



Hart County Charrette
Gateway Industrial Campus



REPORT PRODUCED BY
Center for Community Design and Preservation
College of Environment and Design
The University of Georgia
Design Charrette
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TEAM

CHARRETTE PARTICIPANTS

Charrette Leader: Jennifer Lewis
Center for Community Design and Preservation (CCDP)
Certified Local Government Coordinator

Ilka Decker
Hart County Archway Professional

Charrette Team: *Masters of Landscape Architecture (MLA):*
 Lara Browning – Jonesboro, Tennessee
 Amber Chistoffersen – Vienna, Virginia
 Hayes Fairchild – Jacksonville, Florida
 Neenah Hoppe – Centerville, Maryland
 Jacob Lange – Bowling Green, Kentucky
 Hazel Lewis – Trinidad, Tobago
 Amanda St. Denis – Virginia Beach, Virginia
 Andrew White – Fredericksburg, Virginia
 Gwen Wolfgang – Watkinsville, Georgia
 Megan Zeigler – Denver, North Carolina

Bachelors of Landscape Architecture (BLA):
 Kenny Thompson – St. Simons, Georgia

Masters of Social Work
 Katy Thompson – Athens, Georgia

*Charrette Report
 Production:*

Megan Zeigler
MLA Student and Charrette Coordinator

Jennifer Lewis
CCDP Certified Local Government Coordinator

Pratt Cassity
CCDP Director and Charrette Leader

Graphic Design:

Eleonora A. Machado
CCDP Graphics Coordinator

GATEWAY INDUSTRIAL CAMPUS

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Charrettes are product oriented and fast becoming a preferred method to solve planning challenges confronting American cities.



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CHARRETTE

WHAT IS A CHARRETTE?



Charrette is a French word that translates as "little cart".

Charrette is a French word that translates as "little cart". At the leading architecture school in the 19th century, the Ecole des Beaux-Arts ("School of Fine Arts") in Paris, students were assigned tough design problems to complete under time pressure. They would continue sketching as fast as they could, even as the little carts (charrettes) carried their drawing boards away to be judged and graded.

Today the word "charrette" describes a rapid, intense, and creative work session, in which a design team focuses on a particular design problem and arrives at a collaborative solution.

The charrette process is a way of evaluating resources through new eyes. Fresh ideas are what help communities maintain and build their vitality. With the report and supporting materials, readers will experience the enthusiasm and commitment which comes from a broad-based group of students, faculty, practitioners, and the public.

Source: National Charrette Institute

What is the Archway Partnership?

The Archway Partnership is a new way to deliver a full range of University of Georgia resources to counties facing significant issues related to rapid growth.

What does the Archway Partnership do?

The Archway Partnership promotes community economic development; adapts to assist with each region's unique, expressed needs; and provides leadership by partnering with other higher education institutions, state agencies and local communities.

Who does the Archway Partnership serve?

Archway serves individuals, community organizations, business and industry, public private partnerships, and government entities.

For more information visit:

<http://archwaypartnership.uga.edu>

OVERVIEW

Hart County's industrial park is named "Gateway" – and for good reason. It straddles Exit 177 on Interstate 85 and is the first impression travelers have upon entering Georgia from South Carolina, and of Hart County along Highway 77, which leads to downtown Hartwell. The Hart County Industrial Building Authority is keenly aware of this, and recognizes the importance of setting its industrial park apart from the competition by attracting new industries. The Authority has set the bar high for this new industrial park, by incorporating protective covenants to ensure environmentally-sensitive developments as well as high-end manufacturing jobs. Gateway's newest arrival, CD Controls, Inc., is pursuing LEED certification in the development of their parcel. This has spurred the Authority to explore how LEED-inspired development principles could be used throughout the Park.

The Center for Community Design and Preservation (CCDP) was invited by the Hart County-UGA Archway Partnership to produce a conceptual master plan for the two halves of the Industrial Park – Gateway I, which has been partially developed, and Gateway II, which is undeveloped. The Charrette Team was encouraged by the high standards and efforts to-date that the Authority has pursued, and was inspired to take these progressive ideas even further.

This report presents the Charrette Team's ideas and Guiding Principals for the development of Gateway Industrial Park. It is our hope this document will be useful to Hart County as they plan for a sound economic future.

GATEWAY PROTECTIVE COVENANTS

The Gateway Hi-Tech Industrial Park Joint Authority Protective Covenants of Franklin-Hart-Stephens Counties illustrate a regional commitment to the betterment of the citizens' lives and economy of Northeast Georgia. The Joint Authority has taken great strides in improving the park's overall appearance and environmental performance.



Some portions of Gateway I are still available for development.

The Covenants address architectural design and materials. They require any new building to “blend in harmoniously with adjacent buildings and to provide an attractive public appearance when viewed from a street or highway, or from adjacent properties.”

