RESEARCH AND CREATIVE WORK

HOOMAN KOLIJI

Please note that this is an abbreviated portfolio.







GARDEN CURTAIN : URBAN MICRO FARMING

(Aeroponic System) Role: Primary Investigator 2013-

Patent pending: Application number: 67/788,297

With the goal of integrating natural systems and tectonic structures, the design conceived a flexible, curtain-like, vertical growing system that could be easily integrated with architectural spaces at various scales. The following specific design objectives were considered to be essential for the optimized performance of the system in relation to architectural space and user experience:

Modular system (expandable and adjustable in size and form)
 Two-side growth (maximum use of growth surfaces)

- Light structure (to make it useable in almost any structure)
- Enclosed system (to eliminate concerns relative to humidity in building structures)
- Inexpensive construction
- Fast/easy assembly and disassembly
- Low tech enough to be easily utilized by the public

From a spatial design standpoint, the flexibility of the system was a core concern so that the system could easily lend itself to a variety of design materials, forms, and purposes. A positive user experience drove the design process, since the ultimate success of the project remains highly dependent on it being embraced by the public. In terms of mechanics, the design technology utilizes Aeroponics, a growing technology developed by NASA, wherein the soil is eliminated and nutrients are atomized in a contained environment to feed plant roots. faces are lightweight, they are easy to access for maintenance and harvesting needs.

Aeroponics offers several advantageous compared to traditional agricultural systems:

- Reduces water consumption by approximately 95% over traditional methods
- Eliminates nearly all pests due to the removal of soil from the system
- Increases growth rates by 5-7 times over tradition
 al systems
- Is light in structure
- Significantly reduces volatile organic compounds (VOCs) that are produced by many man-made building materials







The design is comprised of modular units of enclosed container units similar to pillowcases or bags. The container units then form a paneling system to create surfaces of different sizes and scales. These containers hold small growth units (bearing individual plants), which are filled with atomized nutrients (a very fine mist of water and nutrients of a particle size smaller than 50 microns) that are distributed through a tubing system. The tubing system both feeds and drains the container units and connects them to an external nutrient reservoir. This paneling system is easily attached to any surface. And because these portable growing surfaces are lightweight, they are easy to access for maintenance and harvesting needs.



Garden Curtain, while technically a vertical micro-farming system, also represents a sophisticated and impactful design choice when utilized at a mass scale. The following outcomes are envisioned:

Public Health and Social Impact: With socially responsible design always at the forefront, Garden Curtain is a very inexpensive structure, which makes it accessible to a wider public. The design system could be utilized as a shared farming option in urban locations devoid of traditional growing spaces, as new forms of roof curtain gardens, or simply in private residence as growing walls.

Urban Micro-Farming: One of the anticipated outcomes of this project is to promote urban farming in microscales, where land or "horizontal" real estate is rare, but vertical real estate is abundant. A principal goal behind this design is to develop easily-accessible micro-solutions to escalating food costs and possible shortages.

Entrepreneurial Spirit: The idea behind the design is to fabricate a system product for designers, developers, urban agriculturalists—and most importantly, for the public. In short, with a minimal investment any consumer could utilize the system in their built-environments. As noted above, an important goal of Garden Curtain is to empower more people to actively participate in food production, which will eventually have significant impacts on the micro-economies of urban dwellers.

Design Thinking Culture: Returning to the notion of "material imagination" discussed by Gaseton Bachelard, one could profit from the duality offered by Soft-Tectonics exemplified in Garden Curtain. At its core, this design concept argues for "building plant systems architecturally" while "planting building systems horticulturally." Garden Curtain will also introduce new challenges and avenues of inquiry that are worthy of exploration. By disassociating horticulture from "garden" as its only authentic context—and instead associating it with a soft tectonic system—a new mindset for design thinking could emerge. This new perspective not only considers exploring green systems as a viable material culture discourse, but also views it an essential intellectual process for reconceiving the making of buildings.



















MODULAR BIO-WALL

(Hydroponic System) Role: Primary Investigator Summer 2013



Schematic Drawing of modular containers











Drawing showing large surface areas covered with modular system. These surfaces can be portable to provide access to the plants and/or as integrated to the building system.







KINETIC CURTAIN GARDEN Rotating Paneling System as Screen Shading Systems (Aeroponic & Hydroponic Systems) Role: Primary Investigator Fall 2013 - Spring 2014

Collaborator: David Tilley, PhD, Associate Professor Department of Environmental Sciences and Technoloy College of Argriculture and Natural Sciences







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KINETIC CURTAIN GARDEN Rotating Paneling System as Screen Shading Systems (Aeroponic & Hydroponic Systems) Role: Primary Investigator Fall 2013 - Spring 2014

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frames from timelapse monitoring of the system at the UMD Green House facility.









HORT FECTURE Interdiciplinary DESIGN RESEARCH ARCH + ENST Students





















Following is a note from one of the students after Maryland Day presentation of the prototype:

" Overall Maryland Day was a huge success! We had a tremendous amount of people of all ages, professions, and backgrounds come visit our display and inquire more about our Eco-Curtain. There was not one person who did not like our product and were very impressed by the design and visual aesthetics of the panel and planter boxes ...

... A couple who own a school in Sierra Leone showed a special interest in working with us to buy our product in bulk to install in their schools to improve air quality and have a healthy source of food for the children so they can learn to grow their own produce.

I am extremely happy with the outcome of our prototype and the great feedback we received at Maryland Day for our presentation. I believe the collaboration between ENST and ARCH students and faculty was a perfect combination of expertise to create a truly useful product for urban environments."

