COVER SHEET

TITLE: Kewaunee County's Bruemmer Park Redesign

AUTHOR'S NAME: Meredith Grace Sessions

MAJOR: Landscape Architecture

DEPARTMENT: Landscape Architecture

MENTOR: Susan Thering

DEPARTMENT: Landscape Architecture

MENTOR: Shawn Kelly

DEPARTMENT: Landscape Architecture

YEAR: 2003

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Dated: 6/1/2006

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KEWAUNEE COUNTY'S BRUEMMER PARK REDESIGN

by
Meredith Grace Sessions

A Capstone Project Paper
prepared under the mentorship of Dr. Susan Thering and Shawn Kelly
School of Landscape Architecture
University of Wisconsin – Madison

May 12, 2003

Bruemmer Park has had a hard time. Mining cut away soil and rock, leaving a bald spot the size of a football field. A dam turns back thousands of spawning fish, desperate to breed. Anglers slide down banks, animals sit in cages, snow ploughs rumble, farmers till, the railroad, highway, bike races,cross-country team,dogs,skis,tubes...

-And yet, it's still beautiful.

Well...Mostly. In this paper I strive to reconcile users and the land and the users with themselves. What do we owe this space for all we take from it? How can we renew and conserve what makes it such a nice place to play in the first place? What about the rest of the world? What is our responsibility to the environment? To the life forms we share the planet with? To each other? What are the implications for the landscape? In some ways, asking these questions is more important than finding their answers. Bruemmer Park must be more than an answer. It must plant these questions in the minds of its users where they can be carried outside the reach of its branches and sprout and grow throughout the landscape. This fruit of inquiry must be sweet as raspberries in fun and beauty, engaging as burrs in opportunities and community, and nourishing as walnuts in what it teaches. Bruemmer Park must bring to light to what daily life lets us ignore. Throughout the park this design strives to highlight aspects of the landscape we take for granted. These experiences germinate love for the park into a sense of responsibility for it and the rest of the landscape.

Kewaunee sits on the former site of a Potowotome village, on a natural harbor where the Kewaunee River empties into Lake Michigan. A railroad and lime quarry and kiln supported the town's thriving industry two miles west of the harbor. During the depression, the quarry stopped production and O.H. Bruemmer, one time mayor and chairman of the County Board, bought the scenic spot for a Kewaunee County park. Breummer Park of Kewaunee, WI offers a spectrum of recreational opportunities. More subtly, it also offers education and economic opportunities.

Though just two miles from the 1800 person town of Kewaunee, the park draws from a much broader user pool. Kewaunee's charm, affordability, proximity to Door County, and natural beauty attract tourists exploring the Door Peninsula. Near by campgrounds bring users into Breummer Park's gravitational pull. Winter Park, on Breummer's western border, hosts tubing and down hill skiing, attracting users from all over Kewaunee County. The Kewaunee River winds through the site just a few miles from where it empties into Lake Michigan. Every spring and fall spawning salmon and trout head upstream, attracting anglers in droves. Local families frequent the scenic playground and picnic area. The Kewaunee Cross Country team zips along trails and local dog owners, though dogs are not allowed in the park, share the natural beauty with their pets. Mountain bikers are working on installing a trail, the county-wide system of snowmobile trails pass through the park on an abandoned rail corridor that the county hopes to adopt and connect to the Ahnapee bike trail farther north. Larger events have brought in hundreds of people at a time: Breummer Park hosted a wedding and a bike race in the last year.

Bruemmer Park and the adjacent DNR lands play host to many activities and sights of interest. Many of these sites represent consequences of a lack of stewardship and the extra measures taken to deal with these consequences. The park tells a story of reclamation and new respect for the land, but still has room to tell more by calling attention to the penalties of disregard for a space the users have come to care for, and by connecting it to aspects of stewardship that users can live by. Bruemmer Park can channel enthusiasm for the outdoors into deliberate consciousness of our impacts on the land and sustainable practices. These park features include a dam and DNR salmon egg harvesting facility, the heavily fished Kewaunee River, the rock ledge and bare gravel bottom of the abandoned lime quarry, the deserted railroad corridor, and a zoo, which is little more than roadside attraction as it now exists.

I. Land Ethic:

The ultimate goal of instilling stewardship is to, out of love and respect for the land, cultivate a sense of responsibility and prompt action, and ultimately, active consideration of all our choices and their impacts on the environment. I am not looking for donations to land trusts, an end to the use of Styrofoam cups at a fast food chain, or a reintroduction of wolves to the North-Woods of Wisconsin. I am looking to help instill a broader sense of responsibility that may include all of these things. Often would-be environmentalists claim a smaller issue, without the whole land ethic, and feel satisfied. Sometimes the issues feel so big people would rather turn a blind eye, or see themselves as helpless or inconsequential. The process of conservation must not end at the border of

the park. It must sneak into the hearts and minds and actions of users into every aspect of our lives.

A. Animal Exhibit

Can zoos show respect for nature while imprisoning it? "Imaginative education programs and exhibit designs can spark human curiosity which can then be directed into positive action of behalf of animals in real life situations. Zoos are historically popular; they may be the perfect venue for helping to develop a resource conservation ethic through education." (Ploakowski) Animals also reach people who are less likely to learn to ask these questions elsewhere. "Zoo attendance is probably more broadly based, from a socio-economic viewpoint, than the attendance of most other kinds of cultural institutions." (Ploakowski) Animals in a well-designed exhibit can still live quality lives with dignity, especially if the alternative is not freedom but death.

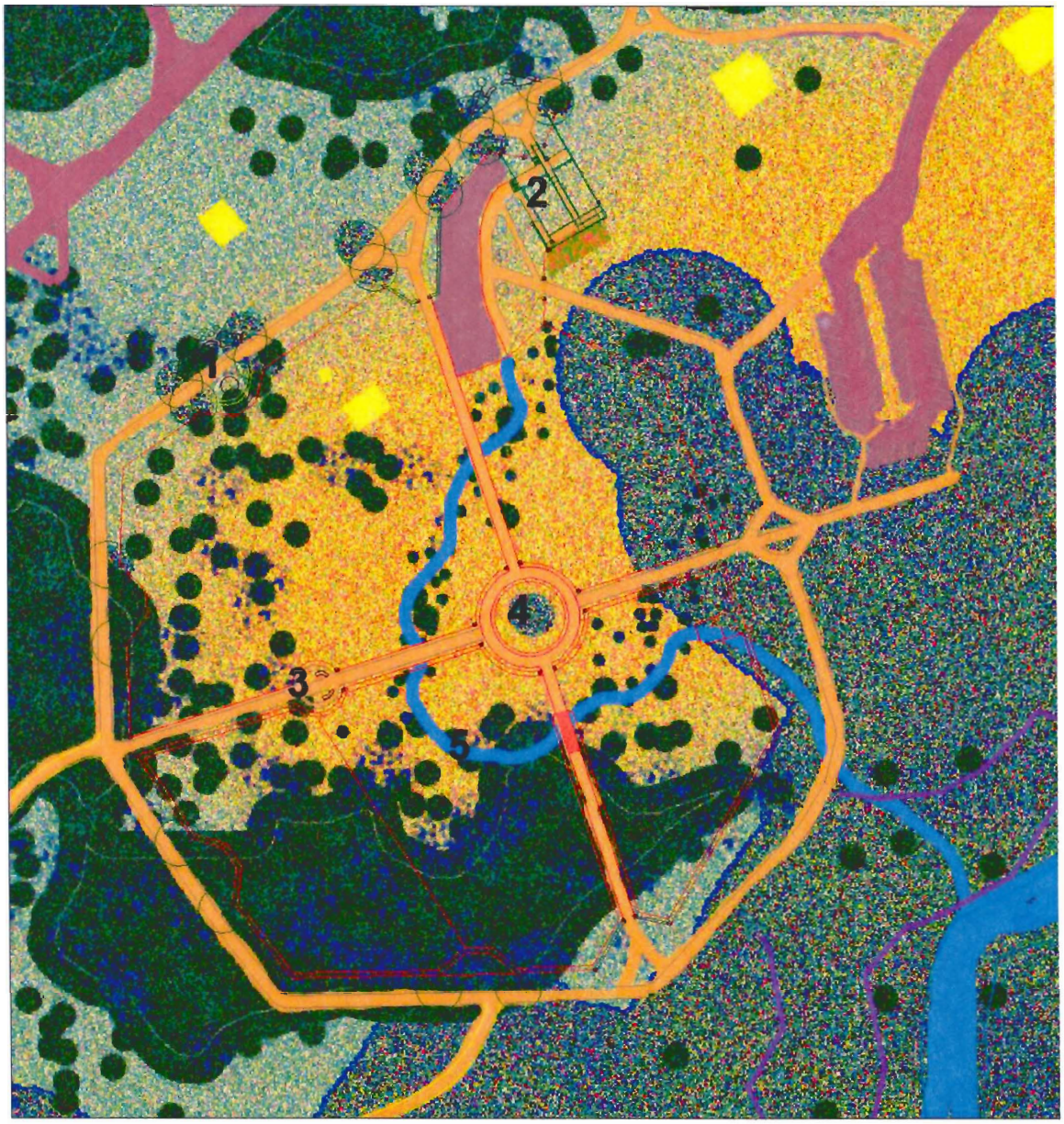
Bruemmer Park has the opportunity to instill stewardship through example. The park design must show respect for the environment or it can't convince anyone else to.

