

# HOGAN FOUNTAIN AREA MASTER PLAN



FOR  
THE OLMSTED PARKS CONSERVANCY  
AND  
LOUISVILLE METRO PARKS

DECEMBER 2010

BY  
ENVIRONS INC. LANDSCAPE ARCHITECTS  
HERITAGE LANDSCAPES, LLC  
MATTINGLY ENGINEERS, LLC  
STUDIO KREMER ARCHITECTS

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**ACKNOWLEDGEMENTS**

Special thanks to the following people and agencies for participating in, and supporting this plan for the restoration and renewal of the Hogan Fountain area.

**Louisville Olmsted Parks Conservancy, Inc.**

1299 Trevilian Way  
Louisville, KY 40213  
William E. Juckett, Chairman  
Mimi M. Zinniel, President/CEO

**Louisville Metro Parks Department**

1297 Trevilian Way, P. O. Box 37280  
Louisville, KY 40233-7280  
Michael J. Heitz, Director  
John A. Swintosky, ASLA, Project Manager

---

**Project Design Team:**

***LANDSCAPE ARCHITECTURE***

ENVIRONS INC. – TEAM LEAD  
1402-b Evergreen Road  
Louisville, KY 40223  
Michael L. Smiley, RLA, ASLA  
Sarah S. Kopke-Jones, RLA, LEED AP

HERITAGE LANDSCAPES, LLC  
Preservation Landscape Architects & Planners  
P.O. Box 321  
Charlotte, VT 05445  
Patricia M. O'Donnell, FASLA, AICP  
Sarah LeVaun Graulty, MSHP

***ARCHITECTURE***

STUDIO KREMER ARCHITECTS  
3258 Ruckriegel Parkway  
Louisville, KY 40299  
Steven R. Ward, AIA

***ENGINEERING***

MATTINGLY ENGINEERS, LLC  
6313 Zurich Court  
Prospect, KY 40059  
Michael Mattingly, PE

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*“That the park throughout is a single work of art, and as such, subject to the primary law of every work of art, namely, that it shall be framed upon a single, noble motive, to which the design of all its parts, in some more or less subtle way, shall be confluent and helpful.” \**

\* Frederick Law Olmsted

## **I. INTRODUCTION**

This project was initiated by Louisville’s Metro Parks Department in partnership with the Louisville Olmsted Parks Conservancy, Inc. in order to restore and improve the historic Hogan Fountain area of Cherokee Park. The Hogan Fountain area, originally known as Bonnycastle Hill, is included within the original general plan for Cherokee Park by Frederick Law Olmsted Sr. and Charles Eliot. It was conceived as the area of Cherokee Park most suited to high levels of recreational activity.

The purpose of the plan is to create a long-term strategy for the improvement and protection of this important and historic community resource. The plan intends to establish clear direction and priorities that can be implemented over time as funding becomes available and community advocacy and volunteer efforts activate.

The project description called for a conceptual master plan that would address the present day issues and meet current needs while respecting the design intent of the original plan. The existing site layout groups a variety of high-intensity uses in one area of the site, resulting in conflicts between uses and degradation of the landscape. The lack of organized parking and/or a vehicle management plan results in conflicts between pedestrian and vehicular traffic. Stormwater runoff, erosion, and trail improvements are also issues addressed in the master plan. An important historic feature of the area is the Hogan Fountain sculpture. This feature is currently surrounded by asphalt and the area is often used for additional parking. The master plan will address the fountain area and help to restore and emphasize it as a cultural and historic monument in the park.

The process of developing a long-range plan for the improvement of an important community resource, such as the Hogan Fountain area of Cherokee Park, must involve a variety of approaches and studies. The planning process incorporated community involvement and research into the unique history, existing conditions, and use of the park. Project tasks included an historic resource inventory, an historic landscape analysis, an existing conditions survey (including trail assessments), as well as a user survey and three public meetings. Information was gathered from a variety of sources on the park history, existing conditions, and user needs. The information was analyzed, mapped and documented to determine and uncover any significant relationships or important attributes that could be used to inform the master plan recommendations.

Since the development of this plan addresses the comprehensive improvement of this important community resource, the design team chose to work closely with the park user community to develop an approach that addresses the historic design intent as well as current and future community needs. Frederick Law Olmsted designed the Hogan Fountain area and the rest of Cherokee Park in the early 1890s and it has served the neighborhood and the larger Louisville community for over 100 years. It is the hope of the design team and of the park’s users that this improved recreation area can fulfill the needs of the community for many years to come.



METRO Parks

# HOGAN FOUNTAIN MASTER PLAN CHEROKEE PARK, LOUISVILLE, KY EXISTING CONDITIONS



SCALE: 1" = 100'  
0 100 200 300 400 500

MAY 2009

### Existing Conditions Legend

-  Existing building
-  Existing treeline
-  Existing trees
-  Existing contours
-  Project Boundary
-  Multi-Use Trail
-  Hiking Trail
-  Rogue Trail
-  Overhead Electric Line
-  Drinking Fountain
-  Pic Nic pad
-  Existing Grill
-  Manhole
-  Water Valve
-  Light Pole
-  Utility Pole
-  One Way sign
-  Do Not Enter sign
-  Fire Hydrant



## II. *PARK HISTORY*

Cherokee Park was designed by F.L. & J.C. Olmsted, Landscape Architects, of Brookline, Massachusetts, from 1894 to 1897. A series of plans capture the design intent for the Hogan Fountain area of this Beargrass Creek valley park. The 1894 "Cherokee Park General Planting Plan" was followed by the 1896 "Cherokee Park General Progress Plan" and the 1897 "General Plan for Cherokee Park" that was supplemented by the 1897 "Diagram Showing Collection of Woody Plants of Kentucky in Cherokee Park". The botanical collection approach, with the intent to display the native plants of Kentucky of all regions and ecological settings, was an important aspect of the park landscape design.

The historic map of the Hogan Fountain area is included as a portion of the Olmsted General Plan with a landscape zones overlay Heritage Landscape developed for the master plan. (See Figure I.) As the planning team wrote in the 1994 Louisville Parks & Parkways Master Plan:

"Shortly after the 1890 parks authorization bill, Andrew Cowan, Parks Board member, secured options on some 260 acres of land in the Beargrass Creek valley and surrounding hillsides. These lands were used as pasture prior to park development and contained a significant collection of native trees, as indicated on the topographic survey of 1891. From the outset the park boundaries and the need for a park boundary drive was problematic. The General Plan for Cherokee Park, by F.L. and J.C. Olmsted, Landscape Architects, dated December 1897, shows the hills, ridges and creek valley accessed by a system of interior drives and paths. The western edge of the park is bounded by and extended in Cherokee Parkway, and the northern edge is fronted by Workhouse Road, while the balance of the boundary is shown with proposed additions and boundary roads. As Cherokee Park was developed some abutting property owners aided in securing improved park boundaries, while other areas remained unresolved for lack of land additions. The Olmsted firm designed a richly planted, valley and hillside landscape to contain a collection of Kentucky woody plants in their planting plans of 1894 and 1897."

The 20th century evolution of the Hogan Fountain area is captured on the 1913 "New Map of Louisville and Jefferson County, Kentucky" and in the existing conditions exhibits from the 1994 Master Plan for Cherokee Park. It is useful to note that the visually dominant Tepee pavilion was completed in 1965. In their research efforts that underpinned the 1994 master plan undertaking, Olmsted scholar Charles Eliot Beveridge, PhD, Hon. ASLA and noted landscape historian and Olmsted expert, Arleyn Levee included the following description of the Hogan Fountain positioning and influences on that area of the park:

"1903: the Olmsted firm proposed three alternative locations for the placement of the Hogan Fountain, designed by Enid Yandell, a protégée of General Castleman. Two at Bonnycastle Hill concourse and a third in the hitching area next to Bonnycastle Spring at the bottom of Dingle Road. "The firm intended that the site on Bonnycastle Hill chosen for the fountain was to be empowered by a dense planting of surrounding trees. Cecil Fraser, noting that this site was a popular place for festive occasions and was

often congested, made changes to the Olmsted plan, enlarging the surrounding concourse and moving the existing shelter to align it with the fountain. On a visit in 1905, John Olmsted observed that the fountain's prominence adversely affected the character of the locality with its old beech woods. Today this delicate sculptural fountain and horse trough seems an afterthought, no longer in alignment with anything and completely surrounded by asphalt that is often used for parking.<sup>i</sup>

The Hogan Fountain area is defined by the gently rolling hilltop of Bonnycastle Hill. This relatively level and open area is a distinct use and scenery zone within Cherokee Park. Like Baringer Hill, the high ground and level zone draws users and attention more than the side slopes and valleys of the park landscape. For purposes of this report, we are looking only at the Hogan Fountain zone, which was identified as a component of the Hilltops and Ridges in the master plan landscape analysis of 1994.

## LANDSCAPE UNITS

Review of the design and construction of the Hogan Fountain area of Cherokee Park yielded three distinct spaces, or landscape units, that can be mapped in the landscape. The three landscape units, presented on 11x17 inch fold-out sheets at the end of this section, are:

- *Unit 1: Bonnycastle Hill* - Unit 1 is positioned west of the Scenic Loop drive. This landscape was designed by F.L. & J.C. Olmsted, Landscape Architects to be open and rolling, without facilities. In 2010, Unit 1 supports dense use, with a large parking lot and community recreation facilities such as the Playground, Sprayground, Softball Field, Basketball and Volleyball Courts, and other amenities to accommodate active play. The tepee shelter is a locus of activity. Trees in Unit 1 are pushed to the north and east, providing a green edge along the drive. The remainder of the landscape unit, at the south, is an open, rolling, hilltop expanse framed by a woodland edge to the south and west. (See Figure 2.)
- *Unit 2: Hogan Fountain, Drive & Open Slopes* - Hogan Fountain is the principal feature of this landscape unit, positioned in a paved semicircle east of the Scenic Loop drive. (See Figures 3, 4, and 5.) The level focal area at Hogan Fountain is open, positioned at the edge of the hill and surrounded by an open wooded slope. This relatively level ground plane drops significantly to the east, forming a steep slope. Views east through the open woodland in Unit 2 are significant. The Scenic Loop forms the south and west edge of Unit 2, carrying visitors through the landscape. Mature trees east of the drive and south of Hogan Fountain create an open, informal picnic grove.
- *Unit 3: Woodland Slopes & Trails* - The frame of dense vegetation that encloses the Hogan Fountain area and Bonnycastle Hill comprises Unit 3. This landscape unit is primarily woodland and steep slope. Hiking trails in Unit 3 extend across the slopes east and west of Units 1 and 2. Paths through the woods provide access to Units 1 and 2, though the pedestrian circulation system is incomplete and lacks wayfinding.

## RECREATIONAL PARK USE

In terms of use, the Hogan Fountain area of Cherokee Park provides a valuable community green space and offers recreational opportunities. Recreation is a diverse undertaking and can be of four types or categories: active, passive, social, and educational. With origins in the 19th century writings of Frederick Law Olmsted Sr., these are:

*Active Recreation* - Active or exertive recreation is defined as aerobic exercise that increases heart rate, is a fitness activity and usually generates sweat. It can involve facilities or equipment like fields or courts for team or individual fitness pursuits like running an exercise circuit.

*Passive Recreation* - Passive recreation is broadly defined as park enjoyment in informal ways. Passive recreation was cited as “recreative” by Frederick Law Olmsted, Sr. in the 19th century, and meant to recreate one’s self through experience of scenic landscapes.<sup>ii</sup> It encompasses a range of casual and informal uses of parks and open spaces. It is often cited by users as simply spending time in a green, scenic environment. Passive activities include strolling, sitting, reading, hanging out, dog walking, picnicking, sunbathing, enjoying being outdoors, watching a sporting event and other related park uses.

*Social Recreation* - Social recreation involves groups, friends, or families using the park for celebrations, picnics, reunions, performances, dances, fairs and festivals, sports spectating, etc. Known as gregarious, or friendly and polite contact with people of all classes in Olmsted’s lexicon, social recreation can take place within the broader landscape, be focused on facilities, like picnic tables and pavilions and can accompany other types of recreation.<sup>iii</sup> For example, participating in an educational program, or walking with a group of friends can be considered as inclusive of several forms of recreation.

*Educational Recreation* - Educational recreation and interpretation of the landscape is casual or structured place-based learning about park and local history, ecology, geology, horticulture, garden design, art, etc. Educational recreation in a park setting often occurs by using the park as an outdoor classroom and focusing on elements found within the park landscape. Educational recreation can be addressed in a park atmosphere through guided or self-guided tours, hikes, informational signs, park programs, lectures and exhibits.

The hilltop at Hogan Fountain was originally designed by F.L. & J.C. Olmsted as a scenic landscape for passive and social recreation. Today, facilities have expanded to accommodate a considerable active recreation as well. Unit 1 includes a Playground, Sprayground, Softball Field, Basketball and Volleyball Courts, and other amenities for active recreation. The tepee shelter also provides for both passive and social recreation. In Unit 2, no active recreation facilities are offered, as designed by the Olmsted Brothers. Recreation in Unit 3 is limited.

