GATHERING S·P·A·C·E·S

Gathering Spaces:
Designing Places for Adolescents

by
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Abstract

Research shows that adolescents use places in the natural environment much differently than the general population. Research also shows that, when asked, adolescents express environmental preferences that reflect these differences. These differences in use and preference reflect new design challenges. This paper explores how to begin designing places that address the unique needs and preferences of adolescents.

The project examines designs intended to enhance adolescents' opportunities for reflection (contemplation), socialization (interaction) and challenge (physical movement and activities that incorporate risk-taking).

The design principles described in this paper provide a framework that park planners and designers could follow to better address the needs of adolescents in contemporary park design.

The paper also reviews research relating to growing health and developmental problems of adolescents. The research highlights the need for creating places for these children.

By creating interesting places, the benefits to adolescents could include: an increased connection with the environment, a greater opportunity for socialization both with their peers and with other age groups, and better problem solving skills based on engaging activities that involve recognizing and dealing with risk.

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Introduction: Adolescent Use of Space

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The Problem

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Few places are being designed with the needs and preferences of adolescents taken into account. Much of the implementation of designed landscapes in the public sector focuses on the requirements of other age groups such as young children and adults. For example, in the top photo, children play at Alcova Heights playground in Arlington, Virginia. The photo below shows a biking/walking trail near Four Mile Run, also in Arlington, Virginia. These general use facilities are typical of the parks in Arlington. What environments can we design to teach resilience, confidence, decision-making and coping strategies to adolescents? To begin to design these kinds of places, we must understand their cognitive and physical development.

Alcova Springs Park, photo courtesy of Arlington County Parks.

Four Mile Run Trail, photo courtesy of Arlington County Parks.

Cognitive and Physical Development

To become healthy, well-adjusted adults, youth must undertake certain developmental tasks.

> "They must learn to be comfortable being alone, to use their free time productively, to build their self-identity and self-esteem, to develop satisfying relationships with others, and to become productive members of society."[1]

Patsy Eubanks Owens described the characteristics of outdoor spaces which teenagers need and value. They include

> "places where they can be with nature, their friends and alone; prospect refuges; accessible places; and places they can call their own."[2]

The connection to the outdoor environment is important for both physical and cognitive development. Kaplan's studies correlates attributes of the restorative value of participation with nature to the ability to fulfill several teenage needs:

- Being away
- Extent
- Fascination

Being away, that is, providing a setting so different from a stressful situation that there is a feeling of escape and an increased likelihood of thinking about other things.

Extent which implies that the setting is large enough in scope to experience without exceeding its boundaries, and that the various parts of the setting are connected or belong to the whole.

Fascination elicits involuntary attention; that is, you do not need to have your attention consciously on what you are doing, as is often required by a classroom lecture or homework, in order to avoid distraction or daydreaming. Fascination allows you to recover from the efforts of the directed attention

given to more stressful work.[3]
For example, the connection with the environment through risk and awareness can enhance creativity and survival skills by using contrasting situations that evoke unusual experiences.

There are social and environmental components to development. Social capital is defined as a concept that can be applied to different environmental settings and across different populations. Nicole Schaefer-McDaniel, an environmental psychologist, defines social capital among young people to consist of three components:

- Social networks/interactions and sociability.
- Trust and reciprocity greatly overlap with sociability since many of our everyday social encounters are marked by trust-based and reciprocated interactions. [4]
- Sense of belonging/place attachment[5] been shown to influence child development in that it helps children form their identity. Academic success is also linked to a sense of belonging to a school. Violent behavior is more prevalent at schools where children do not feel like they belong.[6]

Attention disorders are being increasingly diagnosed in youth and the general population. ADD (Attention Deficit Disorder) and ADHD (Attention Deficit Hyperactivity Disorder) are now widely diagnosed in adolescents.

Kaplan notes that in Attention Restoration Theory many

> "settings, stimuli, and tasks in modern life draw on a critical resource for effective functioning: the capacity to deliberately direct attention, or pay attention. The information-processing demands of everyday life—traffic, phones, conversations, problems at work, and complex decisions—all take their toll, resulting in mental fatigue. In contrast, natural settings and stimuli such as landscapes and animals seem to effortlessly engage our attention, allowing us to attend without paying attention. For this and a number of other reasons (see Kaplan, 1995), nature provides a respite from deliberately directing one's attention. As a consequence, Kaplan suggests, time spent in nature allows us to recover from mental fatigue and leaves us with enhanced effectiveness and a sense of rejuvenation."[7]

"The information- processing demands of everyday life—traffic, phones, conversations, problems at work, and complex decisions—all take their toll, resulting in mental fatigue." - Kaplan

"It is fascinating when everything is silent, and you know yourself to be alone. You can jump, run on fallen trunks and sing knowing that you are safe from other peoples' gaze. Nobody thinks that this might not be appropriate behavior for a 17-year-old."

Adolescents need public spaces where they can test out their social and physical skills. "Teenagers spend about 40 percent of their waking time in leisure activities: socializing with friends, watching TV, playing sports or pursuing hobbies, or simply 'thinking.'"[8] They prefer to be with friends, away from adults and adult-oriented activities. A study of the preferences of outdoor spaces by teenagers by Eubanks-Owens indicated the following statistics:

- 70% of teens value outdoor places where they could be with nature.
- 66% valued places where they could get away from other people.
- 30% valued places where they could be with their friends.
- 64% valued places where they could look out and not be seen.

Reflection

The teens interviewed appreciated the beauty of natural parks. Most interestingly, they chose the parks as one of "the best places for teens to put things in perspective."[9] These places make it possible to them to contemplate and clear their minds. Going back to Kaplan's value of the restorative power of nature, it helps them to reflect.

Teens value views where they can look out and not be seen (a prospect refuge). The study showed that "all the teens who selected the views said these places gave them a choice in the things to do."[10] They also valued safety and felt that natural parks were safer than other places. There is a strong sense of importance of the physical environment and attachment to place in self-regulation.[11]

Photo by Melody T

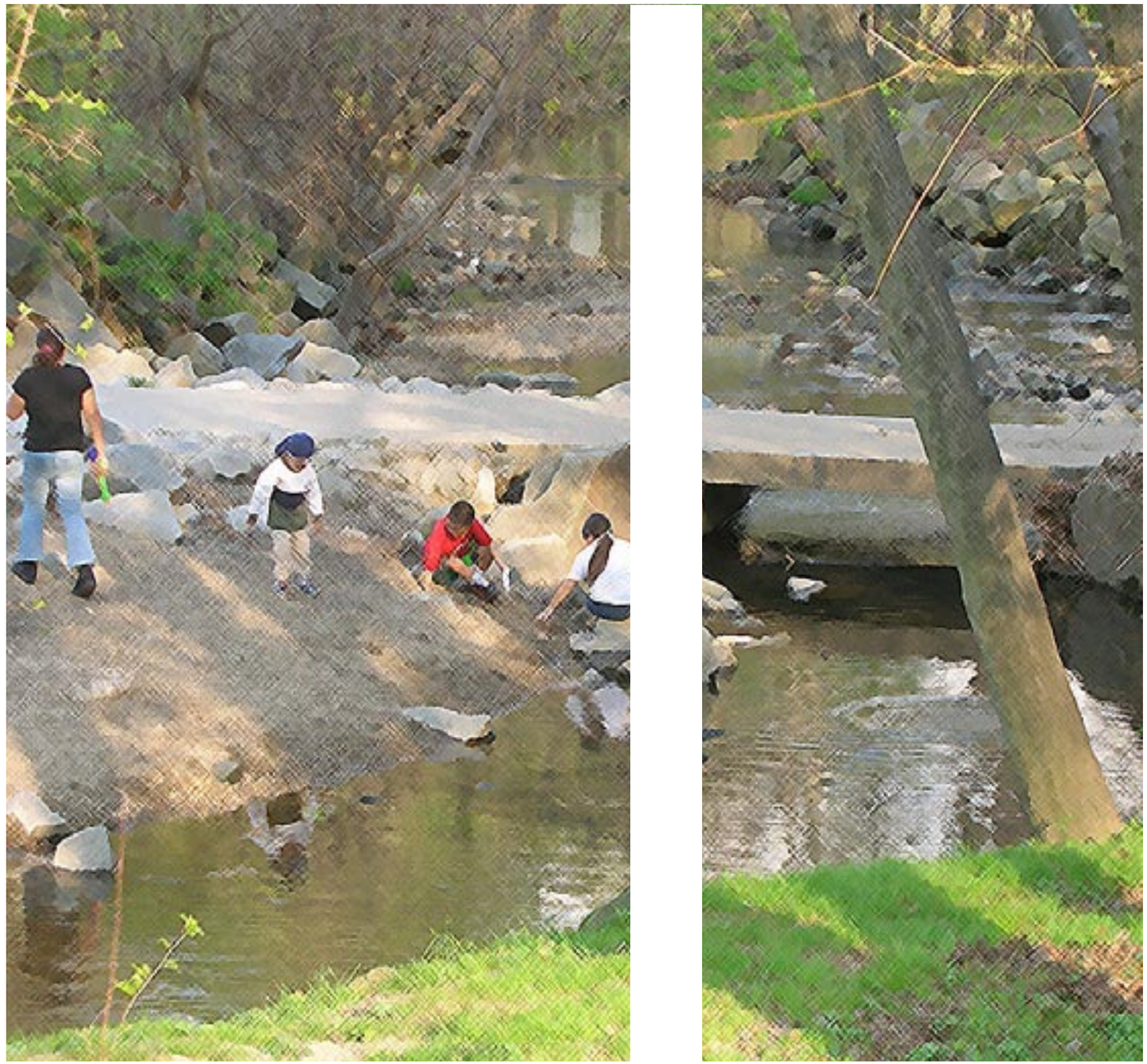
One child, in a study by K.M. Korpela wrote,