The animal exhibit is particularly important.

> The zoo may be the best place to educate the public regarding conservation of the world's flora and fauna because live animals attract their attention and put them in a mood to learn. Many visitors are at the zoo because of a strong interest in captive or wild animals. This may reflect an attempt to associate with their co-inhabitants of the past. Such an

> attitude can be exploited to teach people about animals and themselves. The zoo has the potential for changing public attitudes concerning consecration of our natural environment by providing a glimpse, although somewhat distorted, of its wonder, beauty, and mystery.
>
> -Zoo Design: The reality of Wild Illusions. Kenneth J. Polakowski. The University of Michigan School of Natural Resources. 1987. P5.

Modeled after the DNR's McKenzie Center, Breummer Park's animal exhibit will house animals unable to survive on their own in the wild. These animals are those injured or domesticated, confiscated by the DNR from abusers, concerned citizens or people no longer able to care for a wild animal. These creatures would have surroundings close enough to their natural environment to facilitate natural behaviors. The species housed will be native to Kewaunee County, representative of the local wildlife and adapted to Wisconsin weather. They won't be given names, but their personal histories will be listed. This distinction is important because, "many visitors have developed an anthropomorphic attitude that reflects man's loss of association with the realities of nature. Many visitors, descendants of the primitive tribal hunter, renounce the fact that man has evolved as a predator. This is partially due to the influence of imprinted and/or trained animals. They believe that animals want to be 'man's friends' and it is man who makes them wild (Ploakowski)." Leaving them nameless will remind people that they are wild. Life histories will provide an opportunity to see the animals as individuals without anthropomorphizing them. The exhibit illuminates hidden connections between visitor's choices and the wildlife around them.



The exhibit will consist of a set of large fenced-in areas for groups of large mammals and large birds, where compatible, with a central aviary for raptors. The north-south walkway will be at grade with the quarry walls and the east-west passage will follow the floor of the quarry, with a ramp down winding around the aviary (4). Recessed and raised walkways and screens of vegetation will help shield the creatures from visitors and from each other. The pens will include the quarry edge and, with the

exception of the buffalo pen, contain both grasslands and woodlands. A human-made stream will wind through the pens. A set of smaller pens for creatures like weasels, opossums, and raccoons line the cliff edge (2). These existing pens will be expanded and planted and fitted with environmental enrichment to encourage natural behavior like foraging, digging, chewing, and problem-solving. When the bear moves to his new home, the existing bear enclosure will become a basin for burrowing animals and a catwalk and ramp to facilitate wheel chair users and people walking their bikes down to the floor of the quarry(2). The southern wall will become the underground animal diorama (see signage).

Two layers of fence four feet apart line bear and coyote pens. Barbed wire and fencing below grade down to bedrock add extra security. The method of feeding will double as a method of control: each pen will have a separate roofed enclosure with doors into the pen and out, which can be remotely opened, closed and locked. The keeper will close the gate, open the door to the outside world and distribute the food. When finished, the keeper will close the door and open the gate. Once the animal is in the enclosure, the keeper may close the gate to gain control over the animal or to gain access to the yard. Trees will be cleared from within 15' of the inside of the bear pen to prevent escape.

Surrounding the exhibit and within it are seven seating nodes with views, native plantings behind defensive seating arranged in conversation spaces with views into the park, from which to sit and watch wildlife (1).

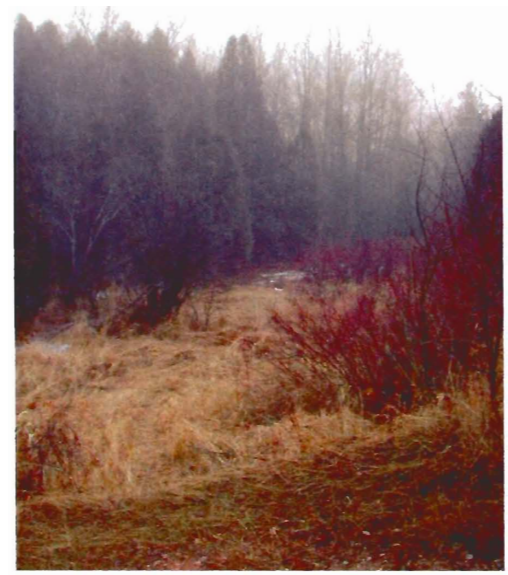
B. Restoration

To sway users towards stewardship of the land in their own lives, Bruemmer Park must itself be a paragon of respect for the land. This map highlights the areas targeted for restoration. These include the barren quarry floor, fallow fields, the sensitive riverside, the monoculture of arborvitaes on the playground /picnic area, and the currently mowed lawn around the Dana Farm.

1. Quarry

The quarry outside the existing deer pen still lies barren from frequent and unconstrained car traffic. My plan calls for a parking lot separated from the exhibit by a forest buffer, paved trails, and defined roads to channel traffic. The rest of the quarry floor needs manufactured soil, which can be locally produced from "waste" products: sand and gravel from the quarry itself and the carved out channel (see animal exhibit plan), silt dredged from the river and local streams during trout stream restoration, and composted animal waste, DNR fish harvesting left-overs, grass clippings and foliage

from the cut arborvitae. Next, dry prairie seeding and planting of a few trees adapted to the shallow new soil will start a natural cycle of soil regeneration and the site will be ready for animal occupants. (See planting plan for specific species). This plan will greatly decrease runoff and sufficiently filter polluted car runoff, though how much runoff exactly is difficult to gauge because of the unknown porosity of the existing exposed bedrock.



