Attachment A: Signage Text

Following is text that appears on signs throughout the CIB

LEED: Leadership in Energy and Environmental Design
LEED is an internationally recognized green building certification process developed by the U.S. Green Building Council (USGBC). There are five categories associated with LEED Certification. The Cyberinfrastructure Building (CIB) addresses each through a variety of design concepts, construction methods, and behavioral practices:

- Site planning
- Water management
- Energy
- Material use
- Indoor environmental quality

New buildings are rated by the USGBC on an increasing scale: certified, silver, gold, and platinum. While the certification process requires months of monitoring and reporting after construction is complete, the CIB is on track for gold certification.

Flexible workspaces
The CIB provides an open work environment conducive to collaboration, communication, and creativity. Extensive wireless connectivity and power access, as well as a variety of seating options, offer staff a choice of where and how they work. Dubbed the “Quantum Workspace,” the CIB maximizes the flexibility and adaptability of meeting spaces, including:

- Focus booths for two to four people
- Reconfigurable meeting rooms
- Informal individual and group seating
- Shared large-screen team work areas
- Outdoor bench, table, and couch seating

Louvers and shades
The CIB’s exterior louvers and interior sunshades work together to block or capture light, as needed, according to the season.

The fixed louvers block summer sun coming from a high angle and allow winter light in from a lower angle.

Metal louvers are perforated to allow diffusion of light as it enters the building. These are placed along open office spaces.

Glass louvers are illuminated in the evening to enhance the prominent southwest building corner, transforming it into a beacon that gestures toward the main part of the IU campus.
These are installed along enclosed conference rooms and offices and mark the ends of building wings. They also clearly mark lobby entrances.

Sunshades are programmed to adjust over the course of the day and seasonally across the year. They can be open all the way, or individually calibrated at any interval.

**Rain gardens and wastewater management**
The exterior landscaping is designed specifically for wastewater management and to eliminate the need for irrigation.

The rain garden captures roof runoff from the building's in-wall drains. That water soaks into the native plantings, which then act as a natural filter. This configuration reduces the amount of water flowing into storm drains and eliminates or reduces erosion, pollution, and flooding. On an especially rainy day, overflow from each of the levels creates a waterfall effect.

The parking lot also helps with managing water runoff. Water is directed to the low areas east of the main parking lot. Trees, native grasses, soil, gravel, and other materials filter water before it drains into the storm sewers.

Native plantings eliminate the need for a permanent irrigation system. While plantings required initial watering to become established, they will not require additional tending thanks to their suitability to our local climate.

**White reflective roof, chiller, and solar hot water panels**
To help reach the goal of a 28% reduction in energy over typical “non-green” construction, the CIB’s roof has a white rubber surface. The surface reflects the sun’s rays to help reduce the building’s cooling needs.

Solar hot water panels on the roof use the sun’s energy to heat most of the hot water used in the CIB. If the panels do not produce enough hot water, a traditional backup system kicks in.

One of the 2 chiller units that cool water for air conditioning in the CIB came from the nearby Wrubel Computing Center.

**Transportation**
To help us meet LEED requirements and to encourage people to go green, those who drive fuel efficient cars get the best parking at the CIB. There’s even a plug for people who drive electric cars, so they can recharge at work.

Likewise, to encourage people to rise their bikes to work (saving money and promoting health) the CIB provides outdoor bike racks and a secure indoor bike garage, with tools for bike repair.

Some parking stats:
Parking spaces in previous lot: 200+
Parking spaces in the new CIB lot: 93
Spaces dedicated for fuel efficient vehicles: 6
Spaces dedicated for carpool vehicles: 1
Spaces for outdoor bike parking: 12
Spaces for indoor bike parking: 35

**Locker rooms**
To encourage use of nearby exercise areas such as the Student Recreational Sports Center, cross-country walking and running trails, or biking paths, the CIB has locker rooms with showers for men and women.

**Meeting rooms**
CIB meeting rooms have plenty of natural light and are set up for face-to-face and video conference meetings. The rooms have the latest technology, including advanced lighting and sound systems.

In the past two years, video conferencing has helped reduce travel expenses by 32%.

**TelePresence rooms**
CIB TelePresence rooms have Cisco systems that make video conferences appear more lifelike.

The cameras and the display are carefully set up to help make appear as if people are sitting in the same room. (The rooms must be a specific size and color to create this effect.) Similarly, special technology reduces sound delays so conversations flow naturally.