"I have several places which are somehow more important to me than others. My most important place is perhaps the wood. I live near the wood so it is easy to go there. The wood always puts me in a happy mood. It is fascinating when everything is silent, and you know yourself to be alone. You can jump, run on fallen trunks and sing knowing that you are safe from other peoples' gaze. Nobody thinks that this might not be appropriate behavior for a 17-year-old."[12]

In Louv's book, *Last Child in the Woods*, Richard Herman, a nature photographer explains

> "...nature always gave me this incredible calmness and joy...later I needed this calmness again when my father was killed in a car accident when I was fourteen. I was lost, and the temptations and distractions were many... I remember being absolutely in pain and stress most days, but I would find solace by walking by myself to an area of coast oak woodland - just walking, looking at the undercover of poison oak...It all made sense to me. I experienced great calmness there that I could not find anywhere else."[13]

A site that could satisfy the requirements of a place for reflection could include a hillside, rock cliffs, a grove of trees or a stream. It is important to have this type of place accessible to teenagers when they need the time for reflection so that they can regulate themselves.



Bluemont Park, Arlington, Virginia. This photo shows the upper reaches of Four Mile Run.

For adolescents, talking is often an opportunity to explore the realm of acceptable behavior and define one's place in the social whole.

Socialization

Teens like to gather with friends. "Getting together with peers is important to teens' emotional development. They need to be with friends to learn more about themselves, their role in society and their values."[14] "For adolescents, talking is often an opportunity to explore the realm of acceptable behavior and define one's place in the social whole."[15] The amount of time spent just talking greatly increases with adolescents.

Teens prefer to be away from adults. As children enter adolescence, their disclosure to adults decreases while disclosure to peers increases.[16] So, where do they like to talk? They perch on walls, rocks, hillsides. Outdoor spaces where they can congregate to socialize without conflict with other user groups is a very important design consideration. Site furnishings in the parks and plazas are seldom used the way the designers intended. They often sit on the backs of benches and rest their feet on the seats. They like to sit facing each other. A number of manufacturers are developing site furnishings made with the needs of this age group in mind.

In addition to the need to have opportunities for everyday social encounters with their own age group, teens also need to have opportunities to interact without conflict with other age groups. Public spaces where teens can test out new social and physical skills are an important part of public space and park design and need to be taken into consideration during the planning process.

Photo by Audrey Johnson

Whether we want to or not, we're on our way to creating a nation of wimps.[17]
-Hara Estroff Marano

Challenge

Teenagers "get the most satisfaction from meeting challenges that fit their developing skills and provide them with meaningful rewards."[17] For example, "teenagers who are active in sports and hobbies…are stimulated to develop new levels of expertise and accomplishment, and their success then stimulates them to search for fresh challenges, slightly harder but still within reach. This growing involvement and ability…

is what takes adolescents beyond the impulsive, egocentric activities of childhood, into a more adult world of widely shared rules, symbols and communication."[18] Teenagers need to find a connection between challenges and feelings of personal fulfillment.

Challenge courses consisting of ropes and bouldering are one way to find this connection. Here, they can understand control over experience and apply that skill to other situations. A perception of risk and mastery is important and places need to be designed to provide acceptable risk, introducing teenagers to situations that help them make decisions and problem-solve.

The following quote by Hara Estroff Marano in the November, 2004 issue of *Psychology Today* explains some of the problems of the lack of connection:

> "With few challenges all their own, kids are unable to forge their creative adaptations to the normal vicissitudes of life. That not only makes them risk-averse, it makes them psychologically fragile, riddled with anxiety. In the process they're robbed of identity, meaning and a sense of accomplishment, to say nothing of a shot at real happiness. Forget, too, about perseverance, not simply a moral virtue but a necessary life skill. These turn out to be the spreading psychic fault lines of 21-st century youth. Whether we want to or not, we're on our way to creating a nation of wimps."[19]

The Connection between Perceived Risk and Standardization

Landscape architect Helle Nebelong, of Denmark, writes: "Standardization is dangerous because play becomes simplified and the child does not have to worry about his movements." [21]

Taking it a step further, she uses the example of rungs in a ladder: to have the rungs in a ladder unevenly spaced, a child has to think about each step as he or she climbs higher and higher. In natural parks, the idea of percieved risk could be introduced through subtle changes in the landscape - paths where you have to think about turns and twists, negotiating around natural elements such as boulders, or logs blocking a path so that one has to climb under or over to continue a journey to a destination.

It is time for landscape architects to begin looking at opportunities to create perceived risk in the landscape. To clarify, in public playground safety standards, a risk is identified to be a challenge we are willing to do. A choice. By contrast, a hazard is something unknown, hidden, unforeseen, or unexpected. The development of a site where one has to think about movement in relation to the environment allows one to develop important life skills. In play, cognitive ability develops. It is possible to build challenging places for children to test and master their skills – both through individual activity and team building.

The risk is not that children may get hurt by taking risks in the landscape. While focus on safety is necessary, the ability to apply concentration is a major part of the maturing process for children. A successful design would be a place where one can concentrate on estimating risk in a physical way within a natural setting.

Challenge as Treatment

In the April, 2006 issue of *Recreation Management*, the use of challenge courses by therapists is discussed. "This sort of treatment is 'catching on' "says Kristy Pounds, a certified therapeutic recreation specialist (CTRS) with the San Marcos Treatment Center, a residential facility for adolescents in San Marcos, Texas. "It's good for eating disorders because of body image, it deals with trust and abandonment issues, attention deficit hyperactivity disorder, schizophrenia - anything you can think of you can use ropes for, you just ask different questions as you do the activitiy." The ropes courses are effective because "it dilutes talking your way through things...The mind doesn't allow you to see that you're not really that high up, so you go back to what you usually do when you get uncomfortable."[22]

Reactions to the presence of young people on public transport, in shopping and civic centers, and in parks can range from disquiet and apprehension to suspicion and extreme hostility.

The Challenge of Creating Places for Adolescents

It is important to find ways to create places for adolescents. However, few sites are being developed that accommodate the specific needs of this age group. Some of the factors that are contributing to the lack of the available recreation space for adolescents are the deliberate exclusion of teenagers from public spaces through public policies and design practices and the growing rate of suburban sprawl.

Exclusion of Adolescents

Public space can become a site of conflict between young people and other groups in the community. Reactions to the presence of young people on public transport, in shopping and civic centers, and in parks can range from disquiet and apprehension to suspicion and extreme hostility, and ultimately to certain sections of the community avoiding these locations. The young people in turn argue they are harassed and victimized by police and security personnel. Young people also argue that they have nowhere else to go, that they have the right to be there, and that they are often not doing anything criminal. [22]

"Public policies such as curfews, skateboarding and loitering ordinances restrict the use of public places by teens and are increasingly being adopted by municipalities."[23] However, public space is very important to adolescents. Owens writes, "Jane Jacobs in The Life and Death of Great American Cities (1965) recognizes

Photo by Jonathan Fain

the importance of street life in growing up. She writes that the active and passive participation in the daily life of the urban street promotes a gentle transition to adulthood. Over a quarter of a century later, adolescents still need these public spaces in which to grow up, but they are often not available. Adolescents need to engage in conversations with their peers and public places are the areas many teens choose to engage in this activity."[24] Teenagers use park facilities in the same ways that they use other public space such as malls, plazas and streets. Teens need opportunities to interact and participate with other age groups[25] and park facilities offer an opportunity to provide adolescent-friendly design in addition to affording a place where different age groups can passively interact. But obstacles to extreme sports parks and fitness trails exist even through research shows that they benefit public health and the environment.

For example, when a skatepark is proposed as a potential project in or near people's residences, it can result in a "Not-In-My-Backyard" attitude. Typical reasons for this objection include:

- Economic impacts,
- Safety and security concerns
- Public and private property liability risks.

Patsy Eubanks Owens suggests that skateparks in public places will give the general park user more appreciation of the skills shown by the young, and thereby reduce the chances of conflict. There are other opportunities to showcase the skills of adolescents as well, through the use of ropes courses, mountain bike and bmx trails and rock walls.

Powhatan Springs Skatepark, located in Arlington, Virginia is one of the few parks in the DC metro area that has been constructed specifically addressing the need for challenge.

The Centers for Disease Control and Prevention state that obesity is now a full-scale epidemic and that obesity related health care costs now exceed $117 billion a year.