-Shaina P.



Prototype Test - Misting Nozzles UMD Green House Facility

Interdisciplinary COLLABORATIVE LEARN









KNOTGREEN Net System with Double Shelled Gorwing Units (Hydroponic Systems) Role: Primary Investigator Spring 2014 - in progess



This unit allows nutrient circulation, breathing, and evaporation of excess water.





KNOTGREEN

(Hydroponic Systems) Role: Primary Investigator Spring 2014 - work in progess



diagram of net system in expansion



PHRIAM GARPEN













ANANANA

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GREENBEE

Interlocking Honeycomb Structure (Gorwing Medium + Hydroponic System) Role: Primary Investigator Spring 2014 - in progess



growing cell prototype, 3D print, work in process







ERBIL ECOLOGICAL URBANISM Integrating Ecological and Sociocultural Systems Role: Lead Researcher Center for the Use of Sustainable Practices (CUSP) University of Maryland 2013-







Inner city urban garden - microscale urban agriculture

suggested green networks to serve for mid-scale urban agriculture

River Farming



Located in northeast of Iraq, City of Erbil features one of the oldest human settlements that has been continually inhabited. With a citadel literally defining the city center, Erbil is comprised of concentric circles suggesting the future growth of the city. Recent political and economical development of Kurdistan Region has granted a high degree of autonomy, thereby economical prosperity to Erbil. As a result, the city experiences a real estate boom. New developments disregard the fragile ecological capacity of the city and have completely disregarded the role of landscape urbanism in bringing sustainable solutions to the built environment.

This research follows my visit to Erbil and communications with a number of officials in this regard. The city requires ecological solutions integrated with their social and economical demands. Currently, Erbil lacks any green infrastructure. Scatted parks present large lawn areas, which require maintenance and water. The study examines to expand green infrastructure through networks of urban agriculture, a practice that had long existed till recent decade.



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TEHRAN GREEN INFRASTRUCUTRE PLANNING **Designing Ecological Communities and Networks**

Role: Steering Committee, Research and Planning Team Gozineh Consulting Group 2012- through 2017

Tehran is located between high mountains and dessert. Seven major ecological corridors that connected mountains and lower arid lands have disappeared under heavy urbanism and construction. Gozineh Consulting Group was charged for studying and planning a comprehensive green infrastructure master plan. Through partnership with city officials and private parties, our office undertook extensive inventory of existing information. That included mapping and identifying ecological communities in Tehran. A green infrastructure network was identified based on several layers of information (existing green, future plans, ownerships, etc.). Currently we are conducting fieldwork to survey plants and plant ecologies in identified zone. This will help us understand urban ecological systems of identified zones and their connections. One major corridor (Darband - Tajrish) has been selected for comprehensive study and implementation. The study and planning is expected to be completed in 2017. As a partner to GCG, I am an active participant in the project management team (steering committee) and in workgroups.









Northen Valley-Rivers: Distinct Micro Climate, Diversity Ecological Communities



lautral landscapes preserved and enhanced for recreational purposes

Urban Landscapes: Public Space + Park Systems

Channelized Rivers: "Limited Ecological Desig

Enghelab axis









Proposed Ecological Netowrks



TEHRAN GREEN INFRASTRUCUTRE PLANNING **Designing Ecological Communities and Networks**









Identifying Ecological Communities:

1-Mapping zones 2-Plant survey and analysis 3-Mappping plant communities

4-Ecological capacity ctudy of the identified zones

arban green space existence orban structure corrected soil & plants Stear great recreational arena saistance other structure press roots 1111111 Existing Profile Proposed Profile press root Stream property of 1111 Proposed Profile

Existing Profile



GREEN Restaurant

Role: Designer Blacksburg, Virginia 2013





ALT HOUSE

Design: Luise Quiros + Hooman Koliji San Jose, Costa Rica 2013







SEEING LIGHT IN GRUNDY Reclamation of the Grundy's Quarry and Road Enhancement

Role: Lead Designer and Researcher Grundy VA Land Desgin and Simulation Lab, Virginia Tech PI: Dr. Patrick Miller. FASLA 2008

Grundy, Virginia, located in the heart of Appalachia, was in dire need of some creative ideas about what to do with a large, unsightly rock wall that was created when a level building site was cut from the side of a mountain. The building site is the location to rebuild a portion of the downtown outside of the flood plain. The development of a plan to use lights to turn an ugly rock wall into something beautiful was a pro-bono effort undertaken by the Land Design and Simulation Lab at Virginia Tech, and was the direct result of ASLA's Lobby Day.



Photo courtesy of U.S. Army Corps of Engineers, Huntington District



AERIAL PHOTGRAPH SHOWING THE RELATIONSHIP BETWEEN THE HIS-TORIC DOWNTOWN AND THE REDEVELOPMENT AREA WITH CLIFF Photo courtesy of C. Crabtree





THE TOWN OF GRUNDY AFTER THE ROAD RELOCATION



THE UNIFYING CONCEPT WITH PROPOSED PREDESTRIAN AND LIT VISUAL AXIS TO THE NEW BUSINESS DISTRICT



RIVER PROMENADE WITH ACCENT LIGHTING

UNIFYING CONCEPT





HOOVER RIDGE PARK COUNTY MASTER PLAN Community Charrette and Park Master Plan

Role: Lead Designer and Researcher Land Desig and Simulation Lab, Virginia Tech Madison County, VA 2008

P I: Dr. Patrick Miller, FASLA

Project Statement:

Analysis maps and sketches of different future scenarios were utilized by the design team in a series of community charrettes and public meetings to build a consensus vision for a 180 acre parcel of land in this rural county of 13,000. The vision drew from the historic significance of the site and emphasized preservation of the rural character, part of the regional context and important to residents, while meeting a diverse set of communitv needs.