## CHARACTER-DEFINING FEATURES

In addition to landscape units, cultural landscapes can be subdivided into character-defining features. Federal guidance including the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* and *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques* refer to and define the character-defining features of a landscape.<sup>iv</sup> Character-defining features are identified and enumerated as a series of interrelated, specific aspects of the cultural landscape. They include Spatial Organization, Land Patterns, Visual Relationships, Topography & Drainage, Vegetation, Circulation Features, Constructed Water Features, Landscape Structures, and Site Furnishings & Objects. For the purpose of discussion, this summary history narrative divides the Hogan Fountain area into character-defining features. These character-defining landscape features are used to provide detailed consideration of the unique qualities of Hogan Fountain as designed by Frederick Law & John Charles Olmsted, under the banner of F.L. and J.C. Olmsted, Landscape Architects, Brookline, MA, in the 1890s. Use is considered above in the discussion of recreation.

### **Spatial Organization, Land Patterns & Visual Relationships**

These features address the three-dimensional organization and patterns of spaces in the landscape, land uses, and visual relationships, shaped by both cultural and natural features; the uses of the land and the views and visual relationships that organize the landscape as defined by topography, vegetation, circulation, built elements, and often a combination of these character-defining features to create the overall patterns of the landscape. At Hogan Fountain in Cherokee Park, the Scenic Loop divides the Bonnycastle Hilltop on a generally north-south axis, with the open rolling Unit 1 to the west and the narrow, sloping Unit 2 to the east. Unit 3 rings the hilltop and encloses Units 1 and 2. This organization defines the spatial and visual relationships in this park landscape. The gently rolling, open hilltop in Unit 1 is shaped by the graceful curving park drive along the north, east and south edges. In Unit 2, the area of the fountain is choreographed so that the fountain is visually prominent as are the views from and to it from the surrounding landscape. The irregularly wooded and open slopes downhill also aid in providing prominence to the fountain and in giving it an open park setting. In Unit 3, dense vegetation limits views and visual relationships within the landscape unit, but emphasizes the enclosure of the hilltop areas.

The topography of the landscape, which slopes from the rolling, open Bonnycastle hilltop down steep vegetated slopes, also shapes views and visual relationships. In Unit 1, the placement of the Scenic Loop drive, slightly below the high ground of the hill, retains a large open space, informally dotted with shade trees. Hogan Fountain is positioned on the drive at the point where it comes into view as visitors near the summit of the hill.

### **Topography & Natural Systems**

Topography is the shape of the ground plane and its height or depth. Topography occurs in relation to natural systems and as a result of human manipulation. Natural systems include landforms, watershed systems, climate, surface and underground flows, and their effects. The topography of the Hogan Fountain area is an open hilltop knoll surrounded on all sides by steep wooded slopes.

## **Vegetation**

Vegetation can include groups of plants, individual plants, agricultural fields, planting beds, formal or informal tree groves, woodland, meadow, or turf. Unit 1 is rolling lawn with trees clustered to the north and east, providing a green edge along the Scenic Loop. Unit 2 is a combination of mown slopes, meadow, and woodland, with a grove of trees shading an open, informal picnic area. The slopes of Unit 3 are entirely wooded, with dense woodland vegetation surrounding Units 1 and 2.

## **Circulation**

With the exception of the vehicular Scenic Loop, circulation in Units 1 and 2 is largely informal. In Unit 1, a limited path system is positioned at the intersection of open hilltop and woodlands, providing a scenic walk around the edge, far from the drive. The slopes in Unit 2 are traversed with simple paths that grade up from Beargrass Creek. Paths through Unit 3 access Units 1 and 2.

## **Constructed Water Features**

Constructed water features may be aesthetic as well as functional components of the landscape. Water features may include fountains, pools, cascades, irrigation systems, streams, ponds, lakes, and aqueducts. In Unit 1, the Sprayground is a water feature constructed for active recreation. In Unit 2, Hogan Fountain is the only constructed water feature. Unit 3 contains no water features.

## **Structures**

The structures located in the Hogan Fountain area of Cherokee Park are entirely located within Unit 1. Structures include the tepee shelter, restrooms, playground equipment, and sports fields. Hogan Fountain is an important sculptural and decorative element within Cherokee Park in Unit 2. Positioned along the Loop Drive, it provides a sense of refinement and art within the park landscape. No recreation facilities are within Unit 2, as originally planned by the Olmsted Brothers.

## **Site Furnishings & Objects**

Site furnishings such as signage and light fixtures are generally considered small-scale elements in the landscape while items such as garbage cans and benches are considered landscape objects. Site furnishing and objects are not detailed on the original Olmsted plan, but may have included signage and light fixtures, among others. Today, grills positioned in the picnic grove in Unit 2 are an example of a landscape object.



Figure 1: This figure shows the General Plan with an overlay of the historic zones of Cherokee Park. Bonnycastle Hill is an important hilltop in the rolling Beargrass Creek valley that is at the core of the Hogan Fountain project area. The slopes rolling down to Beargrass Creek are to the east of the hill. The park drive traverses the slope near the hilltop to provide site access. Hogan Fountain is positioned at the north turning of the drive noted by the red star. The approximate project area is highlighted by the black oval. (THL-Cherokee-GeneralPlan-Overlay-Hogan-Bonnycastle.jpg)



Figure 2: The spatial organization of Hogan Fountain within Cherokee Park is seen in this 2009 aerial photograph. The Scenic Loop winds through the landscape, dividing landscape Units 1 and 2. Unit 1, Bonnycastle Hill, is an open, rolling hilltop positioned to the west (the bottom of the frame in this image). Unit 2, Hogan Fountain, Drive & Open Slopes, is located east of Unit 1, across the Scenic Loop. Unit 3, Woodland Slopes & Trails is a densely vegetated landscape that encloses Units 1 and 2 in all directions. (Hogan Fountain aerial February 2009.jpg)



Figure 3: This early 20th century view of Hogan Fountain provides documentation of the open area around this sculptural and functional work with the sunlit overlook and the open woodland downslope. (THL-Hogan Fountain-Historic-Cobbles-UL529.jpg)

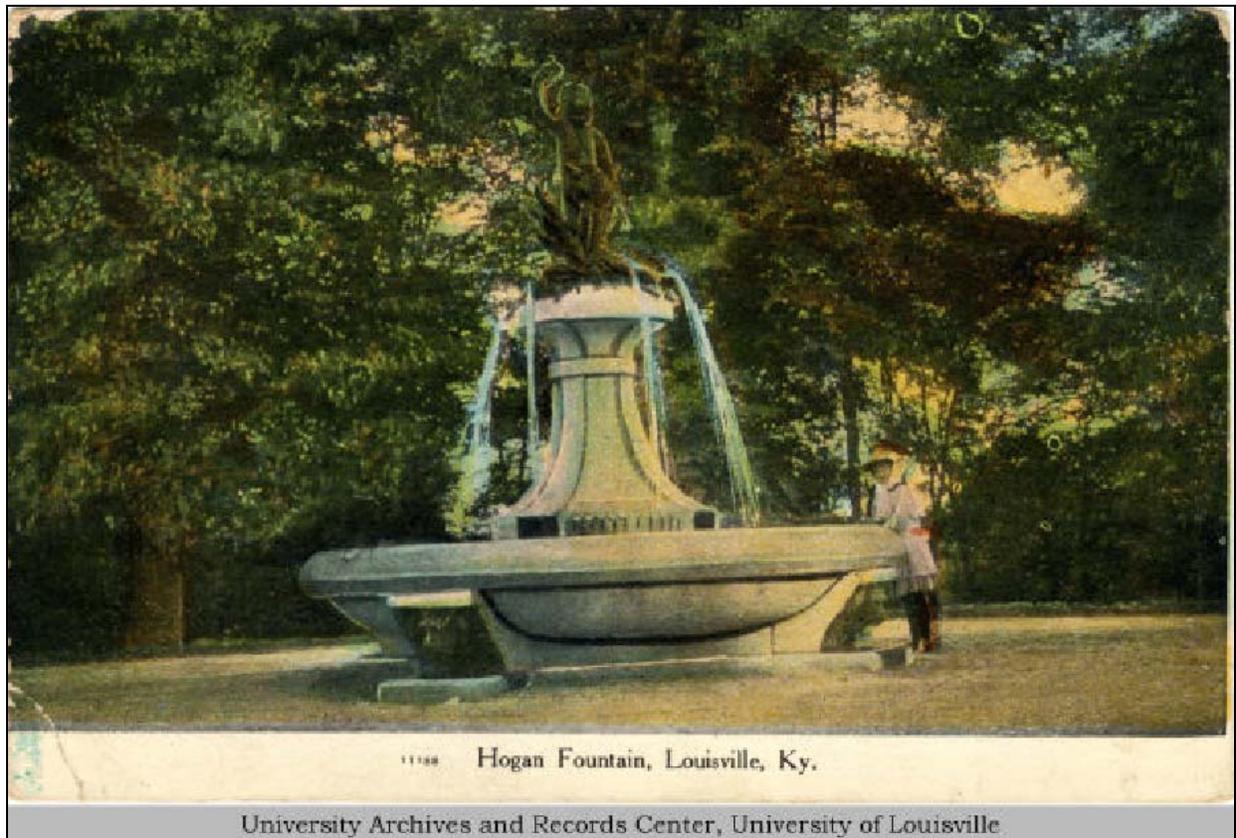


Figure 4: This historic view of Hogan Fountain shows the water feature in an open area surrounded by dense woodland. (Hogan Fountain woman UL125.jpg)



Figure 5: This contemporary view of Hogan Fountain shows a bicyclist passing by Hogan Fountain and heading south along the Scenic Loop. The shaded picnic grove is visible in the background. (Hogan Fountain 2.jpg)

## Endnotes

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<sup>i</sup> Charles E. Beveridge & Arleyn A. Levee, “Louisville’s Olmsted Park Legacy: Cherokee, Iroquois and Shawnee Parks and The Parkways, A History (draft)”, 1992: p 42.

<sup>ii</sup> Frederick Law Olmsted, *Public Parks and the Enlargement of Towns*, 1870, reprinted 1970.

<sup>iii</sup> Frederick Law Olmsted, *Public Parks and the Enlargement of Towns*, 1870, reprinted 1970.

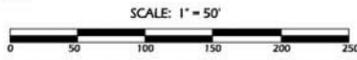
<sup>iv</sup> Robert R. Page, Cathy A. Gilbert, Susan A. Dolan, *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*, Washington DC: U.S. Department of the Interior, NPS, Cultural Resource Stewardship and Partnerships, Park Historic Structures and Cultural Landscapes Program, 1998.



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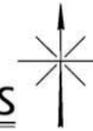


# HOGAN FOUNTAIN MASTER PLAN

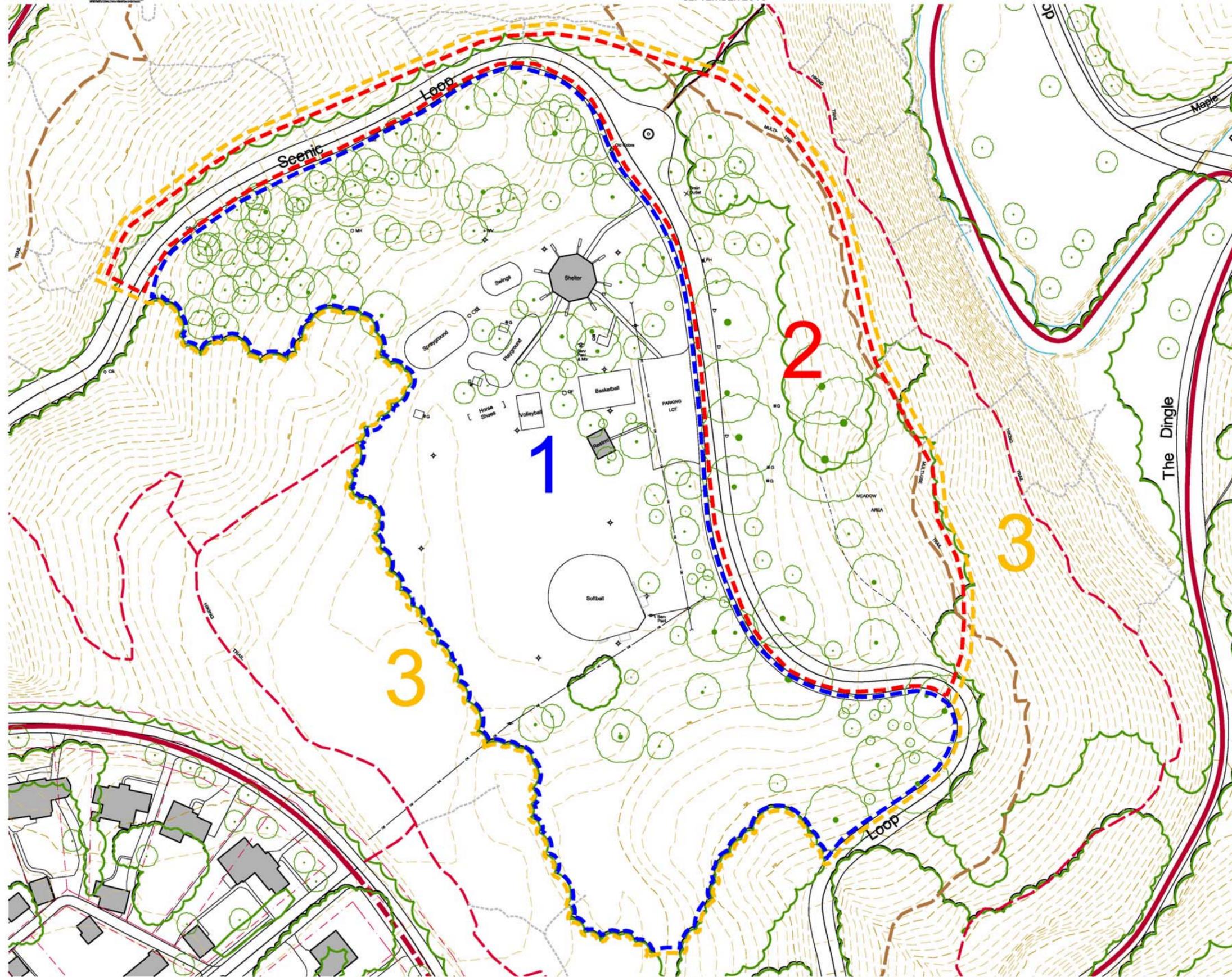
CHEROKEE PARK, LOUISVILLE, KY

## EXISTING CONDITIONS WITH LANDSCAPE UNITS

SEPTEMBER 2010



Heritage Landscapes LLC  
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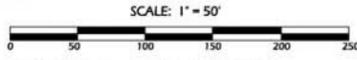
### Landscape Units Legend