Suburban Spawl

Distances and lack of accessibility between residential and commercial areas inhibit walking and biking. The first issue which needs to be examined is children's freedom and safety within the context of everyday activity. The importance of walking and physical activity as determinants of good health has been well established in the medical and public health literature. The Centers for Disease Control and Prevention state that obesity is now a full-scale epidemic and that obesity related health care costs now exceed $117 billion a year. Adolescents benefit from regular physical activity, and developing healthy habits that include active recreation can help prevent obesity into adulthood. In Northern Virginia, as well as in countless sprawling communities around the country, adolescents are at risk of chronic health problems such as asthma, headaches and obesity. This containment has been through parents driving their children everywhere rather than through creating safe routes. This has created a vicious cycle: the number of children being chauffeured has increased, increasing traffic around schools and neighborhoods, and the drivers are now not used to noticing pedestrians with the decline in the number of people walking and biking on local roads. Jonathan Edwards explains in part, "The perception of danger due to the high volume of car traffic, particularly during the morning rush" is the number one reason kids do not walk to school. He points out, "the problem feeds on itself: more parents drive their kids, adding to the traffic volumes they're concerned about to begin with."[26]

However, transportation decisions are rarely made in consultation with youth. Indeed, some transportation agencies don't even consider people less than 18 years of age to be part of their customer base, and routinely leave them out of customer surveys.[27] It is apparent that youth under the age of 18 years of age should be involved in design of projects that affect them. Government agencies should collect and report data regarding their preferred travel patterns analyze those patterns and develop strategies to address the needs of this underserved age-group of citizens. If kids count then count kids![28] Teenagers want to be able to get around on their own. Many of the teenagers interviewed for the California transportation study said their "inability to go places without assistance from their parents made them feel frustrated and isolated."[29]

Even if routes that are relatively safe from vehicular traffic are created, parents have other concerns. In particular, there is concern about "stranger danger". This is certainly understandable, but statistics show that children are far more likely to be harmed while traveling in a motor vehicle than they are to be abducted by a stranger. In addition, the majority of youth abductions are by relatives of the child.[30] In-

corporating changes that will improve the safety and convenience of walking and bicycling will not only decrease the number of accidents, but will also encourage more use of safe routes by people of all ages. This effectively puts more "eyes on the street" and should help alleviate parents' concerns about stranger danger.[31]

In addition to health concerns, cognitive abilities are diminished by the lack of safe routes for adolescents. The New Mexico Safe Routes for School legislation recognized that "children cannot acquire traffic skills critical to their own safe mobility if they don't experience their neighborhood and school area on foot. They remain unfamiliar with their neighborhood and isolated from people and the environment."[32]

Studies have shown that children who are driven everywhere and who aren't permitted to play outdoors or walk around their neighborhoods are often unable to draw basic maps of their communities and develop an understanding of spatial relationships, while children who do walk and bike around their neighborhoods are able to give directions to their homes at a young age. One of Lynch's innovations was the concept of place legibility, which is essentially the ease with which people understand the layout of a place. By introducing this idea, Lynch was able to isolate distinct features of a city, and see what specifically is making it attractive to people. In addition, Lynch in *Growing Up in Cities* reported that "streets are extremely valuable unprogrammed spaces for adolescents because they provide a legitimate place for them to be."[33]

The second issue which needs to be examined is evaluating the amount of available open green space that can be accessible to teenagers. Even if there is interest in developing space for parks and trails, the growing rate of suburban sprawl is reducing the amount of available open green space available. The first question we must answer is: Where can we find space that will provide opportunity to create parks and trails? .

Studies have shown that children who are driven everywhere and who aren't permitted to play outdoors or walk around their neighborhoods are often unable to draw basic maps of their communities and develop an understanding of spatial relationships.

Greenways are a perfect opportunity for investigating this challenge because of their connection to daily activity levels and opportunities for interaction, reflection and risk taking.

Greenways are a perfect opportunity for investigating this challenge because of their connection to daily activity levels and opportunities for interaction, reflection and risk taking. These linear linkages offer an opportunity to create places for adolescents and also offer accessibility options. In addition to providing vital ecological functions such as providing wildlife corridors, greenways adapt themselves to linear recreation, such as jogging and bicycling, better than conventional parks, and connect many neighborhoods and destinations. They can connect to other safe routes that have been designated, thus offering the accessibility that adolescents desire. Adapting to linear elements in the landscape, like abandoned railroad beds, streams, and utility corridors, they are easier to implement than conventional parks in built-up areas where large parcels are not available. The two attributes of *edge* and *linkage* are vital to the concept of greenway development. These concepts come to light in Charles Little's definition of a greenway.

In his book, *Greenways for America*, Charles Little defines a greenway as:

1. A linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route.
2. Any natural or landscaped course for pedestrians or bicycle passage.
3. An open space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas.
4. Locally, certain strip or linear parks designated as a parkway or greenbelt.

The important questions to consider in exploring design characteristics which are preferred by teens are: What physical characteristics make for successful sites? What are the environmental characteristics of a park that will encourage adolescents to lead an active lifestyle? How do we incorporate this information into design, including creating a sense of place that will allow a multitude of different age groups to interact?

Emerging literature in urban planning explores how different dimensions of the built environment can encourage the construction of livable communities with urban form that is sympathetic to physical activity, biking, and walking. The characteristics of a successful greenway trail will vary based on the type of opportunity that is presented. For example, some users may wish to hike, bike, horseback ride, cross country ski or walk. But a successful trail will encourage resource protection and also provide first-hand experi-

ence to educate citizens about the importance of the natural environment.

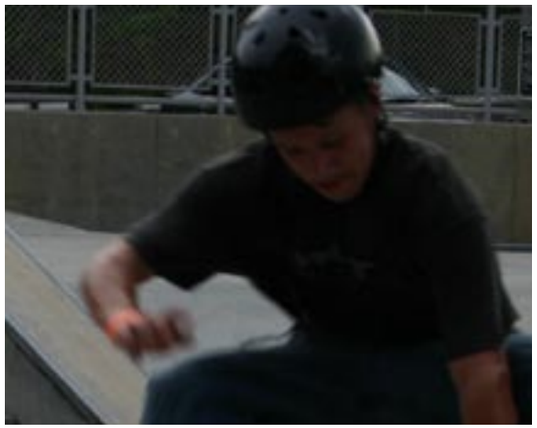
The issue of sustainability in landscape design is an important characteristic to highlight in establishing places for teenagers. To create a trail or course where one has to stop, think, and appreciate nature in context of activity allows teens problem-solving opportunities. How do they pass through the site without ripping up the landscape? With soft-surface trails, how do they make the turns and connections?

In designing a site for adolescents, one of the most important things to understand is how the site currently meets the unique needs of this group. Also, it is important to understand the attributes of the site and how they may support designing spaces and activities for adolescents. After examining various parks within Arlington County and the surrounding area, I made the following observations:

- Often the facilities in the parks are for general use or a specific sports orientation.
- Many of the facilities are geared toward other age groups. One notable exception is Powhatan Springs Skatepark, which serves a highly specialized activity.
- Some individual design elements do meet the needs of adolescents, but not intentionally.

The following pages show photos of the facilities and the types of activities occurring in Arlington parks.

In designing a site, one of the most important things to understand is how adolescents are using existing parks and trails – what is working and what is not working.



Pavilion at Barcroft

Alcova playground

Bike trail at Bon Aire

Ft. Ethan Allen dog park

Bluemont Park Pavilion

Quincy Park (aka Mosaic Park) play equipment

Bluemont Park holds a prime example of a design element that unintentionally meets the needs of adolescents ...

The W&OD bike trail as it extends through Bluemont Park

The soccer field and parking garage at Barcroft Park.

Designing for Adolescents in Arlington's Four Mile Run Park

The challenges of designing places for teenagers withing the context of parks and trails will be examined using a section of Four-Mile-Run in Arlington County, Virginia as the actual physical space for the design developed in support of this research.

A source of abundant natural resources and a natural transportation corridor, Four Mile Run attracted residents centuries ago.

- Four Mile Run Master Plan

The importance of selecting a site is to help in further researching how to create gathering spaces for adolescents. One of the first steps in the design process is to understand the attributes of the site and how they may support designing spaces and activities for adolescents. In examining the local parks, I determined that the Four Mile Run stream corridor had many of the attributes of a site that could be designed as a gathering space for adolescents. Specifically, the Four Mile Run corridor has a wide range of features that are important to adolescents.

This site has a richness to it:

- Varied natural topography
- A diversity of natural resources (e.g. rocks, trees, water)
- Connection to an existing park, including developed recreational facilities
- Proximity to a high school

The value of the Four Mile Run site was recognized long ago by Arlington County, the City of Alexandria, EPA, and the Army Corp of Engineers. The Four Mile Run Master Plan describes the corridor:

"A source of abundant natural resources and a natural transportation corridor, Four Mile Run attracted residents centuries ago...Beginning in the early 19th century, transportation and defense left their mark on the landscape." [34]

Over the course of years, the area developed as a transportation and utility corridor. The utility cor-

ridor was far enough away from the stream that this particular section of the stream reach remained relatively untouched.

The limited availablity of public funds to build or expand parks makes it important to identify sites where the facilities can serve both large and diverse segments of the community. Therefore, identifying a site that is located near schools, neighborhoods and transportation is important.

The map below shows the proximity of Wakefield High School and Claremont Elementary School to Barcroft Recreation Center and the Four Mile Run Park. It is accessible by a number of major roads, bus lines and the W&OD Bike Trail.

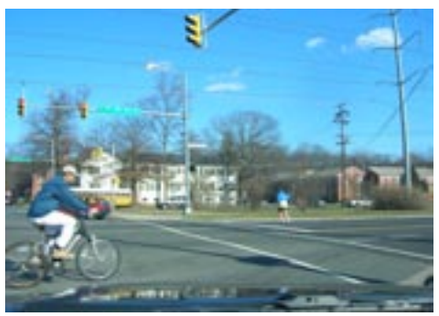
All maps on this page from Google, retrieved February 10, 2006

A view of the confluence of Doctor's Run and Four Mile Run, Barcroft Rec Center and sports facility, Four Mile Run Drive and the bike trail.