The Covenants state there should be a maintained setback of 75 feet for each industry that will be kept in a “good and attractive park-like appearance with no less than 25 percent of the total lot area for each site should be landscaped in green with suitable, planted groundcover, trees, shrubs, etc.”



View of Gateway I from the Georgia Welcome Center across Interstate I-85.

In regards to stormwater, the Covenants state, “disposal of all stormwater shall be in permanent ditches, culverts, etc. in such a manner to prevent any damage to adjacent properties public streets and utility distribution systems.” The Covenants specify minimums parking requirements but give no maximum limits which can negatively affect the amount of runoff being generated.

This Covenants spells out how Gateway Industrial Park should be used. This served as the starting point for developing this report's guiding principles. The objective was to strengthen vague recommendations and create clarified design guidelines for interested businesses.



The site for Gateway II is undeveloped farmland requiring minimal clearing for construction to begin.

ECO-INDUSTRIAL PARKS

WHAT IS AN ECO-INDUSTRIAL PARK?

An Eco-Industrial Park seeks to enhance environmental and economic performance through the sensitive management of natural resources. Indigo Development is the first consulting company to apply industrial ecology to the challenges of local and regional sustainable development. Ernest Lowe, Indigo Development's Director, introduced the concept of Eco-Industrial Parks (EIP) to the US Environmental Protection Agency in 1993. This led to the President's Council on Sustainable Development adopting EIPs as demonstration projects in 1995.

The desire of Eco-Industrial Parks is for communities and developers to work together to build more competitive, efficient and cleaner industrial developments. This system creates a niche for increased recruitment of new businesses which strengthen the local economy.

In the truest sense, industries involved in this approach would use each others' by-products and support the improvement in environmental performance for individual companies and the park as a whole. Communication between all industries and the community is a requirement for success.

Eco-Industrial Parks are

“... a community of manufacturing and service businesses seeking enhanced environmental and economic performance through collaboration in managing environmental and resource issues including energy, water, and materials. By working together, the community of businesses seeks a collective benefit that is greater than the sum of individual benefits each company would realize if it optimized its individual performance only.” (Lowe, 1998)

▶ As the Gateway Industrial Park continues to expand, careful forethought and planning should always guide how the park will grow. The Charrette Team decided Gateway Industrial Park should shift its focus and become the Gateway Eco-Industrial Campus. This subtle shift in terminology reinforces the goals of the Park and the businesses that should relocate there.



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▶ Campus settings have inspiring architecture, convey a sense of quality service in attractive settings. Placing an emphasis on the built environment sets a precedent for how industry should develop in Northeast Georgia. The Gateway Eco-Industrial Campus has the ability to combat the three year employment lull by offering innovative solutions.



ECO-INDUSTRIAL PARKS

CASE STUDY: INNOVISTA INDUSTRIAL PARK

The Innovista Industrial Park is a 108 acre park in Hinton, Alberta, Canada with 62 acres available for light to medium industrial development with lot sizes ranging from 1/2 to 8+ acres. Through innovative site design, green infrastructure and progressive local zoning, Innovista is Canada's first from-the-ground-up, eco-industrial park. It has received international recognition for its efforts and sets a new standard for future development in the region.

Innovista's three main objectives

- Green Infrastructure
- Amenities
- Green Buildings and Operations

Green Infrastructure

The park's infrastructure is multi-purpose, fully integrated and promotes alternative energy sources that reduce overall infrastructure requirements as well as lowering municipal operating costs. Eco-based planning significantly reduces the amount of impervious surfaces needed for the Park's road system while maintaining road frontage for all lots.

Existing wetlands have been supplemented with newly constructed wetlands and native plants to serve as wastewater and stormwater management for the site. The municipality requires developers to implement alternative stormwater management practices that also promote water conservation.



Hinton provides garbage and recycling pickup but encourages by-product synergies between the various businesses. Innovista has been designated to facilitate the flow of manufacturing materials and waste from business to business.

Amenities

Innovista has over 50 acres designated as greenspace and habitat corridors for wildlife. Utilities corridors double as a trail systems promoting recreational opportunities. The extensive trail network meanders throughout the Park allowing pedestrians, cyclists, and light electric vehicles full access to the site. Hinton is creating interpretative signs to focus on the unique aspects of Innovista.

Green Building and Operations

A Policy Framework was created for Innovista which strongly encourages the development of green buildings. Green buildings are designed to focus on increased efficiency of resource use while reducing building impacts on human health and the environment. Although not required to be LEED (Leadership in Energy and Environmental Design) certified, Innovista's design guidelines encourage features to meet the criteria. The lots were aligned on the North-South axis to optimize the buildings daylighting potential. Proper site selection minimizes site clearing and further disturbance of the forest.