- Unit 1: Bonnycastle Hill
- Unit 2: Hogan Fountain
- Unit 3: Woodland



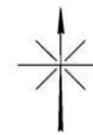
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# HOGAN FOUNTAIN MASTER PLAN CHEROKEE PARK, LOUISVILLE, KY OLMSTED PLAN WITH LANDSCAPE UNITS

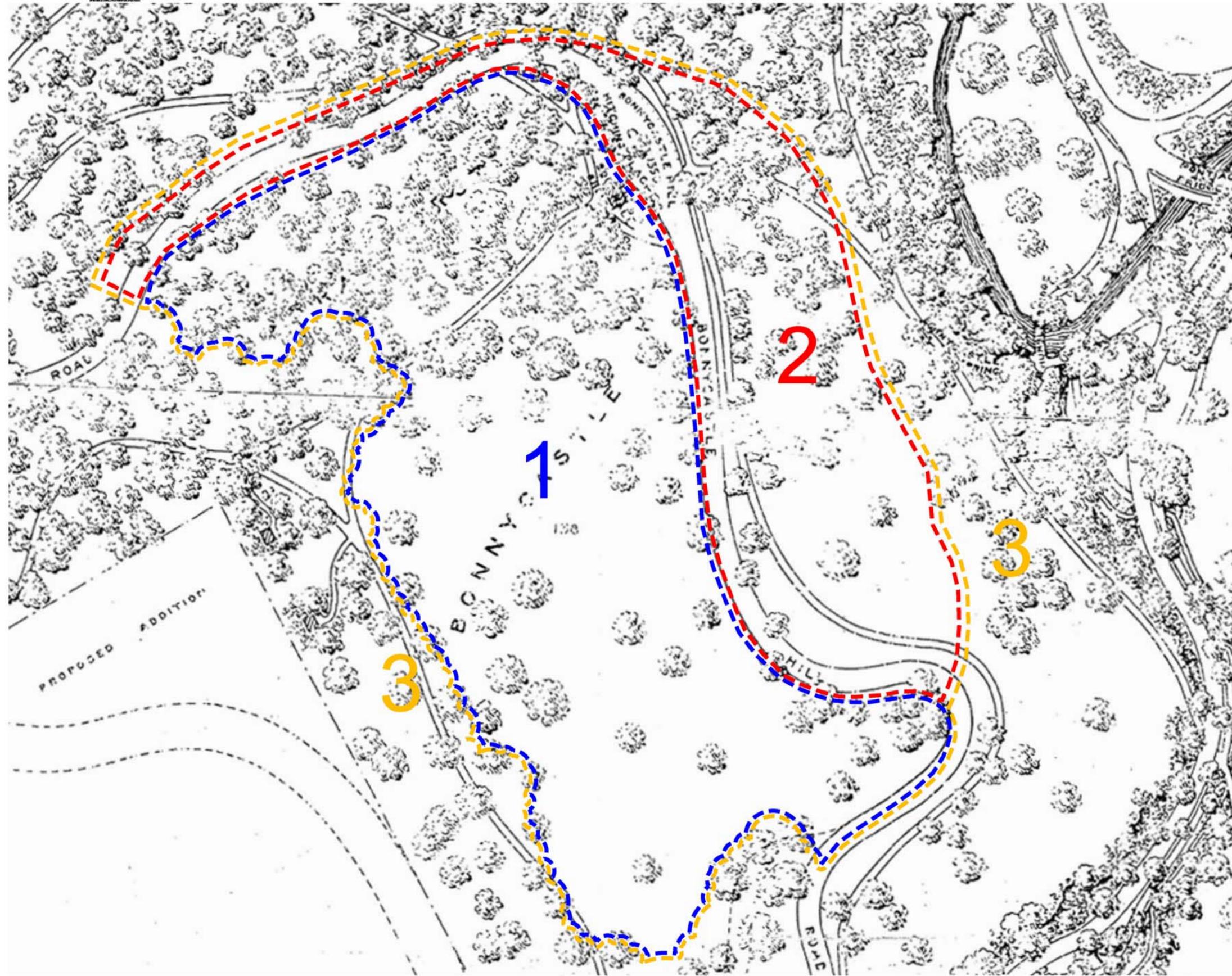
SEPTEMBER 2010



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Preservation Landscape Architects & Planners



MATTINGLY ENGINEERS



**Landscape Units Legend**

- Unit 1: Bonnycastle Hill
- Unit 2: Hogan Fountain
- Unit 3: Woodland

### **III. EXISTING CONDITIONS**

The Hogan Fountain area of Cherokee Park is situated on a high ridge above Beargrass Creek with an open recreation area that is enclosed on all sides by woodland vegetation. The topography of the site slopes down on three sides from the flat active area on top of the ridge to the creek on the east and its tributaries on the north and south. The ridge continues on the west to the edge of the park and the residential neighborhoods beyond.

The character-defining landscape features that are found in the park today are similar in many respects to those that were originally intended when the park was first designed by F.L. & J.C. Olmsted in the 1890s. However, several changes have occurred over the years that have impacted the character and integrity of the original plan.

#### **Unit 1 – Bonnycastle Hill**

Unit 1, which was planned as an open recreation space in the park, has been cluttered with several active recreation facilities that encroach on the intended view from the fountain to the open area. Several facilities including a large teepee shaped shelter, a basketball court, restroom, softball field, playground, swings, spray fountain, and parking lot have been added to the open area on the hilltop. The facilities in this area are tightly grouped toward the north end of the site which attracts a very high level of use and is incompatible with maintaining a good cover of turf. This produces a ground surface that is often bare soil and dust/dirt conditions objectionable to park users.

#### **Unit 2 – Hogan Fountain, Drive & Open Slopes**

The area surrounding the historic Hogan Fountain is paved with asphalt which is often used for parking, limiting pedestrian access to and views of the historic fountain.

The Scenic Loop that bisects the Hogan Fountain area has issues such as erosion and parking. The road edges are eroded on both the entering uphill and exiting downhill sections of the Scenic Loop due to both the amount of runoff from the hilltop and the layers of asphalt paving applied to the road. The road has become much higher than the edges due to this layering of asphalt over the years. On a peak-use day, users will park cars along the side of the hilltop area of the road sometimes under the canopy of large important trees. Stone boulders have been placed along the road to try to prevent this. Due to the number of uses in the Hogan Fountain area, the Scenic Loop is overwhelmed with cars. There is a lack of organized pedestrian connections across the Loop, and cars tend to drive through the area at a high rate of speed.

Vegetation on this side of the park consists of scattered trees, some very large, that are well maintained. The open lawn areas are used for picnicking.

**Unit 3 – Wooded Slopes & Trails**

The dense woodlands surrounding the site provide enclosure as well as hiking trails, multi-use trails, and additional landscapes to explore and enjoy. The hiking trails through these areas provide pedestrian connections to other parts of the park as well as the Bonnycastle neighborhood on the west. The woodlands on the north, south, and east are situated on steep slopes that drop to the creeks while the woodland on the west is relatively level.

Few of these trails follow the original plan for pedestrian circulation as laid out in the 1897 General Plan for Cherokee Park. Many of the trails are badly eroded and have lost their original connection to the rest of the Cherokee Park trail system according to the 1994 Master Plan.



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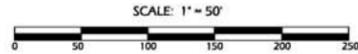


# HOGAN FOUNTAIN MASTER PLAN

## CHEROKEE PARK, LOUISVILLE, KY

### EXISTING CONDITIONS

MAY 2009



Heritage Landscapes LLC  
Preservation Landscape Architects & Planners



#### Existing Conditions Legend

- Existing building
- Existing treeline
- Existing trees
- Existing contours
- Multi-Use Trail
- Hiking Trail
- Rogue Trail
- Overhead Electric Line
- Drinking Fountain
- Pic Nic pad
- Existing Grill
- Manhole
- Water Valve
- Light Pole
- Utility Pole
- One Way sign
- Do Not Enter sign
- Fire Hydrant

#### Existing Tree Legend

KEY	BOTANICAL NAME	COMMON NAME
AA	Allanthus altissima	tree of heaven
AC	Amelanchier canadensis	serviceberry
AR	Acer rubrum	red maple
AS	Acer saccharum	sugar maple
ASM	Acer saccharinum	silver maple
CC	Cercis canadensis	eastern redbud
CF	Cornus florida	flowering dogwood
CK	Cladrasia kentuckoa	yellowwood
CO	Celtis occidentalis	hackberry
FA	Fraxinus americana	white ash
FG	Fagus grandifolia	american beech
FP	Fraxinus pennsylvanica	green ash
FS	Fagus sylvatica	europian beech
GD	Gymnocladia dioica	Kentucky coffeetree
GT	Gleditsia triacanthos	honey locust
JN	Juglans nigra	black walnut
LS	Liquidambar styraciflua	sweetgum
LT	Liriodendron tulipifera	tulipine
MA	Magnolia acuminata	cucumber tree
MP	Maclura pomifera	osage orange
MR	Morus rubra	mulberry
NS	Nyssa sylvatica	blackgum
OA	Ostrya virginiana	sourwood
PC	Pyrus calleryana	callery pear
PO	Platanus occidentalis	sycamore
PS	Pinus strobus	white pine
PT	Prunus serotina	black cherry
QA	Quercus alba	white oak
QB	Quercus bicolor	swamp white oak
QP	Quercus palustris	pin oak
QR	Quercus rubra	red oak
RP	Robinia pseudoacacia	black locust
TA	Tilia americana	American linden
UA	Ulmus americana	American elm
UR	Ulmus rubra	slippery elm

#### TREE CONDITIONS:

Tree conditions were evaluated on a four level system, as follows:

- (#1) Tree is in excellent condition with no apparent defects.
- (#2) Tree is in good condition but needs minor pruning or has defects.
- (#3) Tree is declining, needs major pruning, or has severe defects.
- (#4) Tree is dead or dying.



#### **IV. PROCESS, ISSUES & CONSIDERATIONS**

Project issues were identified through a series of meetings with Metro Parks, the Louisville Olmsted Parks Conservancy, and the public. The process also included five public meetings that were held over a period of sixteen months. An online user survey provided further information on the public use of the park and helped to determine the priorities for implementation of park improvements. The survey and results are attached in Appendix A.

The following list details the issues identified for the project through the meetings and surveys:

##### **1. Drainage and Erosion:**

- Drainage and runoff impacts the road edges and causes erosion and water quality problems.
- The soils are compacted in the main area of concentrated use causing dusty and muddy conditions, erosion, and tree decline.
- Numerous swales and gullies impact the slopes and soils on the hillside site contributing to further erosion.

##### **2. Accessibility, Circulation and Trails:**

- The intended trailhead lacks definition and signage.
- Pedestrian connections across the Scenic Loop need to be defined.
- The trails are badly eroded and have lost their original connection to the rest of the Cherokee Park trail system.
- There are many rogue trails which impact the fragile slopes, soils, and plants.
- The existing trail system has no long term management plan.
- There is no accessible walking path.

##### **3. Parking and Traffic:**

- Parking and traffic conflicts in the area are a big problem on nice days when park use is high.
- People park wherever they can because of the lack of organized parking in the picnic area. Cars are often in the grass and under mature trees during peak use times.
- Pedestrian and vehicular traffic conflicts are frequent at the fountain area causing safety issues with the Scenic Loop.

#### 4. Security and Vandalism:

- Recurrent vandalism including graffiti is a big problem in the park. Signage with call-in information to report vandalism would be helpful.
- The wooded areas seem too secluded or unsafe, and can become a hiding place. Homeless people have set up camps in this area in the past.