Project Narrative:

1. Project Goals and Objectives:

Through a set of fortuitous circumstances, the 13,000 residents of Madison County found themselves to be the owners' of 180 acre parcel of land, the Clore Farm. While many adjacent counties have experienced rapid growth and sprawl, the residents of Madison County, Virginia are proud of their county's rural character and Arcadian charm. With many needs and limited resources, the property was being developed incrementally, often in ways that limited future opportunities, sparked controversy within the community and threatened the rural character that made it a special place. The community called upon landscape architects to help them develop a long term vision of the property.

Visioning process: The visioning process had several parts. An online survey of county residents was conducted to identify recreational and other community needs. This was followed by 2 community design charrettes and a public meeting. The design charrette was conducted with a group of stake holders representing different interests within the community.

During the first charrette the design team presented its inventory and analysis, and the opportunities and constraints of the region and of the site to the community group. The group then broke into teams and developed 3 rough concept plans for the site. Each team presented its concept to the entire group and they were discussed. Based on feedback from the charrette and presentation, the design team then developed a set of problems and issues that the design needed addressed in preparing a plan. The design team then developed several alternative design concepts that drew upon points of agreement from the charrette and placed them in a larger vision for the future of the site.

The alternative design concepts were reviewed by the stake holder group in a smaller charrette and a consensus on major points was worked out. The design team then prepared a draft master plan that was presented at a county wide public meeting. Public comments were collected and addressed in a final long term master plan for the site.

2. Project's Significance: The project demonstrates how the skills of landscape architects can be used to help people, not only reach consensus, but develop a vision for a place that does not yet exist, a vision that is more sustainable because it draws on the cultural and natural heritage of the area and encompasses the needs of the residents.

POSSIBLE FUTURE DEVELOPMENT

The area around the demonstration gardens is left open for possible future development, which can take place when and if needed. Because of its proximity to the major road, this area could serve many possible uses in the future that are unanticipated today. In the mean time the undeveloped open space will help preserve the rural character of the

POTENTIAL FUTURE SCHOOL SITE

A location for a future school if needed is proposed in an area where there are now existing soccer fields adjacent to the existing school. This area can continue to be used as practice soccer fields until the construction of A new school is needed. The future school and the existing school will share the soccer fields, baseball fields and community facilities provided in the park

GARDEN PROMENADE

The Garden Promenade connects the community recreation center with the community cultural and senior center. People can enjoy the passive, leisure and therapeutic activities of the amphitheater. For example, the promenade will have picnic shelters, a knot garder flower beds, meditation shelters and a labyrinth. Activities are provide for children and adults a like

COMMUNITY RECREATION CENTER

The community center portion consists of a cluster of buildings that can be built over time as needed and as finances allow. Architecturally the buildings are designed and sited in manner that maintains the rural character of the site. When built the Community Recreation Center will contain an indoor swimming pool, fitness center, indoor play area, meeting rooms, changing (locker) rooms and storage facilities. This area is easily accessible from the athletic fields.

ENTRANCE

The entrance to the site is enhanced by a tree lined avenue. The fences on either side of the road reflect the rural character of the area. The presence of signage announces the visitors' arrival to Hoover Ridge Park.

THE OAKLAND WOODLAND

The existing oak trees in this area are preserved and now enhance a common picnic area. The area accommodates an historic exhibit. picnic tables and a tot-lot playground. This area provides opportunities for social and family recreation. The historic exhibit will commemorat President Hoover's visit to this site. The focal point will be the relocate or rebuilt the existing Red Barn or an architectural structure that wil reflect the lines and visual characteristics of the barn. This will be a place for commemorative and civic ceremonies. It will also serve as a place for social gatherings. A memorial flag plaza is introduced at a point on the circumference of the core area that overlooks the large central open space that contains the soccer fields. Seating terraces are located along the arc of the flag plaza and provide a place to observe soccer games or Fourth of July fireworks

The expanded pond provides place for people to practice recreational canceing and kavaking, as well as to fish. A bridge and arbors enhance the beauty of the place and makes it visually pleasing.

INTERNAL ROADS

The roads wind through the landscape and are designed to reflect the rural character of the site. In addition the road is designed in such a way to slow down the movement of the vehicles in the park for safety reasons. Traffic calming features such as flower beds and berm will create a pedestrian friendly environment. Parking spaces are provided along the roads at specific points and at the major activity areas. Approximately 200 parking spaces will be available. In some areas, a drop off zone will be provided. It is noted that the internal road will have an emergency exit on the other side of the site away from the main entry.





A place where people can learn about planting flowers and vegetables, the garder demonstration center is located in an area of the site where the soils are not well suited for construction, but can accommodate agricultural activities.

COMMUNITY CULTURAL AND SENIORS' CENTER

The Community Cultural and Senior Center consists of a series of buildings that car be built over time to accommodate need and budget. The area contains seniors' center and meeting rooms, as well as, serves as a base and storage area for the agricultural demonstration gardens

THE NATURAL PLAYGROUND

Children are challenged to use their five senses (hearing, sight, smell, taste and touch) to experience nature in this playoround. They can experience and learn ugh the use of natural materials such as water, sand, earth, gravel and woods found in this area. Children will have a hands-on experience these materials, for example, they can play and build structures out of sand.