For more information on Innovista, visit:
www.eip.hinton.ca

GUIDING PRINCIPLES

DESIGN SOLUTIONS

The Charrette Team expanded on the existing Gateway Industrial Park development covenants with Five Guiding Principals for New Development. These principals guided the redesign of the Gateway Eco-Industrial Campus to serve the needs of industry and its employees by linking the buildings closer to their natural surroundings.

The resulting plans protect vegetated wetlands and viewsheds, locating buildings and roads elsewhere.

Impervious surfaces are limited through shared arrangements and biking and walking trails are incorporated throughout. The keystone of this plan is a shared multi-use Professional Center that can house events and serve as a management center for the entire Campus.

OUR FIVE CENTRAL CONCEPTS:

1

Enhance Natural Assets of the Site

2

Preserve Ecological Processes

3

Implement a Multi-Transportation Network

4

Integrate Sustainable Systems

5

Lead in Innovative Design

- ▶ Gateway II has rolling hills and majestic views that should be preserved and factored into the design of the Campus as much as possible.



- ▶ The site's wetlands are a natural amenity that should be utilized as a valuable asset for the Campus. Its conservation is at the forefront of the Charrette Team's design solutions.



- ▶ High visibility of the Gateway Industries is a selling point for new businesses. New architecture should reflect the design quality that Hart County is promoting.