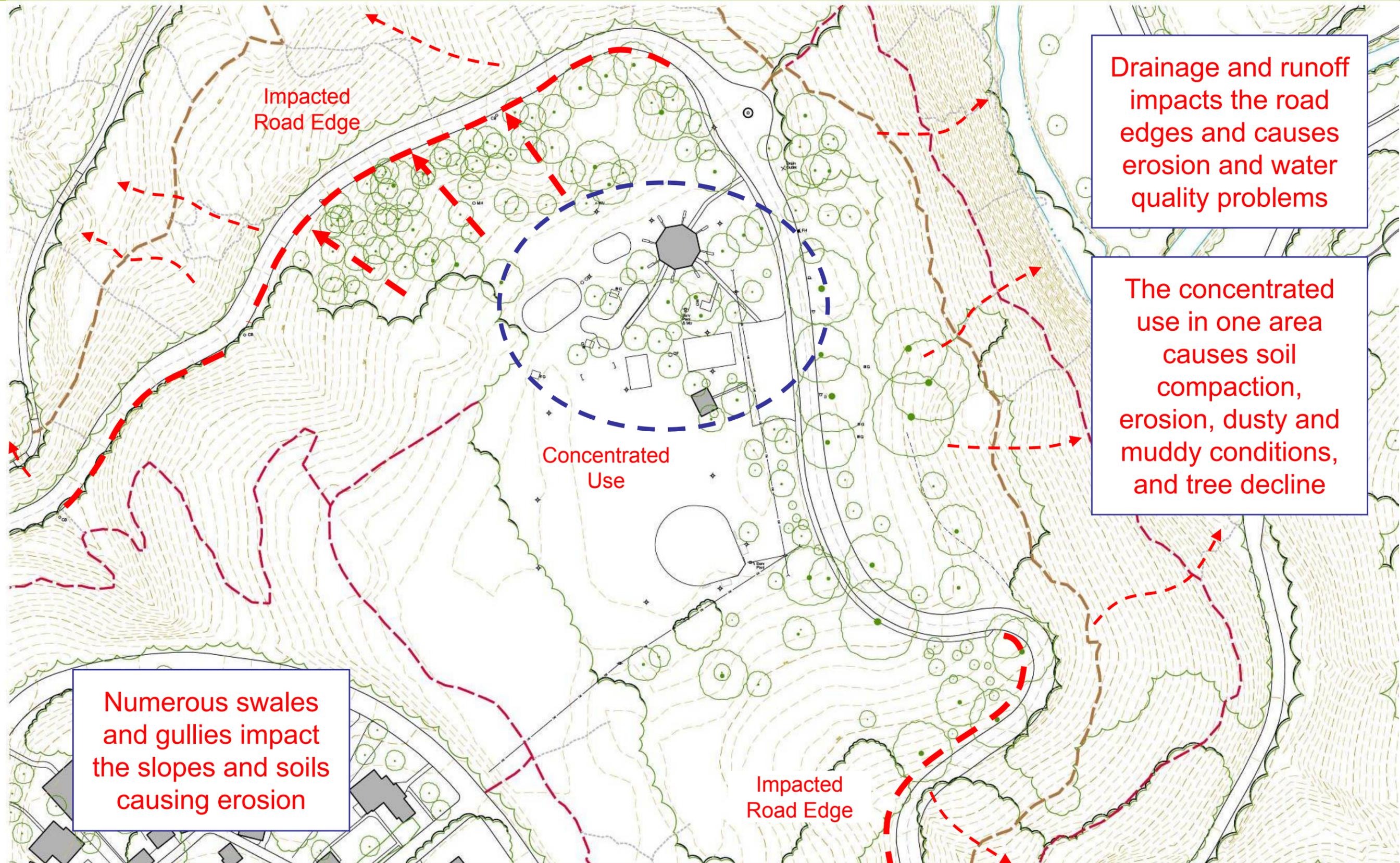
#### 5. Facilities:

- The Hogan Fountain location is good, but it is surrounded by unpleasant asphalt and there are no benches or planting around the fountain.
- The existing shelter is deteriorating and is not compatible with the historic character of the park.
- The shelter capacity seems out of scale for small groups and doesn't always function for multiple groups. The area is heavily used for group picnics by the Jefferson County Public Schools, the YMCA, and churches and other groups.
- The restroom is old, uninviting, and not well maintained. It is not compatible with the historic character of the park. Its location blocks an important view of the hilltop from Hogan Fountain.
- The user needs are hard to meet in the basketball court area due to the proximity to the other facilities.
- The softball field and the area to the south are not very heavily used.
- The overhead power line is unsightly and causes tree damage.
- The existing lighting causes light pollution.
- The shelter site frequently is overcrowded, while large areas of the hilltop are underused.

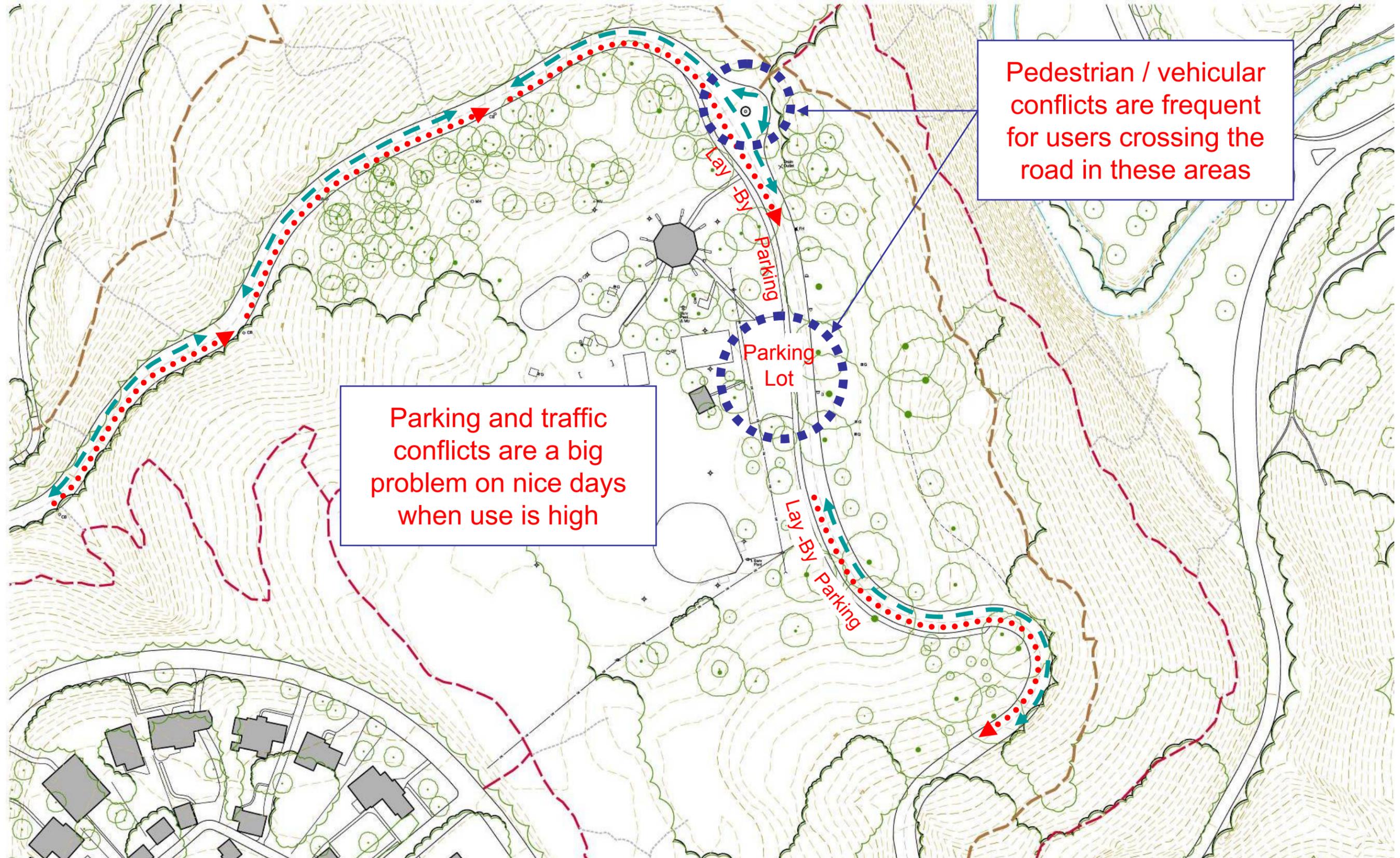
#### 6. Other:

- The historic tree canopy has slowly disappeared over the years as trees have been removed and not replaced according to the original plan.
- Planting in the park is not very inviting with few flowering plants. The wooded areas could be cleaned up and improved to reveal the pleasant hillside and help with erosion problems.
- Invasive species, such as bush honeysuckle, are a big problem in this area.
- The existing signage is inconsistent and not always helpful. Wayfinding and interpretation are not included in the existing signs.