The amphitheater provides opportunities for outdoor plays music concerts and social gatherings. The amphitheater has been designed to take advantage of the bowl shape of the natural topography. It is located next to the wetland area that will providet views of the water. It is enclosed by a curtain of trees on some of its edges . making it a semi-private zone

The existing woodlands provide a place for camping and more rustic woodland picnicking. It is a wonderful place for family outings amidst the woods. Picnic tables and restrooms are also provided. Trails run around the periphery of woodland and connect to the camping areas. A watchtower with a picnic area around its base provides unique views through and above the woodland canop

EARTH MOUND AND VIEWING TOWER

A wooden viewing tower is located between the soccer fields and the baseball fields The base of the tower is enclosed by a mound that serves as a gateway to the base ball park and at the same time provides a place for people to sit and enjoy a soccer game. A bridge connects the tower and gateway area with the baseball fields.

The four baseball/softball fields are oriented in such a way that it prevents the bat ter from looking into the sun in the afternoon. A concession area is located so that it can be shared by the four baseball fields and provides a social gathering place. The number of bleachers will be minimized because the grading of the landscape will allow the earth sitting mounds to be placed around the baseball fields

LARGE OPEN SPACE AND SOCCER FIELDS

This area has been graded to create a large open space with an irregular and undulating planted edge and accommodates the soccer fields. The space is large enough to accommodate different arrangements of the soccer fields, allowing the turf to recover at high use spots on the field. These fields can be rotated as needed. The area is relatively flat with just enough slope to achieve positive drainage for the athletic fields. Plantings which surround and enclose the area will help the environment by filtering the rainfall runoff from the fields before being discharged into the bond or the creek. When the fields are not used for soccer this area will be a versa tile open recreation area for walking, informal games, Frisbee, kite flying and other

WALKING AND CYCLING PATH AND SERVICE ROAD

for walking, jogging and cycling. The trail is not paved, so the rural character of the site is maintained. The only vehicles allowed on the path are designated service. vehicles and emergency response vehicles.



HOOVER RIDGE PARK COUNTY MASTER PLAN

3. Local and Regional Significance of the Project:

Community needs: The residents of the county had many needs that were being considered for the site, including a future school site, athletic fields for the existing high school, recreation league sports fields (soccer, little league and soft ball), county offices, a community center, a senior center, nature study and rustic camping for boy scouts and other groups. The site had already begun to be developed with no long term plan to guide development

Preserving rural character: The Hoover Ridge Park is located in a delightful, pastoral, rolling, rural landscape. The property epitomizes many of the qualities valued by the residents of Madison County. The design concept for the site calls for preserving the rural character of the landscape, while providing a series of activity areas across the site that are guided by the undulating and flowing hills of the landscape. The design provides a sequence of experiences, such as water, earth and woods; as well as, a range of recreational activities, both active and passive, while at the same time conserving and enhancing the essential rural character of the landscape. A careful analysis of the visual and natural characteristics of the site guided the plan.

The future buildings are to be clustered, sited, sized in a manner that will harmonize with the rural landscape. The color and materials used in construction will be earth tones. The entrance to the site is enhanced by a tree lined avenue. The board fences on either side of the road reflect the rural character of the region. The reconstructed red barn is located at the terminus of the entry drive and provides a focal point as one enters the site. The community center consists of a cluster of buildings that can be built over time as needed and as finances allow. Architecturally the buildings are designed and sited in a manner that maintains the rural character of the site.

The historic significance: During his presidency. President Hoover visited the site and gave a speech to several hundred residents of Madison County. An old red barn that is visible on the site today was a backdrop for this historic event. In fact, it has become an icon in the eyes of many county residents for that historic event. Unfortunately, the barn is in poor shape and would need to be either rebuilt in order to preserve it or reconstructed. However, the memory of this historic event should not be lost.

Upon entering the park, the visitor will encounter the focal point or central area of the park. This area is positioned to take advantage of an existing house and a stately grove of mature oak trees. This area also has historic significance as the location of President Hoover's historic visit and speech. The existing red barn should be rebuilt and relocated to this area of the site. or a new structure should be built here that echoes the architectural characteristics of the old barn. The structure will serve as a historical marker and landmark, as well as a community gathering place. An orientation map and directional signage will be provided in this area to direct visitors to activity areas within the park.

Signature open space and soccer fields: There were many demands for sports play fields, both from the adjacent high school and grade school and the recreation leagues in the area. Each field was being sited and graded individually, which was having a dramatic affect on the topography and vegetation of the site. The plan calls for a grand scale, multi-purpose open space with an irregular and undulating planted edge. This space will become an important part of the image of the park with many activities taking place in and around the space. This open space can accommodate the multiple soccer fields. The space is large enough to accommodate different arrangements of the soccer fields, allowing turf to recover at high use spots on the field. The area is relatively flat with just enough slope to achieve positive drainage for the athletic fields. Trees which surround and enclose the area will help filtering the rainfall runoff from the fields before being discharged into the pond or the creek. When the fields are not used for soccer this area will be a versatile open recreation area for walking, informal games, Frisbee, kite flying and other activities.

