# Project Category

Unbuilt/ Sustainable Design

# Executive Summary

The new operations facility for the Utility Company features a multi-building campus, totaling 177,317 square feet, and consolidates operations, from technical to maintenance, in one centralized location. The modern concept of the building was developed to highlight the technologically advanced nature of the utility company. All utilities within the building are exposed to celebrate the services it provides and energy conservation is a theme throughout, from day lighting to rainwater harvesting. This project is being designed to Silver LEED certification. Included in the campus is: a Training Facility, Administrative Offices, Materials & Stores Building for utility vehicles & equipment, System Control Center for power grid operation, and Sheds for miscellaneous stored goods. Construction cost is estimated at $50 million with completion expected in Fall 2010.

# Architect's Statement

### Introduction

The client requested a centralized facility from which to run its utility operations that accurately reflects its commitment to responsible energy. This utility company has always been proactive in alternate energy sources, conservation, and sustainability. The client's existing operations buildings are scattered, aging and incompatible with the residential renaissance taking place in the downtown area it serves. Some of the buildings date to the early days of gas and electricity use.

### Site

In order to bring sustainability home, a new Operations Center is being designed that reflects the company's objectives and allows them to service their clients more efficiently with a centralized location easily accessible by road.

The company purchased a 117 acre site bordered by a large tract of land protected by a preservation trust. To bring order to this vast amount of natural land, the site is organized into three distinct regions surrounding a large wetland centering the site.

The North end of the site has the largest area and serves as the operations yard with several hundred service vehicles, shops, staging and storage areas.

The Central part of the site contains offices, a training building and practice fields, and shaded parking areas permeated by wetland ponds and open spaces.

The South end of the site is isolated by wetlands and contains a secure and hardened Data Center housing the Systems Control Center for the Utility.

*The site contains a large wetland area in the center. Tree canopy was preserved and special attention paid to animal habitat to make the least amount of impact possible.*

## Natural Environment

A utility company is inherently juxtaposed to nature. The surrounding preserve buffers the utility yard from other sites but is also designed to cohabitate with nature by reducing density, managing resources such as Water, Open Space and Tree Canopy and by providing habitat for wildlife.

Where the roadway loops around the central wetland, a bridge is designed to cross over the wildlife corridor and the tree canopy is allowed to connect providing additional paths for wildlife. This design seeks to balance the needs of the natural environment against the rigid geometry required to operate a fluid utility operation.


*The site is divided into three districts to bring organization to this vast 117 acre property.*

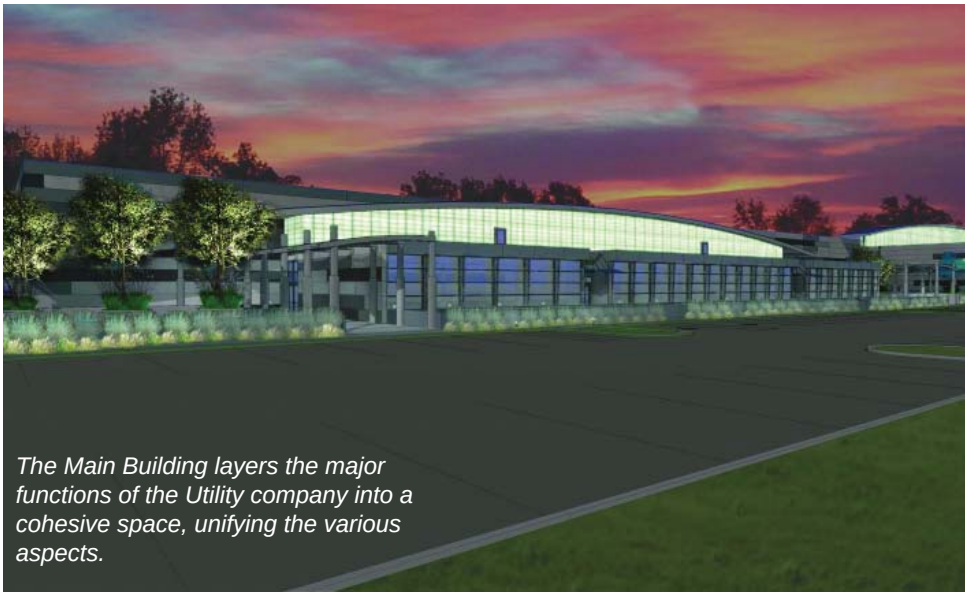
## The Main Building

All of the various utility functions: Electric, Substation, Relay, Gas & Electric Measurement, Fiber Optic Communications, Water and Wastewater require direct access to the equipment yard. Their trucks need to access the storage and staging areas of the building at all times during the day.

