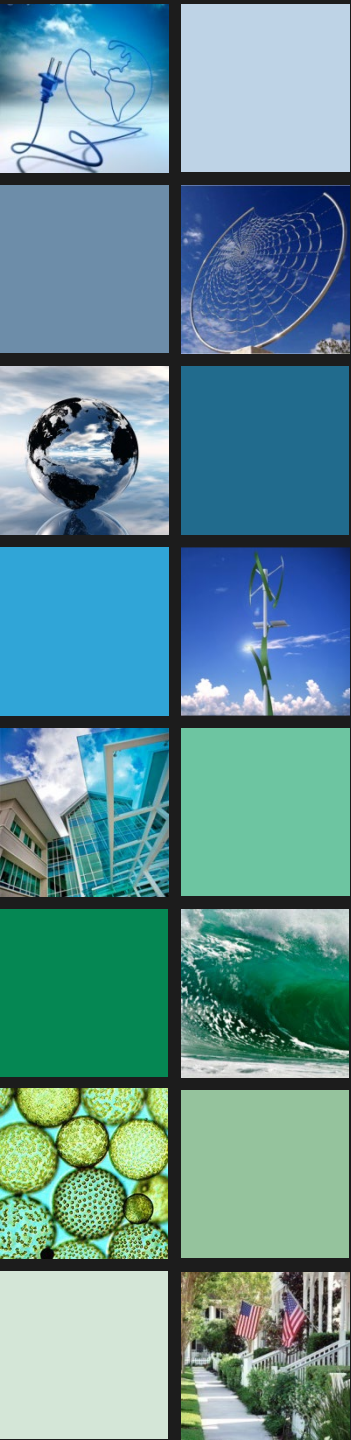
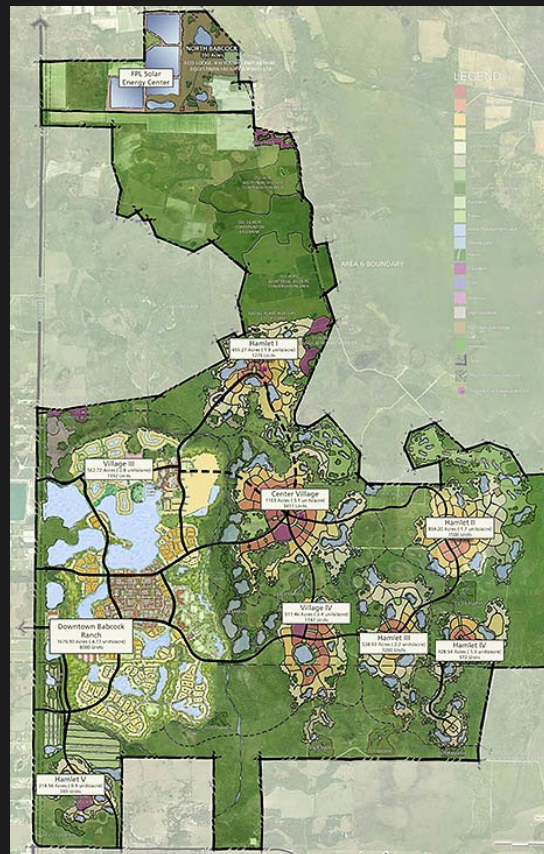


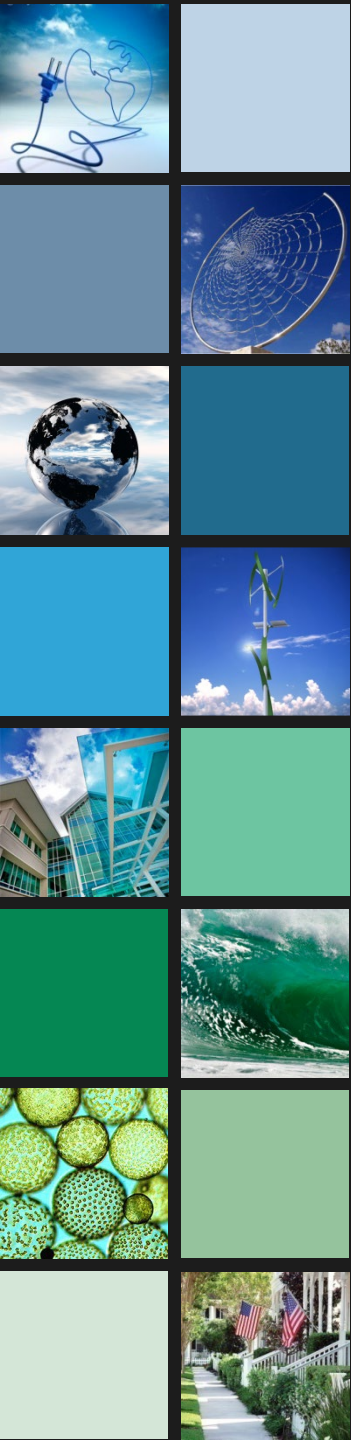


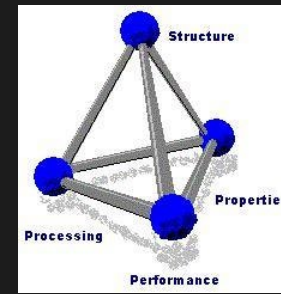
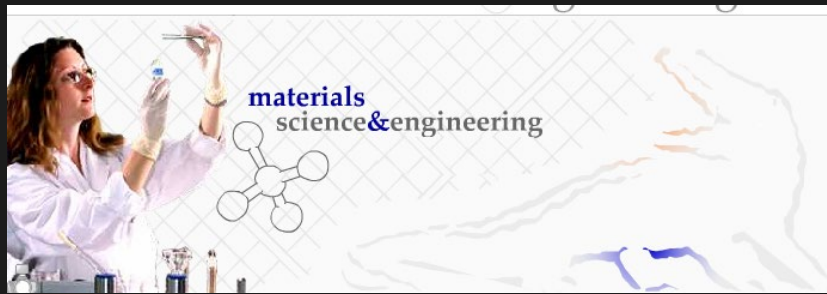
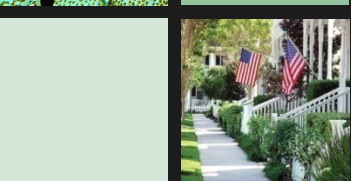
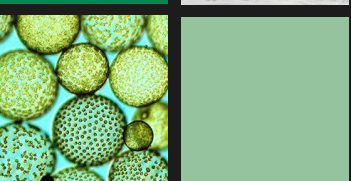
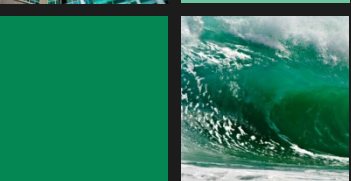
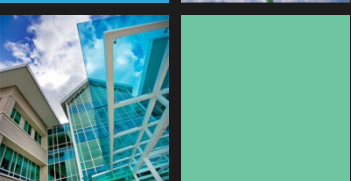
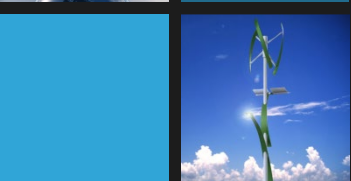
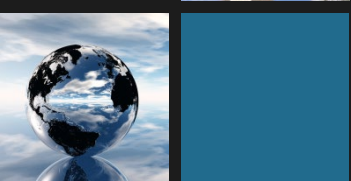
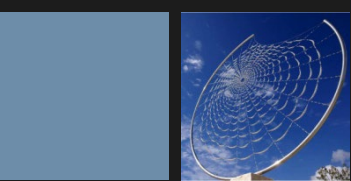
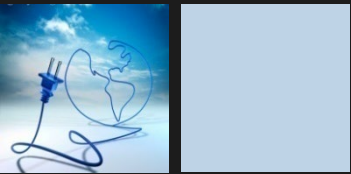
FGBC Certified Land Development



Dr. Jennifer Languell







UNIVERSITY OF
FLORIDA
CIVIL ENGINEERING



trifecta

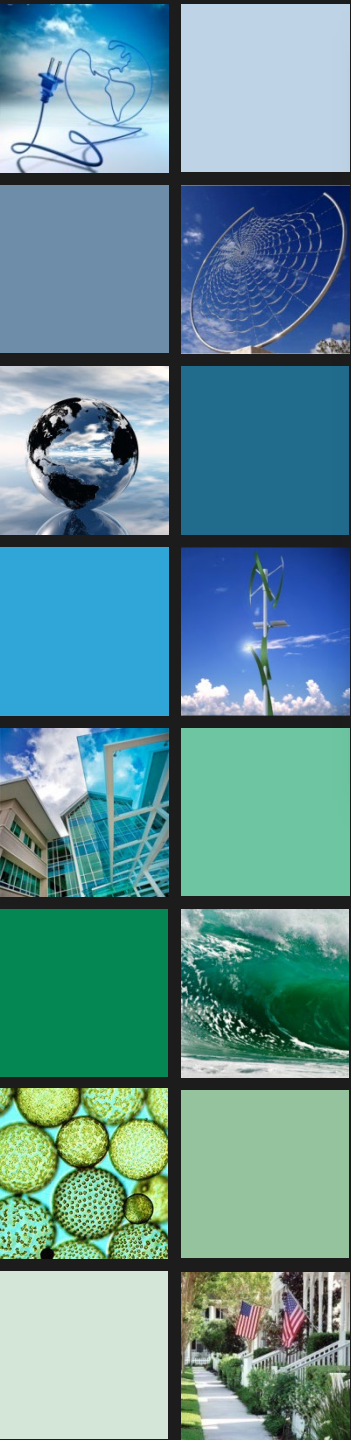
Trifecta, Since 2003

- Certified over 100 Million Square Feet of Green Building Certifications
- Over 30,000 acres of certified Green Developments
- Active Board and Standard Committees
 - USGBC, FGBC, NAHB, Green Globes
- Host Discovery Channel's PROJECT EARTH
- Florida Contractor #1330049