Serving all residents: In addition to youth sports, the master plan calls for a community recreation center and a cultural/senior center. These facilities can be constructed in stages as the need and funding are realized. They will serve a broad range of age groups



OPPORTUNITIES AND CONSTRAINTS

Overall assessment: The Hoover Ridge Park (or former Clore Property) has an historical, cultural and environmental value to the community. These values have shaped the area as we see it toda The careful planning and design effort undertaken here should ensure these important values endure for future generations. The Hoover Ridge site can be divided into eleven different rates, eac with its own visual character and ecosystem. Each area has its own problems and potential. And vederingent proposed for the Hoover Ridge area should emphasize the need to unity these seture to unit the sourt visual character and ecosystem. Each area has its own problems and potential. And vederingent proposed for the Hoover Ridge area should emphasize the need to unity these seture to unit the sourt visual transition of the seture of the term of term of the term of the term of the term of term of the term of term zones with a common theme

Existing Corn Field - North Side

Existing Corn Field - North Side Poor solis make this area unacceptable for agriculture. The area is somewhat remote and separate property by a stream and wetland. However, the area is adjacent to Route 29 and could be accesse rest of the site. This area has potential for future development.

Existing Practice Soccer Fields The site of the practice soccer fields has been graded level, which will fa cilitate more intensive development in the future. The area is also easily accessed from Route 29 and is conveniently located with respect to the cer fields seem to be a r this area until the time is right for a more intensive use

trance e existing entrance to the site is rather ordinary and lacks a strong o nse of arrival for what will become one of the most important public place Madison County. The entrance should be enhanced by plantings, fencir oropriate to a rural area and a focal point that pulls people into the site.

Existing Vehicular Circulation Currently the site does not have an organized or systematic circulation system. As the site develops and viutors increase, circulation will become a problem. It will be important that vehicular circulation in the future meet the needs of visitors by providing clear and easy access, while minimizing the amount of roads built and the level of Intrusion into the site. This can be achieved by concentrating those achivises that generate the most ratio e achieved by concentrating th oser to Route 29 and providing

a community landmark. It is a fitting symb Madison County. However, the physical co ing due to age. If restored, the barn (or a ne

Existing Farm House A mature grove of oak trees gives this area a stately character. The oak rees provide shade and coolness. The lawn under the oak trees is a natu Il picnic area. This area is also the site of an historic visit to the propert Hoover. All of these suggest that the oak trees should

This small agricultural pond is currently used for fishing and water sport de as an aesthetic feature, but currently includes poor views into parking an area has the potential to be enhanced. This could be done by screening

The opportunities and constraints map summarized the important factors from the inventory and analysis of the site (from the original planning document)

The area is designated for future development. It has potential for development, since it can be accessed from Route 29, it is remote from the rest of the park activities and the

Transition Gardens The transition gardens are a place that connects the senior center and community center. The garden will also serve as a link connecting the northern portion of the site, separated by to the rest of the site. The garden will be a place to contemplate, socialize and recreation and recreation of the site.

Community Center The community center will provide a place for the people of Madison to participate in various indicer scoil and orcentational activities. The center will also house the park management and maintenance office. In addition, the center will also have facilities that support the athletic programs, such a changing rooms and equipment drange.

The Focal Point Upon entering the park, the visitor will encounter the focal point or central area of the park. This area is positioned to take advantage of an existing house and a stately grow of mature cal three. This area also has adjurdiance at the location of President Hower's of the origination of the state or a new structure should be built here that endous the activities of larged of the old barn. The structure will serve as a historical matter and larged mature and larged of the structure will serve as a historical matter and larged mature. community gathering place. An orientation map and directional signage will be pro

stage for what is to come. I ne existing entrance to the property and elementa school will be enhanced and upgraded to become a "main entry" to the par The entry will reflect the rural character of the surrounding area. In addition : welcome sign with the name of the park, the entry will be lined by tre split rail fence

d near the entrance to the site. It is co he existing school, but separated from it by the entry road. It should be able to maintain its identity and integrity as a separate school, the existing school. This location also eliminates the need for school traffic to travel further into the park. The existing use of this area for ccer and practice fields is an appropriate interim use until the all needed for the future school site, since it can be easily used by t



rona The existing pond will be expanded and enhanced with walkways, traits and day-use areas. The pond also serves as a water-oriented, recreation, practice facility with an access road and docking area for visitors with kaykas and cances. A well that is no longer being used for dinking water will be used to maintain the water level of the pond.

A large open space surrounded by trees is proposed for the center of the site. The large turf area is designed to serve multiple uses. The large laws area will be esthetically pleasing as well as serve the that allows the athletic fields to be configured in different ways to minimize tar wear. The large oper areas can also be used for informal recreation activities such as Frisbee, kite flying and sun bathing when Valley Area This portion of the site is situated between two higher landforms and has a strong sense of enclosure and separation from surrounding areas. The character of this area is suitable for passive recreation and social activities.

Wetlands are natural filters and are important in protecting water quality in the are in addition wetlands provide an important habitat for wildlife. Further, wetlands are protected under Section 404 of the Clean Water Act. The wetland area is suitab

he woodland area is a mature hardwood forest. It is also n important wildlife habitat. Furthermore, the forest environment contributes to the variety of spatial experiences that ex-ist on the site, contrasting sharply with the open character of the nearby fields. At this time, the woodland is used as place to take walks and as a Boy Scout group campgrou potential for additional enhancement with nature rel tivities to serve more of the people of Madison Count

Undulating Agricultural Landscape s large agricultural area at the center of the site has the

tential to be developed as a major, multi-purpose, open space This would be an appropriate fit with the rural character of Madison County and would provide needed p organized sports. To achieve this would requir cut and fill, but it should be done in adverse impacts and be consistent with the origin of the rural, undulating landscape.