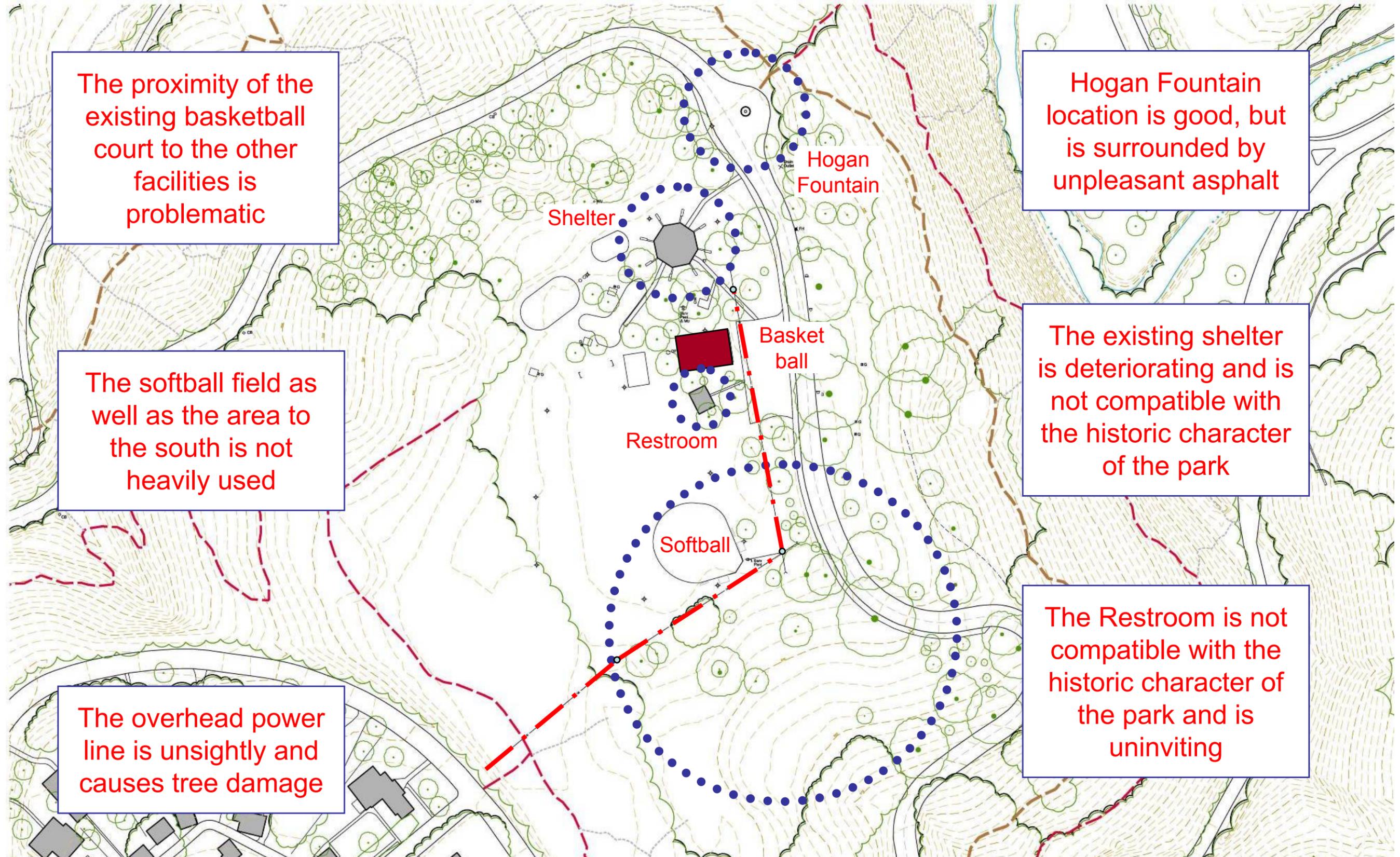
# Project Issues: Drainage & Erosion



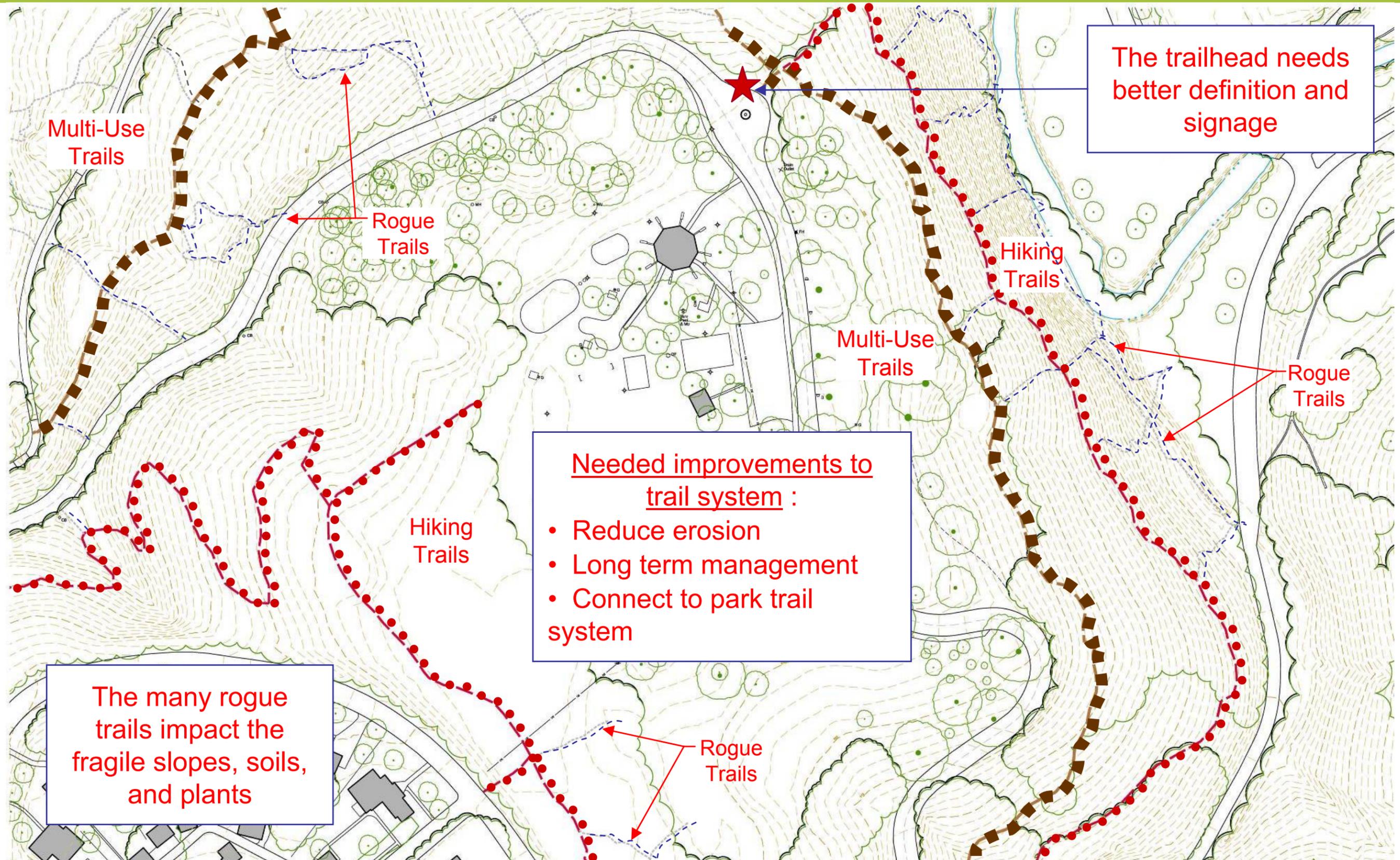
# Project Issues: Parking & Circulation



# Project Issues: Existing Features



# Project Issues: Trail System



## V. **ALTERNATIVE CONCEPTS**

After identifying the issues and desires of the Hogan Fountain area users, the design team developed two conceptual alternatives for the park improvements (See Concept Plan 1 and Concept Plan 2 at the end of this section for reference). Both concepts organize the proposed recreation activities, associated facilities, access and parking in the open area of the hilltop but with different approaches. The guiding principles for development of the plans were to disperse the varied uses across the hilltop, open views of the historic hilltop and fit the facilities into the landscape, organize parking / traffic, improve drainage and eliminate erosion, improve the area around the historic fountain, and improve access and the condition of the trails.

### A. **CONCEPT PLAN I:**

#### **Unit 1 – The Open Hilltop**

This concept grouped the active use areas, yet tried to disperse these uses out of the view corridor from Hogan Fountain to the open hilltop. Active use was also located away from the larger shelter (which is intended for rental groups) due to user conflicts. The smaller shelter is intended for more local use with a large playground / sprayground area to accommodate regular park use. Specific improvements include:

- Retain the existing Teepee shelter with renovations and improvements.
- Build a small playground near the Teepee shelter.
- Improve the existing restroom and retain in the same location.
- Retain the existing softball field and lighting. Additional field space should be a multi-use area.
- Locate a new basketball and volleyball court near the softball field.
- Build a new thirty-two person shelter in the south open lawn area.
- Build a larger sprayground and playground area near the thirty-two person shelter.
- Rebuild a paved, expanded parking area in the location of the existing parking lot accommodating fifty-six cars.
- Create a paved walking loop on the hilltop connecting the shelter to the north and south with active recreation areas, parking and trail entrances.
- Organize the lay-by parking along the Scenic Loop to accommodate forty-five cars.

#### **Unit 2 – The Fountain and Edge**

In this concept, Hogan Fountain was intended to be improved by unearthing and exposing existing cobblestones below the asphalt, adding seating, and adding planting. The woodland edge near Hogan Fountain was proposed to have dispersed picnic areas for park users to enjoy. This would include picnic tables, grills and additional planting organized in groupings along the woodland edge.

### **Unit 3 – Surrounding Woodlands**

The major recommendation for this area was to organize and improve the trails while providing connections to the hilltop. An existing trail on the west side of the hilltop is proposed to be paved for a new wholly accessible woodland route.

## **B. CONCEPT PLAN 2:**

### **Unit 1 – The Open Hilltop**

Concept plan 2 aimed to provide even more parking with a driveway loop around the hilltop, and eliminating any parking on the Scenic Loop. This hilltop loop would be along the existing treeline and could provide a way to be able to close the Scenic Loop seasonally for event use. The following improvements were recommended:

- A one-way loop with 157 angled parking spaces on the hilltop.
- A fifty person shelter on the north end of the site.
- A larger playground / sprayground near the fifty person shelter.
- An open multi-use field area (200x300) within the hilltop loop and Scenic Loop Drive.
- A new restroom within the hilltop loop toward the south end.
- Basketball and Volleyball courts near the proposed restroom.
- A two-hundred person shelter to the south of the hilltop loop facing the lower meadow area.
- A small playground near the two-hundred person shelter.
- A paved interior walking loop that connects the shelters, restroom, active recreation and woodland trails.

### **Unit 2 – The Fountain and Edge**

In this concept, Hogan Fountain was intended to be improved by unearthing and exposing existing cobblestones below the asphalt, adding seating, and adding planting. The woodland edge near Hogan Fountain was proposed to have dispersed picnic areas for park users to enjoy. This would include picnic tables, grills and additional planting organized in groupings along the woodland edge. There is an additional sixteen person shelter for picnickers at the north edge near the fountain.

### **Unit 3 – Surrounding Woodlands**

The major recommendation for this area was to organize and improve the trails while providing connections to the hilltop.



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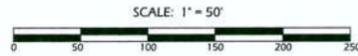


# HOGAN FOUNTAIN MASTER PLAN

## CHEROKEE PARK, LOUISVILLE, KY

### CONCEPT PLAN 1

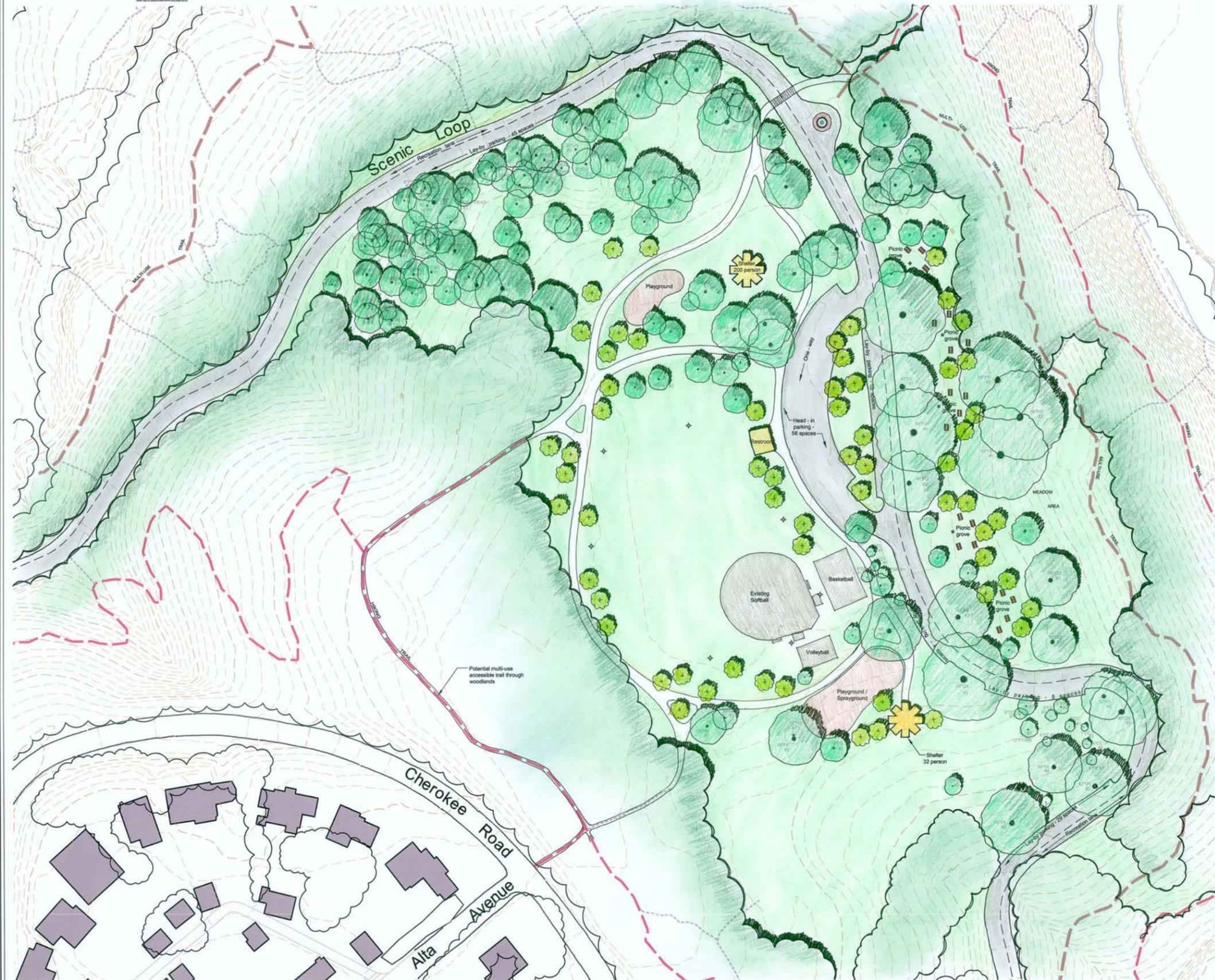
OCTOBER 2009



Heritage Landscapes LLC  
Preservation Landscape Architects & Planners



studio  
MATINGLY  
ENGINEERS



#### Legend

- Proposed trees
- Existing treeline
- Existing trees
- Existing contours
- Multi-Use Trail
- Hiking Trail
- Rogue Trail
- Overhead Electric Line

#### Parking Count

HOGAN FOUNTAIN AREA:	76
SCENIC LOOP LAY BY:	74
TOTAL:	150

#### Plan Features:

- Pull in parking for 56 cars near restroom
- Lay-by parking for 45 cars along the Scenic Loop uphill, 20 at the top of the hill, and 29 cars downhill
- Retain existing Tee Pee shelter
- Large play area and sprayground to the north
- Additional 32 person shelter with small play area to the south
- Retain existing ball field and multi-use area
- Move basketball and volleyball closer to softball to the south
- No opportunities for closing portions of Scenic Loop for seasonal or event use



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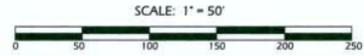


# HOGAN FOUNTAIN MASTER PLAN

CHEROKEE PARK, LOUISVILLE, KY

## CONCEPT PLAN 2

OCTOBER 2009



enviroms inc.  
landscape architecture



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**Legend**

- Proposed trees
- Existing treeline
- Existing trees
- Existing contours
- Multi-Use Trail
- Hiking Trail
- Rogue Trail
- Overhead Electric Line

**Parking Count**  
TOTAL: 157

- Plan Features:**
- Angled parking along new loop drive for 157 cars
  - No parking along Scenic Loop
  - 200 x 300 multi-use field
  - 200 person shelter with small play area to the south
  - 50 person shelter with large play area and sprayground to the north
  - Two 16 person shelters on the east side of the Scenic Loop
  - Move basketball and volleyball closer to multi-use field to the south
  - Scenic Loop could be closed for seasonal or event use between entrance and exit of loop drive

## **VI. RECOMMENDED PLAN**

### **A. FINAL PLAN:**

A final master plan was developed after weighing the pros and cons of each of the concept plans and holding several meetings and discussions between the design team, Metro Parks, the Louisville Olmsted Parks Conservancy, and the public. The guiding principle for development of the final plan is to improve upon pedestrian and vehicular conflicts, existing facilities, activities, parking, drainage and erosion.