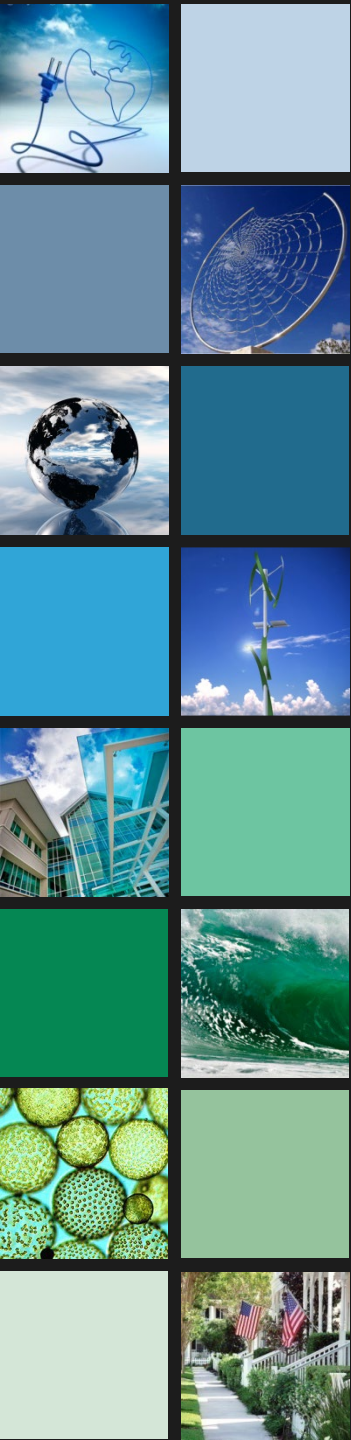


Exploring Engineering for Discovery Project Earth

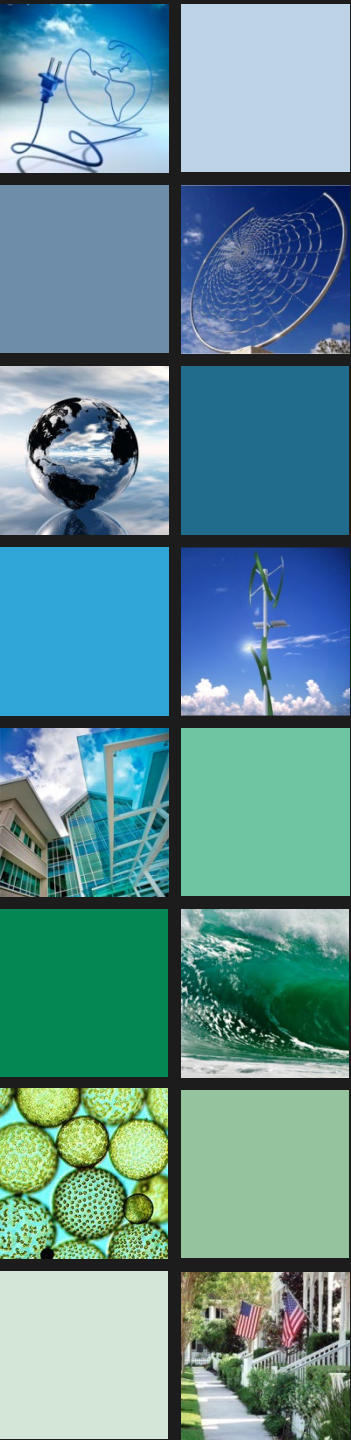




We don't always have a good plan

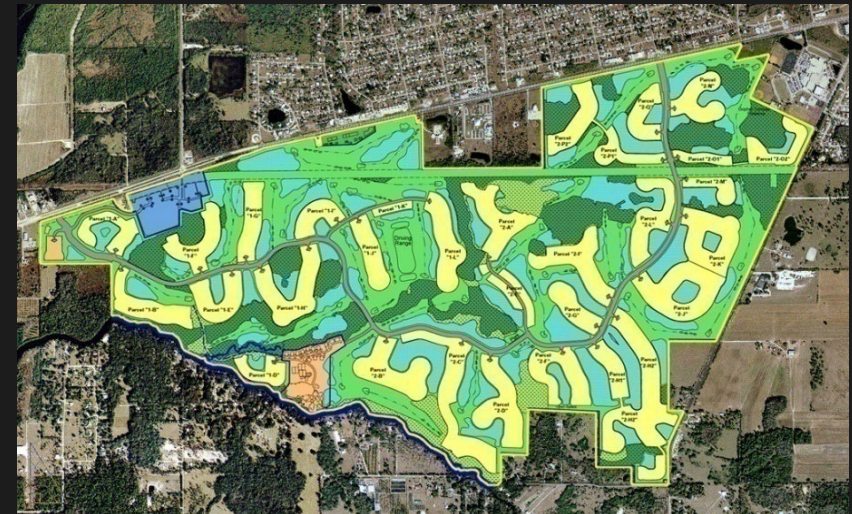


We don't always have a good plan



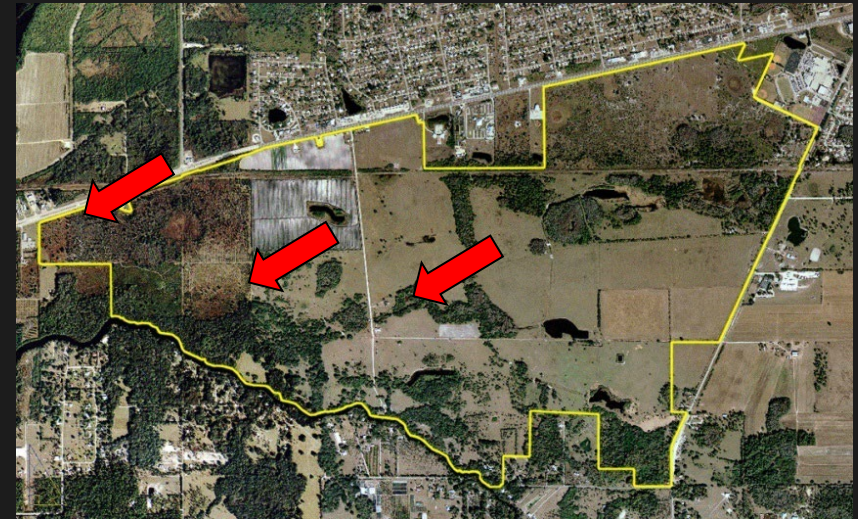
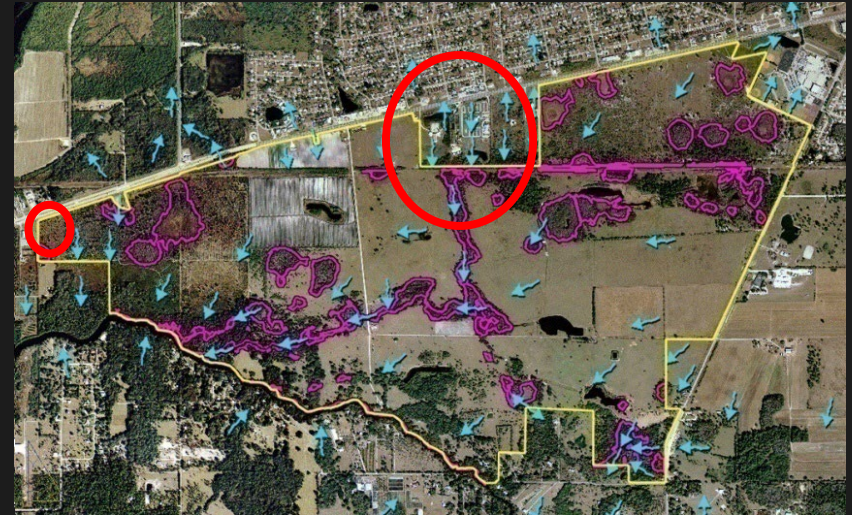
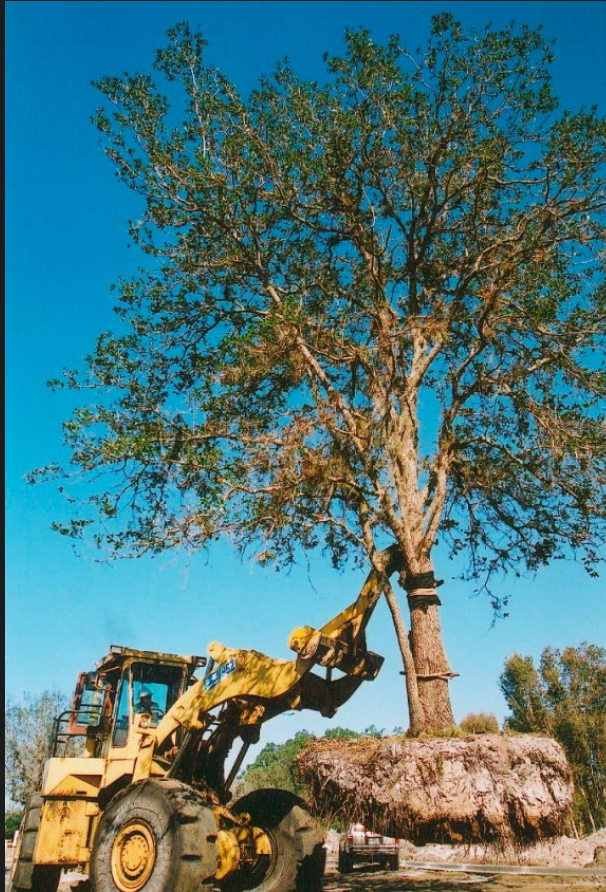
What is a Sustainable Development

A “Noun”



What is Sustainable Development

A “Verb”