Existing Corn Field – South Side This area has moderately steep slopes. Intensive uses of this area, other than passive and nature based activities will uire extensive grading. Portions of this area also bor djacent properties and should be sensitive to their poten sture use. This area is most appropriate for less intens

Spring Creek Area

addition, the creek area is a riparian wetland zone and is

Name center the park will include a place for the senior citizens of Madison County. The senior center will prov coms and a place for social activities. The senior center is located adjacent to transition gard griculture demonstration area, providing opportunities for gradening-related and contemplative ac

'he wetland areas are to be protected and enhanced. Visitors will have access to thi rea via trails and boardwalks, so they can learn about the beauty and importance of the second se

he existing woodland will be preserved as an established forest ecos he woodlands will provide opportunities for camping and pature e camping areas are located further away from the higher activity ar ortunities for quiet, more reflective experiences, proposed that will tell a story about the woodan

naddition to the main entrance, the park will have an emergency (fire and nedical vehicles) and service entrance for the safety of park visitors and to attemptication to each . Orbit

Baseball fields Baseball fields are located along the southeast side of the site. They

oses. First the area The initiality of the fittes and offents one rained rolling into in the open spaces and on aceball fields into the entering the natural draining system. Second, the area will becom a natural area around the edges of the open fields and provide opportunities for passive part activities, such as nature observation. The small existing creek in this area is an aestheti aments and also movides pathibits for brinds and anoutin admass.

nd Path Connections to unify the different areas of the park. landmarks and nodes are connected by axes and paths. The axes nect the different areas both physically and visually

Vehicular Circulation To preserve the rural natural beauty of the site and to minimize development costs a limited number of roads are used within the park that are the main activity areas. The vehicle circulation system will start at the entrar ay roads. Adequate parking spaces will be provided in designated parking areas serving major activity areas. In addition "spill over" parking pas will be provided to serve special events, such as softhall burnaments arts and craft fairs and Fourth of July celebrations. It is supported

BOOKER T. WASHINGTON NATIONAL MONUMENT Viewshed Study and Planning

Role: Lead Designer and Researcher Land Design and Simulation Lab, Virginia Tech 2007

PI: Dr. Patrick A. Miller, FASLA

Booker T. Washington National Monument is the childhood home of an important African American figure in the history of our country. It is located in rural Franklin County. The county wants to direct growth in the rapidly developing area of the county to the Westlake Center, a development overlay district. Westlake Center lies adjacent to one boundary of the Booker T. Washington National Monument. A proposal to develop a parcel within the center and adjacent to the Monument has caused a great deal of concern for the historic integrity of this National Monument. A landscape architect was hired to conduct a viewshed study and provide planning recommendations for the surrounding landscape.

Village Centers: The concept depicted here is proposing two centers with a "village" like character:

1) a Central Village Core, serving the broader commercial needs of the community and

2) a Tourism Oriented Historic Village, related to the cultural heritage and recreation opportunities present in this area.







VISUAL CONTEXT : VISIBLE FROM MAJOR ROADS

LEGEND

--- BOOKER T. WAHINGTON NATIONAL MONUMENT _____ ROUTE 122

- ROUTE 616
- ZONE OF VISUAL IMPACT

VISUAL CONTEXT : IMPACTS TO VISUAL CONTEXT

- --- BOOKER T. WAHINGTON NATIONAL MONUMENT
- VEHICLE ORIENTED COMMERCIAL
- + ENTRY ROADS
- PROPOSED COMMERCIAL AND RESIDENTIAL DEVELOPMENT ON ADJACENT PROPERT IMMEDIATE IMPACT ON BOOKER T. WASHINGTON NATIONAL MONUMENT



- BOOKER T. WAHINGTON NATIONAL NONUMEN
- INPROVED CIRCULATION
- GREEN VILLAGE AREA
- FOCUS DEVELOPMENT TO INTERIOR OF SITE AND CREATE PEDESTRIAN SCALE
- MORE COMPATIBLE RECREATION ORIENTED DEVELOPMENT



MIDTOWN MEDICAL ARTS DISTRICT CORRIDOR Transportation Corridor Improvement Project

Role: Lead Designer and Researcher Lynchburg-VA Project supervisor: Dr. Patrick Miller FASLA 2006

Project Statement:

Sprawling automobile oriented development results in environments that are homogeneous and difficult to find one's way around in. This project, part of a transportation enhancement project, provides structure and identity to a road corridor. By identifying key decision points and drawing from the unique character of the surrounding neighborhoods, a "corridor of confidence" was proposed that would help people find their way from a major transportation artery to the campus of a major medical facility. Project Narrative:

Goals and Objectives: The City of Lynchburg is fortunate to have attracted a multi-million dollar, regional medical facility. Unfortunately, many clients have a difficult time finding their way to and from the medical campus. As part of a transportation improvement project, this project examined how a corridor can be designed to give structure and provide identity to the urban environment - to impart "confidence" to travelers as they travel to and from the medical arts district that they are indeed on the correct route. By identifying key decision points and drawing from the unique character of surrounding neighborhoods, a corridor of confidence was designed that enhanced the urban environment, while helping people find their way from a major arterial highway to the medical facility campus

Project's Significance: This project addresses a problem of national significance, which is that sprawling automobile oriented development results in environments that are homogeneous in appearance and difficult to find one's way around in. Further this project draws upon way finding theory and theories of urban structure and imageability, such as those of Kevin Lynch, to demonstrate how landscape architects contribute to transportation improvement projects, while also enhancing the communities through which they pass.

