

An aerial photograph of a modern, circular public park in Normal, Illinois. The park features a central green lawn, a water feature with a low concrete wall, and several young trees. People are seen sitting on benches, walking, and playing in the water. The overall atmosphere is vibrant and community-oriented.

THE NEW NORMAL SUSTAINABILITY AS CATALYST

NORMAL, ILLINOIS

THE NEW NORMAL

As communities across the country search for ways to articulate their commitment to sustainability while creating great civic spaces, the central Illinois town of Normal has set an example in its central business district. The Circle is a living plaza where naturally-cleansed stormwater, public space, and transportation work in unison. It is a distinctive place within the town that draws directly on its history and urban context while expressing the values of sustainability that Normal decided would guide its future.

Located in the heart of Normal's central business district, the Circle functions on its most basic level as a traffic circle resolving a poorly aligned intersection. At its center is a park with seating, a water feature, shade, and an open plaza. The Circle's water feature makes sustainable stormwater treatment visible, tangible and educational by using the work of water cleansing as a primary aesthetic feature of the design. This area serves as a gateway to those entering the community from the multi-modal transportation station to the south.

The Circle is the core design feature of a larger Uptown Normal renewal plan with a heavy emphasis on sustainability. A model of smart growth, the plan directed

development to the Town's historic core to utilize existing infrastructure, transit choices, and higher density. The Circle gives Normal a public green with a strong sense of place - particularly important in a community with no distinctive natural features and a better-known sister city. The Circle is a hub of dynamic social activity: children play in the water, arts and corn festivals are celebrated, the University band performs, people wait for trains coming into the station, and cyclists on Constitution trail, the former railroad, stop to eat lunch.

HIGH-PERFORMANCE INFRASTRUCTURE

The project incorporates numerous innovative techniques that distinguish it from typical urban streetscape projects. High-performance infrastructure integrates multiple

civic elements such as roadways, pedestrian corridors, stormwater quantity and quality control and public space into a single project. This approach to urban design comes at a time when it is difficult to advocate for the creation of new parks and civic spaces with limited public funds for projects that are often perceived as unnecessary. By following this practice of integrated design, the Uptown Normal Circle has addressed several public needs simultaneously.

STORMWATER STORY

Sustainable stormwater management: capturing, storing, cleansing and recycling much of the stormwater in Uptown Normal, is one of the key elements of the project. Run-off is collected from several streets adjoining the Circle and is stored in a 75,000 gallon underground cistern. This cistern, which was recycled from a 60" diameter storm sewer line being abandoned as part of the associated infrastructure improvements, serves as a detention device for water providing relief to the community's watershed. Water captured and retained in the cistern is then either used for irrigation of turf and plant material in the district or is introduced into the Circle where it begins a journey through a 'living plaza' creating a legible demonstration of sustainability in an urban environment. Signage explains the process and value to children and adults.

In the Circle, water collected in the cistern is pumped through a series of terraced filtration bogs where it is cleansed as it flows slowly around the circle through the plant material, passing over several weirs and through a scupper wall before falling into a collection pool. At this point, water is pumped into an underground reservoir, treated by a UV filter and then circulated through a shallow stream-like water feature. Park visitors have access to this highly engaging watercourse as it flows around the circumference of the circle, mirroring the flow of traffic beyond and providing an acoustic buffer to the sound of traffic. This feature also detains and encourages evaporation of water that would have otherwise become runoff as part of a storm event. This process also eases the heat island effect in this urban district.

Additional sustainable elements in the streetscape include: 1) infiltration planters along the sidewalks facilitate inflow from adjacent sidewalks and buildings, and 2) a Silva Cell tree and stormwater management system that enhances the water storage capacity of the project while promoting healthy tree growth.

AWARDS

US FTA/FHA Transportation Planning Excellence Award, 2012
US EPA National Award for Smart Growth Achievement, 2011
ASLA Illinois Presidential Award, 2010

THE NEW NORMAL

In 2011, the Landscape Architecture Foundation conducted a case study on Uptown Normal Circle as part of its Landscape Performance Benefits series. Below are some of the findings:

- Saves \$61,000 in tree purchase and installation costs over 50 years by more than tripling the expected lifespan of street trees (from 13 to more than 50 years) through the use of underground structural cells that provide nine times the typical volume of uncompacted soil available to the roots of a city street tree.
- Sequesters at least 10,790 pounds of carbon annually by planting 104 new trees-- roughly equivalent to taking one car off the road each year.
- Prevents 1.4 millions gallons of water from entering the municipal storm sewer each year, saving \$7,600 annually, by reducing impervious area by 7,250 square feet (or 3%) and capturing runoff from 58,800 square feet (28% of the total site area).
- Increases the quality and recharge volume of groundwater by an estimated 1.4 million gallons per year by filtering stormwater runoff from sidewalks through 40,200 cubic feet of non-compacted soil housed in underground structural cells below tree wells and planting areas.
- Increases water quality in the fountain by removing 91.4% of total suspended solids, 78.5% of total phosphorous, and 63.6% of total nitrogen from stormwater with each passage through a sand, UV, and bog filter system.
- Generated more than \$680,000 of revenue through conferences held in Normal that featured the Uptown Redevelopment.
- Increased property values in the Uptown tax increment financing district by \$1.5 million (or 9%) from 2009 to 2010, a 31% increase from 2004.