At IU, each of these rooms has a single 65" display and space for up to eight people. People in the rooms can connect only to people in other Cisco TelePresence rooms.

**Thermal zones**
The CIB is divided into zones, each with its own temperature control. Different areas with adjustable controls help maintain a constant building temperature, reduce drafts, and maintain humidity levels among areas.

Taken together, these zones, maximizing natural light, and using sensors that activate lights only when people are present help us work toward reducing energy consumption by 28%.

**Reconfigurable meeting rooms**
Reconfigurable -- or flex -- meeting areas are made up of three distinct spaces:

- A teaming space, with couch, barstools, and a convenient display
- An internal meeting room, with teleconferencing capabilities
- A garage space with writable white glass and a coffee service area

The walls are movable so the entire area can be opened up. This flexibility helps us maximize use of space.
Sound masking system
The CIB’s sound masking system makes nearby conversations unintelligible. The system can also be used as an intercom, or to play music. Lower ceilings in work areas also help reduce noise. Some of them, referred to as clouds, contain recycled t-shirt material that absorbs sound.

Kitchen
The shared kitchens promote two key green measures:

- Shared conveniences: Staff kitchenettes reduce the need for personal items (such as coffee makers and mini-refrigerators) that use extra energy.

- Recycling. The following recyclables are collected in the CIB:
  - Plastics (1-7)
  - Paper and cardboard
  - Aluminum cans
  - Steel and tin
  - Glass
  - Batteries
  - Electronics
Media Reports: Cyberinfrastructure Building

WTIU News, Oct 12, 2011
“IU Dedicates Cyberinfrastructure Building”
http://www.youtube.com/watch?v=uT8a_pWhIPM

UIITS News, October 27, 2011
“WELCOME TO THE CYBERINFRASTRUCTURE BUILDING (CIB)”

HPC Wire, April 29, 2010
“IU Cyberinfrastructure Building to Support Mission of Entire University”
http://tinyurl.com/c7k7qbu

IU Home Pages, October, 2011
“McRobbie, dignitaries dedicate IU’s ‘greenest’ building, tech headquarters”
http://homepages.indiana.edu/web/page/normal/19948.html

Indiana Public Media, October 12, 2011
“IU Dedicates Cyberinfrastructure Building”

Indiana Intellectual Property and Technology Blog, November 10, 2011,
“Indiana University Dedicates New Cyberinfrastructure Building”
http://tinyurl.com/c3cw7ql

WTHR.com, October 12, 2011
“IU dedicates new Cyberinfrastructure Building”

Fort Wayne Journal Gazette via Associated Press, October 12, 2011
“IU to dedicate Cyberinfrastructure Building”
http://tinyurl.com/c5ch28p

Green Business Network, October 17, 22011
“The new $37 million Cyberinfrastructure Building of the Indiana University in Bloomington, Indiana, US has been opened”
http://tinyurl.com/cv8a7wd

World Construction Network. October 17, 2011
“Indiana University opens Cyberinfrastructure Building”
http://tinyurl.com/d4qga2a

Chicago Post-Tribune, October 12, 2011
“IU to dedicate new Cyberinfrastructure Building”

World Architecture News.com
“SmithGroup’s $37m Cyberinfrastructure Building opens at Indiana University”
http://tinyurl.com/cjhoqo69
LEED: Leadership in Energy and Environmental Design

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- Site planning
- Water management
- Energy
- Material use
- Indoor environmental quality

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Rain gardens and wastewater management

The exterior landscaping is designed specifically for wastewater management and to eliminate the need for irrigation:

- The rain garden captures roof runoff from the building's in-wall drains. That water soaks into the native plantings, which then act as a natural filter. This configuration reduces the amount of water flowing into storm drains and eliminates or reduces erosion, pollution, and flooding. On an especially rainy day, overflow from each of the levels contributes to a waterfall effect.

- The parking lot also helps with managing water runoff. Water is directed to the low areas east of the main parking lot. Trees, native grasses, soil, gravel, and other materials filter water before it drains into the storm sewers.

- Native plantings eliminate the need for a permanent irrigation system. While plantings required initial watering to become established, they will not require additional tending thanks to their suitability to our local climate.