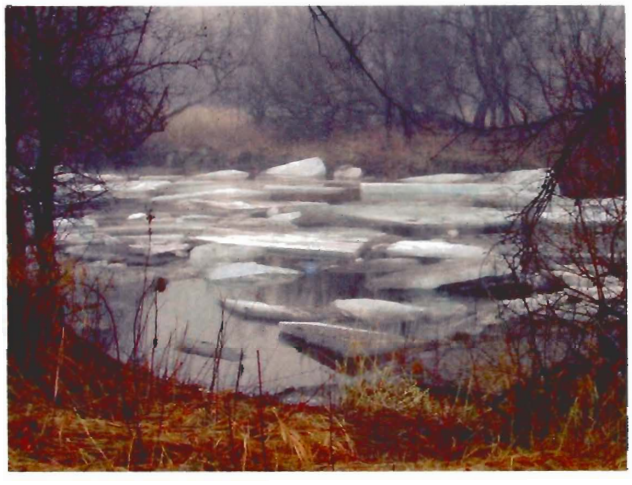
2. Fallow Fields

Reed Canary Grass has taken over since the farm fields went fallow south of the river and in the crook south of County G. No miracle cure has been found to destroy Reed Canary Grass. The riverbanks and other damp areas are especially susceptible. Mowing a few times a year, a program of burning and prairie planting will help in the field. Along the river, aggressive water-loving trees, like willows and river birch, can shade out and out-compete out canary grass. A dry short prairie seed mix from a local company dealing in natives will do the best in the shallow soils. Because seed runs form $600 to $1000 an acre, picked prairie seed from the more established prairies on DNR land will be preferable. Not only will this save the

county money, but the mix picked has already proven successful in Kewaunee. This plan also gives the community a chance to get involved.

3. Riparian Zone

Anglers looking for the perfect spot have trampled the riparian plants and eroded away the riverbanks. Banks on the eastern end of the site have been built up by riprap, which leaves little room for natural riparian communities. 80% of endangered Wisconsin species live in these communities so recreating natural systems takes priority over riprap(DNR). Fishing nodes, ideally situated fishing spots stabilized and made comfortable, will reduce the need for more exploration. Thorny plants will also discourage wandering. Meanwhile, reseeding with native riparian plants (see planting list) will stabilize banks and provide habitat for other endangered species. The parking located beside the river will be curbed to channel runoff into a rain garden trough where the water can infiltrate and filter out pollutants before joining the river. Soil cut from the trough will go towards rebuilding the soil in the quarry floor.



4. Picnic Area/Play Ground

The existing picnic area is an understory cave punctuated by even stalagmites of arborvitae over an empty red carpet of fallen brush. This monoculture is vulnerable to age and disease. Meanwhile it chills would-be picnickers and shades out future generations of trees. By cutting out clusters of trees we will create breaks to limit the spread of disease, open up the area to younger and more diverse species, and give picnickers the choice between sun and shade.

C. Community Involvement

Community involvement formalizes stewardship through social networks out into the public, uniting people with a common interest into a network of roots, drawing strength and stability into the park. Again, this encourages stewardship, but on a community-wide level.

1. Dana Farm

The Dana Farm, birthplace of Ransom Moore who was founder of Wisconsin 4H, served as a meetinghouse for the local chapter until they outgrew it. Now it will embody his vision again when it is restored to a cabin with beds, a stove, and a septic system to serve as an overnight destination, a home base from which to explore the park, and an opportunity to better understand settler life. The club will create signange of their own to share their founder with other park users.

2. Informational Signage

Other forms of educational signage will involve the community. Visitors will leave with the strategies of cisterns, windmills, solar panels, native plants and animals highlighted in informational signage, as well as improved awareness of natural processes and human impacts.

3. Community Activities

The park hosts many community activities and opportunities to get involved. The local Botanical society will have a plot near the smaller pens. The local hunting club raises pheasants on the site. The local dog park will also bring people together through their interests.

The community can also come together over the park itself. Trail building, planting, prairie burning, and invasive plant removal all present opportunities for people to work together to improve their park and learn about sustainable land management.

5. Economic Benefits

A few local businesses can also benefit directly. A backyard beehive operation sits north of the railroad tracks. Visitors can buy a souvenir of honey. One of the proposed animals for the exhibit is buffalo. The local buffalo farms will provide a rotation of buffalo and receive exposure and interest in the farm in return. Indirectly, as well, local attractions will keep people in Kewaunee longer, and entice travelers tired of the crowds in Door County.

The park will also exemplify sustainability and stewardship through an entirely native palette, alternative energy sources, the promotion and facilitation of alternative transportation methods, minimization of mowed areas, and sufficient waste and recycling receptacles.

II. Serving Users

A. Unity

The largest single challenge to serving users is unification of the greater recreational area. Without unity, there is no gestalt, only different users and uses that happen to be in the same general area

Many barriers divide the larger recreational area. It falls under the jurisdiction of two different DNR departments and the county, resulting in different management styles, different design language and artificial divisions, though users interested in one part of the recreational area are likely interested in other parts as well. Pockets of private ownership, an awkward shape, the county road and river down the middle of the park also create barriers and complicate unification. Consistency of materials, signage, symbols, colors and plantings across these spaces will transcend boundaries and unite the recreational area.

1. Materials

Limestone pillars guard entrances and support signs sporadically throughout the park. A more regular placement will help visitors differentiate between private and

public drives. They will also reiterate Bruemmer Park's past as a limestone quarry. Stone cut from the rock for the channel (see animal exhibit plan) will be reused on site in signs, gateposts, paving, and as a base for the new soil on the quarry bottom. Standardizing other amenities, such as benches, lampposts, and drinking fountains, will also tie the area together.

White Cedar will also be an important material. Arborvitae, native to Kewaunee County, grows well in the shallow soil of the Niagara Escarpment and so is a traditional building material for the area. The excess wood harvested (see restoration plan) will serve as shingles for the restored buildings and historical fencing, like that found around the Dana Farm, throughout the park.

Colors lend a mood to a space and reflect the nature of the activities that take place there. The warm triad of red, orange and yellow, plus a complementary bright blue, create excitement and energy through warmth, brilliance, and contrast.

A native palette of plants will ensure a healthy system and serve as a positive example. Beautiful, healthy native plants already thrive on the north side of the road along the river and can be expanded to newer woodland areas (See woods restoration). Many of these plants will also serve as accents in the manicured section of the park.

2. Signage

A comprehensive signage system will also help unite the park, increase legibility, invite users into uses and areas they have never explored and declare the whole park one area. Signs are of three types: welcoming, navigation, and information.

1. Welcoming Signs

Welcoming signs introduce the park, act as landmarks, and mark the hierarchy of trails and entrances. These signs occur at the top of the park where County F intersects County G, the west pedestrian entrance to the animal exhibit, and the intersection between County F and the road to the fish egg harvesting facility.

2. Map Signs

The divisions of roads, private property and the complex layout of the recreational areas make maps even more valuable tools for navigating the park successfully. Maps will not only help users find specific sites they're trying to find, but sites they might not even know exist. Maps will also help users traveling through the site on mountain bikes, the Ice Age Trail, the Ahnapee Trail or the county's extensive snowmobile network to chose a route through the park and out the other side. These Signs will be located at

every node where trails come together, every parking area, and every non-car entry to the park.

