumptions for the determination of stage-storage values for the proposed Scripps Florida Phase II/Briger DRI development are as follows:

Basins A1 and B1E:

Building Finished Floor elevations will range from 18.6 to 20.5 NGVD.

Pavement and Walk elevations will range from 16.8 to 20.5 NGVD.

Lake Maintained Water elevations will be 13.0 NGVD.

Lake Bank elevations will range from 13.0 to 16.0 NGVD.

Wetland / Upland Preserve Area elevations will range from 13.0 to 17.0.

Remaining Open Space elevations will range from 16.0 to 20.0 NGVD.

Basin B1W:

Building Finished Floor elevations will range from 19.0 to 21.0 NGVD.

Pavement and Walk elevations will range from 17.0 to 21.0 NGVD.

Lake Maintained Water elevations will be 14.0 NGVD.

Lake Bank elevations will range from 14.0 to 17.0 NGVD.

Wetland / Upland Preserve Area elevations will range from 14.0 to 18.0.

Remaining Open Space elevations will range from 17.0 to 20.5 NGVD.

C. From Map I, indicate the total number of acres in each drainage area and specify the acreage of any portions of drainage areas outside the site boundaries. Complete the following table for on-site drainage areas.

Table 19-A Drainage Areas

PHASING	IMPERVIOUS SURFACES (ACRES)	SURFACE DETENTION (ACRES)	OPEN SPACE (ACRES)	TOTAL ACRES
Existing Roadways	55.06	18.70	76.52	150.28
Outparcels	8.73	2.26	4.08	15.07
Phase 1 (2009-2013)	102.55	31.11	104.57	238.23
Phase 2 (2014-2018)	63.37	13.93	98.24	175.54
Phase 3 (2019-2023)	55.01	16.14	31.29	102.44
Phase 4 (2024-2028)	101.99	21.96	41.53	165.48
Total	386.71	104.10	356.23	847.04

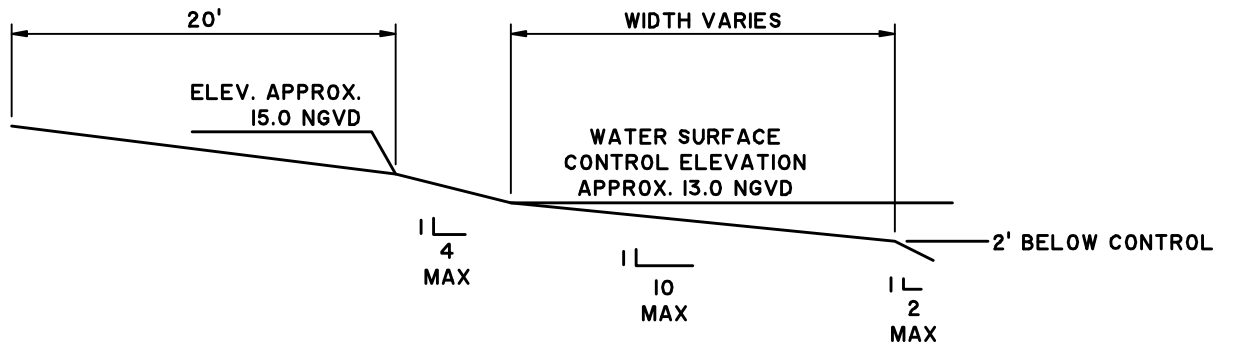
D. Specify and compare the volume and quality of run-off from the site in its existing condition to the anticipated run-off at the end of each phase of development. (The parameters to be used to define “quality” and methodology should be agreed to by the regional planning council and other reviewing agencies at the preapplication conference stage.) Identify any changes in timing or pattern of waterflows between pre- and post- development conditions. Indicate major points of discharge and ultimate receiving water body(ies). Indicate what provisions will be incorporated in the design of the drainage system, including a summary description of and Best Management Practices to be utilized, to minimize any increase in run-off from the site and to minimize any degradation of water quality in the ultimate receiving body over that occurring in its pre-development state.

The volume and quality of run-off from the site will be improved by the proposed water management system. The existing undeveloped site discharges directly into the drainage structures provided by the downstream developments (Legends of the Gardens and San Michele) without any water quality detention. The proposed water quality detention volume (50% greater than required) provides an additional amount of stormwater treatment prior to discharge. The proposed littoral shelf areas in the on-site lakes will cover a greater area than the City of Palm Beach Gardens typically requires for development projects. Although the level of water quality being discharged from the existing site is unknown, it is intended that the design criteria for the proposed site will result in discharge that exceeds all agency water quality requirements.