Flexible workspaces

The CIB provides an open work environment conducive to collaboration, communication, and creativity. Extensive wireless connectivity and power access, as well as a variety of seating options, offer staff a choice of where and how they work. Dubbed the "Quantum Workspace," the CIB maximizes the flexibility and adaptability of meeting spaces including:

- Focus booths for two to four people
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- Informal individual and group seating
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- Outdoor bench, table, and couch seating

Transportation

To help us meet LEED requirements and to encourage people to go green, those who drive fuel-efficient cars get the best parking at the CIB. There's even a plug for people who drive electric cars, so they can recharge at work.

Likewise, to encourage people to ride their bikes to work (which saves energy and keeps them healthy) the CIB has a secure bike garage inside. The garage even has tools for bike repair and an area where bikes can be hosed down in case they become dirty.

- Parking spaces in previous lot: 200+
- Parking spaces in the new CIB lot: 93
- Spaces dedicated for fuel efficient vehicles: 6
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Sustainability is the foundation of the CIB.

- Exterior sunshades that block or capture light as needed
- Automated interior sunshades that adjust to season and time of day
- Solar power for water heating
- Rain gardens and storm water systems
- Low maintenance landscaping
- Advanced recycling and disposal practices

The building is a new model for IU.

- The CIB models a new energy efficient workplace. Staff work spaces have LED lighting. Book-filling stations dispense filtered water, keeping plastic from the waste stream. Sensor-controlled lighting cuts down on electricity. Print-release stations reduce paper use. Automatic faucets save water.

A culture of sustainability is made of countless individual actions.

- Recycling at each desk and in communal kitchens supports the environment. Fuel-efficient commuting lowers carbon emissions. Biking to work promotes Living Green. Walking and using the stairs promotes Living Healthy.
The majority of the building includes spacious and flexible working spaces.

Solar Water Panels

The roof also houses solar water panels that use a portion of the hot water needed in the building, including kitchens, bathrooms, and dining facilities.
Welcome to the Indiana University Cyberinfrastructure Building, commonly referred to as the CIB. The CIB is an important element in the university’s energy conservation strategy. The greenest building on the IU Campus, it sets a new standard in reduced carbon footprint. It combines behavioral practices with energy-saving practices to aspire to the highest LEED rating of any university building on any IU campus.

LEED stands for Leadership in Energy and Environmental Design. LEED is an internationally recognized green building certification process developed by the U.S. Green Building Council (USGBC). There are five categories associated with LEED Certification; the Cyberinfrastructure Building addresses each through a variety of design concepts, construction methods, and behavioral practices:

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- Water management
- Energy & Atmosphere
- Material use
- Indoor environmental quality

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Building stats

- Size: Approx. 123,000 gross square feet
- Cost: Estimated at $37M
- Construction: Around 18 months
- Three stories; partial basement
- Two wings
- Outdoor terrace with sofa and individual seating, tables, and sun umbrellas
- Three-story Atrium with Cyber Café and Wrubel Commons
- Food: Cyber Café offers coffee, soft drinks, and a la carte items
- Events: 250-person reconfigurable, multipurpose space adjacent to Atrium
- Workspaces: 630 for Bloomington-based staff and 50 "hotel" workspaces for IUPUI-based colleagues
- Commons staff seating: Around 125 seats total, in floor hallways and near windows
- 36 focus booths;
- 6 conference rooms
- 1 boardroom
- 5 Reconfigurable meeting rooms
- 3 TelePresence rooms
- Security cameras at entrances, exits, and other strategic locations
- The Wrubel Commons and Cyber Café are open to the public
- Access to staff areas requires a key card. We refer to this as the security envelope.

Today we will talk about the building in general and the energy-conservation features that are part of our LEED certification efforts.

- You will see many individual energy-saving devices and practices.
- Constructing (or redesigning) a building provides an ideal opportunity to introduce energy-savings on a larger scale.
- Energy-reduction efforts need not happen on the grand scale.
- Each individual step, each action contributes to the overall savings.
Our tour begins outside, continues around the building, and concludes in the Wrubel Commons. Questions are welcome along the way.

**Exterior and landscaping**

- The landscaping was designed to require little management, and to be part of the water management system.
- Rain garden - Contributes to Water Management LEED Points
- The CIB site is landscaped with native and low-maintenance vegetation, chosen for hardiness, and to achieve specific functions.
- Designed for Indiana’s climate, they do not require additional water.
- There are no permanent irrigation systems at the CIB. The site is planted with native and low maintenance species including:
  - Bald cypress (at front steps/rain garden)
  - Sedge Grasses (rain garden)
  - Lilyturf (perennials in first island at base of front step)

The vegetation also plays a role in the storm water management system.