3. Trail Markers

Trail markers will take two forms and delineate loops through the woods, guiding

people to a particular destination by a route with a particular theme. For example, the eagle trail will be marked in its paved area with inlayed ceramic talon tracks and wing marks on the catwalk portion of the animal exhibit and over the aviary. small eagle

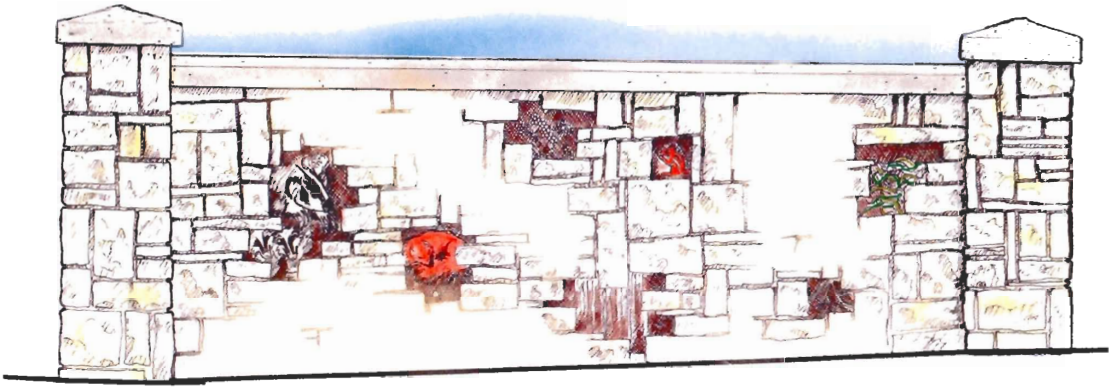
symbol signs will guide users along the unpaved trail along the river, Informational signage along this particular route will highlight aspects of the landscape important to eagles and human impacts on them.

4. Informational Signs

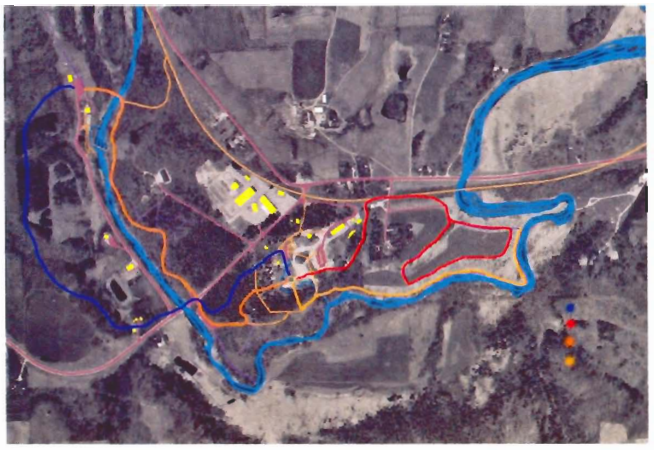
Informational signage, based on the same symbols and colors as the trail markers, will introduce other sites of the park including the residents of the animal exhibit, the history of the quarry, ongoing restoration projects, the pheasant farm, the footbridge for the town of Footbridge, among others.

Signs not in this scheme include the Dana Farm introduction, which will be designed by the local 4H chapter, a series explaining the profile of the quarry wall in the Ice age Trail series and a large sign at the back wall of the tunneling animal enclosure, which will expose the underground life of Wisconsin through Plexiglas-fronted dioramas

cut into the wall, displaying roots, mammals, snakes and insects from an angle many rarely consider.



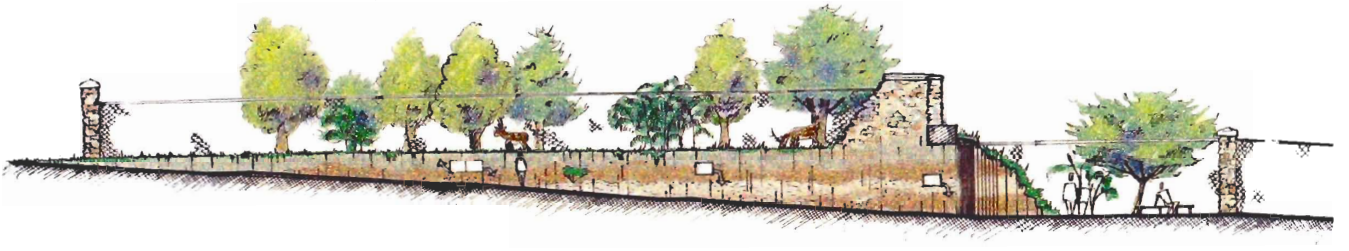
B. Trials



Many recreational networks come together at or around Bruemmer Park but do not interweave successfully in their existing form. These trails can recognize each other and facilitate each other's users, thus encouraging crossing over between users of different aspects of the park and a more diverse recreational experience. This facilitation will encourage users to see the landscape from the point of view of other users and interact with people they might not otherwise meet. Ten-foot widths, choice between the pedestrian Ice Age Trail and the Ahnapee bike horse and cart trail separate incompatible uses. Paths for multiple forms will have pedestrian and bike lanes specified.

1. Ice Age Trail

According to the Ice Age Trail website, "The purpose of the Trail is to tell the story of the Ice Age and continental glaciation along a scenic footpath." An isolated fragment of the trail passes down Country Road F and up the road to the fish egg harvesting facility, where it continues out on a mowed trail before turning back to meet County F further west. This trail allows no horses or bikers, which conflicts with significant uses of the other major trail and creates design challenges, but a route through the animal exhibit and off the main road will present less conflicts than one along the county highway, not to mention much more effectively explore Wisconsin glaciation.



Bruemmer Park exposes important and beautiful geology. The quarry exposes rock and soil profile of the Niagara Escarpment, displays the shallow soil that has built up slowly since the glaciers scraped it away. Visitors will be able to actively participate in new soil synthesis as part of the quarry restoration (see quarry restoration). The proposed channel though the quarry wall on the west side of the animal exhibit will neatly expose fifteen feet of history written in limestone. A set of signs will decipher the bands of rock into geologic ages, processes and significant points in the geologic record. Many limestone deposits hide a wealth of fossils that could be carefully exposed and shared.

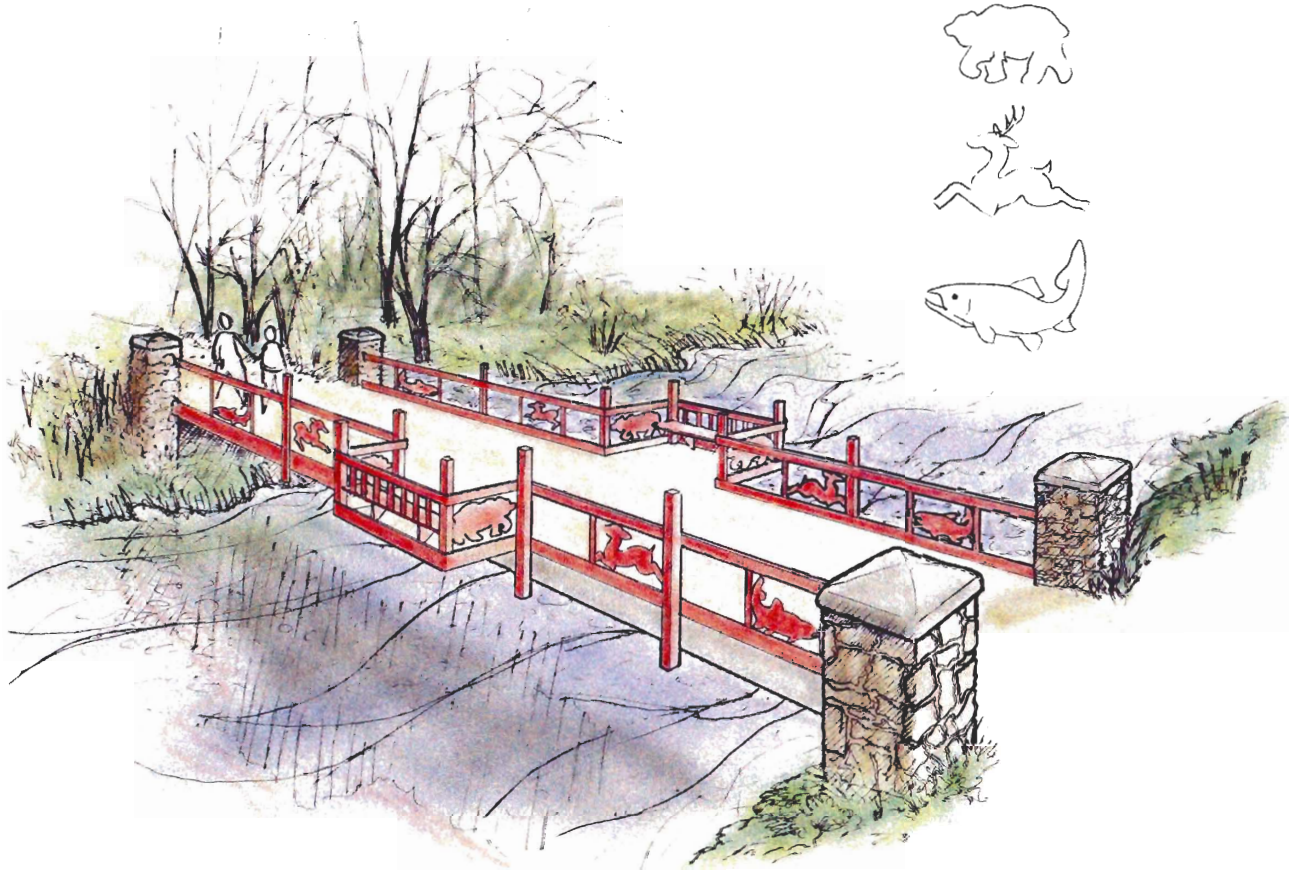
North of County F are more prizes left by the glacier. Moss covers and accentuates chunks of limestone. Small trees grow up from between them, just to the east of the river.