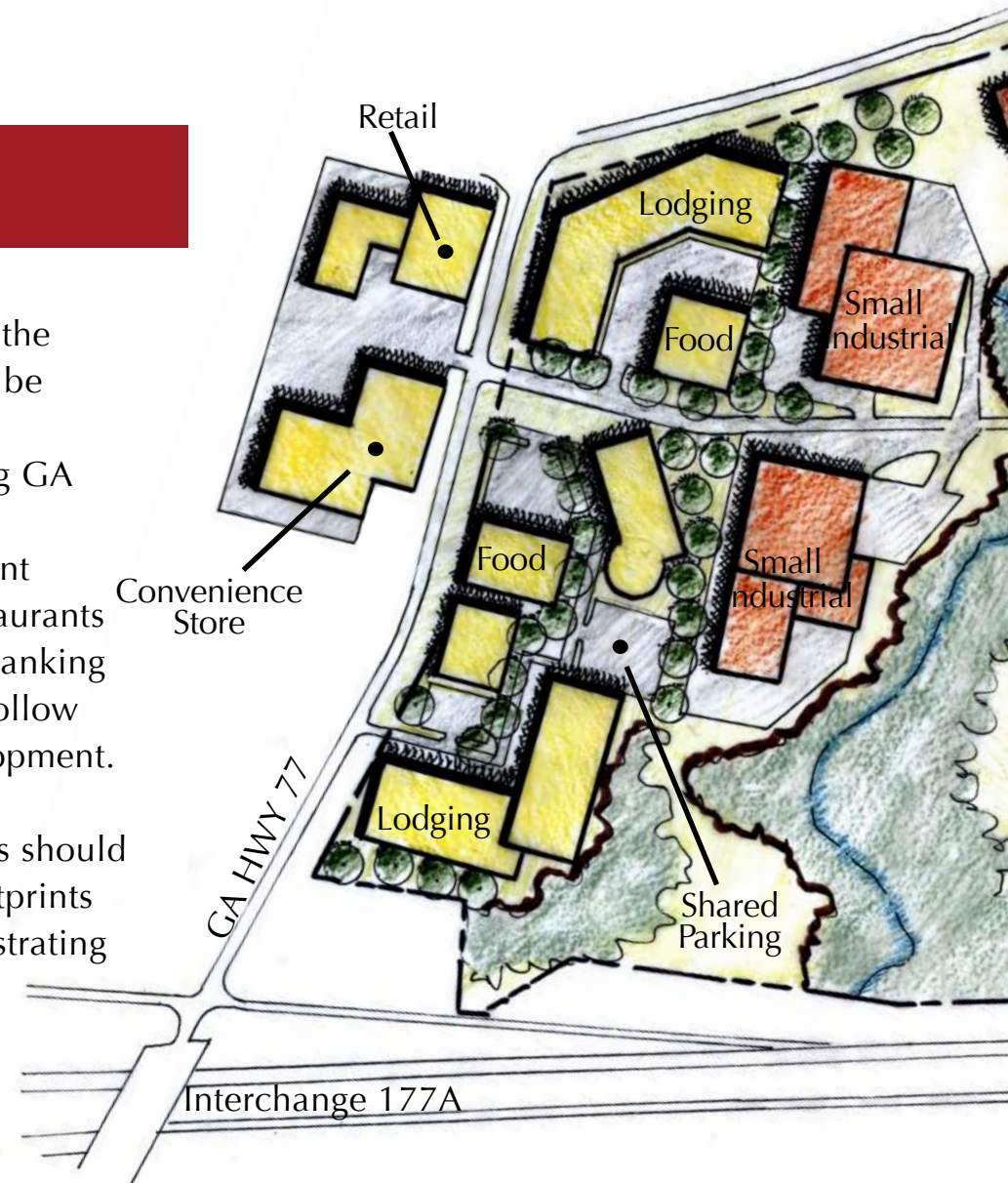


GATEWAY I

MASTER PLAN

Although construction is well underway in Gateway I, the Charrette Team felt the same guiding principles, could be applied to the remaining lots. The main feature of the Gateway I Master Plan is the commercial portion along GA Hwy 77. Lodging facilities and restaurants are needed amenities for the Campus employees. The Development Authority is strongly encouraged to promote local restaurants to locate here rather than the fast food chain options flanking I-85 interchanges. Commercial development should follow the same Eco-design principles as the industrial development.

The architecture of the Gateway Eco-Industrial Campus should reflect innovation and creativity. The new building footprints are depicted as more than just a square shape, demonstrating originality and imagination in how these industries present their product to the public.





Not To Scale

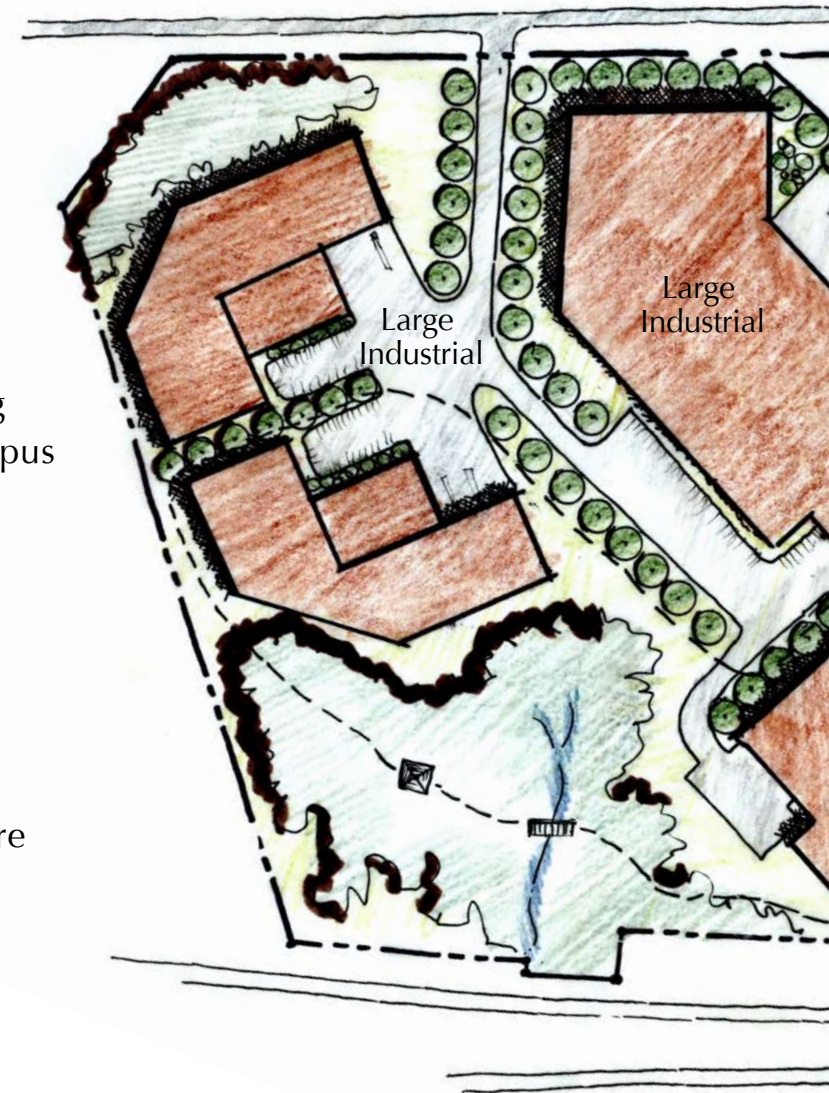
GATEWAY II

MASTER PLAN

The Gateway II design is divided into two spaces based on the existing topography and vegetation on the site. The western portion of the campus is comprised of smaller industries centered on a shared loading space with building frontage along a road that serves cars, pedestrians, and bicycles. The Professional Center provides common areas for social interaction and collaboration.

The eastern portion of the site is designed to serve larger industrial needs. Shared parking and loading areas reduce the impervious areas. A common area between buildings is at the north end of the site, where a gazebo is shown on the plan to provide a space for employees to socialize outside. Best management practices for stormwater can be employed adjacent to parking and buildings as the water drains to the major wetland areas on the site.