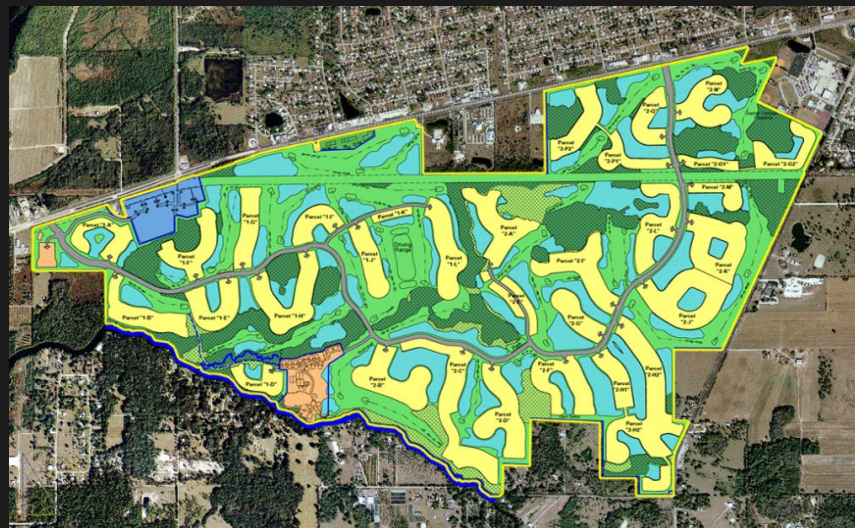


Builders and Developers

Vertical



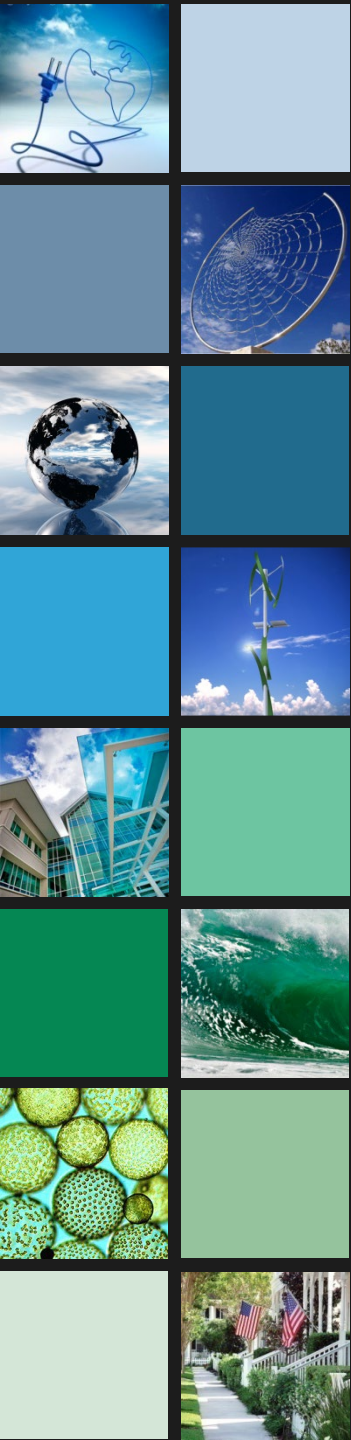
Horizontal



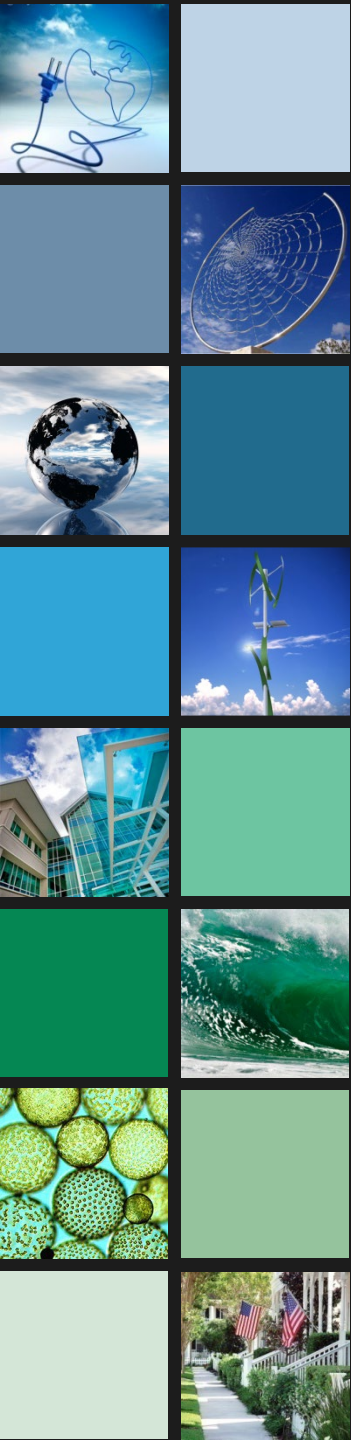
FGBC Land Development Standard

Categories

1. Protection
2. Circulation
3. Utility
4. Amenity
5. Covenants and Deed Restrictions
6. Education



Protection



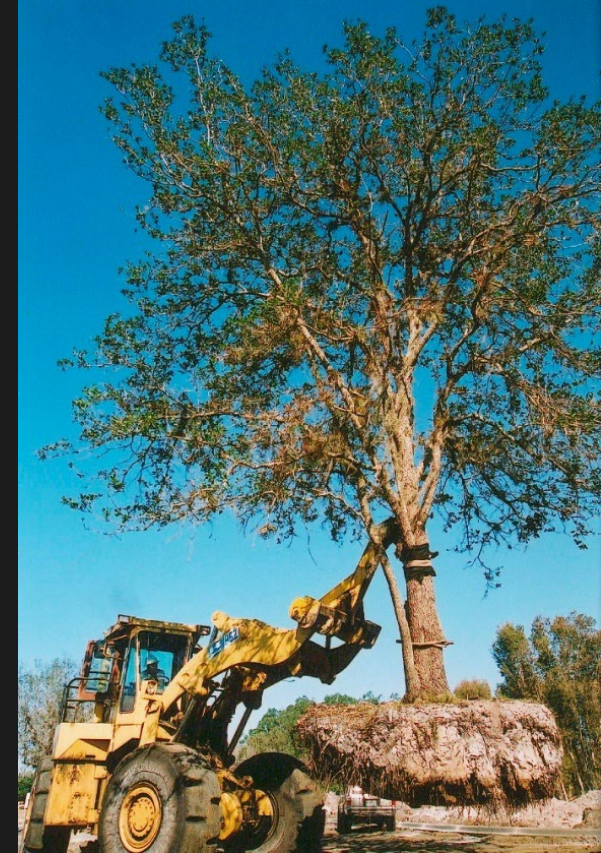
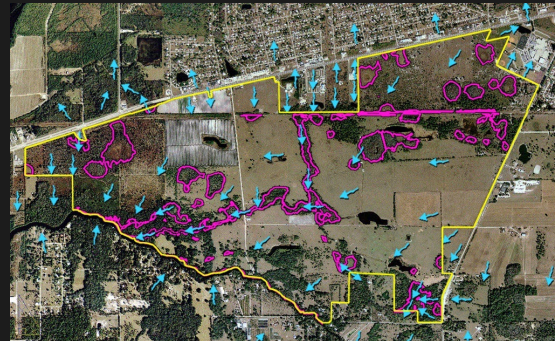
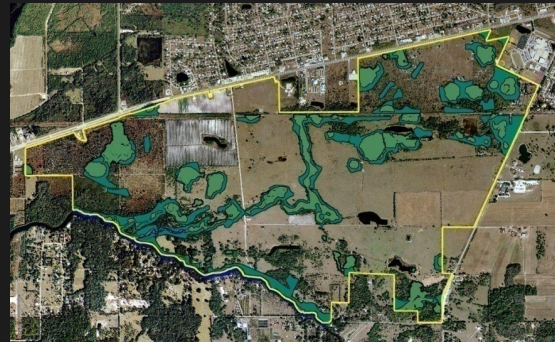
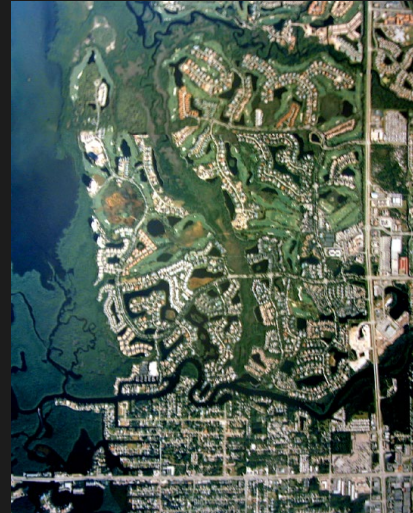
P1	Redevelopment	20
P2	Brownfield	5
P3	Existing Building	5
P4	Urban Service Boundary/Infill	12
P5	Maximize Entitlements	2
P6	Conservation Areas	30
P7	Off-Site Conservation	5
P8	Site Study	4
P9	Biodiversity	2
P10	Specific Wildlife	2
P11	Wildlife Corridors	4
P12	Upland Buffers	3
P13	Preserve Recharge	3
P14	Reuse/RecycleA:H	4
P15	Neighbors Stormwater	20
P16	LID	6
P17	Multi-Use SWMA	10