A close-up of Wakefield High School.

A profile of the community shows that its size and diversity offer the opportunity to serve the needs of many adolescents. "Four Mile Run and its watershed comprise one of the most heavily urbanized drainage basins in the Northern Virginia region...It is home to approximately 183,000 people in adjacent portions of four localities: the counties of Arlington and Fairfax and the cities of Alexandria and Falls Church." (Four Mile Run Master Plan)

The community near this section of Four Mile Run is quite diverse. According the the 2000 census, Hispanic or Latino ethnicity comprise over 50% of the population in tract 1027, and 28% in tract 1028. Population and housing types vary; there are apartments, condominiums and single family homes within the immediate area. Wakefield High School and Claremont Elementary School have proximate access to the park. Students from both schools and the surrounding residential neighborhoods have long used the park. The following map indicates that this section of Four Mile Run has been an attraction and used as a park since at least 1964.



There are single-family residential, townhomes, small garden apartments and high rise condominiums and apartment buildings all in walking distance of Four Mile Run Park.

Challenge, Chilling, and Hanging

Natural landscapes designed around the objectives of reflection and socialization (aka hanging and chilling) should include places for sitting, strolling, talking, or just being with others or by yourself. To create spaces that facilitate these activities, my design of Wired Park includes:

- Boulders
- Hammocks
- Seating
- Trails/Walkways, and
- Trees.

In designing the site, I used varying heights and locations of the elements listed above to address adolescents' preference for perching and views. The varying topography and natural resources at the site made this possible. The model of the Four Mile Run/Barcroft site shows how the design elements and the natural features of the site have been brought together to attract adolescents to the site. For example, the boulder located near the stream allows a connection to the water and a different perspective compared to the view from the wire mesh walkway above the stream.

A teenage summer intern with Arlington County supplied some valuable insight into the travels of adolescents in Arlington County and their preference for places to chill and hang-out. Among the parks, she listed Hillside Park and Bluemont as good places to "chill". These parks had some of the same natural topography features as the natural park at Four Mile Run/Barcroft. There were steep hills, water, rocks, and groves of trees.

To introduce challenge into the landscape, I took advantage of the hilly terrain and rock formations at the stream's edge. Specifically, I introduced the following elements into the design:

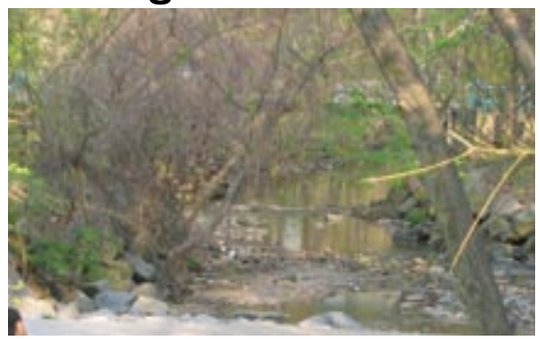
- Boulders
- Climbing Nets
- Wire Mesh Walkways
- Zip Wire, and
- Ropes.

Introducing these design features in the site allows adolescents to challenge themselves in activities that have the perception of risk associated with them. For example, the physical design model includes wire mesh walkways of differing heights, widths and proximity to the water. Photos of the physical model are shown after the design development section of the paper.

Challenge

Climbing on boulders near the Potomac River.

Chilling



Walks in the park at Bluemont and Hillside

Hanging

The rec center at Barcroft Park, used for card and game playing.

Wired Park: Design Concept

Coming out of the initial phase of research, the theme that emerged was that of connections. Wired Park is my vision for designing a place that allows adolescents to connect.

Coming out of the initial phase of research, the theme that emerged was that of connections. In my design process, connection is the concept that ties together the physical elements of the design and the site with the unique needs of adolescents. Wired Park is my vision for designing a place that allows adolescents to connect. In my design, I looked at three ways of connection that are important to adolescents:

- To connect with **yourself** (relection) to get in touch with one's self and emotions,
- To connect with **friends** (socialization),
- To connect with your **senses** and engage yourself physically (challenge) – creating a connection between mind and body.

Wired Park: Design Process

In the initial planning, I located several areas at the confluence of Doctors Run and Four Mile Run which could be used to create different experiences.

There are two utility corridors and a streambed corridor located in the Four Mile Run/Barcroft Park area. This provided the linear linkage that could provide the access and security that teens desire in addition to serving vital ecological functions.

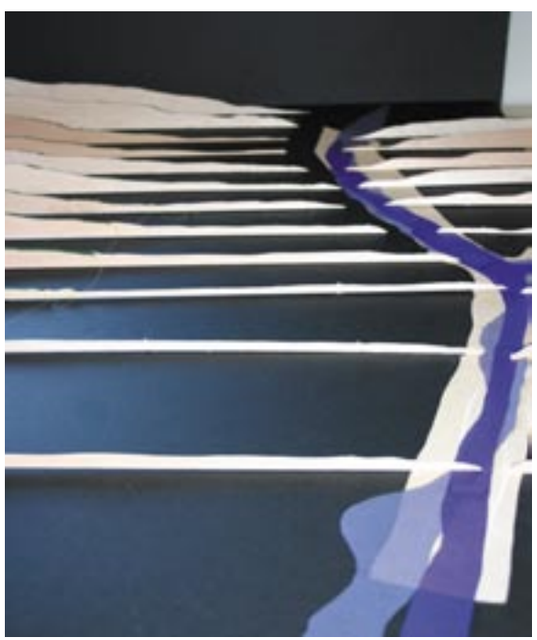
Schematic showing proposed location of various activities (above right).

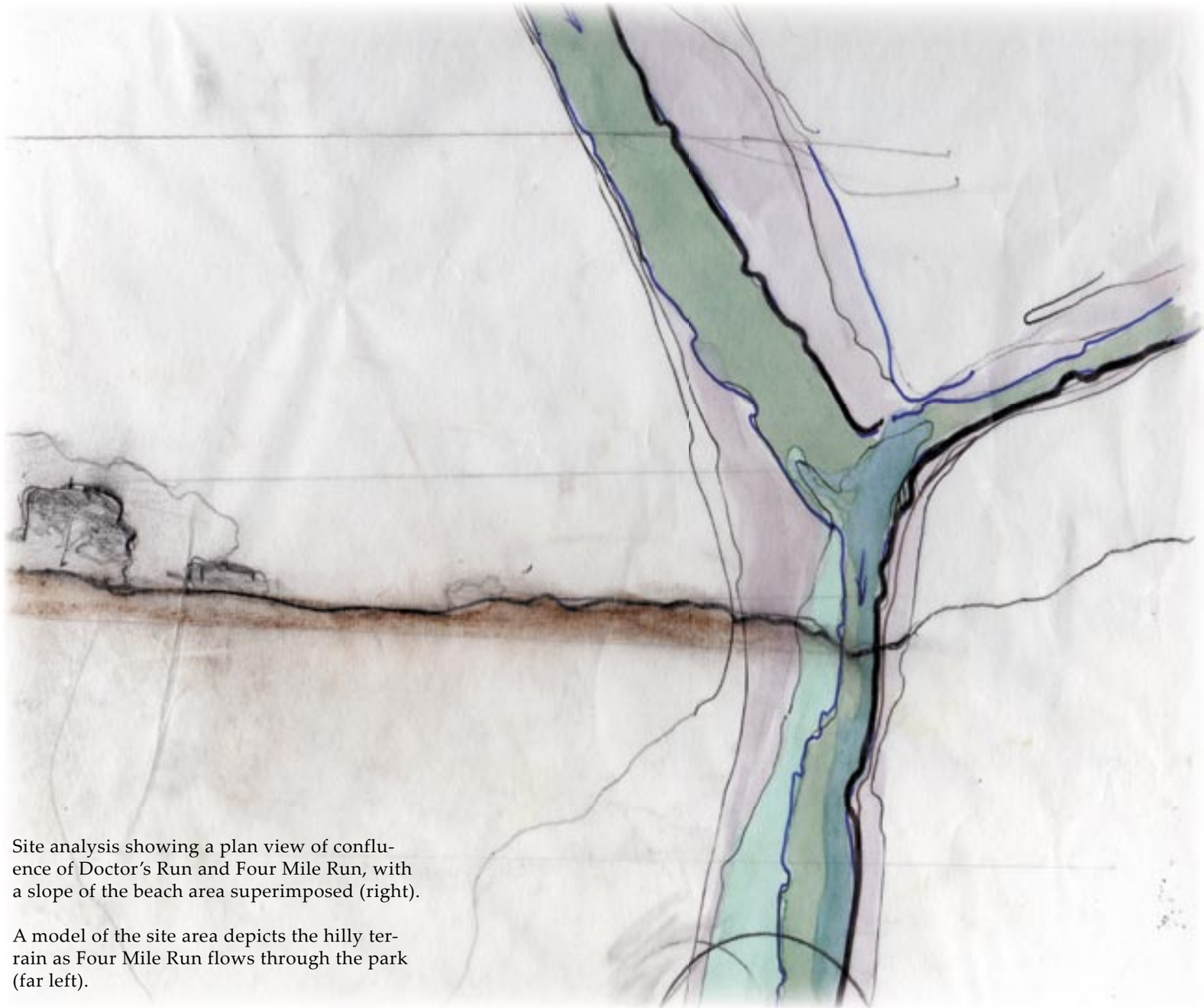
Section of utility corridor (below).

Heading to the park from Wakefield High School.

Utility corridor located in front of Barcroft Rec Center along Four Mile Run Drive.