The trail continues up and around a towering bluff west of the river, carved by the river rushing towards the glacier-made great lakes.

2. Ahnapee Trail

The DNR recently finished negotiating the purchase of a former railroad corridor as part of Wisconsin's rails to trails program for a new arm of the Ahnapee Trail. (http://www.ahnapeetrail.org/): "During spring, summer, and fall hikers, bikers, horseback riders, and horse-drawn carts and wagons share the trail. In winter, cross country skiers and snowmobilers whisk across its frosty surface." The route follows the river from Kewaunee for a comfortable and flat length of three miles out to Bruemmer Park for an easy afternoon's walk from Kewaunee's bed and breakfasts. The trail continues west to meet up with the existing Ahnapee trail, bringing thousands of users within sight of Bruemmer Park. The Park's amenities and recreational opportunities make it an ideal stop along the way.

3. Footbridge

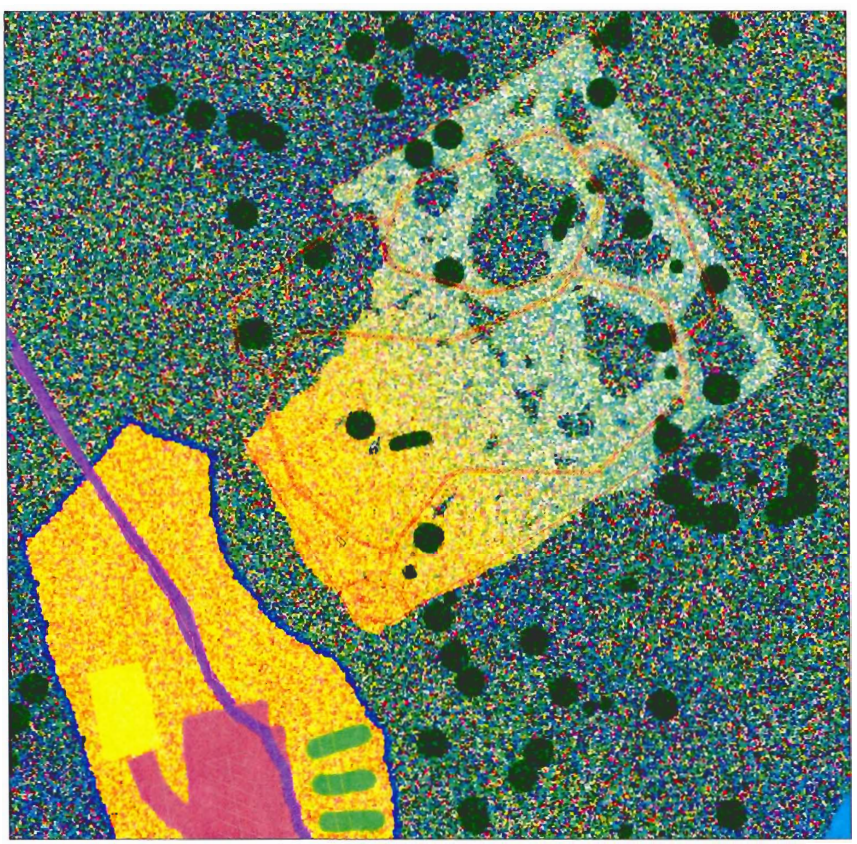


The unincorporated community just north if the railroad tracks is Footbridge, Wisconsin, though they have no footbridge. A new wooden footbridge will connect what are now two dead-end spurs of the park on either side of the river. This neat and stylized bridge will reiterate colors and vary the animal symbols to stylized representations of fish bear and deer. This connection is integral to creating a loop though the park and making the beautiful rock and moss formations part of a route through the park.

4. Amenities

To accommodate and encourage these visitors to tour the park, we must meet their needs. Frequent bike racks, drinking fountains, vending machines, and wide compacted gravel trails will make Bruemmer Park more comfortable for cyclists. Trails meet so that visitors to the park itself can walk loops, rather than out and back on the same trail.

C. Dog Park



Dog owners will continue to run their dogs through Bruemmer Park until they find a better option. A dog park will give owners the opportunity to exercise their dogs responsibly. The position I have chosen, west of the river and north of the egg-harvesting center, has plenty of parking and keeps the dogs on the bike-less Ice Age Trail. It also creates a new gathering place for people with a common interest and will make it easy for owners to dispose of dog feces by providing biodegradable bags and frequent receptacles. The park path will be paved for easy

wheelchair access and frequent benches will give owners with less energy than their pets a chance to rest. The entry space holds a kiosk and a drinking bi-level drinking fountain for people and pets to drink and clean up. The clearing provides room for dogs to run and owners to supervise, while being hidden from the rest of the park. The one-acre site provides enough room to run and explore without the danger of loosing track of a dog or owner.

D. Large Groups

Large groups also make use of Bruemmer Park. The park has hosted two bike races and a wedding in the last two years, and can host more. Spawning season brings hundreds of people as well, for the three-foot salmon making their way up the river. These groups need places to meet, places to park and amenities ready for crowds.

1. Structures

Bruemmer Park is lucky enough to still have a few limestone buildings from its days as a quarry. One of these buildings, currently used by the highway department for storage, will be restored and refitted into a shelter for large groups in case of bad weather or for evening events. A second building will serve as a

museum and gallery exploring Kewaunee's shipping and industrial past, including the railroad, quarry, harbor, river, and the highway department the building originally housed.

2. Parking

Generally Bruemmer Park's existing and proposed lots of 180 spaces will have the capacity for most visitors. During special events, however, parking will be expanded by taking advantage of grassy pavers on open areas of lawn and temporary fencing next to the picnic area and just south of County F for another 100 spaces.