Many building shapes were tested for functionality. The importance of a linear design emerged as this was the best way to route traffic in and out. This results in a 900 foot long depot with spaces where the crews can meet, plan, stage and depart simultaneously and get to work.

Adjacent to the storage and staging areas are workshops, followed by the circulation core and offices. Our design takes into consideration a separation of the public spaces from operation intense portions of the buildings.

The layering of the building functions results in a relatively short distance from the parking areas, through the offices, shops and stores areas to the equipment yard. Each building has a core containing toilets and showers, break areas and a ready room for planning and coordinating construction activities.



*The Main Building layers the major functions of the Utility company into a cohesive space, unifying the various aspects.*

## The Spine

The central spine is a circulation corridor through the main building that is glazed by translucent walls made from recycled material and oriented to take advantage of optimum solar angles. It is also a utility corridor for the building's various utility services including Power, Data, HVAC, Water and Chilled Water from the Central Plant used to cool the spaces.

This corridor was conceptualized as a conduit concept where the buildings services are exposed providing the opportunity for the utility company to highlight the importance of its work and serves to unify the various utility groups.

## Office

To the south of the spine are the office functions. They take advantage of the southern exposure by filtering natural light into the building through light reflectors and deflectors.

The façade of the building is punctuated by large swooping overhangs to accommodate shading and pedestrian circulation. Much of the building's lighting is natural, using automatic dimmers for the artificial lighting to reduce energy when not needed. Glass is used to divide office functions whenever possible to provide views to the exterior and natural light even to the core of the building.

*Natural lighting reaches the inner core of the facility and is distributed into different areas by use of a transparent wall, a unique canvas like material made from recycled material.*

*Water harvested from the roof is treated and stored in open "pool" features outside the building for use in the evaporative cooling system.*

## Sustainable Design

The building utilizes natural light to reduce consumption of energy through artificial light and combat excessive heat gain. Water usage is reduced by use of harvested rainwater from the roof which is stored in open water features outside the building for use in the evaporative cooling system. About 8 million gallons of rain water will be collected annually, which equals the evaporative cooling water consumption for the building that otherwise would use potable water. Water is also conserved by using treated stormwater runoff, which is stored in natural ponds, for landscape irrigation. Solar electric power will be generated on-site over roof areas and solar heating will be used for pre-heating water.

A Green Roof will be featured above the training room for prominence and to serve as an educational tool.

In addition, all of the furnishings will contribute to an enhanced indoor atmosphere by utilizing pre-consumer and post-consumer recycled content.

Overall sustainable design will contribute to a minimum Silver LEED registration, an increase in efficiency and a reduction in long term cost to Utility Consumers.

BENTLEY

# Identification Information

**Name and location of project:**
Gainesville Regional Utilities Eastside Operations Center
Gainesville, FL

**Name and location of architect, firm and/or design team:**
Gary Kranston, R.A.
Bentley Architects + Engineers, Inc.
Longwood, FL

**Name and location of consultants:**
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Orlando, FL

McClain Design Group, Inc. (Landscape Architecture)
Orlando, FL

Sims Wilkerson Cartier Engineering, Inc. (MEP Engineering)
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Bentley Architects + Engineers, Inc. (Civil Engineering)
Longwood, FL

Bentley Architects + Engineers, Inc. (Structural Engineering)
Longwood, FL

TLC for Architecture (LEED Commissioning)
Orlando, FL

GMB Engineers & Planners, Inc. (Planning)
Orlando, FL

Cost Management Inc. (Cost Estimating)
Orlando, FL

**Name of Owner/Developer:**
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**Name of Contractor or Construction Manager:**
Skanska