It was important to identify topographical features in the natural area of the park that would easily lend themselves to creating a place designed for adolescents. This included ease of access via an existing bike trail, service area and proximity to utilities located just across the streambank. A model of the existing slopes, in addition to sections that described the existing conditions near the streambank were developed. Key design considerations included identifying a natural gravel beach area near the stream confluence, steep banks,





Site analysis showing a plan view of confluence of Doctor's Run and Four Mile Run, with a slope of the beach area superimposed (right).

A model of the site area depicts the hilly terrain as Four Mile Run flows through the park (far left).

the floodplain areas, location of large boulders and a large sloped wooded area. The environments that teens find interesting consist of streams, hillside, rock cliffs and groves and are typical of naturalistic, sensitive environments. At the same time, to meet the needs that have been described, we are introducing people, activity, and traffic.

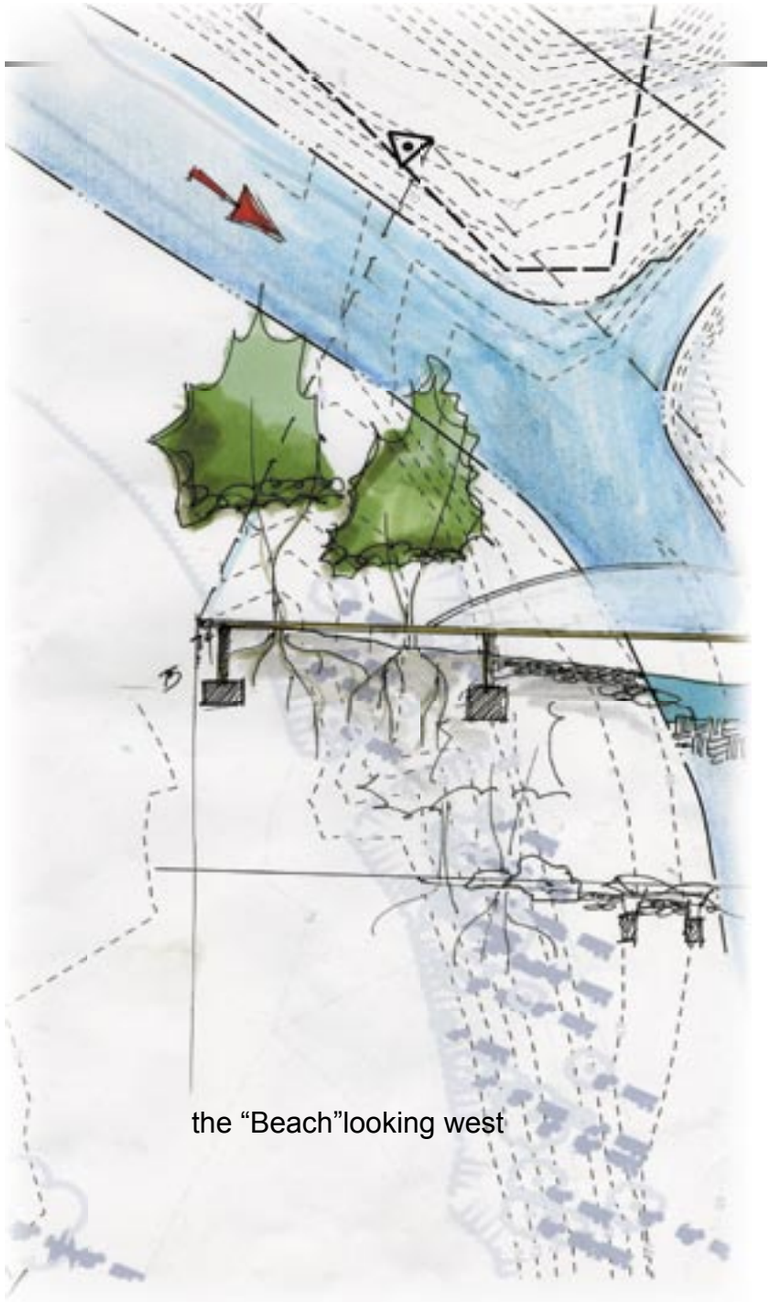
Design principles are needed:

- To **balance** the natural elements of the site with their needs,
- To **integrate** the site with multi-use and user facilities,
- To **allow** the design to support the native terrestrial and aquatic species.

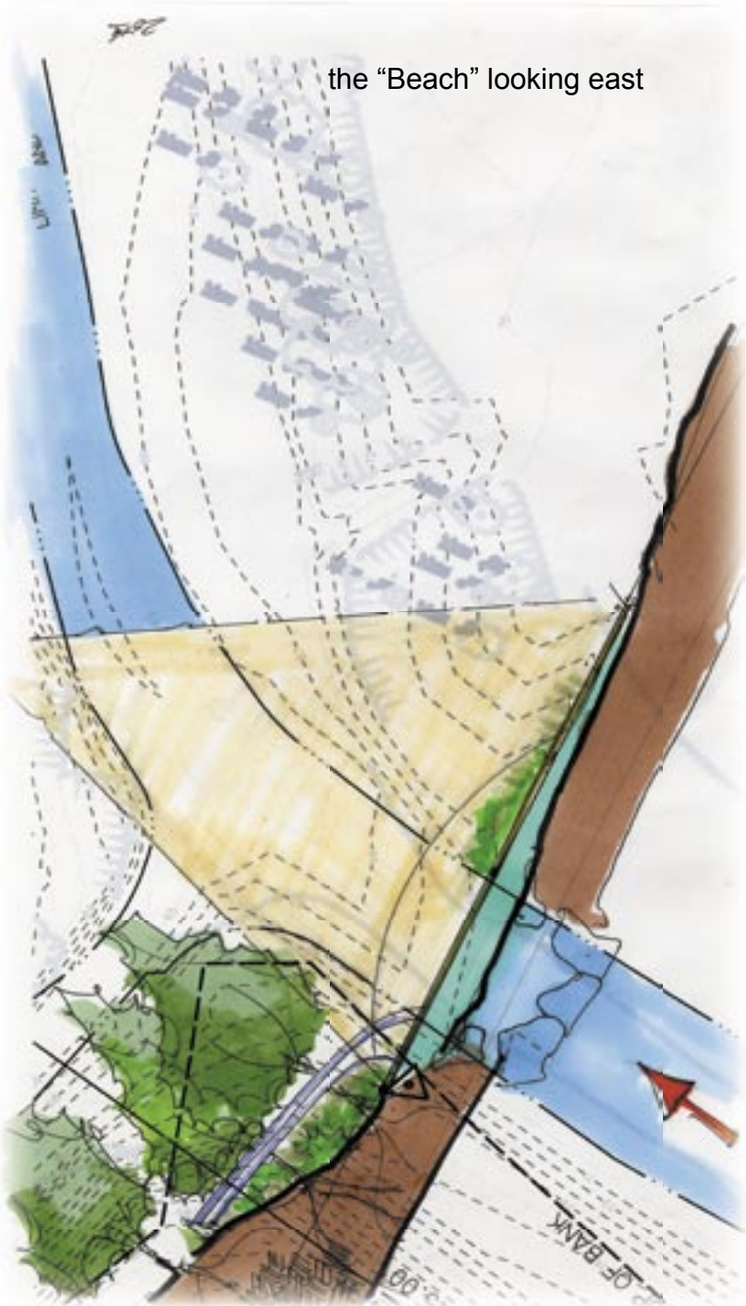
The confluence of Doctors Run and Four Mile Run, the rocks, the wooded hillside, and the beach that naturally formed near the intersection of the streams are a natural draw for people of all ages.

Connection between the natural park and the developed recreational facility is important. The site provides opportunities to address the needs of adolescents within one space.