- The CIB rain garden captures roof runoff from the in-wall drains.
- Runoff from the CIB roof travels through drains embedded in the building walls, down to rain gardens.
- On an especially rainy day, overflow from each of the levels creates a waterfall effect.
- This filters water, reduces the amount flowing into storm drains, and eliminates or reduces erosion, pollution, and flooding.
- Absorbs much of the water before it enters the sewer system.
- Specific consideration was given to protecting as many mature trees as possible. Additional planting has resulted in more trees than before construction.

**Bioswale - Contributes to Water Management LEED Points**

- This landscaping is designed to collect storm water from the parking lot.
- Collects water; plants absorb a portion of it.
- Remaining water is filtered through soil, gravel and other materials to remove as many contaminates as possible before water enters the storm sewer system.

**Commuting**

Biking, carpooling, and fuel-efficient vehicles help lower carbon emissions.

- To encourage biking to work – good exercise and a means of reducing carbon emissions — the CIB provides outdoor bike racks and a secure, indoor bike storage area with room for 35 bikes.
- On hand are tools for bike repair.
- Nearby showers and lockers facilitate the transition from workout to work day for those who bike to work, or exercise during the noon hour.

- UITS supports carpooling and fuel-efficient/electric vehicles. These get top parking spots.
- While LEED doesn’t define what a Fuel Efficient Vehicle is, our FEV spots are usually filled with Hybrids.
- Infrastructure is in place for future installation of plugs for electric vehicles.
- (Contributes to Site Planning LEED Points)

**White concrete parking lot**

- The parking lot is paved with white concrete, instead of black asphalt. That helps it stay cooler and last longer overall.
- The eastward slope means water drains into the landscaping. The design is so effective that the landscaping crew used sandbags to keep enough water in the beds while the low-maintenance landscaping took root.
- (Contributes to Site Planning LEED Points)

**Construction**

Exteriors
• The CIB design conserves heat, light, and water. Several features work together to capture or moderate sunlight, filling work areas with natural light, and helping to lower lighting costs.
• Large walls of glass are crossed with external metal louvers mounted on frames.
• Louvers block summer sun coming from a high angle, and admit winter light from a lower angle.
• Perforations diffuse the light as it enters the building.

White reflective roof and solar panels
• The CIB roof is covered in a white, rubber membrane.
• Reflects the sun’s rays
• Reduces the amount of heat energy absorbed by the structure
• Contributes to the overall heating and cooling efficiency of the building

The rooftop solar panels have water running through pipes embedded in them.
• These are connected with a water storage system in the basement.
• The sun heats the water in the pipes
• This connects with a water storage system in the basement
• When the temperature reaches a certain point, it mixes the water in the system
• Solar water panels provide a portion of the hot water for bathrooms, locker rooms, kitchens and dining services.
• (Contributes to Energy LEED Points)

Louvers and shades
• Exterior louvers and interior sunshades work together to block or capture light as needed, according to the season.
• The louvers are in fixed positions and block summer sun coming in from on high, but let in winter light from a lower angle.
• The metal louvers are perforated, diffusing light that enters the building during the summer.
• The metal louvers are generally along the open-office work spaces we will see when we get to the third floor.
• The glass louvers are primary positioned at the end of the wings and mark the conference rooms.
• Opaque, off-white, interior shades are programmed to adjust during the day and across the seasons. These can also be individually calibrated at any interval.
• (Contribute to Energy LEED Points)

Basement - RIGHT SIDE OF HALL FIRST

Bike storage
• To encourage staff to consider biking to work, the CIB provides outdoor bike racks and a secure indoor bike room.
• The bike room is secured by key card access.
• Space for 35 bikes
• (Bike parking – Contributes to Site Planning LEED Points)

Forensics lab
• The IT Forensics Lab provides chain of custody for computers being held for investigation.
• We securely store technology involved in suspected illegal activities during the investigation process.

Locker rooms
• The building includes men’s and women’s locker rooms with showers.
• The CIB Living Healthy team encourages staff to explore nearby fitness opportunities (from the Student Recreational Sports Center to the cross country trails). Showers make it easy to transition from exercise back to the workplace.

Mechanical room
• The mechanical room houses the internal workings of the building. Pipes are color coded to indicate their purpose.
• One of the 2 chillers that cool water for CIB air conditioning was salvaged from the nearby Wrubel Computing Center.
• Recycling the old chiller saved the university the cost of buying a new one.
• (Contributes to Energy and Atmosphere LEED Points)
**LEFT SIDE OF HALL**

Storage – Do not enter with tour
- CIB workspaces provide some storage for individual needs, but not for extensive equipment or supplies.
- We cleared a great deal of clutter before the move
- This space provides storage space for groups who need to keep materials on hand.