Preservation, Conservation & Restoration

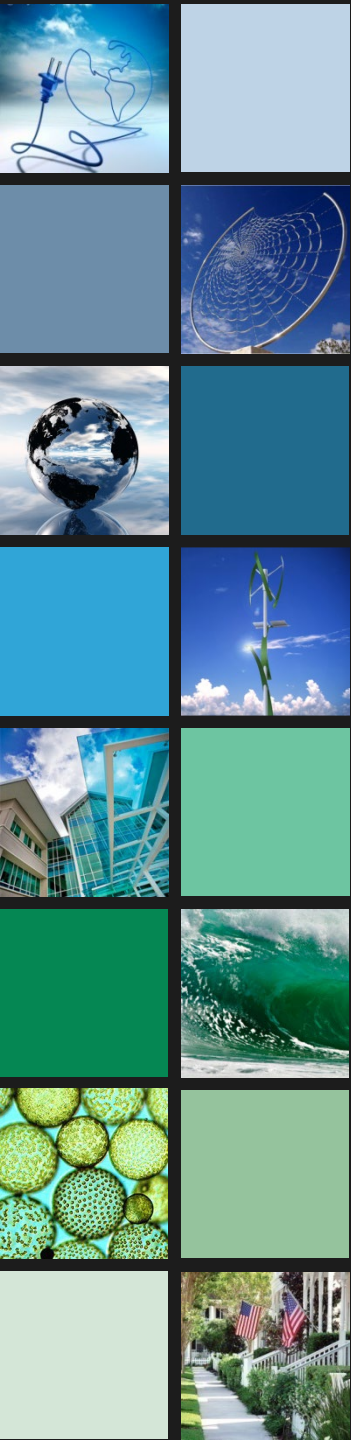
1980

2001

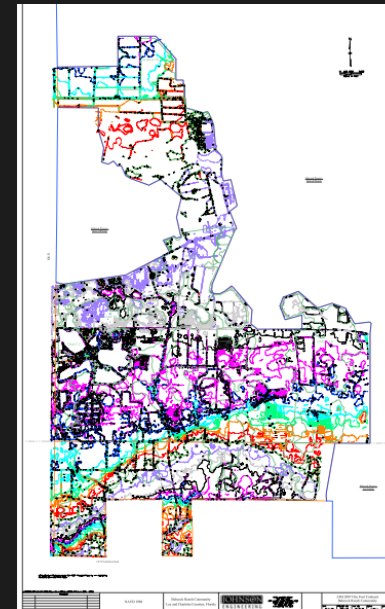
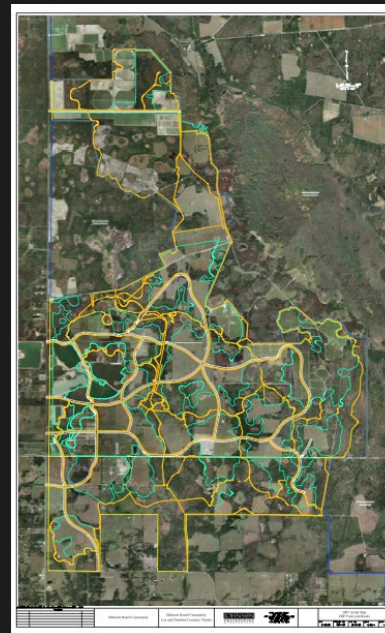
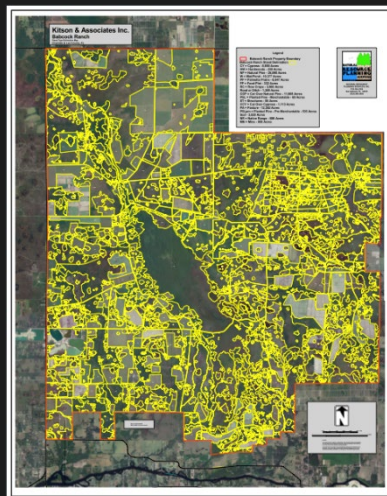
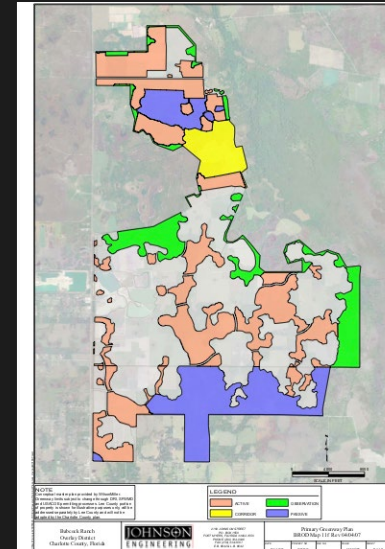
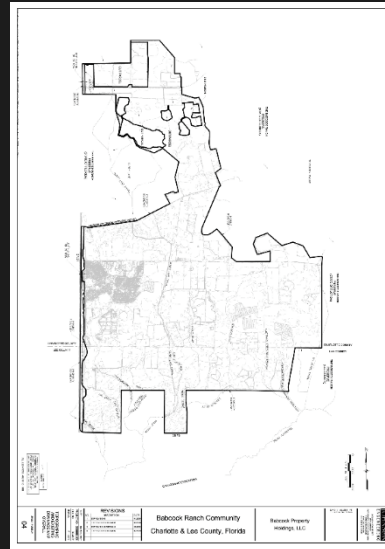
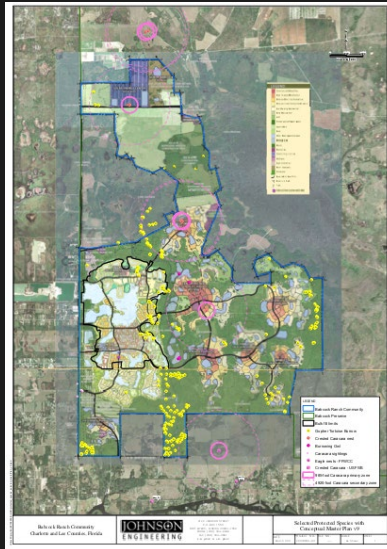
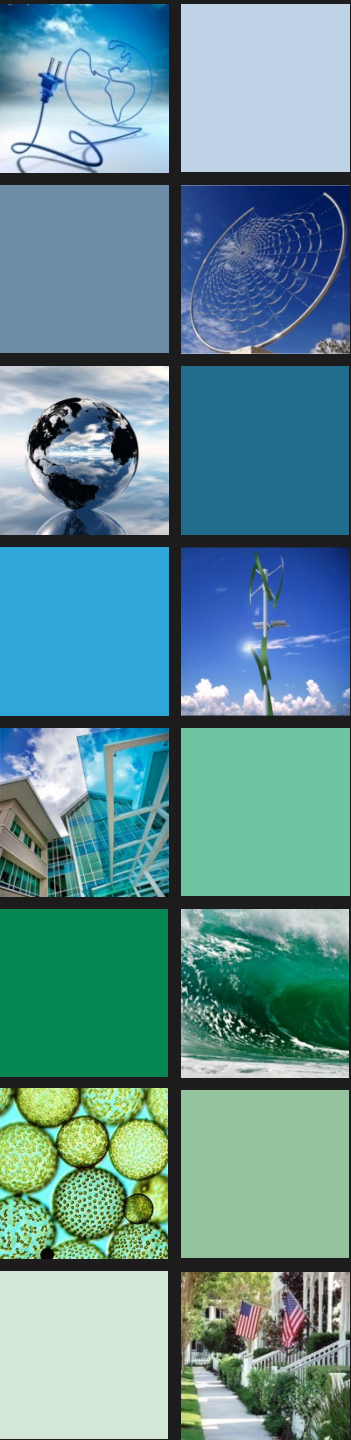




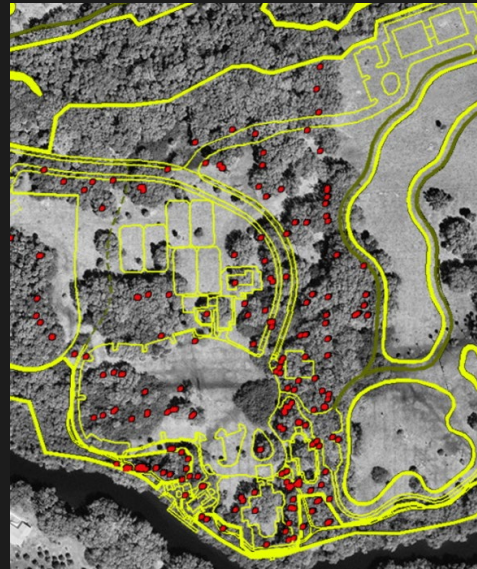
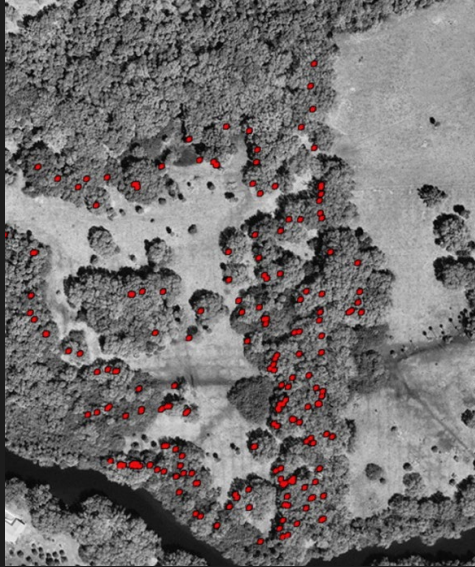
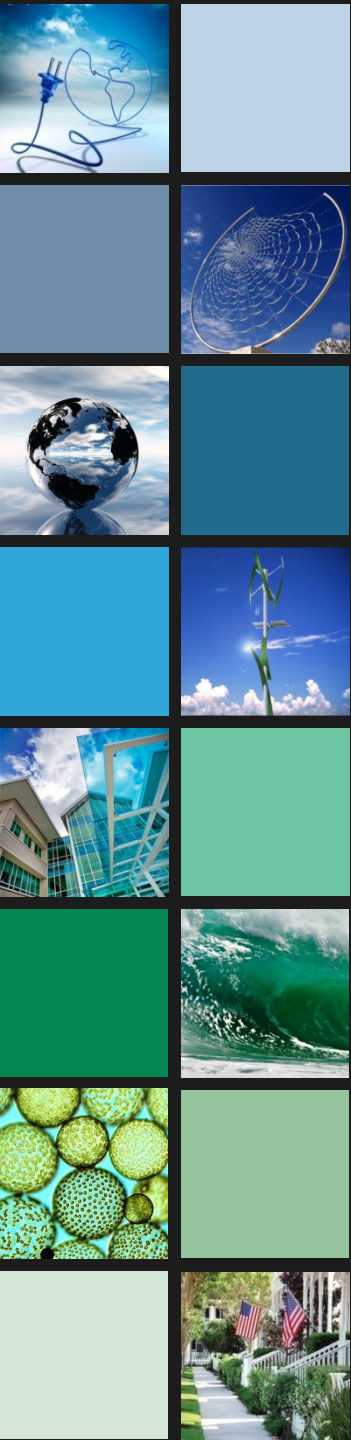
Redevelopment