З. Local and Regional Significance of the Project: The major elements of the plan, and how they draw upon the history and character of the area, are described below:

Distinct Areas and Nodes of the Corridor: The analysis revealed 3 distinct areas of the corridor, commercial, historic residential and residential. Each area has a unique set of issues that need to be responded to in the design in order to unify the corridor, while bringing our unique characteristics of each area. In addition, 6 nodes were identified that are important decision points along the corridor and that can be en-

hanced to provide a unique and memorable experience. There are 4 "transportation nodes." These are areas where the corridor begins. ends or changes direction. These can be enhanced, not only to provide identity to these areas of the corridor, but to also help in way finding. Roundabouts are proposed at 2 of the transportation nodes. Research has shown that roundabouts can improve traffic circulation and safety. Two additional nodes are "community nodes." These are areas adjacent to the right-of-way that have been developed to give identity to the areas and serve the local community.

Corridor Entrance: This area is important because it is where the traveler enters the corridor as they leave Highway 29 and turn on to Kemper Street. This first experience of the corridor establishes an identity for the corridor and builds anticipation of what is to come. Kemper Street Streetscape

Plantings of trees and shrubs will unify the visually diverse areas of commercial development long Kemper Street. Vegetation will also buffer and visually soften the parking lots in front of commercial establishments. Architecturally designed and centralized signage features will replace the hodge-podge commercial signs that exist there now. Walkways are provided on both sides of the street with street furniture at appropriate locations. Colorful banners will also be hung from specially designed light standards and will provide color, as well as, announce city festival and holiday seasons.

Kemper Street Community Space: Most of Kemper Street is vehicle oriented commercial development. Visually the corridor is very busy with commercial signs and a diversity of building types and setbacks. It also lacks people scale detail and places. Most places along this section of the corridor are lacking a strong image and identity. The Kemper Street Community Space provides a highly imageable activity node along the corridor. To mark the area as a node along the corridor, it is proposed that vertical columns be located along both sides of the road, creating a break in the rhythm of the street trees. The colonnade will provide a strong identity for the node, as well as, define the pedestrian and vehicle realms. On one side of the road public art in the form murals will be placed on the facade of a building located adjacent to the road right-of-way. The murals will provide pedestrian scale details and visual delight. On the other side of the road is a public space.

Community Node 1 Langhorne Pocket Park residential neighborhood with a narrow street right-of-way and housing set close to the road is located along this section of Langhorne Road. A pocket park is provided on vacant parcels in order to create a strong positive image and identity for this section of the corridor. The park will provide a center of activity for the neighborhood.

Transportation Node 2

Langhorne Road and

Memorial Avenue

The corridor makes

transition to the already

Langhorne Road at this

image of the corridor.

intersection. It is important

that the transition be smooth .

portion

Intersection

Kemper Street Station Roundabout -The corrido reaches a summit and changes direction at an awkward intersection of Kemper Street. Fort Avenue and Park Avenue. However, the surrounding context is rich with features such as, the historic Kemper Street Station and park, and a linear park and trail system. The Kemper Street Station Roundabout provides an opportunity enhance the character of this area, to make the traveler aware of these contextual features and to improve traffic circulation and safety, as well as provide a more pedestrian friendly environment.

Community Node 2 existing church and 2 vacant parcels.



Transportation Node 1

Miller Park Roundabout - The corridor changes direction at Park Avenue and Langhorne Road, where the corridor lacks a strong image and identity. This situation will be improved by a public art piece located in • the roundabout at this intersection. The public art will be a sculpture that reflects a medical theme, in keeping with a corridor going to the medical district. The roundabout also provides an opportunity to enhance the visibility and pedestrian access to this underutilized portion of Miller Park. The roundabout will also improve traffic circulation and safety, and provide a more pedestrian friendly environment.



diverse districts. The districts are residential, historical in numerous locations along the corridor. The opportunities unique character. At present, the districts are not perienced as part of the same transportation corridor In order to achieve the goal of an easily perceived and rsed corridor, a corridor of confidence, the corridor must have a unifying central theme that will also allow each district to have its own character and identity.



Corridor Opportunities and Constraints Diagram The corridor contains three distinct and visually. Opportunities and constraints for corridor enhancement or

residential and commercial each with a different and and constraints can be divided into four categories Vacant Parcels and Buildings: Vacant parcels offe

- potential to be developed into public spaces such as pocket parks and pedestrian walkways. Vacant buildings can be redeveloped into uses better suited to the needs of the area after improvements are
- Historical Buildings: Historical buildings provide a linkage to the community's past and are important in establishing a visual character and identity for areas along the corridor
- Vegetation: Mature trees already exist in some areas and present opportunities for shade and buffer the edges of the corridor. In some areas trees need to be better maintained to enhance the area
- Pedestrian Connections: The improved corridor will provide opportunities for people to walk along the corridor. However, at certain locations the walkways are missing or in poor condition. It is important to unite the corridor with a continuous walkway to provide places for people to walk for exercise and to interact and socialize

Corridor Entrance

The traveler enters the corridor as they leave Highway 29 and turn onto Kemper Street. This first experience of the corridor establishes an identity for the corridor and builds anticipation of what is to come.

Kemper Street Community Space - Much of Kemper Street, as it exists, is vehicle oriented strip development. This area tends to be visually and spatially diverse, lacking a strong sense of identity in most places. It also lacks people scale detail and places. While plantings and paving can unify the area, they cannot provide a strong positive image alone. However, an opportunity exists to create a people oriented community space at the location of an









RAZI CINEMATIC CENTER Integrating Architecture and Urban Landscape Building as Gate: Creating an Urban Promenade Role: Chief Architect and Lead Designer Gozineh Consulting Group Tehran, Iran 2002-3 (design) 2007 (construction completed)





The second biggest cinematic centers in Iran, Razi Cinematic Center is located in central south part of Tehran in a dense low income community. The site is in the south part of Razi civic park, a 27.5-hectar park which serves as the major public open space for the district. The park did not have an entrance from the south border, and the cinema site was the only open parcel which could potentially provide an access from the district to the park from the south bank. Design concept responded to this need and provided a multi-purpose promenade, serving both the park and a threshold for the Cinematic center.