The following pages present details of the Master Plans for Gateway I and II in accordance with the Five Guiding Principles.





Not To Scale

1 Enhance Natural Assets

DESIGN SOLUTIONS

The Gateway Campus has beautiful and natural amenities. A view of the Appalachian Mountains and on-site wetlands are valuable assets for incoming industries and their employees to enjoy during the workday.

During the charrette's initial information sessions, the incorporation of nature trails was suggested as a great way to encourage exploration of the natural and built resources of the campus. These trails can also promote and promote health and wellness programs for the campus businesses.

Under current Covenants, the wetlands are protected by a 30 foot buffer. The Charrette Team feels it should be extended to a minimum of 50 feet. By employing innovative stormwater solutions of bioswales and bioretention, mitigation costs of protecting the wetlands will be minimized.





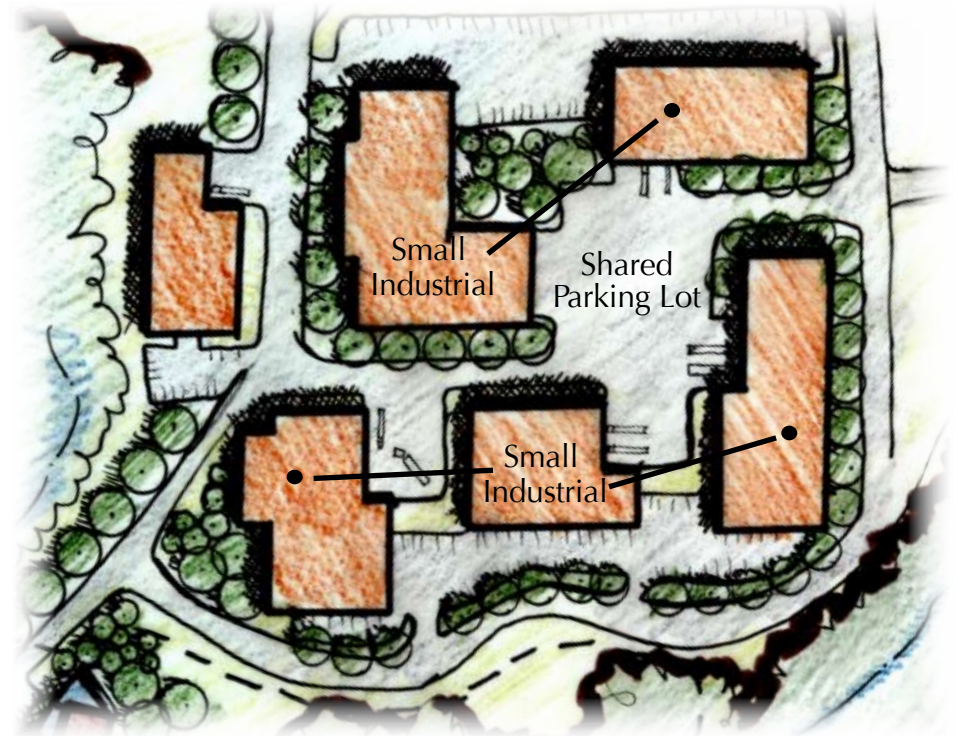
By bringing the building footprints closer together, more natural space is preserved. This allows for more amenities to be incorporated into the Eco-Industrial Campus design.

A gazebo can be a place for employees to take lunch breaks or for company events. Conveniently placed along the nature trails in Gateway II, they could easily be incorporated into future construction in Gateway I.

2 Preserve Ecological Processes

DESIGN SOLUTIONS

In addition to protecting natural assets on the site, preserving the ecological processes also enhances development in the Gateway Eco-Industrial Campus. By concentrating smaller footprint industries together and allowing them to utilize shared parking systems, the amount of impervious surfaces is reduced. This reduction contributes to less stormwater runoff, a lower heat island effect and more land dedicated to wildlife. More creative solutions than the standard pipe and culvert systems are less invasive and can be part of an educational experience for workers and visitors.



▲ Clustering smaller industries and sharing the infrastructure cost of parking lots and landscaping will entice starter businesses to locate their offices in Gateway.