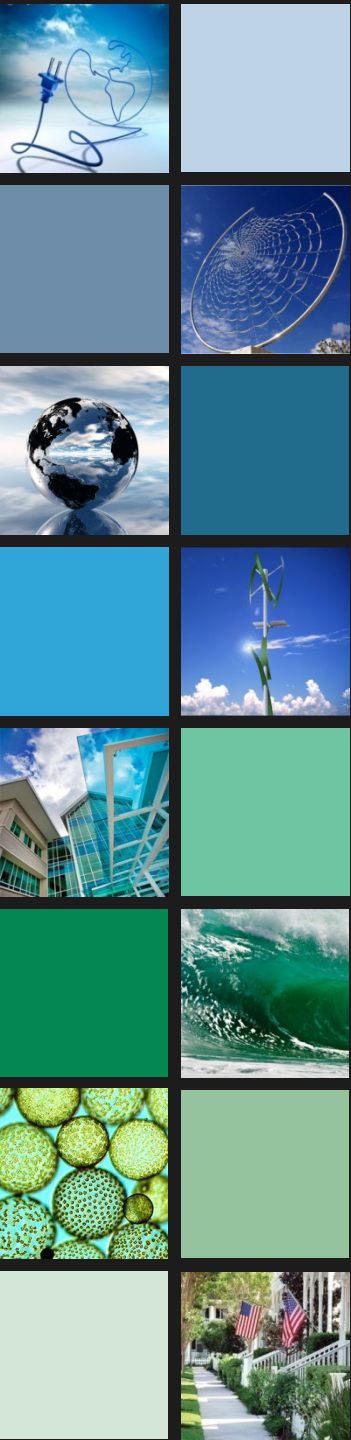
Greenfield



Design Around Trees



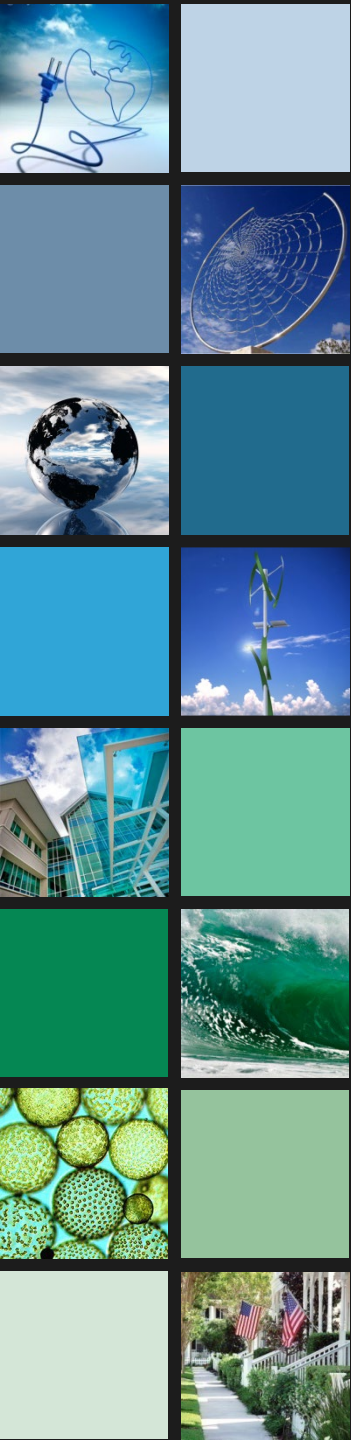
Critter Crossings



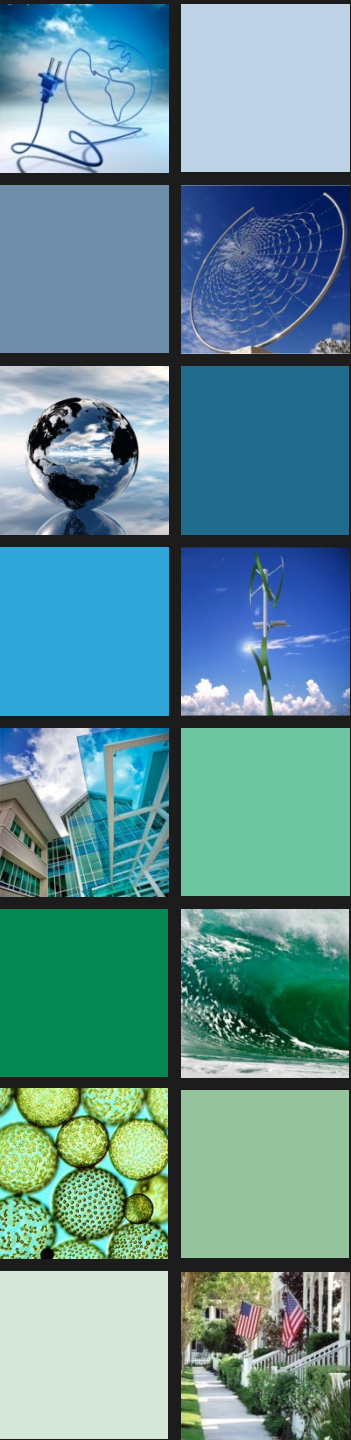
Wildlife Corridors and Connections



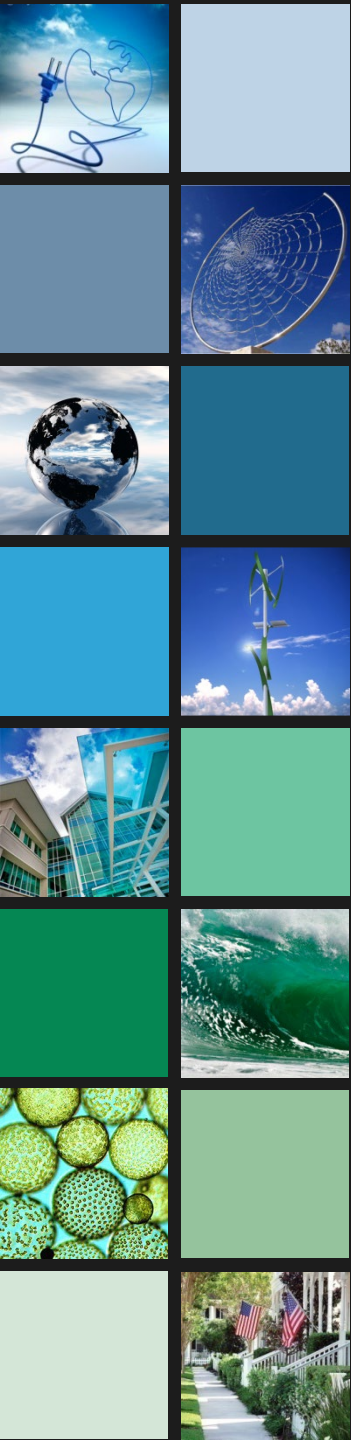
Stormwater Retention & Habitat



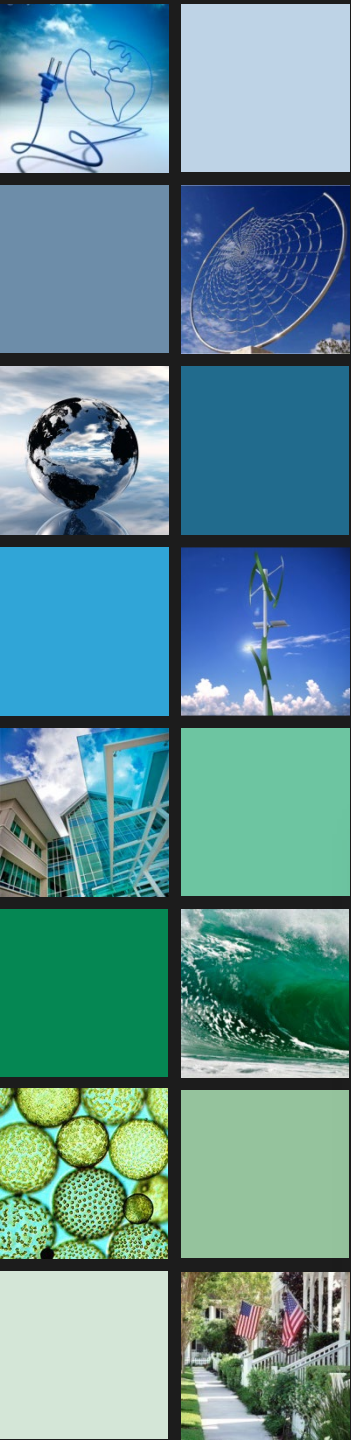
Linear Rain Gardens



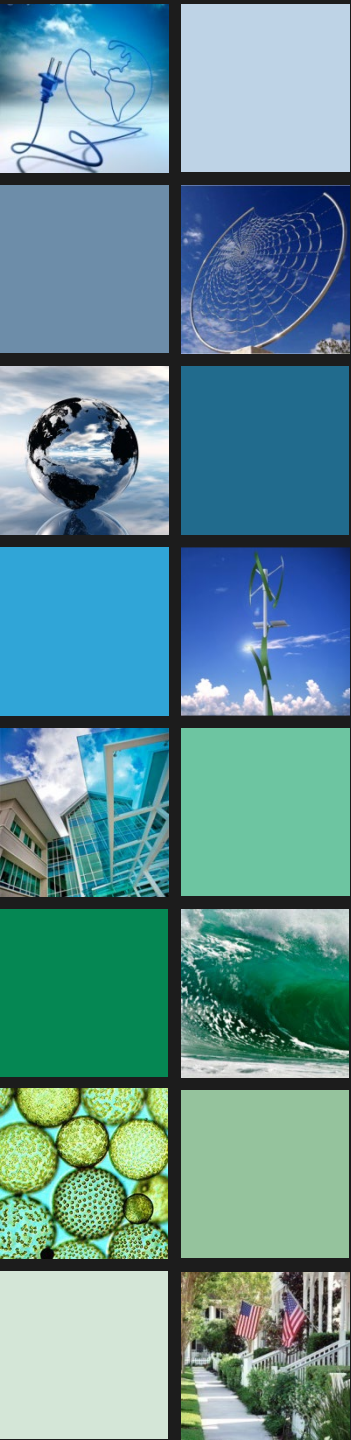
Green Roof



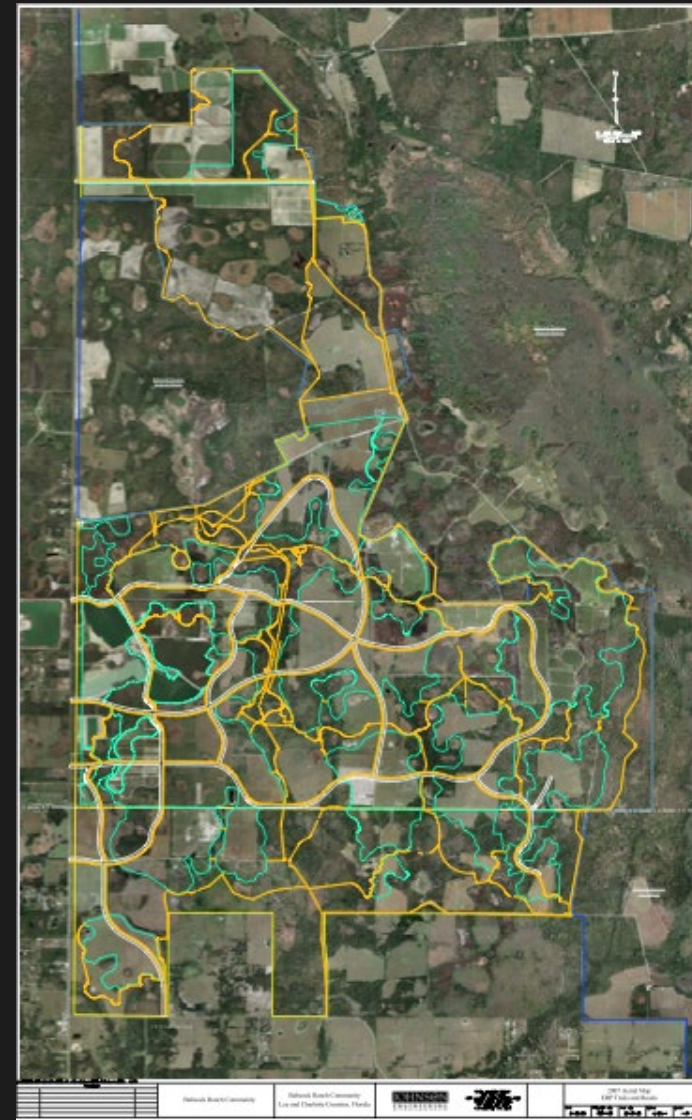
Cistern

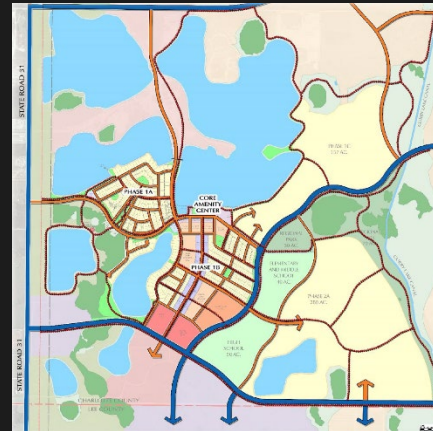


Category 2 Circulation

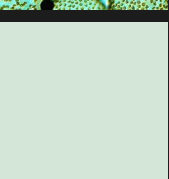
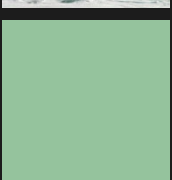
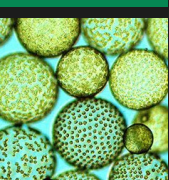
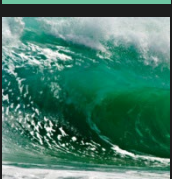
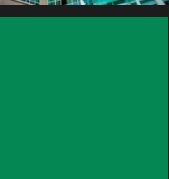
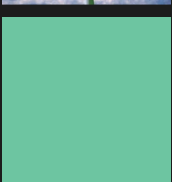
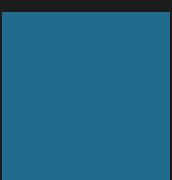
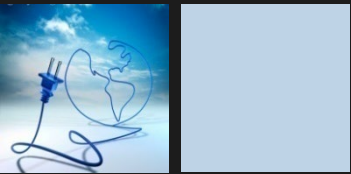


C1	Pedestrian Structure	5
C2	Previous Pedestrian Structure	1
C3	Pedestrian Shade	2
C4	Road Design	4
C5	Street Trees	5
C6	Street Lights	3
C7	Bike Parking	4
C8	Shared Parking	1
C9	Amenity and On-Street Parking Shading	4
C10	Structured Parking	4
C11	Multi-Modal Roadways	2
C12	Connections	1
C13	Orientation	3
C14	Paving Materials	4
C15	School Proximity	5
C16	Retail Proximity	5
C17	Transit Proximity	5
C18	Recreation Proximity	5
C19	Car Sharing	5
C20	Bike Sharing	5
C21	Vertical Mixed Use	1