Doctors Run Sections



the “Beach”looking west



the “Beach” looking east

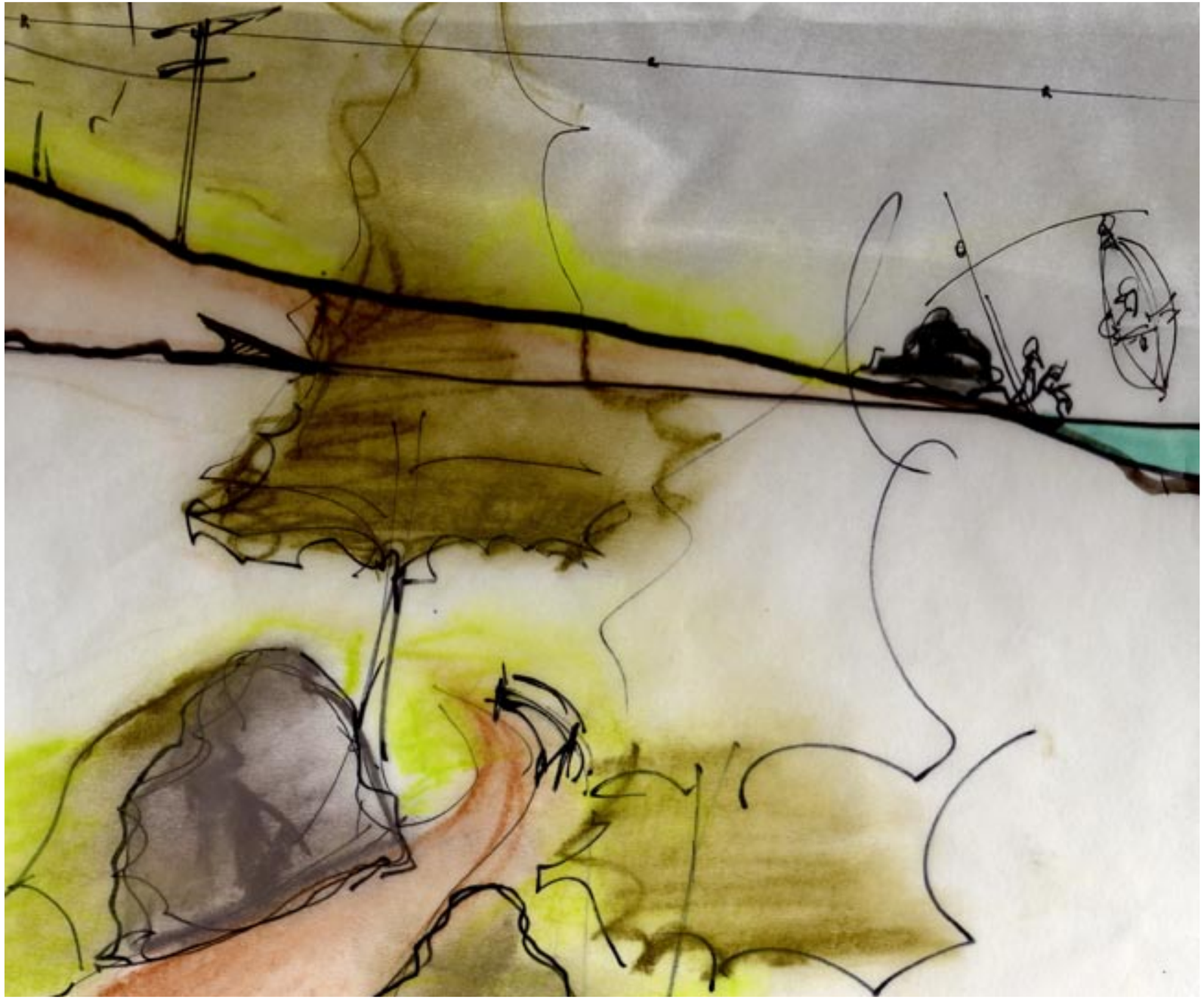
Wire mesh (above) and Ipe decking boards (below) are suggested materials used to construct a gathering space above the streams.

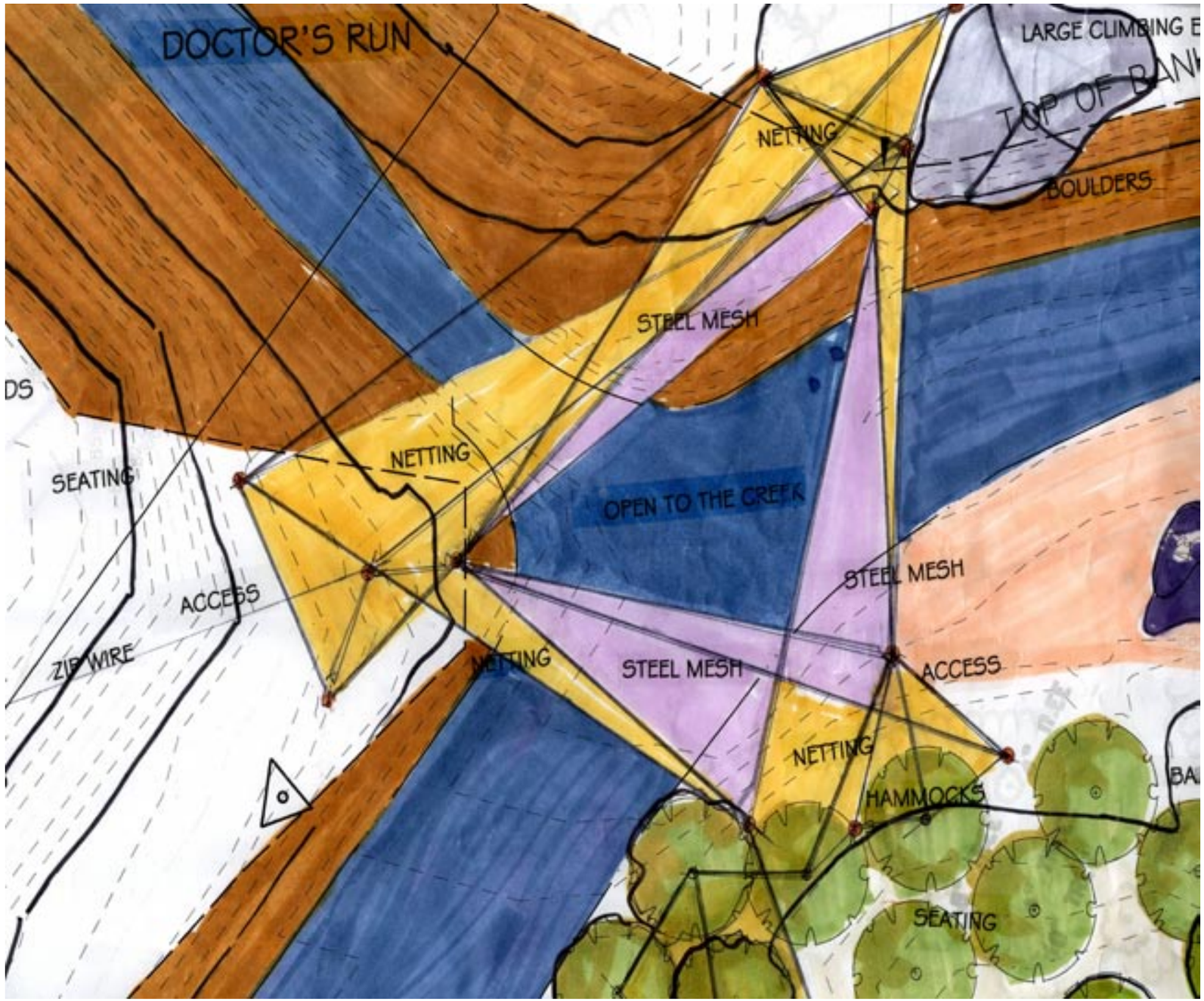
Introducing a structure that would not only provide a connection between the three sides of the stream confluence, but also address the need for environmental sensitivity was developed. Here, a schematic design showing a deck made of sustainably-harvested wood and wire mesh provides the connection.

Large organically-shaped seating structures made out of stone and wire mesh line the beach and allow flood waters to pass through and the chance for teens to chill or hang out. Decking is elevated above the trunks of the trees so that fragile root systems don't get damaged. Within the wire mesh center (yellow triangle, left) large spaces are open to the creek below. A spiral arc connects the path to the decking, allowing climbing action.

Organically shaped seating on "the beach"allow flood waters to flow through and around the structures so that fragile streambed habitat is not affected.

A path winding its way down the hill where one has to pay attention to large protruding boulders addresses the need of percieved risk. Any teens heading down to Wired Park after school would have to pay attention to natural elements as they traveled down the path. Swings attached to boulders with cable jutting out over the creek may be used for chilling or challenge. Signage is simple, graffiti on trees (below).

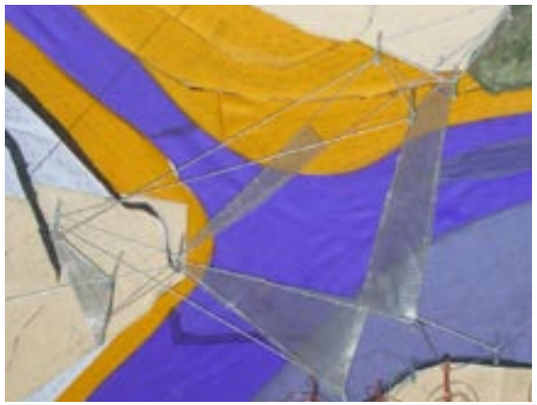




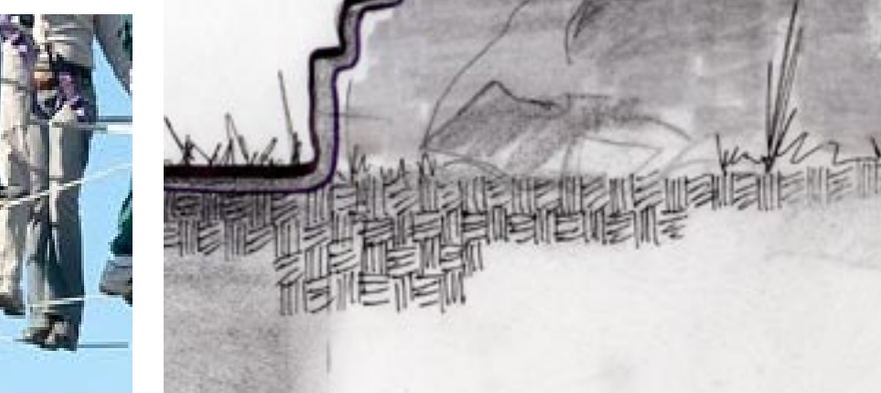
This plan view shows the location of the structure connecting the three sides of the two streams.