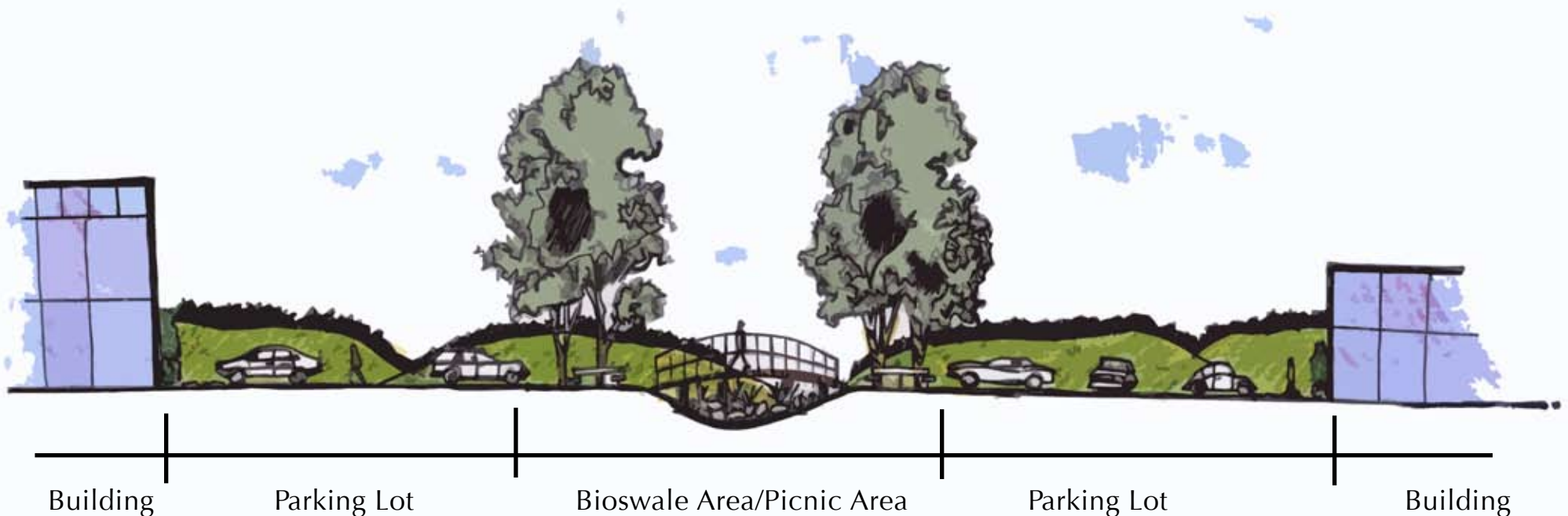
WHAT IS BIORETENTION?

Bioretention is a stormwater system that use soils and vegetation to control stormwater and remove pollutants that may be in the runoff. They are often called “raingardens” and can be implemented in numerous ways such as in residential areas and along parking lots or roadways.

For more information on how to build bioretention systems, refer to: www.georgiastormwater.com/vol2/3-2-3.pdf

Construction alters sites but by implementing strategic stormwater solutions during construction and immediately after, the impacts on the land will be lessened. The site natural character of the terrain is an asset for creating an effective, attractive stormwater treatment plan. Use topographic changes and natural land slopes to direct water into a series of bioretention ponds that are aesthetically and satisfy the Covenants requirements.

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Two buildings can share one parking area as well as shaded picnic area. Bioswale in center helps to redirect runoff from parking lot in an aesthetically pleasing fashion, appears as a dry creek bed in non-rain occasions, with dry river rock and plants that will tolerate both rain and drought conditions.

Multi-Transportation Network

DESIGN SOLUTIONS

Transportation is a vital component of an efficient business and should be adequately connected to all the appropriate access points. Although the vehicular transportation dominates the park at this time, the Charrette Team feels all modes of travel should be accommodated. It is unnecessary for employees to have to drive from their place of employment to site amenities or the commercial nodes if the distance is walkable or bike-able.

The industries should encourage, if not provide alternative transportations such as bicycles for their employees. The circulation diagram for Gateway II plans for vehicular, bicycle, and pedestrians modes of transportation and are clustered around buildings and through site amenities. A shared network of common infrastructure (roads, loading zones, parking lots) between various industrial owners increases efficiency and reduces the environmental impact of construction.










▲ Section illustrating the separation of vehicular traffic from cyclists. The vegetated curbs will assist with stormwater runoff.