Street Trees



Street Lights



Micro weather station

- Monitoring environmental conditions
- Noise sensor
- Air pollution sensor
- Temperature/humidity sensor
- Luminance sensor

Video monitoring

- Security monitoring
- Vehicle monitoring
- Human flow monitoring

RFID

- Special crowd monitoring
- Municipal facilities monitoring

Emergency call

- Contact the field extension with monitoring center
- Active broadcast external field by monitoring center

Intelligent lighting

- LoRa/NB-IoT transmission
- Remote dimming
- Detect parameter & status
- Fault alarm
- Report output

Wireless network

- Embedded wifi hotspot in street light
- Embedded micro station in street light

Information publication

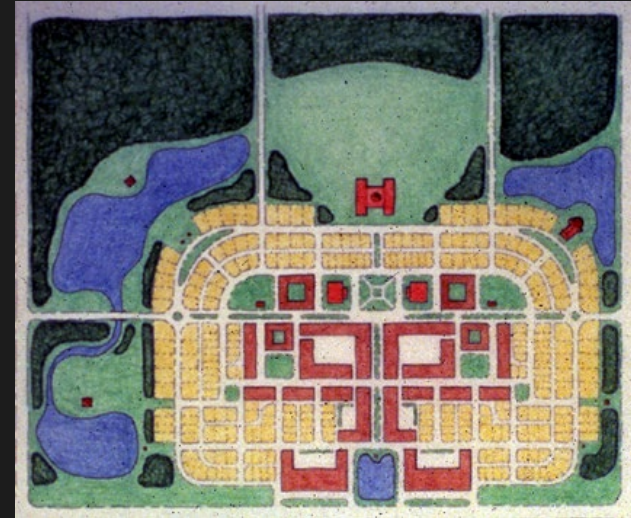
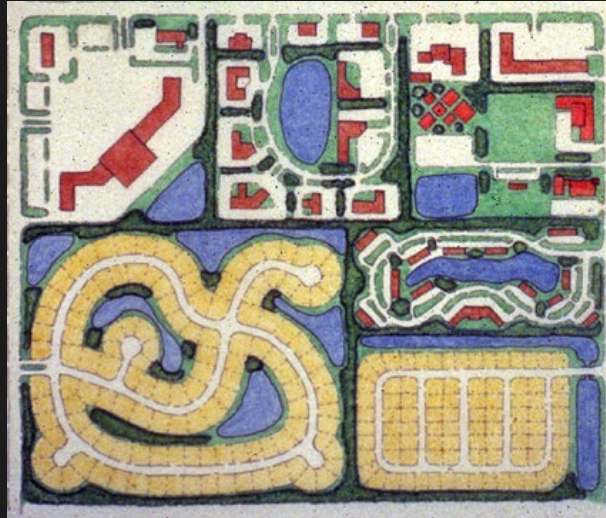
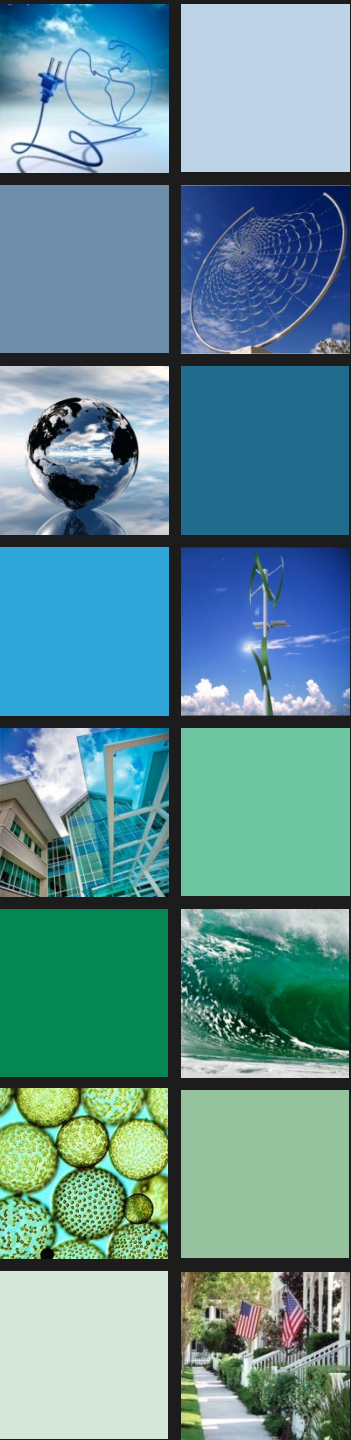
- Advertisement publication
- Current political news
- Information publication