Flex labs – Do not enter these rooms with tour
- These spaces are currently designated flex labs.
- They can host large gatherings, training workshops, or daily collaboration.

Phone operators – Do not enter with tour
- This space houses the Campus Call Center.
- Operators are available 24/7/365 so it’s important provide a secure work area at all times of day.

**FREIGHT ELEVATOR TO 3rd FLOOR**

Third floor

Coats, mail, and bookshelves
- At the end of each wing are staff mailboxes, coat racks, and a shared library.
- In preparation for the move, staff donated books for the shared library. A loaning system is currently being set up.
- We are still finding homes for an additional 1,000 titles.

Security office
- This enclosed space houses the IT Security Office.

Open, interesting workspace
- The CIB provides an open work environment conducive to collaboration, communication, and creativity.
- With colleagues just across the room, collaboration is easy.
- Extensive wireless connectivity, power access, and a variety of seating options, provide choice of where and how to work.
- Comfortable, visually interesting seating arrangements build interest and bring people together.
- Chairs along the windows provide alternate seating. A change of scene can boost creativity.
- A generous outdoor terrace with tables, chairs, and sun umbrellas encourages outdoor working or relaxing.
- Dubbed the “Quantum Workspace,” the CIB maximizes the flexibility and adaptability of meeting spaces.
- A visually interesting workplace helps promote the organizational culture.

Individual workspaces
- Staff moved from enclosed offices or cubicles into the open CIB, a new, clutter-free culture.
- The work environment is now close to “paperless.”
- Shared facilities and improved indoor climate make small desktop electronics unnecessary.
- Eliminating individual printers, heaters, water heaters, and fans saves untold amounts of energy.
- The improved HVAC systems in the CIB obviate the need for desk-side climate control.
- LED task lamps with infrared occupancy sensors replaced individual lighting arrangements, contributing to energy savings.
- IU’s unified communications service (UniCom) combines voice, video, and data in a unified desktop system.
- Staff have instant messaging, telephony, email, shared desktops, and audio/video conferencing.

Our pre-move “Clear the Clutter” campaign collected from our former cubes, offices, and countless file cabinets:
- 19,994 pounds of non-sensitive paper for recycling
- 8,850 pounds of paper containing sensitive data that were shredded securely
- 52 pallets of electronics sent to IU Surplus for resale and recycling
Meeting rooms, teleconferences, TelePresence

- These light-filled spaces are configured for in-person and at-a-distance collaboration.
- Communications technology encourages collaboration and cuts down on travel time and carbon emissions.
- Technology in TelePresence rooms, including 65" LED displays, provides lifelike meeting experiences with reduced sound delay so conversations flow naturally.
- UniCom and teleconferencing together achieved a 32% decrease in in-state travel expenses (and carbon emissions) and staff travel time between 2011 and 2012.

Ceiling, floor, lights, sound suppression

- The drop ceilings (Clouds) are made with recycled t-shirts.
  - Provide a more enclosed feel to the space and absorb sounds.
- The raised floor conceals mechanical and electrical services
  - Cools the building via a conditioned chamber
- Lights in hallways, meeting rooms, staff work areas, and restrooms are on infrared sensors
  - Turn on only when people enter the room.
- Sound masking system makes nearby conversations unintelligible across the open workspace.
  - Can also broadcast intercom or emergency messages, or play music.
  - A white noise machine muffles sound

Thermal zones

- The CIB is divided into thermal zones, each with its own thermostat.
- This helps maintain an even temperature, without drafts, and keeps humidity within a comfortable range.
- Vents near the windows deliver heating and cooling, and limit condensation.
- In-floor air vents next to/near workspaces allow for individual adjustments.

Reconfigurable meeting spaces

- We will move through one of the CIB's 5 reconfigurable meeting spaces.
- The walls are movable, so we can open up the entire area.
- These provide three distinct spaces
  - Teaming space, with couch, barstools, and a convenient display
  - Internal meeting room, with the teleconference setup
  - Garage space with writable white glass and a coffee service space.

OVPIT suite

- This is the Office of the Vice President for Information Technology, housing the Vice President and his Cabinet.