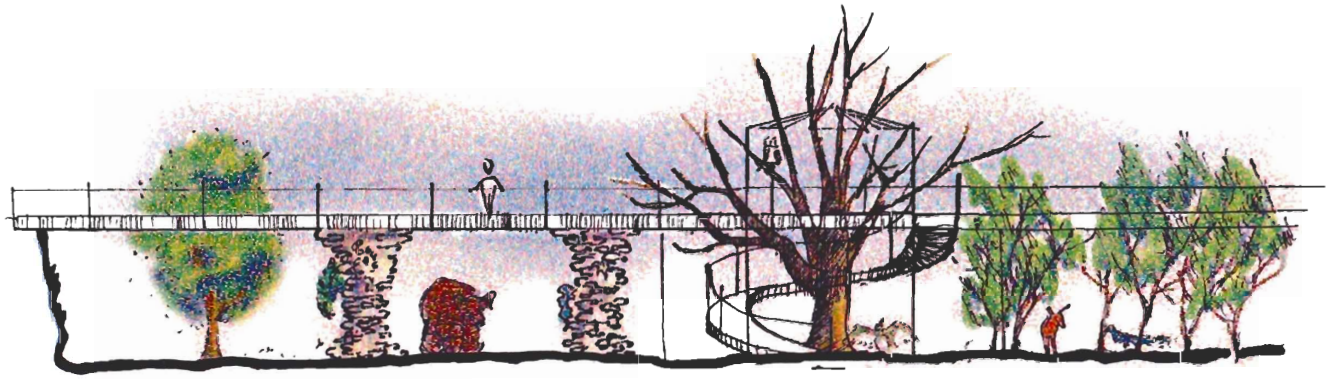
3. Infrastructure

Special events can also put a strain on the water pressure. By collecting rainwater in a cistern above the bathrooms, extra water pressure will be available for these events. This water can also be used for gardens and for the animals.

E. Animal Exhibit

Integrated into the rest of the park, the animal exhibit will facilitate movement from one area to another and maintain users' interest out into their environment even when they leave the exhibit. This set up will also allow users passing through the park with their bicycles to continue through without backtracking, and chose their own route. For the safety of visitors and to protect the nerves of exhibit residents, bikers must walk their bike through the exhibit. The ramp angles provide easy wheeling for bicycles and wheelchair access, and path width of six feet will allow them to pass each other comfortably.

At the same time, the exhibit will stand alone as a special space. Each entrance consists of a narrowing, either of vegetation, stone walls, or the Niagara Escarpment itself, and a sudden release out into the territory of the animals. Fence-lined walkways give the impression that its the visitor who is in the cage, and intruding on the personal space of the exhibit occupants. Surreptitiously, visitors will peer out through screens of vegetation or down from raised walks to catch glimpses of coyotes, bison, deer, wild turkey, maybe even the secretive black bear.



In the animal exhibit, informational signage will help visitors decipher animal behaviors and adaptations. Naturalistic environments will encourage animals to participate in their natural behaviors and maintain active, healthy lives, with the added bonus of a more exciting, engaging and educational experience for visitors. This more respectful treatment, too, positively impacts the experience of visitors.

With spring upon us, Bruemmer Park is about to burst into bloom. The spring salmon run has already begun. New Pheasant chicks are hatching and the Kewaunee running team has laced up for the spring season. Let's create a world they can run out into with joy and care. Let's start with Bruemmer Park.

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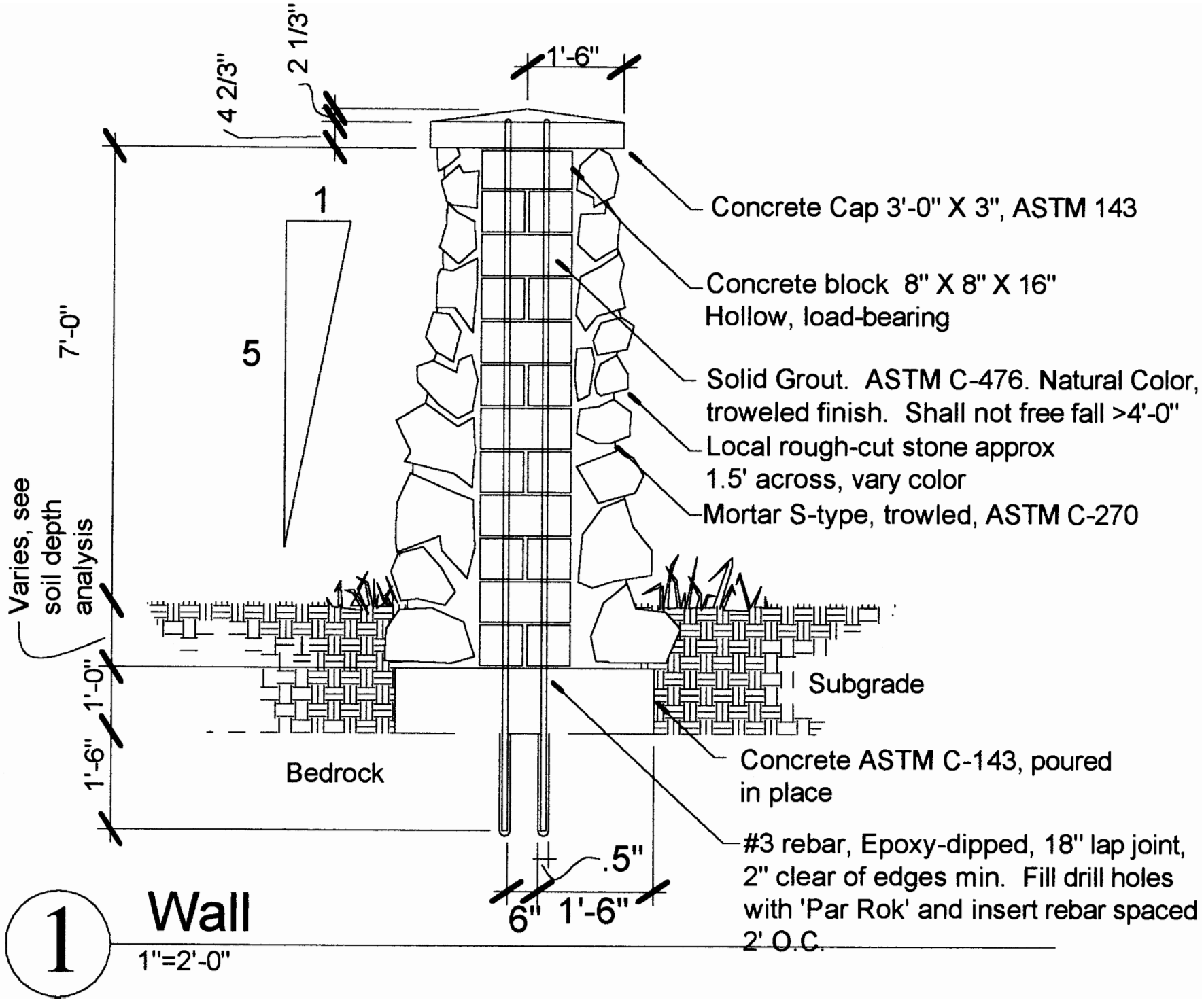
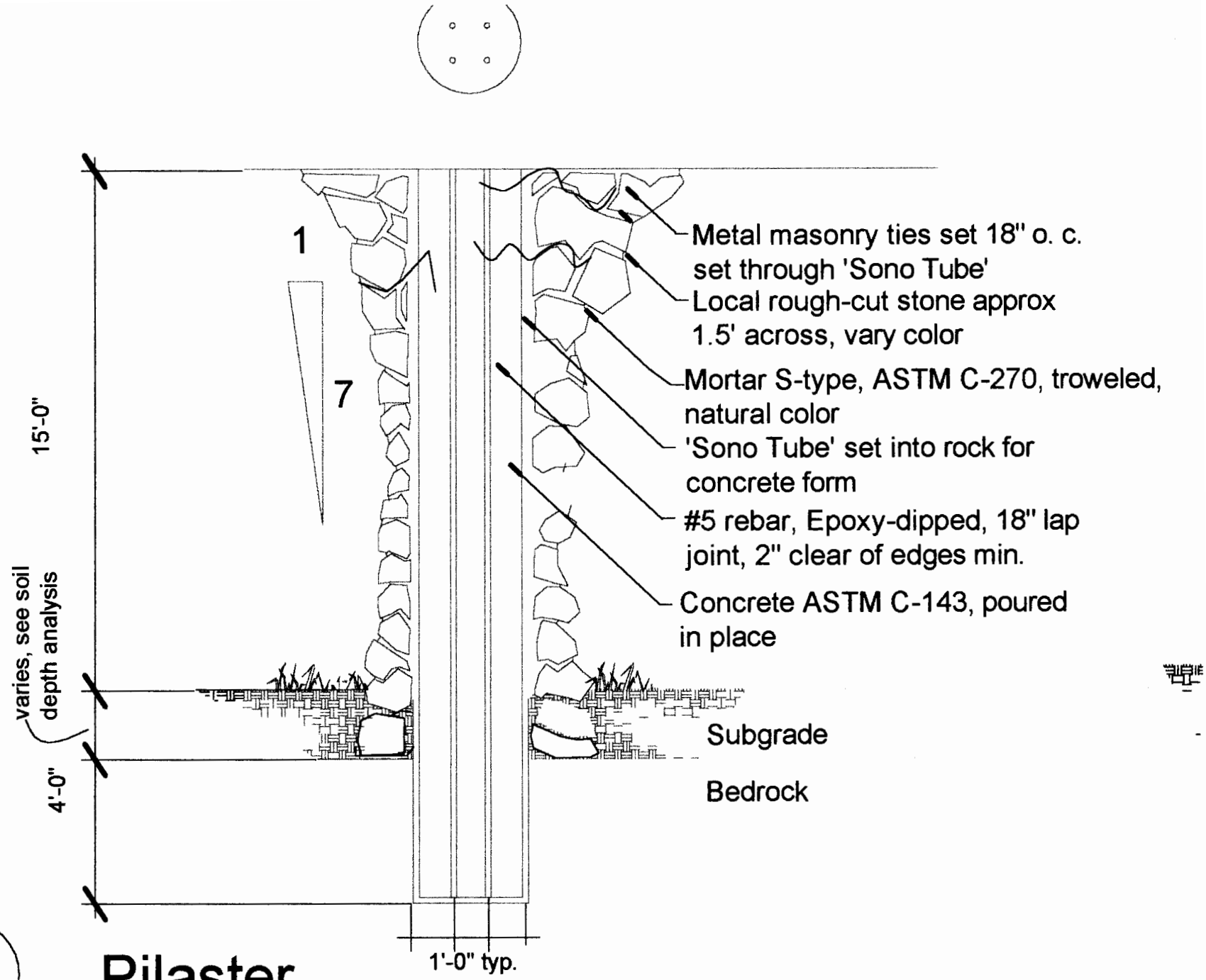