Charging pile

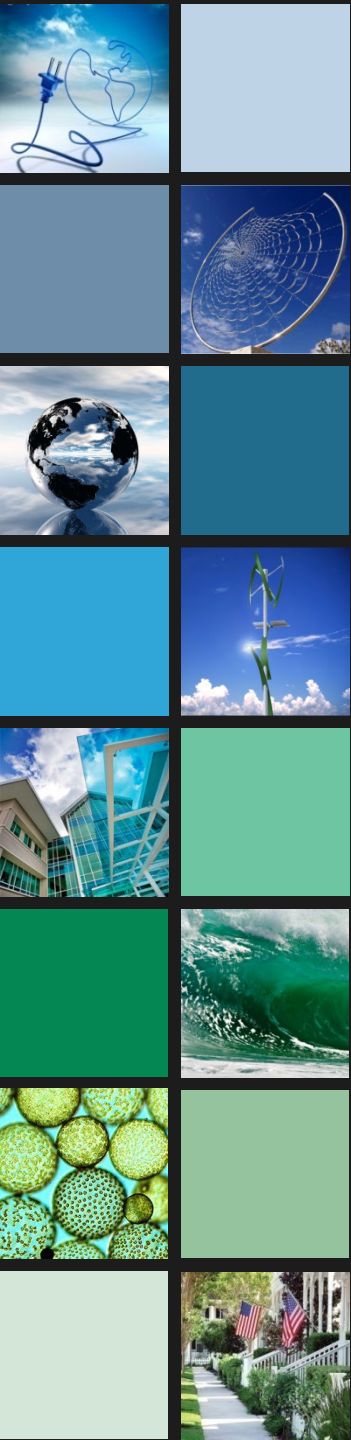
- Electric vehicle
- Electric bicycle

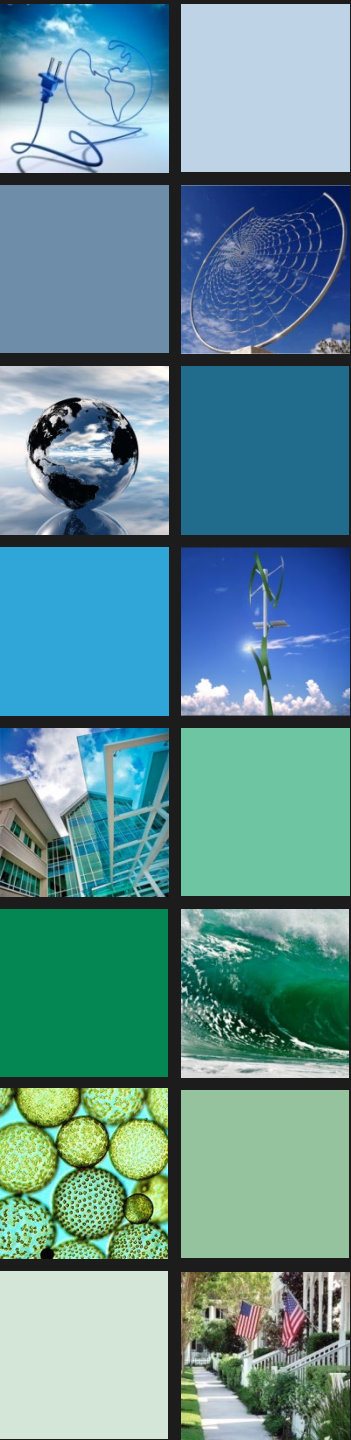


Road Design



Connections and Transportation





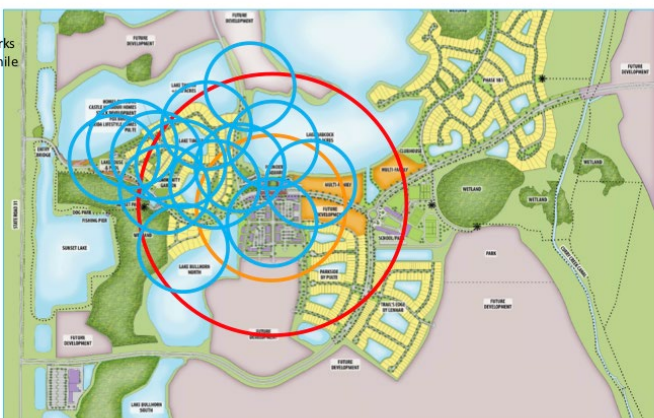
School
1/2 mile



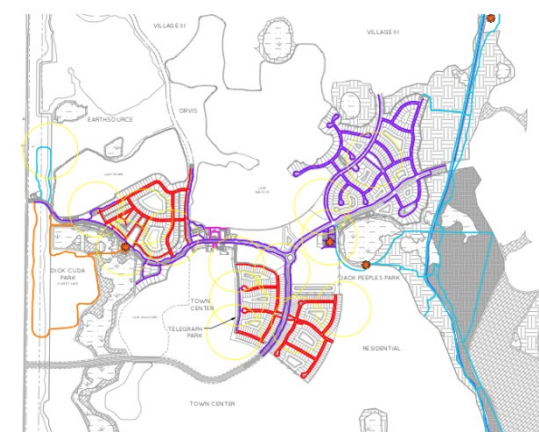
Retail
1/2 mile



Pools & Parks
1/8, 1/4, 1/2 mile



Access



KITSON

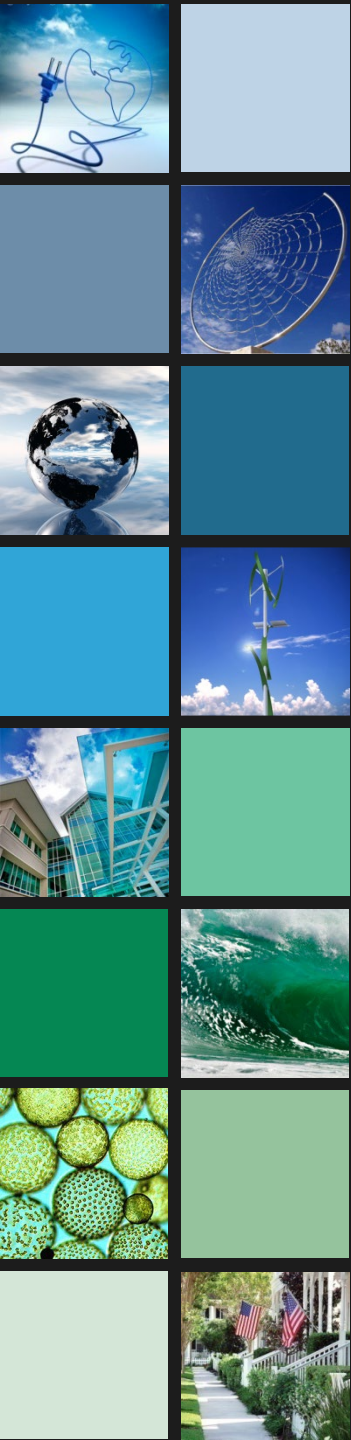
PEDESTRIAN PLAN: 1/2 MILE
4.20.2015



KITSON

PEDESTRIAN PLAN: MDO PARKS
4.20.2015

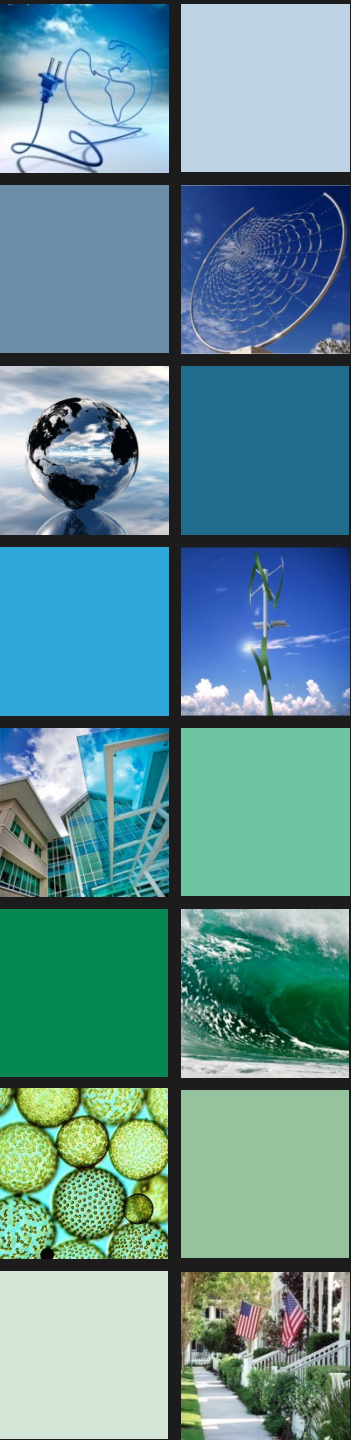
Category 3 Utilities



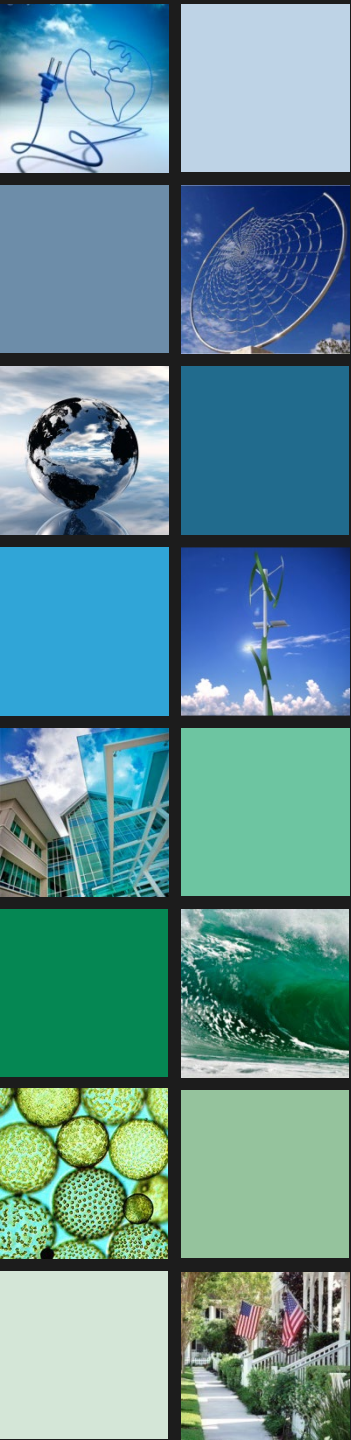
U1	Minimal Disturbance	3
U2	Green Power Agreement	6
U3	Green Power Production	10
U4	Non Potable Water Used For Irrigation	3
U5	Redaimed Irrigation Common Areas	2
U6	Redaimed Irrigation parcels	6
U7	Common Area Master Control	1
U8	Parcels Master Control	2
U9	Non-permanent Irrigation System	10
U10	Irrigation Budget	4
U11	Irrigation Meter	1
U12	Submeter Parcels	2
U13	Utility upsizing	3



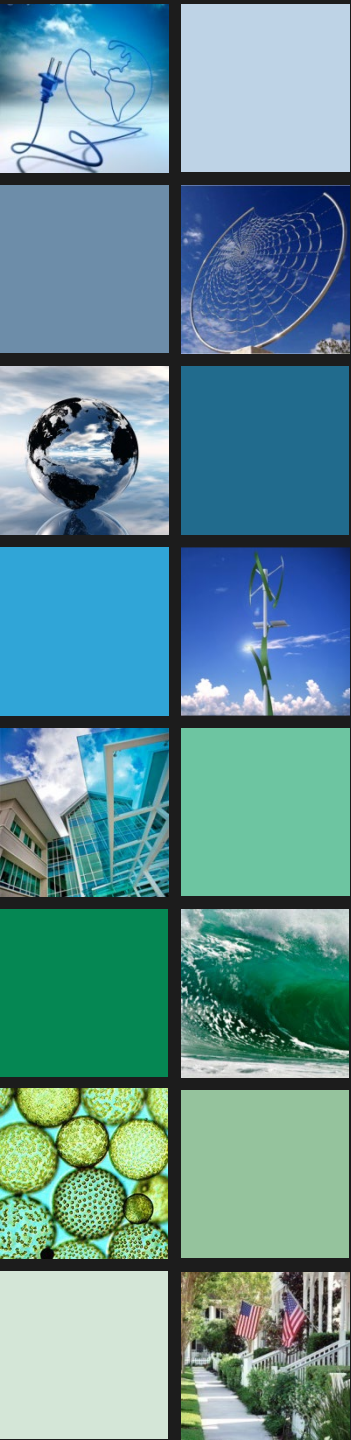
Green Utility



Drought Tolerant Vegetation & Non Potable Water for Irrigation



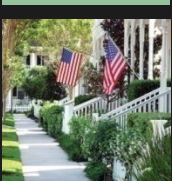
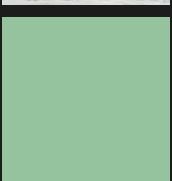
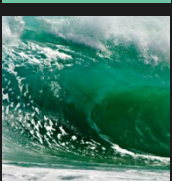
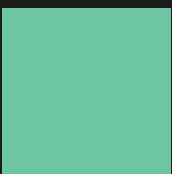
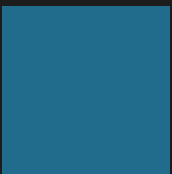
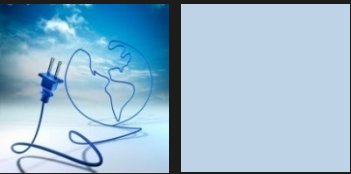
Category 4 Amenities



A1	Neighborhood Parks	4
A2	Community/Regional Park	2
A3	Community Pool	4
A4	Community Garden	5
A5	Compost Facility	2
A6	Audubon Golf Course	2
A7	Landscape Management Plan	9
A8	Communal Laundry Facilities	1
A9	Recycling	5
A10	Car Charging Infrastructure	3



Amenities



Category 5

Covenants and Deed Restrictions

CDR1	Green Construction Standards	20
CDR2	Management Plan	3
CDR3	Pervious Surfaces	1
CDR4	Rainwater Harvesting	1
CDR5	No Prohibitive Language	1
CDR6	Mixed Income Housing	5



BABCOCK RANCH
FLORIDA

RESIDENTIAL TECHNOLOGY REQUIREMENTS V.2

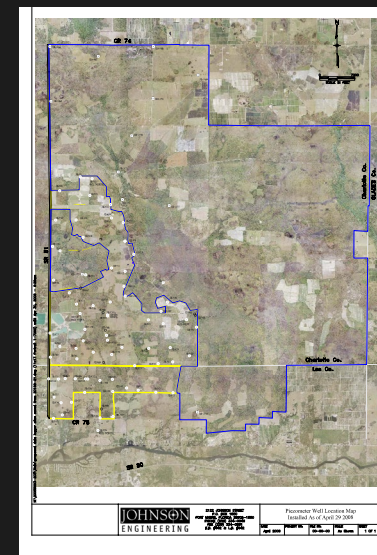
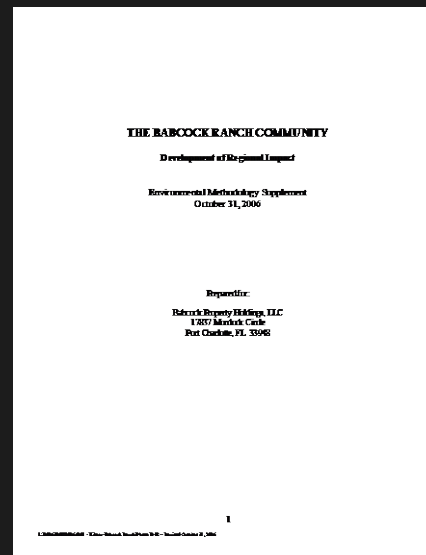
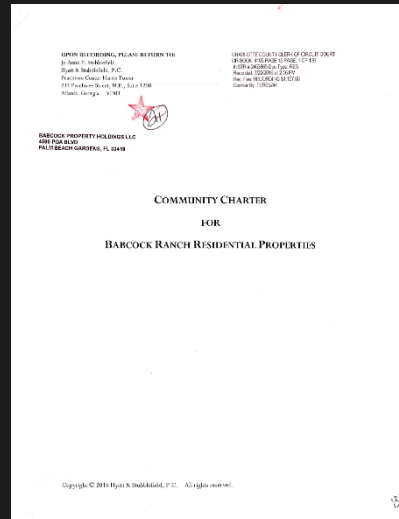
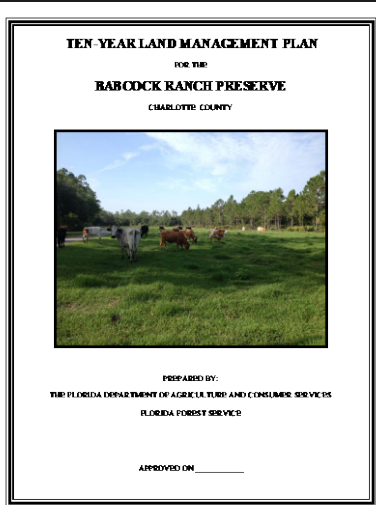
NOVEMBER 2016