Enclosable board room and meeting room

- To the left is a reception area, and to the right is the enclosed boardroom. The boardroom’s glass partition is retractable so the two spaces can be combined into one larger multi-function area.
- In addition to the boardroom, there is a meeting room for smaller gatherings.

AVP offices

- Along the perimeter of the suite are the offices of the executive leadership who guide the continued development of IT@IU.
- The middle section houses support staff who assist leadership and the UITS team.
TelePresence room

- This Cisco TelePresence system creates a lifelike meeting experience in which remote participants appear life-size.
- All TelePresence rooms are set up according to specific guidelines.
- From August 2011, through June 2012, CIB TelePresence rooms hosted 606 hours of meetings.

Third floor

Atrium

- Contributes to open, airy environment
- Provides a view into the Wrubel Commons.

Sound masking system

- Here you can get a close-up look at the sound masking system (the speaker is mounted over there).
- It plays continuous white noise, and works in conjunction with the drop ceilings to dampen the sound in the open workspace.
- Doubles as a public address (PA) system.
- Can also pipe in music.

Focus Booths

- 29 enclosed privacy rooms for one to four people.
- Some provide monitors and workspaces; some have casual seating.

Print/scan/copy room

- Eight print release stations serve the CIB staff of 600, a considerable energy savings over former multiple group and individual printers.
- The print release system slashes unwanted and wasted printing, and encourages the move to digital formats
- LEED requirements call for enclosed spaces for printers and copiers, and separate ventilation systems.
- This limits emission of paper and toner particles, and preserves good air quality in open staff work areas.
- (Contributes to Material Use and Indoor Environmental Quality LEED Points)

Living green and healthy

- Communal kitchens on each CIB level provide:
  - Refrigerators, hot water dispensers, coffeemakers, hooked into the building’s filtered water system
  - Replaced individual appliances
  - (Contributes to Energy – LEED Points)

- Recycling and waste bins
  - Recycle plastics 1-7, cans, paper, electronics, and glass.
  - Each workplace has a two-part wastebasket: large for recyclables, and a smaller one hooked to its side for true waste.
  - Every contribution counts.

Emergency phone

- Every wing has a red emergency phone.
- This analog phone will continue to function during power and network outages.
- The other building phones are VoIP (Voice over Internet Protocol).

Bottle filling stations
The bottle filling stations set into the wall provide filtered drinking water. Reduce the use of plastic bottles. Each time a glass of water is dispensed, a meter shows the number of plastic bottles avoided. Watching the numbers grow is a great incentive. Contribute to Water Use LEED Points

Bathrooms

- Bathrooms are equipped with low-volume flush toilets or low-flush urinals.
- Faucets are automatic and respond to motion.
- These advance our goal of a 40% reduction in water use.

Stairwell - 3rd Floor

Walking path/exterior LED lights/net positive on trees – Contributes to Site Planning LEED Points

- From this vantage point, you get a nice view of the CIB walking path with its exterior LED lighting.
- We were able to keep many of the trees during building construction, and add to that number.

Role of University Landscape Architects

- Ensured preservation of most original planting.
- Architects specified low-maintenance native landscaping, including the rain gardens in front.
- One sweet gum tree had to be removed to make room for the building.
- The building contractor donated a replacement for it.
- Some of the sweet gum wood was salvaged. The Green Team hopes to have it turned into artwork.
- Low-maintenance landscaping contributes to Water Use LEED Points.

Proceed down stairs to first floor landing

- Bluebird houses were installed in memory of Dick Repasky, a deceased colleague and naturalist.
- Dick was an avid birder and a key contributor to the IU bioinformatics community.
- Several colleagues tend the birdhouses during bluebirds’ two mating seasons.

First floor

Support Center

- This is the UITS Support Center
- It provides 24x7 support for desktops, email, accounts, network services, and applications.
- The Support Center is available via phone, chat, and email.
- There are also walk-in locations on campus.

GRNOC with video wall

- This is home to the Global Research Network Operations Center, frequently referred to as the GRNOC.
- It provides 24x7x365 expert support for the most advanced research networks in the country.
- A video wall displays network traffic.

Food service and Cyber Café

- Sustainability extends to nutrition.
- On-site food service from IU’s Residential Programs and Services (RPS) means burning less fuel in search of nourishment.
The UITS Living Healthy team worked with RPS to provide a healthful range of foods, including fresh fruit, salads and freshly made sandwiches.

(Contributes to Site Planning LEED Points; staff need not travel for food.)