During construction of the project, the County will adhere to Florida’s NPDES Generic Construction Permit requirements for sediment and erosion control.

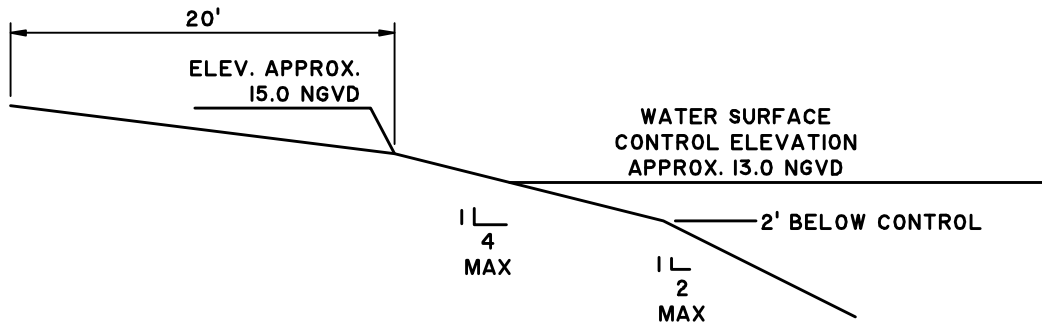
E. Who will operate and maintain the drainage system after completion of the development?

An overall Property Owners' Association will be established for the proposed development. The backbone water management system will be maintained by this Property Owners' Association. Individual parcel owners will be responsible for the conveyance systems within their respective parcels.



LAKE WITH LITTORAL SHELF

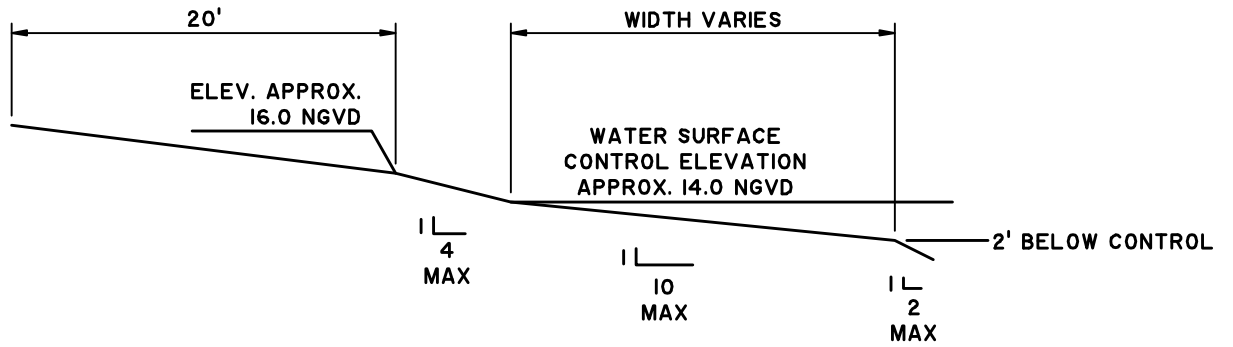
N.T.S.



LAKE WITHOUT LITTORAL SHELF

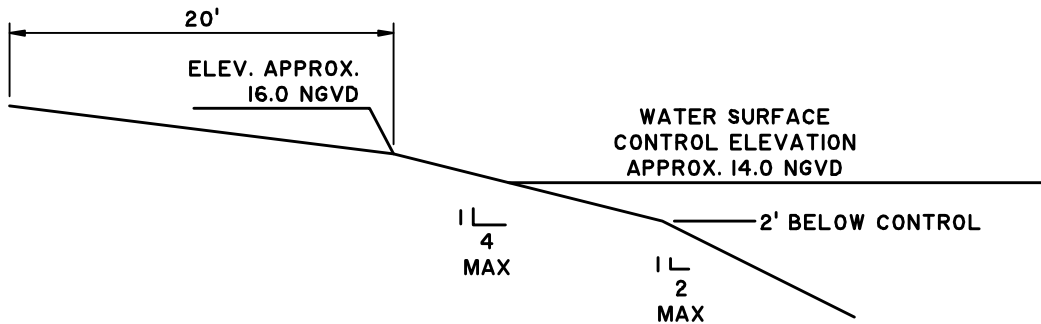
N.T.S.