KITSON
& PARTNERS

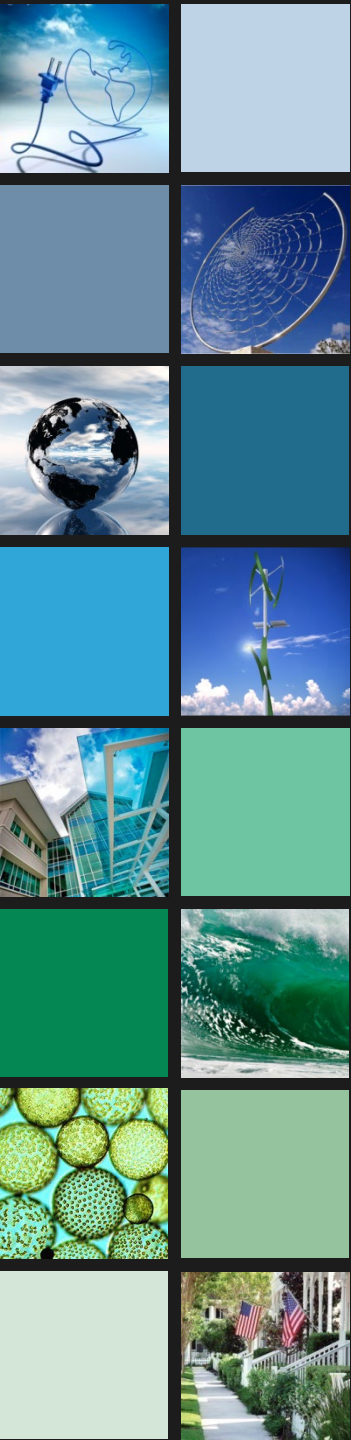
These requirements are based on nationally recognized standards bodies, including applicable National Electrical Code (NEC), IEEE, ANSI, EIA and ITIA. Neither Babcock Ranch, Kitson & Partners, Collaborative Associates Technology, LLC, Contractor, nor any of its affiliates or subsidiaries make any warranties with regard to these specifications, including any systems or equipment, material or product, including, without limitation, warranties of merchantability and fitness for any particular purpose. Neither Babcock Ranch, Kitson & Partners, or Collaborative Associates Technology, LLC will be liable for any incidental, indirect, special, or consequential damages of any kind including, but not limited to, any loss of business or loss of profit arising out of or in any way connected with these guidelines. The requirements described herein are subject to change or cancellation in whole or in part at any time without notice.

These materials are intended for internal distribution only and are proprietary and confidential.

Management Plan



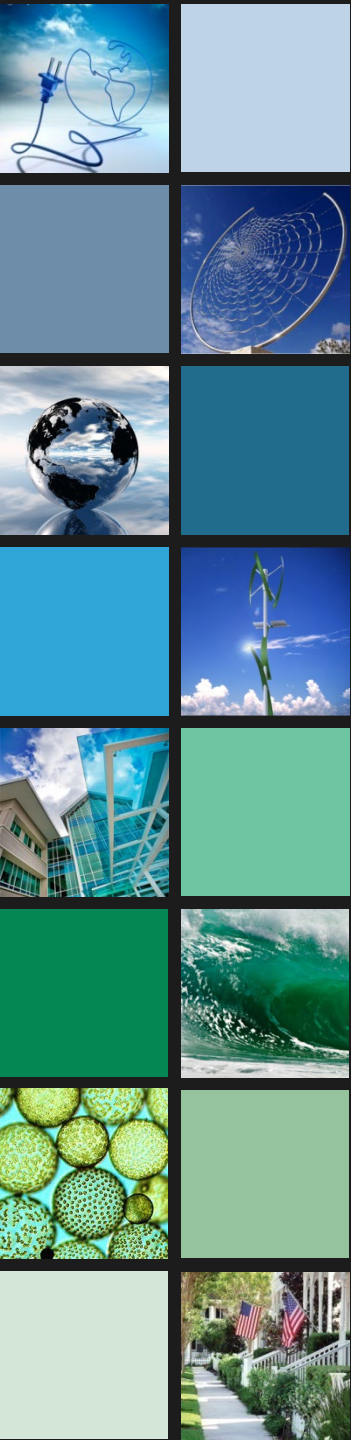
Category 6 Education



E1	Staff Training	3
E2	Dedicated On-site Specialist	1
E3	Green Buyer Program	1
E4	Environmental Marketing	2
E5	Green Practices	1
E6	Demonstration Building	1
E7	Environmental Education	5
E8	Green Website	1
E9	Monitoring Program	1

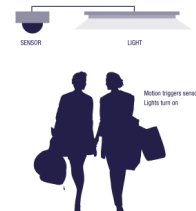


Education, Training, Monitoring



Occupancy Sensors

The lighting fixtures in this room are equipped with occupancy sensors that automatically turn on when someone enters the room, and turn off when the room is empty.

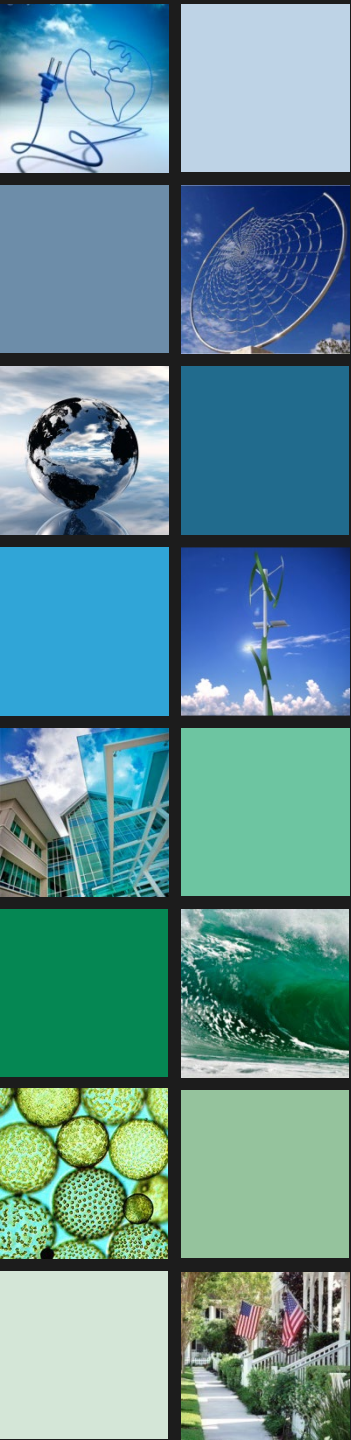


Did you know that turning off just one 60-watt incandescent bulb that would otherwise burn eight hours a day can save about \$15 per year?

www.gulfstreampark.com



Environmental Education





Upland Pine Flatwoods HABITAT





BABCOCK RANCH TRAILS

The sunset trail takes you on a tour through upland and wetland habitats, each containing unique plants and animal life that call these areas home.





Cabbage Palm

Prescribed fire eliminates accumulated plant material, returns nutrients to the soil, and germinate fire-dependent species. It is an essential tool in both land and wildlife management and helps reduce potential damage and hazards from wildfires in the wildland/urban.



Sherman's fox squirrel

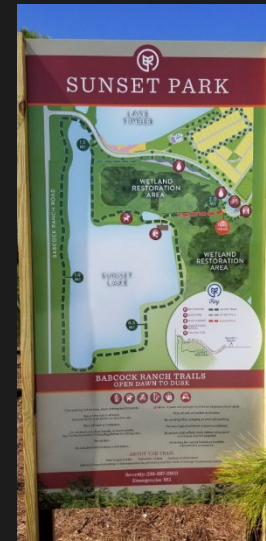


Gopher Tortoise

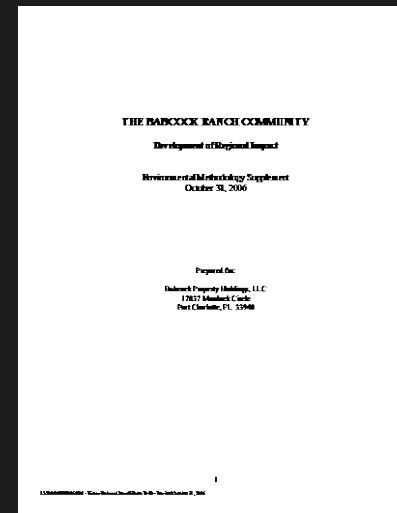
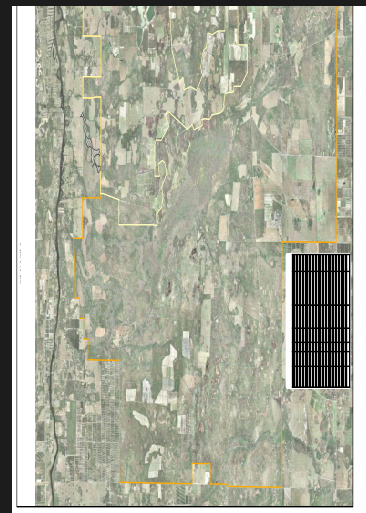
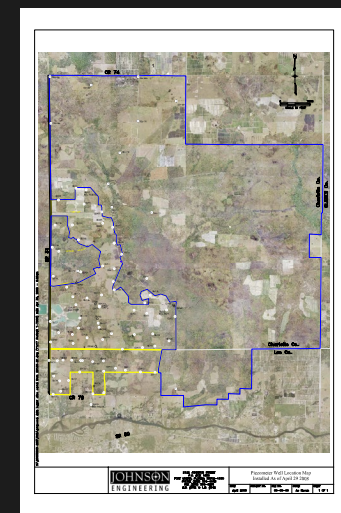
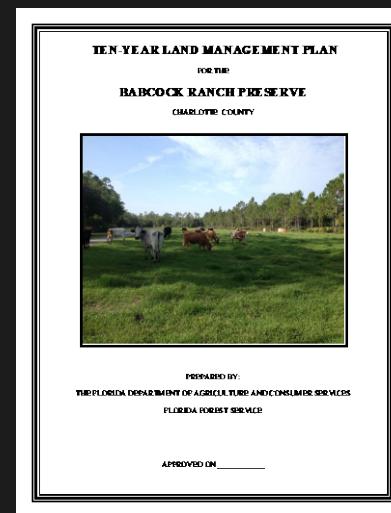
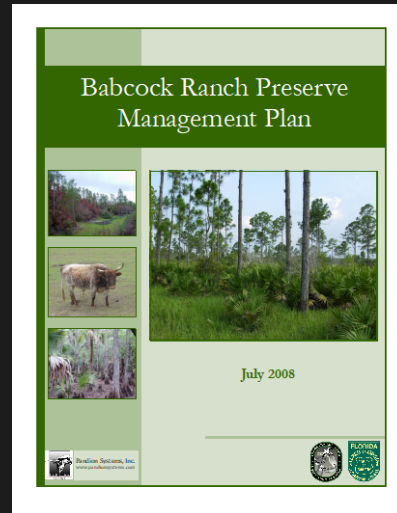
RESPECT THE LAND

No feeding alligators, littering or feeding birds



Monitoring Program



FGBC Land Development Standard

Benefits

1. Flexibility – many points to choose from
2. Adaptability – works for small and large developments, infill and greenfield
3. Emphasis on BMP's & reducing operational costs
4. Accountability
5. Third Party Verification
6. Customizable