The final plan combines the recommendations from the previous alternative concepts into one final master plan that reflects the needs, desires, and wishes of the community and the clients. (See the Final Master Plan at the end of this section). This plan has many of the same features as Concept Plan I (discussed above) with the following exceptions:

#### **Unit 1 – The Open Hilltop**

- A new twenty-five person shelter is located to the north of the existing Teepee shelter. The Teepee shelter is removed.
- A larger playground / sprayground.
- A basketball practice area (instead of a half court) near the existing softball field.
- Open space area within the existing softball field for multi-use activities.
- The volleyball court has been removed. Park users will be able set up their own nets in the open space area.
- A fifty-person shelter (instead of a thirty-two person shelter) is located in the south open lawn area for larger groups.
- A smaller playground near the fifty-person shelter.
- The existing restroom is to be improved in the same location; however, if the restroom needs major improvements, a future location is shown further south near the basketball practice area.
- A paved, expanded parking area in the location of the existing parking lot accommodating fifty cars (instead of fifty-six).
- Scenic Loop lay-by parking to remain on the downhill (exiting) side of the Loop only, accommodating twenty-nine cars.

#### **Unit 2 – The Fountain and Edge**

Hogan Fountain improvements include unearthing and exposing existing cobblestones below the asphalt, adding seating, and adding planting. Additionally, special paving is proposed for the Fountain, across the Scenic Loop, and up to the crosswalk from the hilltop walking loop to the trails. The special paving indicates the entrance to this

significant site, and intends to reduce conflicts between pedestrians and vehicles. The woodland edge near Hogan Fountain is proposed to have dispersed picnic areas for park users to enjoy. This includes picnic tables, grills and additional planting organized in groupings along the woodland edge.

### **Unit 3 – Surrounding Woodlands**

During the final master plan phase, a Trail Improvements drawing was created to describe specific items in the surrounding woodlands. (See the Trail Improvements plan at the end of this section). Specifically the following improvements are suggested:

#### **Scenic Loop East Trails**

- A new switchback trail with steps to join the multi-use trail down to the lower Scenic Loop Drive should be built.
- Swale drainage along the hiking trail needs to be improved.
- A dirt mound along the multi-use trail needs to be removed.
- The hiking trail needs steps to connect to the Dingle.
- The hiking trail should be connected to the multi-use trail with steps to create a loop.
- The multi-use trail should be connected to Spring Drive for accessibility.
- A trailhead with message board and signage should be installed at lower Scenic Loop where the multi-use trail and hiking trail converge.

#### **Scenic Loop West Trails**

- The steps at the entrance to the hiking trail at Barney Avenue need repair.
- The old Nettleroth bird bath along the hiking trail should be interpreted.
- The hiking trail from Alta Avenue should be connected through the woodlands to the Hogan Fountain area.
- The trail should be realigned between its connection at the lower Scenic Loop to follow the contour.

**B. ISSUES FOR FUTURE CONSIDERATION:**

A number of issues were raised after the final plan was completed. These issues deserve to be discussed and should be addressed in the next phases of design for each specific project.

1. Several items related to the proposed shelter design were mentioned, including provision of grills within the shelter and the form/architecture the new shelter (round versus rectangular) might take.
2. Several concerned citizens requested that the plan consider keeping the Teepee shelter. Statements supporting this position included the age of the structure; its value as unique architecture; historic events associated with the park site; its landscape prominence as a wayfinding tool; and creation of a support group to raise funds for shelter repair and maintenance.
3. Concern was expressed by members of the public that the proposed master plan would likely perpetuate overuse of the site by automobiles. Several suggestions were received regarding the deletion of the proposed large group shelter as a way of mitigating this problem.
4. Metro Parks is reluctant to limit access to the Hogan Fountain area by large groups. As a result, an overall traffic management plan for Cherokee park is recommended that should address neighborhood-wide possibilities for traffic management within the park at peak use times.

**C. PLANTING RECOMMENDATIONS:**

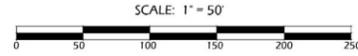
At the Hogan Fountain area of Cherokee Park, the goal is to foster a regeneration of native woodland shrubs and trees. To achieve that goal, suppression of invasive species is crucial. Invasive species include European buckthorn (*Rhamnus cathartica*) and bush honeysuckle (*Lonicera maackii*). It is important to note that the Louisville Olmsted Parks Conservancy, Inc. has already been working hard to suppress invasive species in the woodlands. These efforts should continue.



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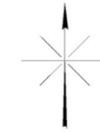


# HOGAN FOUNTAIN MASTER PLAN

CHEROKEE PARK, LOUISVILLE, KY

## FINAL PLAN

JANUARY 2010



Heritage Landscapes LLC  
Preservation Landscape Architects & Planners



MATINGLY  
ENGINEERS



### Legend

- Proposed trees
- Existing treeline
- Existing trees
- Existing contours
- Multi-Use Trail
- Hiking Trail
- Rogue Trail
- Overhead Electric Line

### Parking Count

HOGAN FOUNTAIN AREA: 73  
SCENIC LOOP LAY BY: 29  
TOTAL 102

### Plan Features:

- Pull in parking for 50 cars near restroom
- Lay-by parking for 29 cars along the Scenic Loop downhill
- Remove existing Tee Pee shelter, provide new 25 person shelter near this location
- Large play area and sprayground associated with 25 person shelter
- Additional 50 person shelter with small play area to the south
- Retain existing ball field and multi-use area
- Move basketball closer to softball to the south



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# HOGAN FOUNTAIN MASTER PLAN

CHEROKEE PARK, LOUISVILLE, KY

## TRAIL IMPROVEMENTS

JANUARY 2010



Heritage Landscapes LLC  
Preservation Landscape Architects & Planners



### Existing Conditions Legend

- Existing building
- Existing treeline
- Existing trees
- Existing contours
- Project Boundary
- Multi-Use Trail
- Hiking Trail
- Rogue Trail
- Remove Trail
- New Trail Connection
- Stone steps
- Bridge



**VI. CONSTRUCTION COSTS AND PHASING**

**A. PROBABLE CONSTRUCTION COSTS:**

The following cost projections are based on the final plan dated January 2010 and include the cost of materials, labor, taxes, overhead and profit, consulting fees, and a 10% contingency. These costs are based on current pricing and do not include any markup for inflation to cover any cost increase for projects to be built in the future.

<b>GRAND TOTAL</b>	<b>\$ 2,665,000</b>
<b>COST SUMMARY BY AREA:</b>	
<b>A. PARKING LOT -</b> <i>Includes demolition of the existing parking, walks, and basketball court as well as installation of the new asphalt parking lot and walk with limestone curbs, lay-by parking w/ limestone curbing, the bio-retention basin in the parking island, and site grading, restoration and planting.</i>	\$ 300,000
<b>B. NORTHERN SHELTER &amp; WALKS -</b> <i>Includes demolition of the existing teepee shelter and walks, as well as installation of the new 25 person shelter and access walkways to it.</i>	\$ 300,000
<b>C. NORTHERN PLAYGROUND/SPRAYGROUND -</b> <i>Includes demolition of the existing sprayground and construction of a new sprayground, demolition/relocation/rehab of the existing playground, plus site grading, restoration and planting.</i>	\$ 500,000
<b>D. SCENIC LOOP &amp; FOUNTAIN AREA IMPROVEMENTS -</b> <i>Includes narrowing of the asphalt area around the fountain, special paving around the fountain and on the road, new bollards, benches, and planting, as well as lay-by parking along the Scenic Loop with limestone curbing.</i>	\$ 325,000
<b>E. SOUTHERN SHELTER PLAYGROUND &amp; WALKS -</b> <i>Includes construction of a new 50 person shelter and seat steps on the edge of the southern meadow with access walks around the hilltop and down to the Scenic Loop, plus a small playground by the shelter.</i>	\$ 450,000
<b>F. NEW RESTROOM -</b> <i>Includes construction of a new restroom and walkways, demolition of the existing restroom and walkways, and extending site utilities.</i>	\$ 250,000
<b>G. TRAIL IMPROVEMENTS -</b> <i>Includes multiple improvements to the trail system in this area of the park to improve access and trail conditions, reduce erosion, and provide a more enjoyable and interesting trail experience.</i>	\$ 170,000
<b>H. DRAINAGE &amp; EROSION CONTROL -</b> <i>Includes replacement of two undersized culverts along the scenic loop, replacement of missing or broken headwalls, as well as construction of several infiltration basins and bio-swales in key drainage areas to reduce runoff and erosion.</i>	\$ 200,000
<b>I. MISCELLANEOUS -</b> <i>Includes construction of a new practice basketball court, upgrades to the existing ballfield, picnic area improvements, burying the existing overhead electrical lines, two new drinking fountains, twelve new benches, two new bike racks, four new trash receptacles, as well as security lighting in the parking lot and at the new shelters.</i>	\$ <u>170,000</u>

**B. PROJECT PHASING PLAN:**

The project can be implemented in phases as illustrated in the cost opinion. For example, the proposed restroom can be addressed as a separate project and does not depend upon any of the other categories being completed prior to beginning its implementation.

The user surveys and public meetings identified a number of issues to be addressed by the master plan. In order of priority, these are:

1. Disperse concentrated uses to reduce site impacts.
2. Formalize parking and plan for excess vehicle management.
3. Correct stormwater/runoff and related erosion problems.
4. Restore and enhance the Fountain and associated hilltop landscape features.

The consulting team strongly recommends, however, that Metro Parks and the Louisville Olmsted Parks Conservancy, Inc. continue the practice (as established by the 1994 *Master Plan for Louisville's Olmsted Parks and Parkways*) of comprehensively renovating a complete area of the project (as identified in this plan) before moving on to the next area. Following this process has been an important factor in the success of other projects completed to date in Cherokee, Iroquois, and Shawnee Parks.

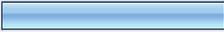
**VIII. APPENDIX**

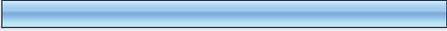
**A. USER RESEARCH**

- I) Tabulated survey results including user comments.

**B. ENGINEERING REPORT**

# Hogan's Fountain Area (Cherokee Park) Survey

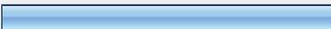
1. How often on average do you visit the Hogan's Fountain area of Cherokee Park?			
		Response Percent	Response Count
1-3 times a week or more		42.3%	11
about once a week		30.8%	8
about once a month		19.2%	5
about once a year		7.7%	2
never		0.0%	0
		<b>answered question</b>	<b>26</b>
		<b>skipped question</b>	<b>0</b>

2. How long do you usually stay at the Hogan's Fountain area when visiting?			
		Response Percent	Response Count
1 hour or less		61.5%	16
1-3 hours		26.9%	7
more than 3 hours		7.7%	2
it depends (please explain)		3.8%	1
		<b>answered question</b>	<b>26</b>
		<b>skipped question</b>	<b>0</b>

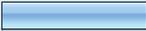
3. What time of day do you most often visit the park?			Response Percent	Response Count
7 a.m.-9 a.m.			7.7%	2
9 a.m.-12 noon			11.5%	3
noon-4 p.m.			34.6%	9
<b>4 p.m.-7 p.m.</b>			<b>42.3%</b>	<b>11</b>
7 p.m.-11 p.m.			3.8%	1
			<b>answered question</b>	<b>26</b>
			<b>skipped question</b>	<b>0</b>

4. How do you normally travel to the Hogan's Fountain area?			Response Percent	Response Count
<b>on foot</b>			<b>46.2%</b>	<b>12</b>
bicycle			7.7%	2
<b>car</b>			<b>46.2%</b>	<b>12</b>
public transportation			0.0%	0
Other (please specify)			0.0%	0
			<b>answered question</b>	<b>26</b>
			<b>skipped question</b>	<b>0</b>

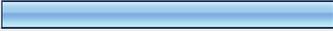
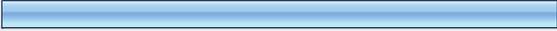
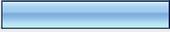
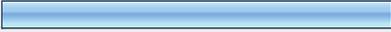
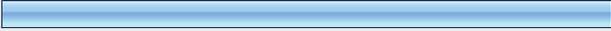
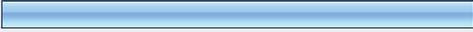
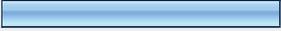
5. How close do you live to the Hogan's Fountain area?			
		Response Percent	Response Count
less than a 15 minute walk		11.5%	3
within a 15 minute walk		19.2%	5
within a 15-30 minute walk		23.1%	6
<b>not within easy walking distance</b>		<b>46.2%</b>	<b>12</b>
		<b>answered question</b>	<b>26</b>
		<b>skipped question</b>	<b>0</b>

6. When you come to the Hogan's Fountain area, do you come (check all that apply)			
		Response Percent	Response Count
<b>alone</b>		<b>57.7%</b>	<b>15</b>
with friends		50.0%	13
with family		46.2%	12
with a sports team		3.8%	1
with a group (not a sports team)		11.5%	3
		<b>answered question</b>	<b>26</b>
		<b>skipped question</b>	<b>0</b>