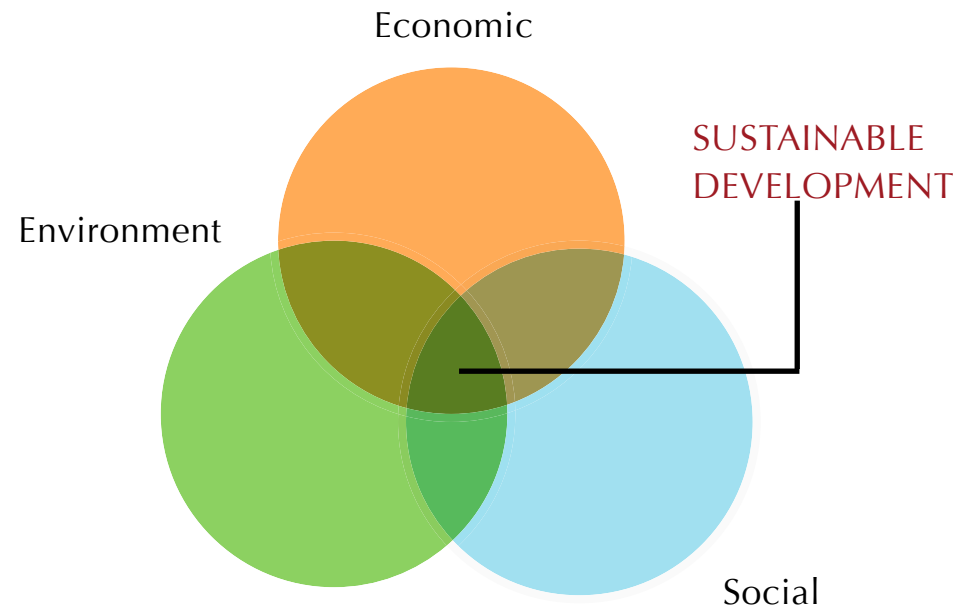
Not To Scale

This circulation diagram of Gateway II illustrates existing topography can create a series of trails, paths, and streets for both employee and employer needs. Consolidated parking lots and minimized roads allow for more highly vegetated forests and active, healthy wetlands.

-  Vehicular
-  Hike and Bike Path
-  Trail Network
-  Parking
-  Loading Dock
-  Bioretention Area
-  Viewshed

4 Integrate Sustainable Systems

The Joint Authority has made a great financial investment in the success of the Gateway Industrial Park. Referring to the park as an Eco-Industrial Campus demonstrates a commitment beyond economic gains making it a sustainable model of development. The Professional Center integrates various social groups and encourages symbiotic relationships by sharing resources between the industries and stakeholders. If development occurs as the Charrette Team recommends, there is limited impact on the environment, a conservation of energy and resources that will positively promote the local economy.



CD CONTROLS: CHANGING THE FACE OF GATEWAY INDUSTRIAL PARK

Custom Designed Controls (CD Controls) provides innovative cost-effective solutions for a variety of lighting needs. They are a group of environmentally conscious individuals working to develop a new facility that demonstrates their commitment. CD Controls is the first building in Hart County seeking LEED certification from the United States Green Building Council (USGBC).

As part of LEED Certification, appropriate site considerations are included and evaluated. CD Controls has taken aggressive steps to address their stormwater runoff. A 12,000 gallon cistern collects rainwater from the roof to irrigate their landscape and sent through a level spreader for on-site reuse in a native meadow area.

An infiltration pond is situated in the low point of the property and will filter pollutants from the parking lot in a demonstration landscape area. They received a special approval to continue grading onto the adjacent property where any additional runoff can return to its natural hydraulic flow.

Their commitment is honorable and sets a new standard for sustainable development in Gateway.



▲ *This upland bioretention will promote bioretention for CD Controls as well as the neighboring property.*



▲ *Runoff near the building drains into a bioswale which connects to the upland bioretention pond to the existing detention pond for the industrial park.*