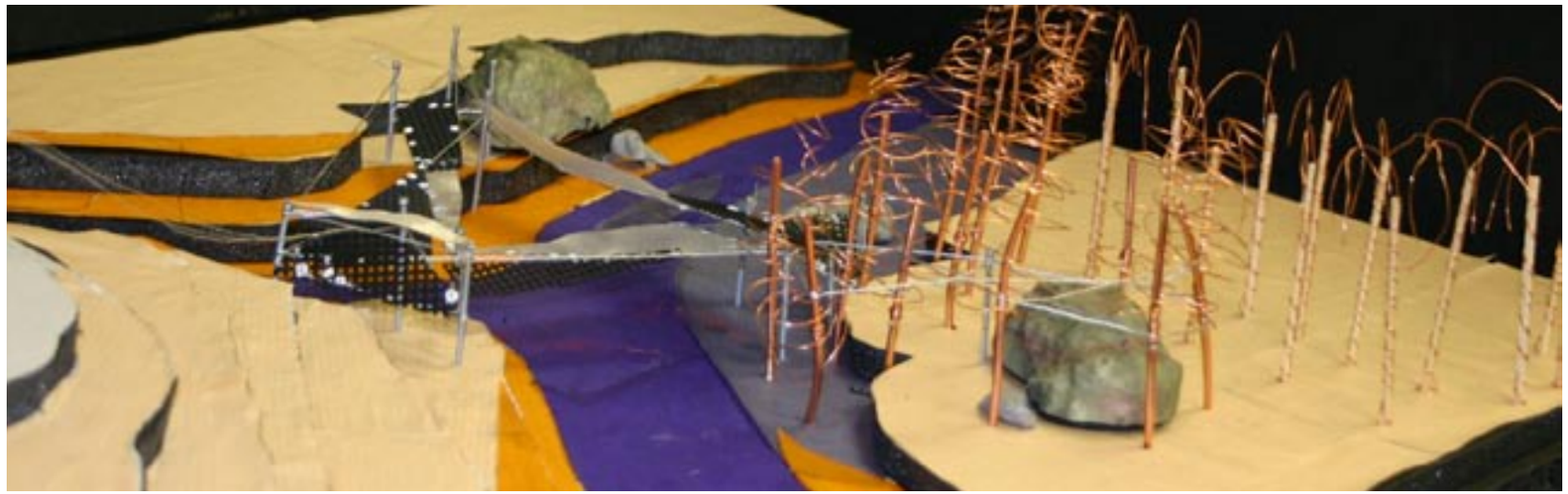
Steel mesh walkways provide a safe passage across the streams, yet offer a view to the water rushing below, providing a sense of perceived risk. A system of ropes and netting provide alternate access for those who choose a challenge. The steel mesh walkways also allow a person to stop, sit down and have their legs dangle over the edge of the walk. Large climbing boulders offer opportunity for challenge, or just a place to hang out with friends and enjoy the view. The key is choice and connection. A teen must connect mentally and physically in order to safely cross over Four Mile Run.

Below: A playground offering younger children the same opportunity for challenge in a supervised environment replaces the existing older playground.



The need for challenging activities is addressed through the use of climbing boulders, netting, and ropes. Boulders line the sides of the streams, offering a perch from which one can survey the terrain and watch the activity. This also provides an opportunity for reflection and socialization. Chains may be anchored in to the boulders (shown below) and may be used to speed up the ascent. Netting and ropes criss-cross the stream, providing a challenging way a teen can choose to undertake. These challenging activities are clearly identifiable so that they are not hazardous. Wire mesh provides an alternative way to cross the stream, safer, but still with a sense of danger because of the view of the water rushing beneath.

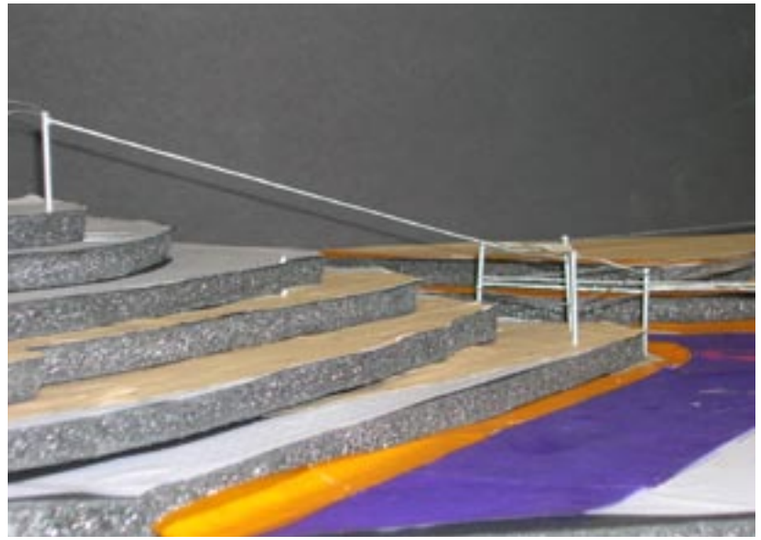




This study model shows the view flooking downstream (Four Mile Run) and shows the steep bank on the north side of the streams. The bright orange indicates the top of bank, which floods in 10 year storms. Each level of the model indicates a five-foot grade change. The wire mesh walkways and netting are all above top of bank to reduce the possibility of damage during flooding. A grove (right) provides a refuge for teens seeking out a nestlike place that will provide some camouflage.

Plan view of the “grove” with the large climbing boulder located in the middle of the grove.

The beach is shown in light blue, Four Mile Run is dark blue and top of bank is shown in bright orange. This view shows the beach and the organic seating elements on the floodplain.



The top of the zip wire is located on the highest elevation, located northwest of Four Mile Run. It provides the only access from the fourth baseball field, located across from the main recreational facility.

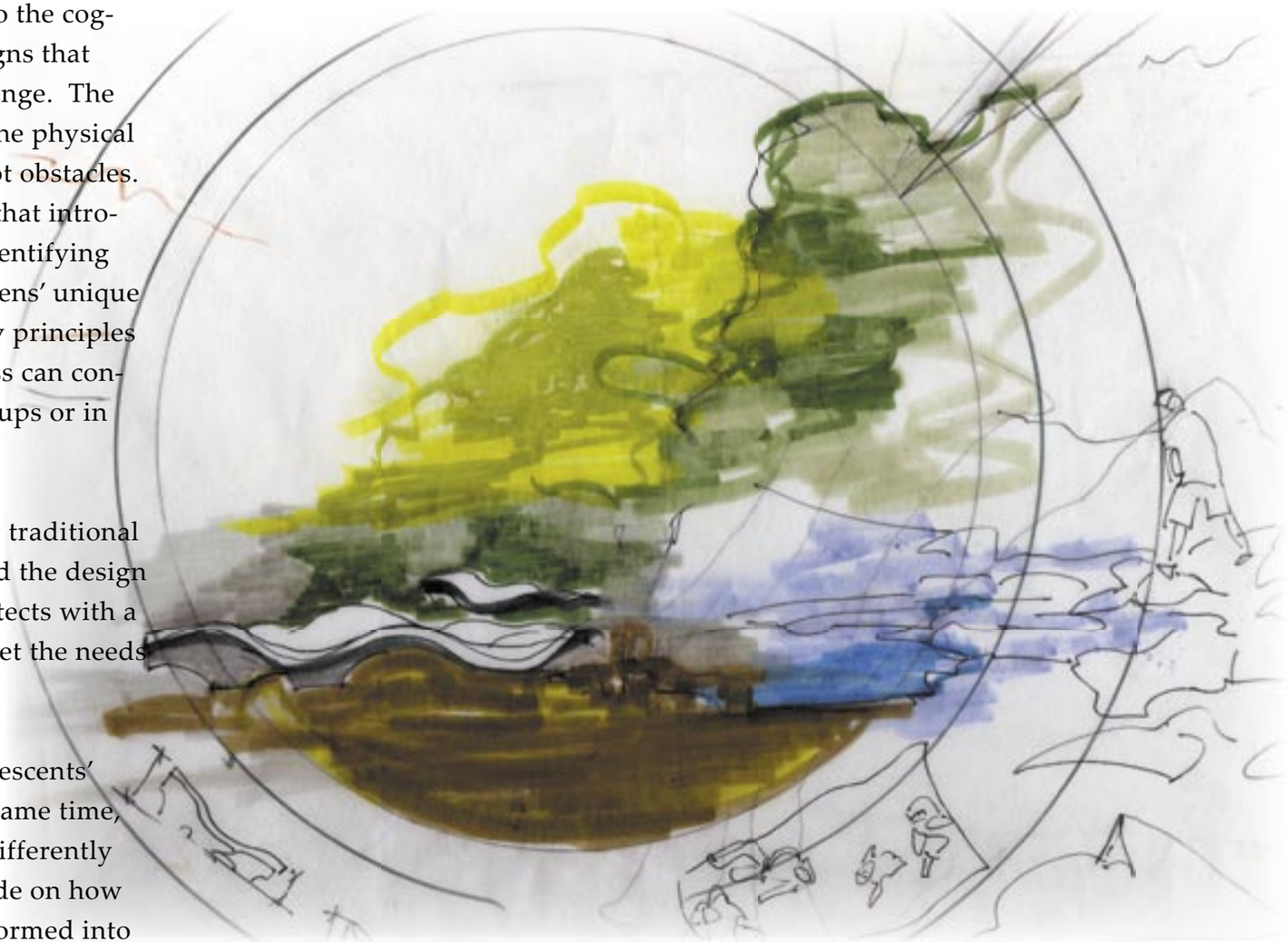
Groves of trees such as Metasequoia or Taxodium are able to tolerate the wet conditions of a flood-plain in addition to creating a sense of refuge.

Landscape architects ... must look beyond the traditional park design to create places for reflection, socialization, and challenge.