7. If you come to the Hogan's Fountain area with children, what age group do they fall into? (check all that apply)

		Response Percent	Response Count
toddler		20.0%	2
3-5 years old		30.0%	3
<b>4-7 years old</b>		<b>50.0%</b>	<b>5</b>
7-12 years old		40.0%	4
13-16 years old		10.0%	1
16-18 years old		0.0%	0
		<b>answered question</b>	<b>10</b>
		<b>skipped question</b>	<b>16</b>

8. What do you do when you visit the park? (Please mark all that apply)

		Response Percent	Response Count
jog/run		46.2%	12
leisure walking/measured walking		69.2%	18
hiking in woods		76.9%	20
walk a dog		23.1%	6
bicycling		42.3%	11
mountain biking		3.8%	1
picnic		53.8%	14
<b>enjoy nature</b>		<b>84.6%</b>	<b>22</b>
enjoy views and vistas		69.2%	18
sunbathe		11.5%	3
attend organized activities		11.5%	3
relax		65.4%	17
meet friends		38.5%	10
watch a sporting event		11.5%	3

play basketball		3.8%	1
play baseball/softball		0.0%	0
play pick-up field sports		11.5%	3
sit at a table or bench		69.2%	18
play volleyball		0.0%	0
use the playground		34.6%	9
use the sprayground		26.9%	7
use the pavilion		30.8%	8
attend a wedding or ceremony		0.0%	0
drive by, view from the road		53.8%	14
parking, to use the Scenic Loop		38.5%	10
use the restroom		61.5%	16
Other (please specify)			3
		<b>answered question</b>	<b>26</b>
		<b>skipped question</b>	<b>0</b>

9. Of the activities listed above, please list your top five in order of importance.			
		Response Percent	Response Count
One		100.0%	23
Two		100.0%	23
Three		91.3%	21
Four		91.3%	21
Five		91.3%	21
		<b>answered question</b>	<b>23</b>
		<b>skipped question</b>	<b>3</b>

**10. How satisfied are you with the following facilities/services/amenities within the park? (check one for each)**

	<b>Very Satisfied</b>	<b>Somewhat Satisfied</b>	<b>Not Very Satisfied</b>	<b>N/A</b>	<b>Rating Average</b>	<b>Response Count</b>
general maintenance	20.0% (5)	<b>56.0% (14)</b>	24.0% (6)	0.0% (0)	2.04	25
cleanliness/litter pick-up	24.0% (6)	<b>44.0% (11)</b>	32.0% (8)	0.0% (0)	2.08	25
storm drainage	20.8% (5)	<b>37.5% (9)</b>	29.2% (7)	12.5% (3)	2.10	24
safety/security	20.8% (5)	<b>62.5% (15)</b>	8.3% (2)	8.3% (2)	1.86	24
access to the park	<b>68.0% (17)</b>	28.0% (7)	0.0% (0)	4.0% (1)	1.29	25
access within the park	<b>52.0% (13)</b>	40.0% (10)	0.0% (0)	8.0% (2)	1.43	25
condition of turf	20.0% (5)	36.0% (9)	<b>44.0% (11)</b>	0.0% (0)	2.24	25
condition of trees & shrubs	20.8% (5)	<b>54.2% (13)</b>	20.8% (5)	4.2% (1)	2.00	24
condition of trails	32.0% (8)	<b>44.0% (11)</b>	24.0% (6)	0.0% (0)	1.92	25
basketball courts	16.0% (4)	12.0% (3)	0.0% (0)	<b>72.0% (18)</b>	1.43	25
volleyball court	8.0% (2)	8.0% (2)	4.0% (1)	<b>80.0% (20)</b>	1.80	25
parking	32.0% (8)	<b>40.0% (10)</b>	12.0% (3)	16.0% (4)	1.76	25
walkways	<b>52.0% (13)</b>	40.0% (10)	4.0% (1)	4.0% (1)	1.50	25
views, vistas and scenery	<b>68.0% (17)</b>	28.0% (7)	0.0% (0)	4.0% (1)	1.29	25
pavilion	20.0% (5)	<b>36.0% (9)</b>	24.0% (6)	20.0% (5)	2.05	25
restrooms	8.0% (2)	<b>52.0% (13)</b>	36.0% (9)	4.0% (1)	2.29	25
signs	16.0% (4)	<b>40.0% (10)</b>	28.0% (7)	16.0% (4)	2.14	25
lighting	20.0% (5)	<b>52.0% (13)</b>	12.0% (3)	16.0% (4)	1.90	25
benches	12.0% (3)	<b>52.0% (13)</b>	36.0% (9)	0.0% (0)	2.24	25
drinking fountain	8.0% (2)	<b>44.0% (11)</b>	40.0% (10)	8.0% (2)	2.35	25
spray ground	24.0% (6)	24.0% (6)	4.0% (1)	<b>48.0% (12)</b>	1.62	25
playground	28.0% (7)	28.0% (7)	0.0% (0)	<b>44.0% (11)</b>	1.50	25
tot lot	29.2% (7)	16.7% (4)	0.0% (0)	<b>54.2% (13)</b>	1.36	24
picnic areas	12.5% (3)	<b>58.3% (14)</b>	0.0% (0)	29.2% (7)	1.82	24
conduct of other users	16.7% (4)	<b>50.0% (12)</b>	29.2% (7)	4.2% (1)	2.13	24

**Report of Engineering Evaluation  
Existing Site Conditions  
Hogan Fountain Area  
Cherokee Park  
Louisville, Kentucky**

Prepared For:

**Environs Inc.  
11601 Main Street  
Middletown, Kentucky 40243**

August 2009

6313 ZURICH COURT  
PROSPECT, KENTUCKY 40059  
502-550-3349 PHONE  
502-409-8884 FAX  
MATTINGLYENGINEERS@INSIGHTBB.COM

**MATTINGLY  
ENGINEERS**



# Report of Engineering Evaluation Existing Site Conditions Hogan Fountain Area of Cherokee Park Louisville, Kentucky

## 1.0 Introduction

The Hogan Fountain area is located at the west central portion of Cherokee Park in Louisville, Kentucky. This area primarily consists of open grassland at the hilltop and wooded sideslopes. Scenic Loop provides vehicular access to the Hogan Fountain area. Park facilities include a tepee-shaped picnic shelter, a playground, a sprayground, picnic benches, a basketball court, a volleyball court, a softball field, and a restroom. This report summarizes the results of an engineering evaluation of the existing site conditions, and includes a discussion of soils and geology, drainage, pavements, and utilities. A site map and photos are included in Attachment 1.

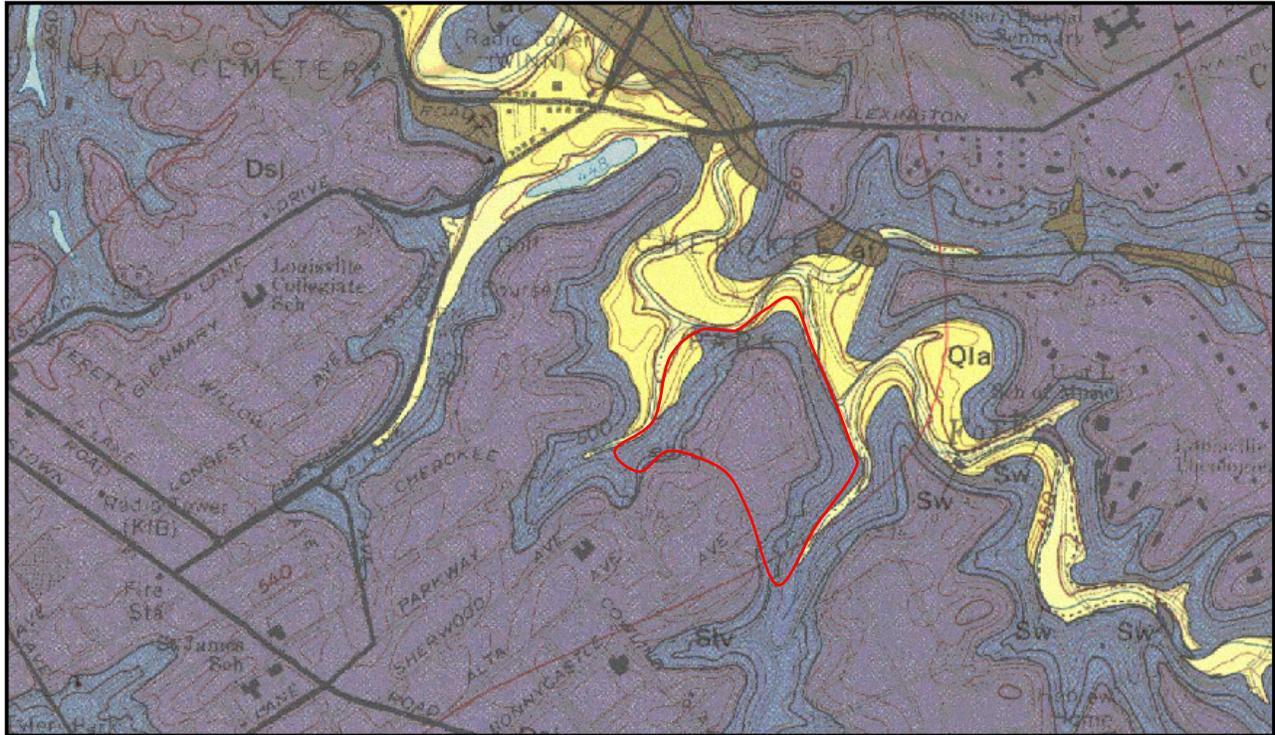
## 2.0 Soils & Geology

According to the Natural Resources Conservation Service Soil Survey of Jefferson County, Kentucky, the site is primarily underlain by soils that belong to the Crider series (CrB, CrC, CrD) and the Urban Land-Udorthents complex (UahC) at the upper elevations and the Caneyville rock outcrop complex (CcF2) at the lower elevations. The Crider soils are generally described as fine silty loess over clayey residuum weathered from the parent limestone. The Caneyville rock outcrop is described as clayey residuum weathered from shallow limestone. No description was provided for the Urban Land Udorthents Complex.



Figure 1. Portion of the NRCS Jefferson County Soils Map

Based on a review of available geologic mapping (Geologic Map of the Louisville East Quadrangle, USGS, 1974), the site is primarily underlain by the Sellersburg and Jeffersonville Limestones (Dsj) at the upper elevations and Louisville Limestone (Slv) at the lower elevations. These limestone formations are described as being susceptible to dissolution and the subsequent development of karst features such as voids and sinkholes in the soil overburden, or voids in the underlying bedrock. Springs, such as Baringer Spring just to the southwest of the Hogan Fountain area, are common in the Sellersburg and Jeffersonville Limestone.



**Figure 2. Portion of the USGS Geologic Map of the Jeffersontown Quadrangle (1972)**

### **3.0 Pavements**

A preliminary condition survey of the pavement was performed. Visual observations were used to develop a numerical pavement condition index (PCI) and corresponding condition rating, based on a modified method of ASTM D-6433, “Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys.” This test method consists of documenting the types and severity of pavement distress to obtain a PCI and corresponding condition rating. This rating is based solely on the distress observed on the surface of the pavement, and is often used as a basis for determining the need for maintenance, repairs, and/or rehabilitation. The rating scale used in this study is shown in Table 1.

**Table 1. Pavement Condition Index (PCI) and Rating Scale**

<b>Condition Rating</b>	<b>PCI Range</b>	<b>Description</b>
Excellent	86 to 100	Pavement has minor or no distresses and should require only routine maintenance
Very Good	71 to 85	Pavement has scattered low-severity distresses that should require only routine maintenance
Good	56 to 70	Pavement has a combination of generally low- and medium-severity distresses. Near-term maintenance and repair needs may range from routine to major
Fair	41 to 55	Pavement has low-, medium-, and high-severity distresses that probably cause some operational problems. Near-term maintenance and repair needs will be intensive in nature
Poor	26 to 40	Pavement has predominantly medium- and high-severity distresses that cause considerable maintenance and operational problems. Near-term maintenance and repair needs will be intensive in nature.
Very Poor	11 to 25	Pavement has mainly high-severity distresses that cause operational restrictions; immediate repairs are needed.
Failed	0 to 10	Pavement deterioration has progressed to the point that safe operations are no longer possible, complete reconstruction is required.

Pavements at the Hogan Fountain area primarily consist of Scenic Loop and the parking lot by the fountain. The pavement along Scenic Loop and in the parking lot generally appears to be in good condition with a few low- to medium-distress areas. Areas of distress include isolated longitudinal and transverse cracks; broken pavement at the corners where Scenic Loop intersects the parking lot; pavement edges raveling at lay-by parking areas (most likely caused by stress from car tires on the pavement edges); pavement edges raveling in areas where steep roadside ditches are present; and broken pavement at the intersection of Scenic Loop and Bonnycastle Road. Photos of the pavement can be found in Attachment 1.