**SUB BASINS A1 AND B1E
TYPICAL CROSS SECTIONS
FIGURE 19.B-1**



LAKE WITH LITTORAL SHELF

N.T.S.



LAKE WITHOUT LITTORAL SHELF

N.T.S.

**SUB BASIN BIW
TYPICAL CROSS SECTIONS
FIGURE 19.B-2**

QUESTION 20 - SOLID WASTE/HAZARDOUS WASTE/MEDICAL WASTE

A. Provide a projection of the average daily volumes of solid waste generated at the completion of each phase of development. Use the format below and identify the assumptions used in the projection.

Table 20-A Solid Waste Generation

PHASING	DOMESTIC SOLID WASTE		INDUSTRIAL, HAZARDOUS, MEDICAL, OR OTHER SPECIAL WASTES	
	CUBIC YARDS* /DAY	TONS/DAY	MEDICAL WASTE TONS/DAY	CHEMICAL WASTE GALS/DAY
Outparcels	23.01	1.54	0	0
Phase 1 (2009-2013)	152.52	10.22	0.058	24
Phase 2 (2014-2018)	72.45	4.85	0.078	32
Phase 3 (2019-2023)	62.16	4.16	0.078	32
Phase 4 (2024-2028)	170.81	11.44	0.293	120
Total	480.95	32.21	0.507	208

*Average density of waste = 134 pounds per cubic yard

Palm Beach County Solid Waste Authority waste generation rates were used for all land use categories except for Biotechnology Research and Development. Due to a lack of any definitive recognized standard waste generation factors for biomedical facilities, historical data from the Scripps Research Institute (TSRI) was utilized to give an indication of the amounts of the medical and chemical wastes that may be generated. The historical waste generation data was related to the gross square footage of the existing facility to derive factors that could be applied to the projected phased biotechnological research and development facilities (Reference A.D.A. for Palm Beach County Biotechnology Research Park dated May 10, 2004).

Table 20-B Waste Generation Rates and Assumptions

LAND USE	DOMESTIC SOLID WASTE	MEDICAL WASTE	CHEMICAL WASTE
Biotech R & D	3.62 lbs./s.f./yr.	0.142 lbs./s.f./yr.	0.03 gal./s.f./yr.
Office	2.52 lbs./s.f./yr.	0	0
Hotel	4.28 lbs./s.f./yr.	0	0
Apartments	0.72 tons/unit/yr.	0	0
Multi-Family Res.	0.72 tons/unit/yr.	0	0
Single Family Res.	1.95 tons/unit/yr.	0	0
Commercial/Retail	7.47 lbs./s.f./yr.	0	0
FPL	2.52 lbs./s.f./yr.	0	0

No estimate is included for industrial/hazardous waste since, based on the planning data provided, no industrial uses are proposed within the site.

B.1. Please specify the extent to which this project will contain laboratories, storage facilities, and warehouse space where hazardous materials may be generated or utilized. What types of hazardous waste or toxic materials are likely to be generated? Will a hazardous materials management plan be prepared covering all uses of hazardous materials on-site? If so, please discuss contents and enforcement provisions.

A total of 2,600,000 square-feet of biotechnological research and development is projected which will generate medical and chemical wastes.

Medical and chemical wastes may be divided into the following groups: a) hazardous wastes regulated under Resource Conservation Recovery Act (e.g., flammable solvents, acids, bases, toxic metals); b) special wastes regulated under other laws (e.g., used oil); c) nonregulated hazardous wastes (e.g., ethidium bromide, aflatoxin); d) contaminated laboratory materials (e.g., papers, gloves, glassware); e) nonhazardous chemical wastes (e.g., sugars, buffers); f) universal wastes; and g) compressed gases.

B.2. Please discuss what measures will be taken to separate hazardous waste from the solid waste stream. What plans and facilities will be developed for hazardous or toxic waste handling, generation, and emergencies?

A hazardous waste management plan is required for all generators of hazardous waste. Each biotechnology research and development facility may identify different measures to separate hazardous waste from the solid waste stream, depending on the type of research and development that is planned. Each hazardous waste management plan will identify the procedures and facilities that will be developed for hazardous or toxic waste handling, generation, and emergencies.

B.3. Please identify off-site disposal plans for hazardous waste generated by this development and provide assurance of proper disposal by a qualified contractor.

The hazardous waste management plan required of each generator of hazardous waste will identify off-site disposal plans and provide assurance of proper disposal by a qualified contractor.