CIB food services and the Wrubel Commons (with seating for over 100 people) are open to the public.

The outdoor terrace provides comfortable seating and shade umbrellas for eating and relaxing.

Video wall

The Advanced Visualization Lab operates the video wall in the Commons. It comprises 24 displays, for a total resolution of 25 Megapixels.

Can showcase projects or collaborate with colleagues on the big screen.

Wrubel Commons

The handsome and spacious design of the CIB, with its multistory lobby space and open view of the Wrubel Commons, encourages staff to walk to their floors.

Designers expected staff to use elevators, but most people use the stairs, though elevators are on hand.

In August 2011, the IU Trustees approved naming the CIB’s central commons the "The Marshal H. Wrubel Commons," officially transferring the name from the Wrubel Computing Center.

Dr. Wrubel completed his PhD at the University of Chicago in 1949.

Wrubel accepted an Assistant Professorship at Indiana University in 1950, and by 1966 was Professor of Astronomy.

He was also chairman of the interdepartmental committee on astrophysics.

From 1955 to 1958 he served as the first director of IU’s Research Computing Center.

Professor Wrubel left a long legacy of bringing IT together, so it’s fitting that the building’s central meeting and gathering place is named after him.
LEED Narrative for Innovative Credit for Education
Educational Outreach Program
Cyberinfrastructure Building (CIB)

University Information Technology Services (UITS), the organization that supports and advances the Indiana University (IU) infrastructure of IT resources and services, is a dedicated partner in helping IU realize the energy-saving goals of its 2020 Vision: a 20% reduction in energy consumption in campus buildings, a 40% reduction of potable water use, phasing out of coal combustion on campus, deriving 15% of total energy from renewable sources, installing smart meters, making utility information available, and more (http://www.indiana.edu/~sustain/docs/A_DecaDecade_of_Sustainability_2020_Vision_Final.pdf).

The IU Bloomington Cyberinfrastructure Building (CIB) joins the IU Data Center and Innovation Center as the newest building at IU Technology Park East, at 10th Street and the Indiana State Road 45/46 Bypass. It is a prominent feature of the UITS and university programs of advocacy for sustainable workplace and computing practices. It raises the bar for energy-efficient construction on campus and in the community, and sets a new standard in reduced carbon footprint by combining behavioral and energy-saving practices. It is also highly visible, located at a major intersection that is heavily used by both town and gown. It is accessible to the rest of the campus, and within walking distance of several on- and off-campus student housing complexes. In providing a university Commons, the CIB is a gathering place for the Tech Park, university, and Bloomington communities.

The CIB attracted considerable media attention before and after its dedication as an important addition to Tech Park East, as a pioneering, open work place, and for the multiple structural, landscaping, and internal energy-saving features and practices it incorporates. This visibility is an advantage in IU’s promoting the CIB as a site where visitors can learn about energy-saving features, understand how they function, and see them at work. This media attention has augmented interest in the building, so it is likely that visitors enter the building with a sense of expectation, and in that mindset are especially interested in descriptive signage.

Attachment One: CIB media reports (Attach1_CIB_Media.docx)

The CIB “green” education program highlights the building’s energy-conservation features and culture with an integrated program of signage and tours, and a publicly accessible web site at http://uits.iu.edu/cib, all of which explain how these elements work individually and together in conserving energy and promoting sustainability. IU hopes that building awareness and understanding will help advance the adoption of energy-saving practices in the university, in business and government, and in private homes.

Signage Program
As home to the university’s information technology staff and resources, the CIB is by necessity a secure building. Access to its interior is by staff card key only.

Located throughout the CIB is a comprehensive program of fixed and digital/interactive signage that can work alone or in support of the CIB educational tours program. For staff working in the CIB, and for guests who come to the CIB for meetings, these readily visible signs mark aspects of
energy-saving and sustainability features on or inside the building, and provide concise explanations of how they work. For staff, the signs serve as daily reminders. For example: The walls of windows naturally attract attention. Staff routinely see the signs that describe the role of the perforated louvers in filtering or allowing sunlight, and the programmed operation of the shades. As staff draw water from the bottle-filling stations, a digital readout displays how many plastic bottles have been kept from landfill by using re-usable drinking glasses or bottles. The climbing numbers of the digital readout provide a true incentive.

Several areas of the CIB are open to the university community and the public during regular working hours, and during special events, guided tours, lectures, and ceremonies: The wide outdoor terrace, the Atrium, and the Cafe’ Commons and seating area. The energy-saving and sustainability features in these areas are marked by explanatory signs. For example, by the main doors that open out to landscaping, signs discuss the role that hardy, native plants play in saving water, and in reducing runoff that flows into storm sewers.