I supervised a team of 3 architects, one structural enginner and two mechanical engineers. Project included: SD, DD, and CD for a design area of approx. 30000 sf.













DIPLOMATIC RECREATION CENTER Darabad Valley Environmental Planning and Design Role: Research and Design Member

Gozineh Consulting Group Tehran, Iran. 2004

The site of Diplomatic Recreation Center is located in north of Tehran on the footstep Alborz mountain chain. Gozineh Consulting Group was charged to study, and plan the site. We studied various aspects of the site: landform, micro-climates, vegetation, drainage patterns, and possibility for the public use. Our study vision to plan a site with minimum interventions to the natural setting, while protecting the site from further erosions and deteriorations that had been started due to storms. On the upper stream, we created a number of check dames made out of gabions and filled with existing rocks to slow down runoff water and to enrich the microclimate of the stream. The team also suggested expanding planting evergreens (a project that had started by Tehran Municipality) in identified areas. Lines of erosion in valley conditions were filled with stone and rock to avoid further loss of fertile soil. Biking, hiking, and horse trails were designed based on topography and also on-site observations. a small garden (utilizing on-site stream water) and a public plaza (featuring reflecting pool) were design and executed in the lower lands. I was actively involved in the study and planning of the site. I was also actively involved in the execution of the lower garden and prepared concept plans and schematic diagrams for the public space with reflecting pool.



neck Dams - Gabion

Planting on Slopes

Trail Design: Hiking, Biking

Collecting Water: Lower Garden

Public Gathering: Reflecting Pool





ECO-CULTURE WALL Designing with Environment

Role: Lead Architect - Team Leader Gozineh Consulting Group Tehran-Iran 2003

Eco-Cultural Wall is a design-build of apprx. 2200 feet long wall with folklore theme using traditional brick and on-site stone and wood while respecting natural environment and existing plants along a pedestrian path way in northern Tehran. We had to survery the exisitg condition including all trees and plants incoporate them in the design. Some epic folklore stories informed themes of the design as points of interest where introduced public nodes.

Tavalod Park is located along a valley condition in dense urban environment. The design responds to the natural drainage patterns of the topography and creates a constructed wetland with gravel edges. Gravel and sand allow for further filteration of runoff water from the surrounding hardscapes. The park is 5.5-hectar and is surrounded by residentrial neighborhood from three sides and a semi-industrial zone from the forth side is the project to be converted to a community scale park.

The project incules a vast pond, a center for gathering, in the northen side and athletic fields in the southern side. A thematic wall separated the park from the semi-industrial zone. The project started from study and analysis phase to working drawing phase.



TAVALOD PARK Urban Wetland Park Role: Lead Architect Gozineh Consulting Group Tehran-Iran 2003

























NIOC HEADQUARTERS International Competition in Sustainable Design Integrating Building and Landscape

Paterner: Battle McCarthy Landscape Architects, UK Role: Lead Designer (design core), Team Coordinator Farhad Ahmadi Architects, Tehran, Iran. 2002.

Ministry of Oil, the largest economical organization in Iran, sufferd from a lack of concentration of its administrative buildings in the capital, Tehran. The Ministry has over 53 buildings and facilities spread all over the metropolitan Tehran. In 2002, the ministry held a national architectural competition in order to design a 100,000. Sq. meter Iranian Oil Industry Headquarters, a home for the ministry and all its companies. It was the biggest competition in the history of Iran. Eight top national firms were selected and asked to introduce an international joint wincher. Farhad Ahamadi Architects was among the invitees. Farhad Ahamadi invited me to develop and lead a competition team, which included outsourcing personnel from out of the office. I served as the team leader, lead designer, and also associate project manager for administrations. Our internationally renowned joint-wincher was the Battle Mc Carthy Co. from the United Kingdom.

Site: The competition site is located in Abbas-Abad Zone, an undulating city reserved area in the middle of the capital. The Tehran's Master Plan, from 40 years ago, has specified this zone as reserved lands of the capital to be allocated to highly national priority projects. A revision on the master plan was accomplished almost two decades after the earlier one, proposing some subdivisions on the land. As a result, new road constructions have removed the integrity from those undulating hill zone. The roads almost look like scars on the topography. In the last 15 years, four major national projects have been developed in the zone and two more are under the discussion. The developed projects are; National Iranian Library (NIL), National Iranian Academy of Art and Sciences (NIAAS), Metro Station, and a regional park. The other two includes this project and a civic park adjacent to the competition's site.











concept approach design

andscape comes to the project (organic shape)

concept : approach design





sheller over the "env







MASHAD CULTURAL CENTER

Role: Design Assistant: as-built survey, program study, design development Gozineh Consulting Group Mashad, Iran. 1998









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PARK PAVILION Kinetic and Portable Shelter Design Role: Lead Designer and Researcher JA Workshop 2004



LANDSCAPE LIGHT DESIGN

Design, Prototype, and Fabrication Role: lead designer and project manager JA Workshop 2004



















INSIDE :: OUTSIDE Connecting Building and Landscape Material as Process

STRAW WALL

JA Workshop | Design-Prototype Tehran-Iran | Semi-transparent partition straws (opposite) and glass tubes 2004-2005











INTERACTIVE WALL

implementation

2011

Role: lead designer and project manager JA Workshop Schematic Design and Design Deveopment Tehran-Iran 2004