4 2/3"
2 1/3"
1'-6"
1
5
7'-0"
Varies, see soil depth analysis
1'-0"
1'-6"
Bedrock
Subgrade
Concrete Cap 3'-0" X 3", ASTM 143
Concrete block 8" X 8" X 16" Hollow, load-bearing
Solid Grout. ASTM C-476. Natural Color, troweled finish. Shall not free fall >4'-0"
Local rough-cut stone approx 1.5' across, vary color
Mortar S-type, trowled, ASTM C-270
Concrete ASTM C-143, poured in place
#3 rebar, Epoxy-dipped, 18" lap joint, 2" clear of edges min. Fill drill holes with 'Par Rok' and insert rebar spaced 2' O.C.
.5"
6"
1'-6"

1 Wall

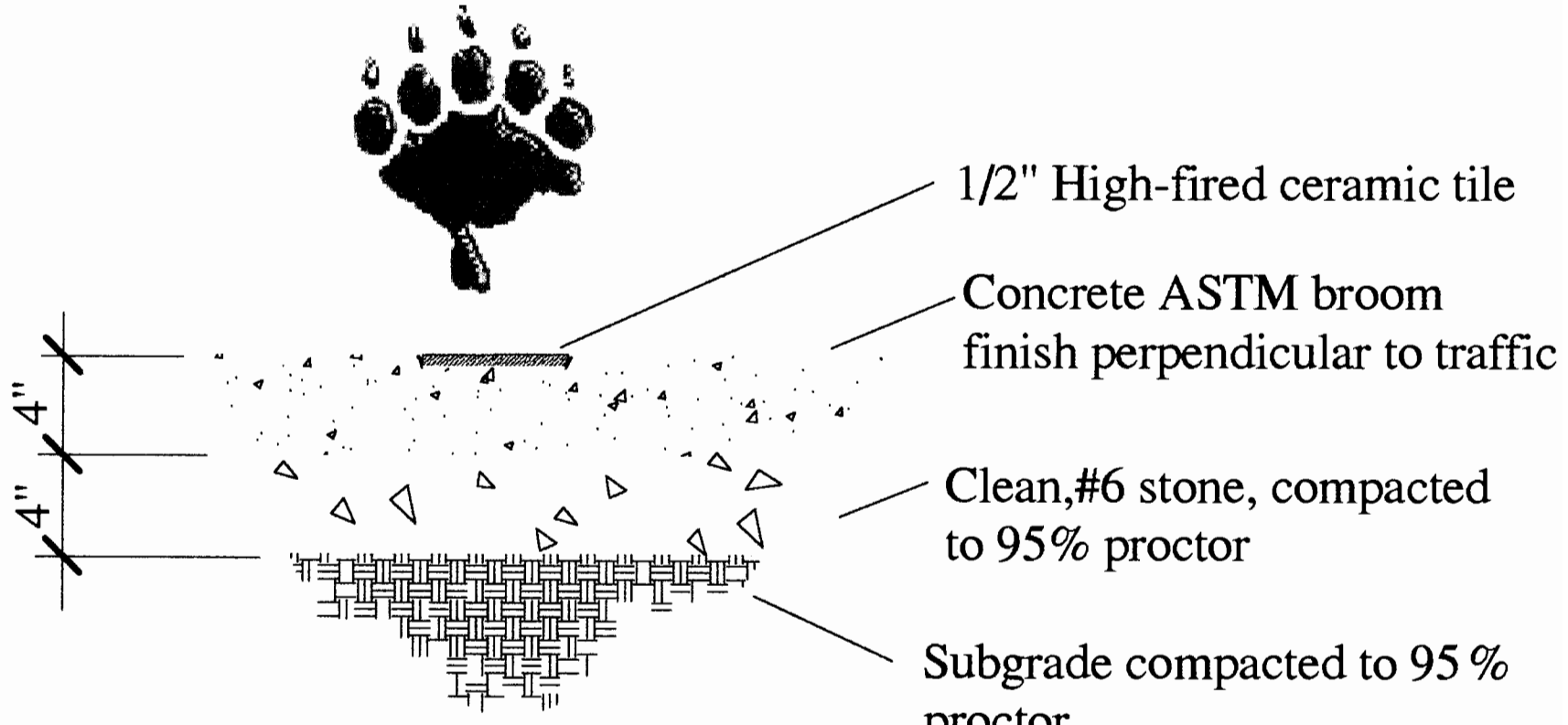
1"=2'-0"