Photoshop rendering showing the confluence of Four Mile Run and Doctor's Run, with the model and drawings of site furnishings.

Conclusion

Landscape architects can make a valuable contribution to the cognitive development of adolescents by creating park designs that address their need for reflection, socialization and challenge. The process of designing for adsolescents involves viewing the physical and natural features of parks as design opportunities, not obstacles. This involves looking for opportunities to create spaces that introduce challenge through actual and preceived risk and identifying places for socialization and reflection that incorporate teens' unique preferences. The key to designing in this way is to apply principles of connection to site specific circumstances. This process can connect adolescents to nature and themselves - either in groups or in the form of individual exploration of self.

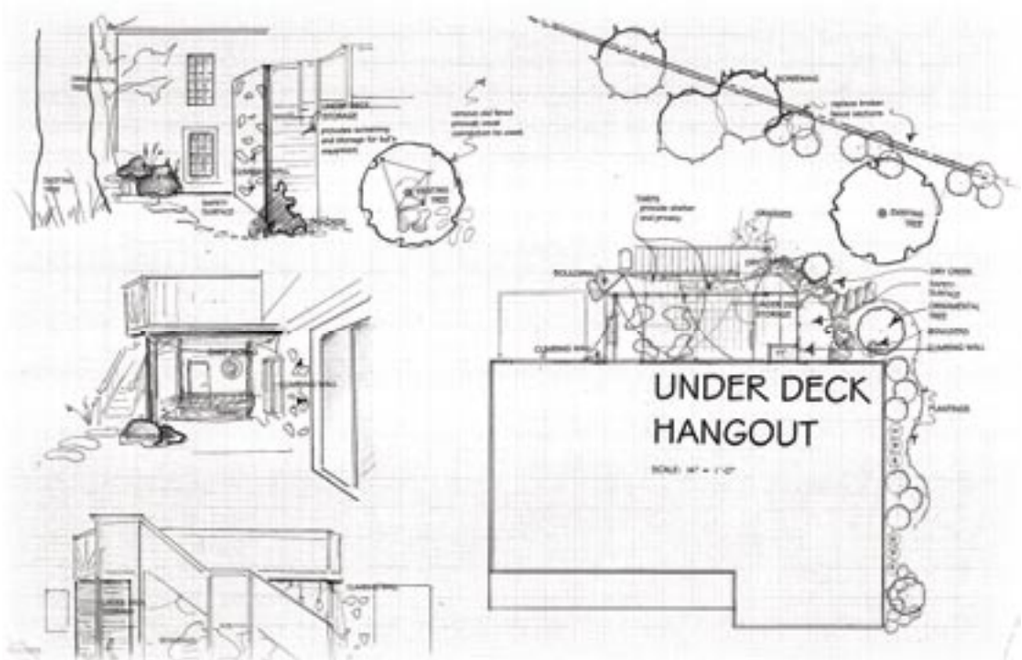


For years, the needs of adolescents have not been met by traditional park design. Therefore, the research, design process, and the design tools described in this book can provide landscape architects with a road map for beginning to design more effectively to meet the needs of adolescents.

This road map builds both on scholarly research on adolescents' needs and practcal landscape design principles. At the same time, it challenges planners and landscape architects to look differently at park spaces and facilities. It also offers a practical guide on how and where parks and other outdoor spaces can be transformed into space in which teens will gather.

Conclusion and Case Study

The ideas that have been discussed in this paper can also be applied to designing outdoor spaces for adolescents in a residential context. During the course of this thesis project, an opportunity for designing and constructing an under-deck space for an eighth grade boy (and his two younger siblings) presented itself. As photos of the site show, it is a fairly typical suburban single-family residence - shrubs around the house's foundation, a large grassy yard with a few trees and a large deck. The final design includes spaces for challenge, socialization and relection in a small space:



The need for **challenge** was addressed through the installation of a climbing wall, punching bag and tire swings. The wall, approximately eight feet tall, is not that high, but still gives the sense of challenge because of the verticality and physical requirements. Kenneth, the middle-schooler, was thrilled that he had an alternate way to access the upper deck. Although this was not originally part of my design intent, I quickly determined that it would be the main use during the course of construction. During one of my initial consultations with Kenneth, he expressed a desire for a "maze" to get to the top of the roof. An extreme ropes and climbing course that would allow him to climb to the roof was not a design solution for a residential neighborhood, but a climbing structure that would allow him an alternative way to climb up to the deck was. A black-belt in tai-kwan-do, the mats and punching bag leave plenty of space for Kenneth to practice outdoors. A more subtle feature that reinforces the perception of risk is a dry creek bed that extends through the under-deck space. This gives the site a more rugged look and was added to reinforce the kids' view of the site as adventrous and challenging with an air of mystery. One tire swing hangs over the river stone and has plenty of space to swing with a span of over twelve feet.

Bringing nature to the house was an important design consideration. Kenneth rarely ventured down to the creek that was just behind his house. To create a sense of "being away" and connecting to nature while being close to the house was achieved through the use of a terrarium, river rock and bamboo. Tadpoles will be collected at the creek when they start to hatch in late spring. This will offer another opportunity to connect Kenneth, a wired child, back to nature.

An under-deck **hang-out** space was important to Kenneth. To create a special place that would serve as a hide-out, I used the interior walls of the climbing wall, painted them with textured rock wall paint and stenciled a simple graphic design. Since one of the most universal activities of children is to create caves, dens and fortresses, the shelter of the canopy overhead and the peepholes cut through the climbing wall would allow him to watch out for anyone (including parents) while hanging out by himself or with friends on the hammock. People like to seek out nest-like spaces which offer camoulflaged "windows". As teens like to perch, I was able to adjust the height of the hammock so that he would have a good vantage point behind the walls. Kenneth and his friend immediately gravitated toward the hammock, and spread out the mats. He liked the idea of being able to work on his homework outside and spread out on the mats - being able to **chill**.

Peep holes also allow some squirt gun action.

Kenneth requested some "posters" - the mural painted on the brick provides a transition from the yard to under the deck.

The process of design, interactions with Kenneth, implementation and final product helped to validate the basic theories of the importance of addressing the needs of adolescents in the landscape.

Appendix A: Places Visited

The wanderings of a 16-year-old summer intern.

Name of park	a.k.a.	How I get there	Outside activities	Inside activities	Hang out	Chill	Frequency Visited	Seasons
Rocky run park	Woodbury Park	Walk	Basketball	none		x	5 times a month	Summer
Fort Myer Height Park	N/A	Walk	Basketball	none	x		1 time a month	Summer
Hillside park	Blair park	Walk	Chill	none		x	10 times a month	All seasons
Rosslyn highland park	Orange park	Walk	Basketball	none	x		5 times a month	Summer
Key elementary school	Key	Walk	Basketball	none	x		10 times a month	Summer
Thomas Jefferson middle school	T.J.	Walk or 38B		Pool, hang out with friends	x		4 times a month	All seasons
Library	N/A	Walk or 38B	Get books	Read	x		2 times a month	All seasons
Lubber run community center	Lubber run	38B	playground	Pool, games	x		5 times a month	Summer and sometimes fall
Bluemont park	Roses park	38B	Basketball	none	x		3 times a month	Summer
Washington-lee high school	W&L	38B		Swimming pool	x		10 times a month	Summer
Ballston Common Mall	Da spot	38B		Movies, walk around		x	8 times a month	All seasons
Tyron hill park	N/A	Car	Basketball	none			2 times a month	Summer
Arlington mills	N/A	22A		Photography	x		4 times a month	All seasons
Bancroft Park	N/A	School bus or 22A		Games, cards			2 times a month	All seasons
Bluemont Junction park	N/A	38B	Walk around	none		x	2 times a month	Summer

End Notes

[1] Larson, R. and Richards, M., p. 502

[2] Eubanks-Owens, Patsy., p. 17.

[3] Kaplan, S., p. 169.

[4] Schaefer-McDaniel, Nicole., p. 161.

[5] Ibid.

[6] Ibid.

[7] Kaplan, S., 169.

[8] Fischmann, Joshua., p. 56-57.

[9] Eubanks-Owens., p. 17.

[10] Ibid.

[11] Korpela, K.M., p. 241.

[12] Korpela, K.M., p. 241.

[13] Louv, Richard., p. 50-51.

[14] Eubanks-Owens., p. 64.

[15] Larson, R. and Richards, M., p. 503.

[16] Raffaelli, M. and Duckett, R., p. 567.

[17] Fischmann, Joshua., p. 56-57.

[18] Ibid.

[19] Marano, Hara Estroff, p. 61.

[22] http://www.cpu.sa.gov.au/nacs_nypups.htm. Retrieved October, 2005.

[23] Eubanks-Owens, Patsy., p.156.

[24] Ibid.

[25] Ibid.

[26] Fernandez, Lisa. *The Wheels Go Round: Is Walking to School Just a Nostalgia Trip?* The Next American City. Issue 7. New Haven, CT. 2004.

[27] Fernandez, Lisa., p. 40

End Notes

[28] Ibid.

[29] Surface Transportation Project, New Mexico. www.newmexicoonline.com. (Accessed September, 2005).

[30] Ibid.

[31] Ibid.

[32]Surface Transportation Project, New Mexico. www.newmexicoonline.com. (Accessed September 2005)

[33] Lynch, Kevin, p. 189.

[34] Arlington County, Virginia: Four Mile Run Restoration Master Plan. p. 17.

unless otherwise noted, photos and drawings are by Kathryn von Bredow.

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