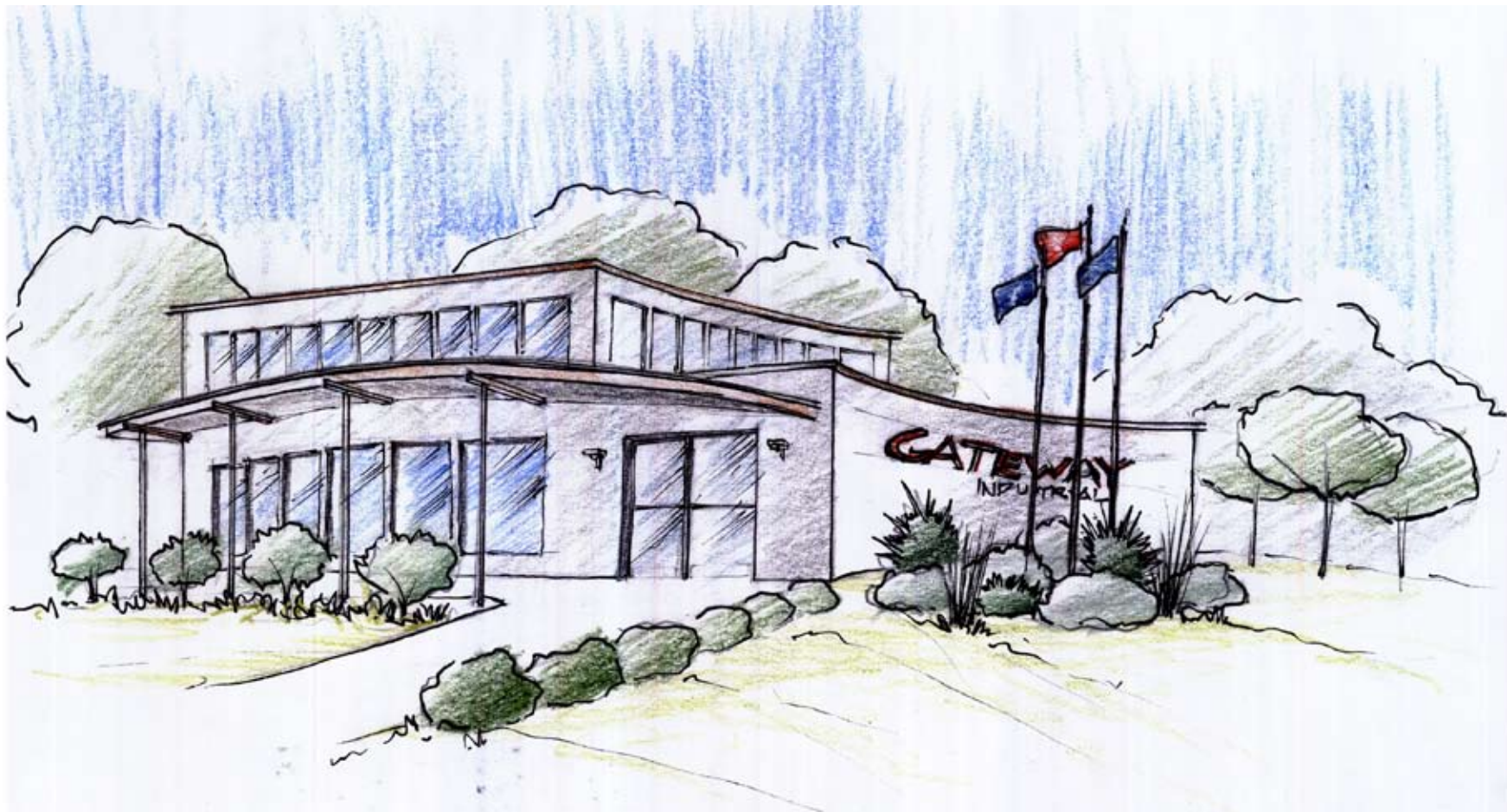


▲ *The employee parking lot retention pond will accommodate a moderate rainfall event of 1-2".*

Currently in Georgia, there are no Eco-Industrial Parks. Now is the time for innovative leaders to step forward and change the course of development as we have known it. CD Controls has proven it is possible to achieve a level of sustainability in Hart County. Incoming industries can follow and improve upon their example. There is more potential to attract a higher standard of high-tech, environmentally conscious industries by strengthening and clarifying the Covenant's design requirements. Synergistic industries willing to collaborate on closed-system strategies (for example, where the waste of one company becomes the raw material for another, like water reuse) will no longer be the exception.

More flexibility in the building types will create a unique identity for the Gateway Eco-Industrial Campus. The Covenants embrace a variety in building materials; this allows for more than the traditional metal industrial building. Hubbell Lighting Headquarters in Greenville, SC (shown below) is a superior building and sets an example of what Interstate architecture could look like.





A multi-use building can serve as a Professional Center and temporary marketing office for attracting new industries. This Center is a central hub as for the campus while embodying innovative technologies and facilitating the vision of an ecologically sensitive design. Over time it might transition into a training center and event location for all the campus industries, with shared conference and training rooms as well as dining and exercise facilities.

Consolidating these uses into one shared building creates a cost-saving amenity for each industry and minimizes multiple building impacts on the land. The Professional Center should pursue LEED certification and be the example for the incoming businesses. Its proximity to the on-site waterfall and prominent views of the campus are advantageous. High visibility from I-85, will help make this a showpiece for the campus and Hart County.

CONCLUSION

We came, we saw, we tried to solve some problems!



The Gateway Industrial Campus is a cornerstone of the economic future of Hart County. It is vibrant community rich with natural resources that appeal to potential businesses. Its proximity to major airports and cities such as Charlotte, Greenville and Atlanta are significant, and the region's intelligent Work Ready employee base is prepared to sustain new industries. The Industrial Building Authority is taking the appropriate steps to secure high-quality businesses to the campus, strengthening the vitality of the county. The Charrette Team recognized the progressive trajectory that is the basis for Gateway's success.

The elements of this report are concepts and should help fulfill Gateway's mission. Further exploration of the Covenant strengthening will eventually result in higher design quality and more economically successful projects.

Again, it is your own vision that inspired ours. Thank you for providing a rich and relevant learning environment for our faculty and students. We look forward to further collaboration of this partnership.



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Hart County Administrator

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Hart County Economic Development

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Archway Partnership

This report was produced by the
University of Georgia
College of Environment and Design
Center for Community Design and Preservation
325 S. Lumpkin St.
Athens, GA 30602
706.542.4731

<http://www.ced.uga.edu/>

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