2 Pilaster

1"=4'-0"

Note:When concrete is wet but has lost its sheen, create tile-shaped indendt . Fix tile in space with epoxy. Expansion joints every 64 square feet



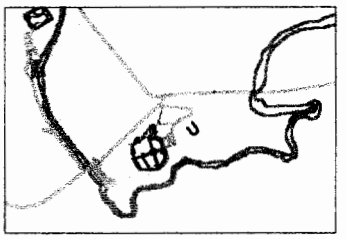
3 Ceramic Inlay

1/8"=1'-0"

Riverside Parking

-30 0 30 60

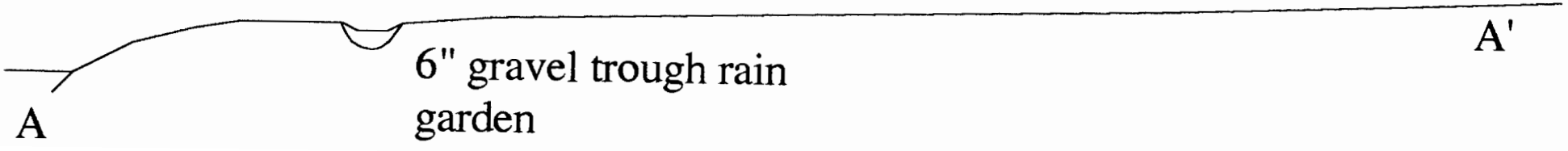
1/2 Ft between Contours



N

A' A

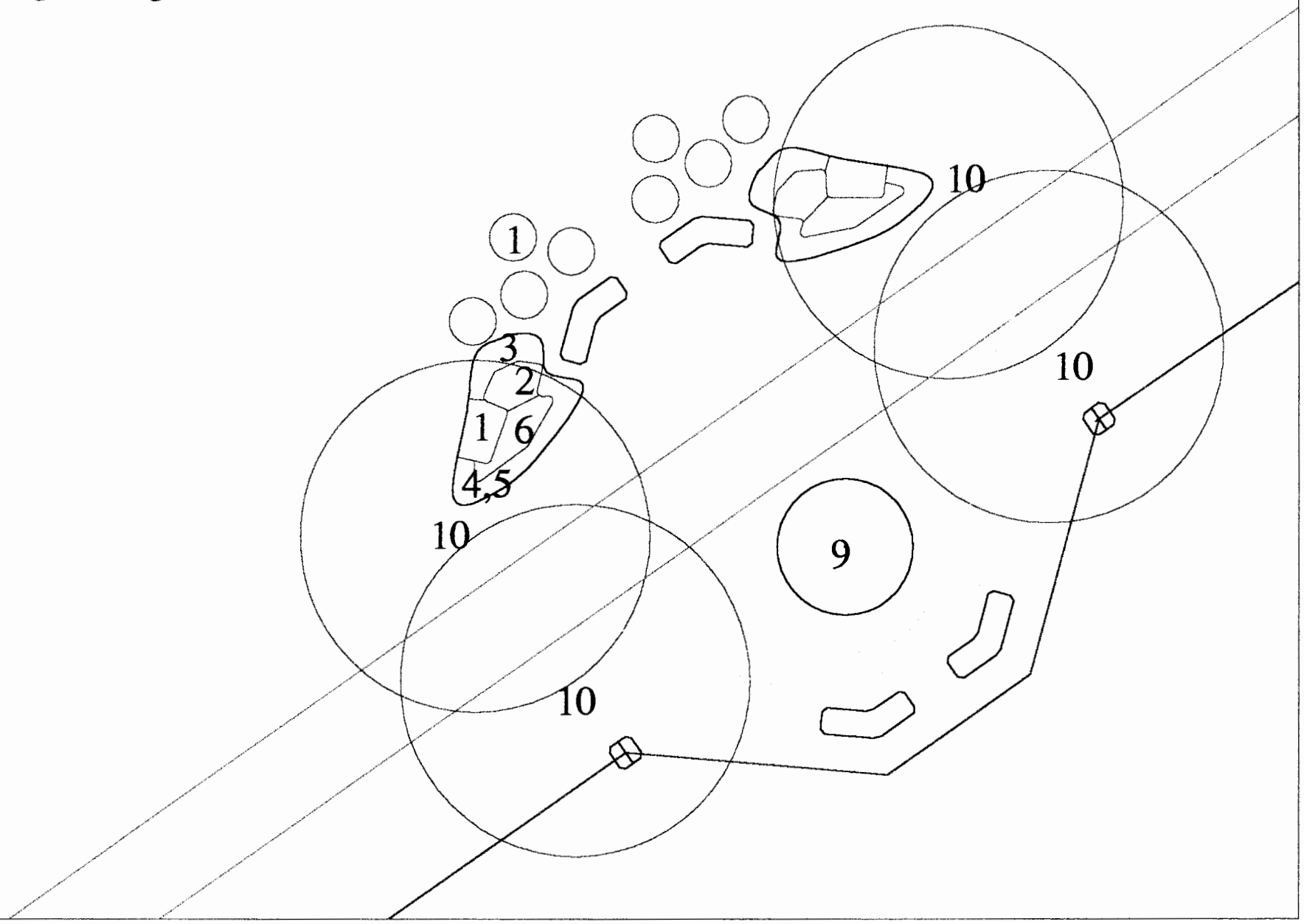
Profile
1"=10'-0"



		Common Name	Latin Name	Price /oz	Planting size	area(sqft)
Perrenails		Shade				
	1	Cimnnamon Fern	Osmunda cinnamomea		seed	35
	2	Harebell	Camoanula rotundifolia	$2	seed	15
	3	Lungwart	Mertensia virginica		seed	10
	4	Trillium	Trillium grandiflorum		seed	15
	5	Bloodroot	Sanguinaria canadensis		seed	15
	6	Columbine	Aquilegia canadensis	16	seed	20
		Sun				
	1	little bluestem	Andropogon scorparius	2	seed	14
	2	Turk's Cap Lilly	Lilium michiganese	40	seed	6
	3	Black-eyed susan	Rudbeckia hirta	2.67	seed	4
	4	Partredge Pea	Chamaecrista fasciculata	2	seed	6
	5	Prairie Smoke	Geum triflorum	38.33	seed	6
	6	Butterfly Weed	Asclepias tuberosa	16	seed	8

				price/plant		# of plants	size
Shrubs	8	Arrowwood Viburnum	Viburnum acerfolium	37		12	8" sedling
	9	Elder	Sambucus canadensis	21		6	12" seedling
Tree	10	River Birch	Betula nigra	34	Bare Root	16	1.5" Calaper
Riparian		Arrowwood Viburnum	Viburnum acerfolium	37			see above
		Elderberry	Sambucus canadensis	21			see above
		Redosier Dogwood	Cornus stolonifera	34		21	see above
		Common Witch Hazel	Hymamales virginiana				
		blue flag iris	Iris versicolor		1 1/2' o.c.		bulb
		phlox	Phlox divaricata		1/2' o.c.		plug

Prairie

Dry Prairie Mix with showy prairie 10' along trails, supplemented with picked seed form local prairies
Sun Plant prices from Oak Prairie Farm, Pardeeville, WI
woody plant prices from Wali Nursury of Haward, WI
All Plants will be inspected by Landscape Architect before installation

Animal Exhibit Node
1"=16'-0"
See planting list