Attachment A: Complete text of current, fixed signage (A_LEED Signage.docx)
Attachment B: Representative photos of fixed signage (B_Sign Examples.jpg)

Signage also plays an important part in the CIB educational guided tour program, marking stopping points along the tour, and providing visitors with a summary overview of the guide’s explanation.

Digital signage
Educational digital signage in the CIB is of two kinds. Interactive, 40"x26" touchscreen signs on each floor offer such university information as campus maps and bus schedules, and feature CIB-specific information, with a special focus on the CIB’s sustainability and energy-saving features. The screens are populated with information from the CIB web site at http://uits.iu.edu/cib, or from other sources. These screens will allow for streaming and animation and provide interactive, current information about CIB energy conservation features. For example:

- Users will select one of the building’s “green” features by word or icon.
- The screen will zoom to the feature’s location in or on the building or grounds
- Users will see an explanation of how the feature works, and its role in energy conservation.
- Streaming will enable other features, e.g.: links to other uses, further reading, and so on.

Attachment C: Touch screen display – CIB sustainability (C_CIB Digital Signage.jpg)

Other interactive signage that contributes to the CIB educational program includes the IQ Table and the IQ Wall. “IQ” stands for I-quaded or I4, or “Inexpensive, Interactive, immersive Interface.”

The IQ Table is an interactive display screen oriented like a tabletop. Visitors can reach down and touch or move icons on its surface. At the first annual CIB Family Night, IU employees were invited to bring their families to a CIB open house, where special activities were designed for children. The IQ Table featured a colorful display representing facets of the CIB energy
conservation program. Children enjoyed interacting with the display while their parents read the explanatory material. Staff can program the display to provide information of special interest to visiting groups. The IQ wall, comprising 24 displays, each running at 1366px x 768px, for a total resolution of 8196px x 3072px, or roughly 25 Megapixels, can be programmed for viewing by a large gathering.

Attachment D1: Interactive touch screen, Family Night (D1_FN_Welcome.jpg)  
Attachments D2: IQ Table – Sustainability, Family Night (D2_FN_IQ_Table.jpg)  
Attachment D3: Touch screen display, Family Night (D3_FN_Screen.jpg)

CIB educational tours program

The CIB has been hailed in the media as raising the bar for energy-efficient construction on campus and in the community, and setting a new standard in reduced carbon footprint by combining behavioral practices with energy-saving practices. Locally, the university leverages its relationship with the City of Bloomington to promote the CIB as a new and achievable model of green construction. As a destination for conferences, classes, tours, and events, the CIB serves IU’s education and outreach missions with building tours that highlight its open work plan, and its energy-conservation features and practices.

Educational tours of the CIB building and grounds, available upon request, demonstrate these energy-saving features and practices. Trained IT staff tour guides show visitors each feature of landscaping, design, construction, and “green” living that work together to achieve an energy savings that should approach 30%. Many landscaping, design, and cultural practices are sustainable practices that IU and the surrounding community can consider in future construction projects.

The tour script that serves as a basis for the guide’s narrative is closely integrated with the CIB educational signage to present consistent messaging.

Attachment E: Tour script   (E_Tour Script.docx)

When groups request tours, they complete a form which asks:

- Please describe your interest in the CIB.
- Are there specific aspects for the building about which you hope to learn?
- What are your goals for the tour?

This allows UITS to plan tours around visitor interests, and to have on hand experts who can to discuss specific features. Tours have touched on designing an energy efficient technology infrastructure, developing and advocating green business practices, building recycling awareness and practice, modeling sustainable construction, and modeling a workplace culture of sustainable practices.

Other groups and interests have included:

- Visitors from a small college in Botswana: facilities planning, lighting and sound controls, open work space, and remote conferencing facilities.
- Cook Group, Inc., Bloomington, IN
Visitors see that each practice – sustainable lighting on individual desktops, for example, contributes to energy savings. Seeing an IT staff member use a print-release station may inspire a small business to implement one to save paper. Tours shows how workable desk-side recycling is. The hope is that each visitor will be inspired to find an energy-saving practice that suits each individual, room, office, or building. The will see that introducing energy-saving practices need not entail a full-sweep re-engineering of the workplace or home. Instead, the contribution of one office, household, or company contributes to the collective savings.