#### **4.0 Drainage**

Topographic relief at the Hogan Fountain area is about 100 feet, with a high elevation of about 540 ft-MSL at the hilltop and a low elevation of about 440 ft-MSL at Beargrass Creek along the northern limits of the study area. In general, drainage flows from the broad, gently sloping

hilltop outward across Scenic Loop to the steeper slopes. Drainage across Scenic Loop is conveyed in roadside ditches, through culverts or by sheetflow across the pavement. All drainage from the Hogan Fountain area flows directly to, or via a tributary, to Beargrass Creek, located just north of the study area.

The culverts beneath Scenic Loop consist of vitrified clay pipe (VCP), polyvinyl chloride pipe (PVC), and reinforced concrete pipe (RCP). Their sizes range from 6 inches to 24 inches in diameter. Table 2 provides a description of the condition noted at each culvert, and indicates whether the culvert is undersized, based on typical design standards for handling a 25-year storm event. The location of each culvert are indicated on the map in Attachment 1.

**Table 2. Summary of Culverts**

<b>ID</b>	<b>Size &amp; Material</b>	<b>Comments</b>	<b>Capacity for 25-yr storm?</b>
A	6-in VCP	24"x24" catch basin, 12" PVC inlet from unknown source, leaves partially clogging	No, 18-in PVC required
B	12-in PVC	Inlet not visible, believed to be covered with crushed stone	Yes
C	12-in PVC	24"x24" catch basin, 18" inlet, leaves clogging	No, 18-in PVC required
D	24-in RCP	18"x48" catch basin, 24" RCP inlet, leaves clogging	Yes
E	24-in VCP	No headwall at inlet, inlet broken and partially silted	Yes

Replacing the undersized culverts noted above would improve the capacity of the stormwater system. Other upgrades to the stormwater system, for capacity and for water quality improvements, may include a series of rain gardens and bioswales. Rain gardens and bioswales are stormwater best management practices (BMPs) that are intended to slow down runoff (particularly from paved surfaces) and provide opportunities to filter out contaminants, including sediment, metals, and hydrocarbons. The topography, drainage patterns, and existing features (including the sinkhole west of the picnic shelter) provide good opportunities to use these BMPs to capture runoff and improve water quality. Routing stormwater runoff from the parking lot and Scenic Loop through a rain garden located in the large sinkhole will also improve the erosion problems along the crushed stone roadside swale and in the sharp bend east of the parking lot. Figure 3 below provides some suggested locations for rain gardens and bioswales.

It is further recommended that the catch basin grates be regularly cleared of leaves and debris to improve the flow through the catch basins. Domed grates, rather than flat grates, can be used to reduce the amount of clogging in areas where leaves and debris often collect.



Figure 3. Suggested Locations for Rain Gardens and Bioswales

## **5.0 Utilities**

Existing utility services at the site include: electric provided by Louisville Gas and Electric (LG&E) and water provided by the Louisville Water Company (LWC). A sanitary sewer interceptor line, operated by the Louisville Metropolitan Sewer District (MSD) is located along Beargrass Creek. The map in Attachment 2 shows the location of existing utilities. Detailed research of the on-site utilities was not part of this review. The utilities shown in Attachment 2 were obtained from Louisville –Jefferson County Information Consortium (LOJIC) data.

## Attachment 1 – Site Map and Photos





1. Paved drainage swale between Scenic Loop and the parking lot, looking south



2. View of the parking lot, looking south



3. View of the basketball courts



4. View of the parking lot, looking north



5. Poor drainage at southeast corner of parking lot



6. Standing water along edge of Scenic Loop just south of parking lot



7. Paved drainage swale between Scenic Loop and the parking lot, looking north



8. View of sidewalk leading to tepee picnic shelter from the parking lot



9. Concrete sidewalk and picnic table pad south of tepee



10. View of tepee picnic shelter



11. Concrete sidewalk leading to playground from tepee



12. View of sprayground, looking southwest



13. Manholes near sprayground



14. View inside northeast manhole near sprayground



15. Concrete sidewalk leading to bathrooms from parking lot



16. View of Hogan Fountain, looking north



17. Transverse crack in asphalt pavement on the southeast side of the fountain



18. View of Scenic Loop, northeast of fountain



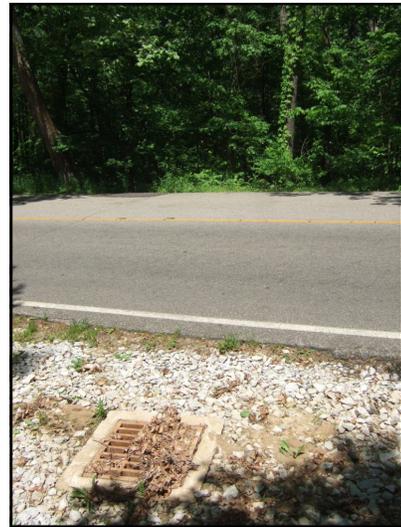
19. Large sinkhole, looking from Scenic Loop south toward tepee picnic shelter



20. View of sinkhole bottom, looking south



21. Crushed stone drainage swale along south side of Scenic Loop, pavement edge raveling



22. 24" x 24" catch basin on south side of Scenic Loop, near sinkhole



23. Leaves clogging 24"x24" catch basin



24. View of Scenic Loop, looking west



25. View of Scenic Loop, looking southwest



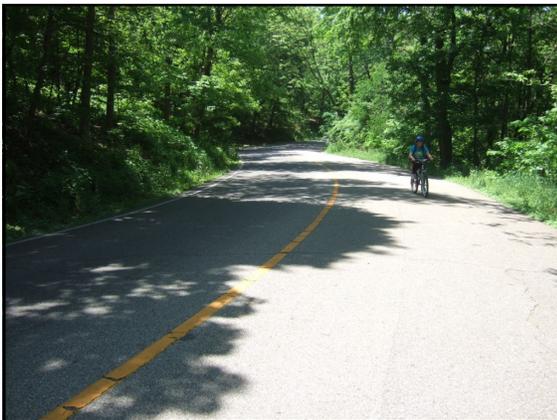
26. Asphalt patch at 12" PVC culvert, inlet covered with crushed stone



27. View of Scenic Loop, looking northeast



28. Leaves clogging 24" x 24" catch basin



29. View of Scenic Loop, looking southwest



30. Leaves clogging 18" x 48" catch basin



31. 24" RCP inlet draining to 18" x 48" catch basin



32. Asphalt curb along northeast side of Scenic Loop



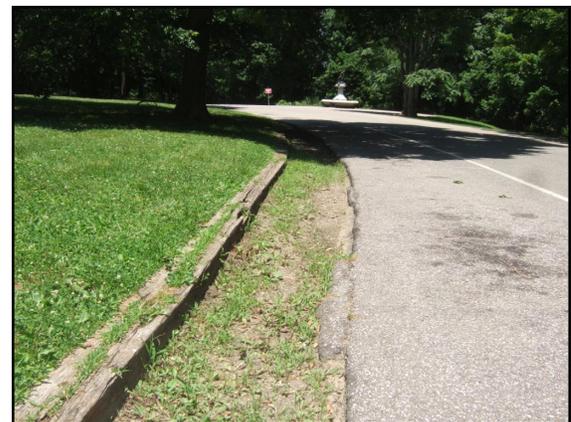
33. Cut in curb at low spot allows water to sheet flow, some erosion downslope



34. View from Scenic Loop, at potential location for a swale to direct parking lot drainage into sinkhole



35. Railroad tie shoulder where parking lot drainage flows along west side of Scenic Loop



36. Railroad tie shoulder and grass swale along Scenic Loop, in front of tepee picnic shelter



37. Gravel parking area along west side of Scenic Loop, raveling along asphalt shoulder



38. Utility poles at softball field



39. Grassy area south of softball field



40. Start of asphalt curb along south side of Scenic Loop



41. Grass shoulder along north side of Scenic Loop



42. Broken pavement section at inside of curve on Scenic Loop



43. Roadside drainage and erosion at inside curve of Scenic Loop



44. Grassy area at possible location for stormwater wetland



45. Steep drop-off and erosion where runoff from Scenic Loop flows off pavement



46. Grassy shoulder along northwest side of Scenic Loop, possible location for bioswale



47. Asphalt pavement edge raveling at outside curve of Scenic Loop



48. Outlet of 24" clay pipe beneath Scenic Loop



49. Inlet area of 24" clay pipe



50. Broken inlet of 24" clay pipe, partially silted



51. Little raveling along edge of asphalt pavement, grass shoulder along Scenic Loop



52. Longitudinal and transverse crack in asphalt pavement of Scenic Loop

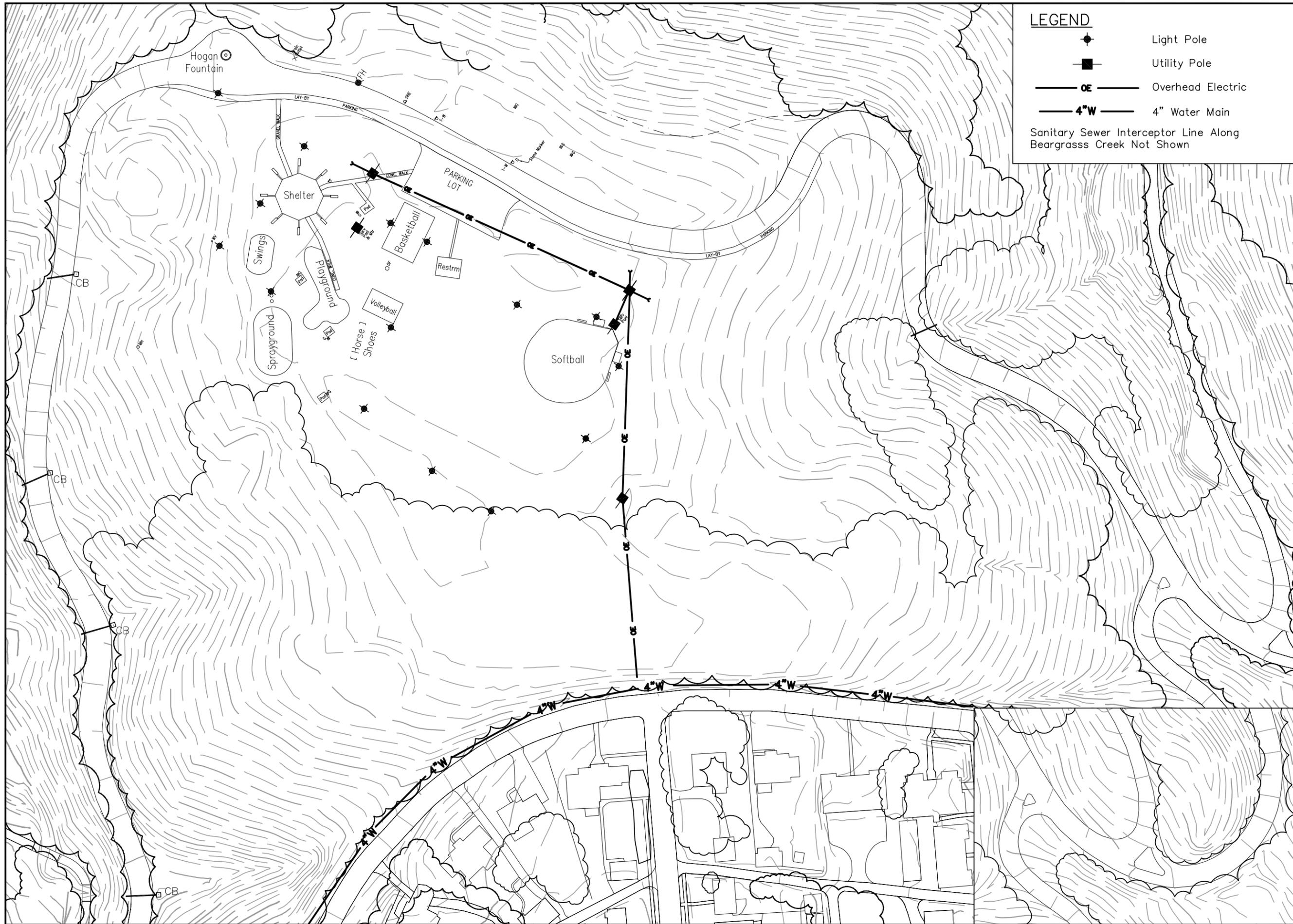


53. Poor drainage and broken pavement section at intersection of Scenic Loop and Bonnycastle Rd.

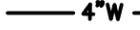


54. Intersection of Scenic Loop and Barrett Hill Rd.

## Attachment 2 – Utilities Map



**LEGEND**

-  Light Pole
-  Utility Pole
-  OE Overhead Electric
-  4"W 4" Water Main

Sanitary Sewer Interceptor Line Along Beargrass Creek Not Shown

**MATTINGLY ENGINEERS**

6313 ZURICH COURT, PROSPECT, KENTUCKY 40059  
502-550-3349 PH 502-409-8884 FAX

LOUISVILLE METRO PARKS  
HOGAN FOUNTAIN  
LOUISVILLE, KENTUCKY

**UTILITIES MAP**



PROJECT NUMBER: 08146	DATE: 7/15/09
DRAWN BY: DR	CHECKED BY: MM

REVISIONS:

SHEET:  
1 OF 1