B.4. What local and state regulations, permits and plans will regulate the generation and handling of hazardous waste at this development?

Regulation of hazardous wastes under RCRA has been in place for almost 20 years. These regulations are very specific in defining what is regulated as a hazardous waste and how these wastes must be disposed. Hazardous wastes are tracked from the time they are generated through their final disposal at permitted hazardous waste disposal sites. There are limits on the amounts kept in storage and the length of time waste can

be stored. Waste containers must be compatible with the wastes they contain, properly labeled, and kept closed except when in use. There are requirements for training and emergency response. Generators of hazardous waste are required to plan for minimization of wastes and must certify on each manifested shipment of hazardous wastes off-site that they have reduced the volume and toxicity of the waste to the maximum extent practical.

In addition to the regulations adopted pursuant to RCRA, regulatory schemes promulgated after several other statutes affect the management of hazardous wastes in biomedical laboratories. These include the following: Clean Water Act of 1977-CWA; Clean Air Act-CAA; Comprehensive Environmental Response, Compensation and Liability Act-CERCLA; Hazardous Materials Transportation Act--HMTA; Superfund Amendments and Reauthorization Act of 1986-SARA; Toxic Substances and Control Act-TSCA; Florida has adopted and incorporated portions of Title 40 Code of Federal Regulations (CFR) Parts 260-271 into the Florida Administrative Code (FAC) Rule 62-730. Site plan review and building construction plan review by local government agencies and permitting procedures will also be required.

C. For all waste disposal planned (on or off site), attach a copy of the letter from the developer describing the types and volumes of waste and waste disposal areas requested, and attach a letter from the agencies or firms providing services outlining:

- 1. the projected excess capacity of the facilities serving the development at present and for each phase through completion of the project,***
- 2. any other commitments that have been made for this excess capacity,***
- 3. a statement of the agency's or firm's ability to provide service at all times during and after development (the agency or firm must be supplied with the solid waste generation table in (A) above).***

The Solid Waste Authority of Palm Beach County will provide waste disposal services as outlined in a letter dated May 5, 2008, attached as Exhibit 20-A.

RECEIVED
MAY 06 2008
SCHORAH & ASSOC



May 5, 2008

Michael B. Schorah & Associates, Inc.
1850 Forest Hill Boulevard, Suite 206
West Palm Beach, Florida 33406

Attn: Martha H. Carter

Subject: Briger Tract DRI
Availability of Solid Waste Disposal Capacity

Dear Ms. Carter:

The Solid Waste Authority of Palm Beach County hereby provides certification that the Authority has disposal capacity available to accommodate the solid waste generation for the proposed Briger Tract DRI project. This letter also constitutes notification of sufficient capacity for concurrency management and comprehensive planning purposes. Capacity is available for both the coming year, and the five and ten year planning periods specified in 9J-5.005(4).

As of September 30, 2007, the Authority's North County Landfills had an estimated 33,789,220 cubic yards of landfill capacity remaining. Based upon the existing Palm Beach County population, the most recently available population growth rates published by the University of Florida Bureau of Economic and Business and Research (BEBR), medium projection, and projected rates of solid waste generation, waste reduction and recycling, the Solid Waste Authority forecasts that capacity will be available at the existing landfill through approximately the year 2021, assuming the depletion of the Class I and Class III landfills is approximately balanced. The Solid Waste Authority of Palm Beach County currently owns land that could be developed as a landfill when the existing capacity is depleted, and easily provide capacity for 50 or more years beyond the current site capacity (i.e., beyond 2070).

Based on information available for the project, it does not appear that the Briger Tract DRI will increase the rate of population growth, nor the total county population projection above that predicted in the BEBR medium projection. For this reason the Briger Tract DRI will not have an impact on the long-term solid waste disposal capacity for Palm Beach County.

The Authority is funded on an enterprise basis. The annual disposal assessment collected from all improved properties in the county, together with other revenues (recycling revenues, electricity sales, etc.) fund all the O&M and capital expenditures for the Authority, including paying any costs associated with Bonds sold to fund capital improvements.

The Authority continues to pursue options to increase the life of its existing facilities and to provide for all of the County's current and future disposal and recycling needs.

If you have any questions or I can be of further assistance, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Marc C. Bruner", with a long horizontal flourish extending to the right.

Marc C. Bruner, Ph.D.
Chief Administrative Officer

c: Mark Hammond, SWA