Location

W. Beaufort Street &
Constitution Trail
Normal, Illinois 61761
United States

Size

4.87 acres

Budget

Uptown Normal Redevelopment: \$15.5 million;
Uptown Circle: \$1.5 million

Dates

2002 - 2010

Project Team

Hoerr Schaudt	Landscape Architect and Team Leader
Clark Dietz, Inc.	Roadway Design and Traffic Engineer
Farnsworth Group	Subsurface Infrastructure Engineer
CMS Collaborative	Fountain Consultant
Hey & Associates	Ecology Consultant
Urban Trees & Soils	Arboriculture Consultant
Charter Sills	Lighting Consultant
Jeffrey L. Bruce & Co.	Turfgrass Consultant
Landtech	Irrigation Consultant
Stark Excavating	General Contractor
Farr Associates	Master Plan

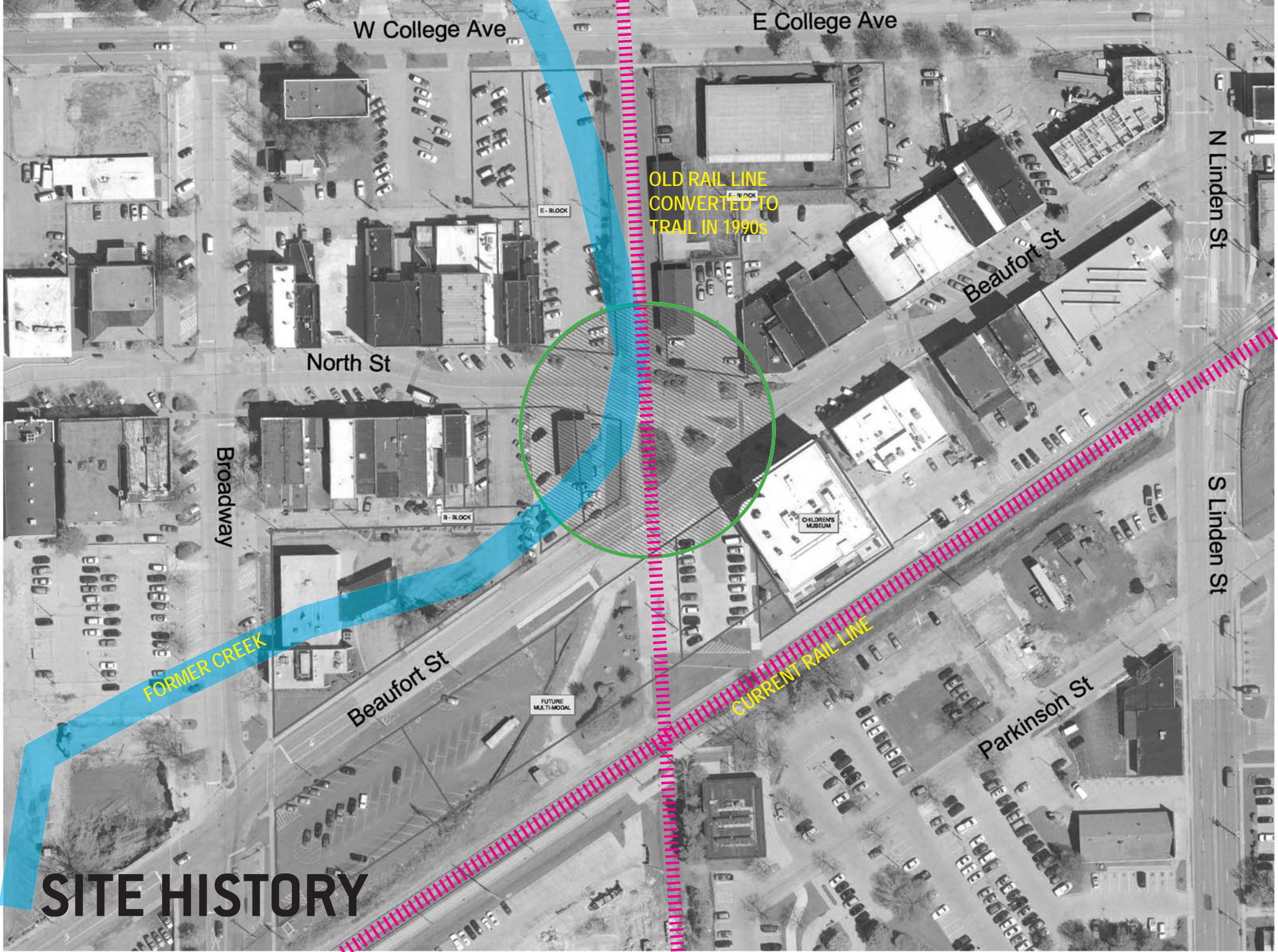
REGION



NORMAL, IL
POPULATION 52,000

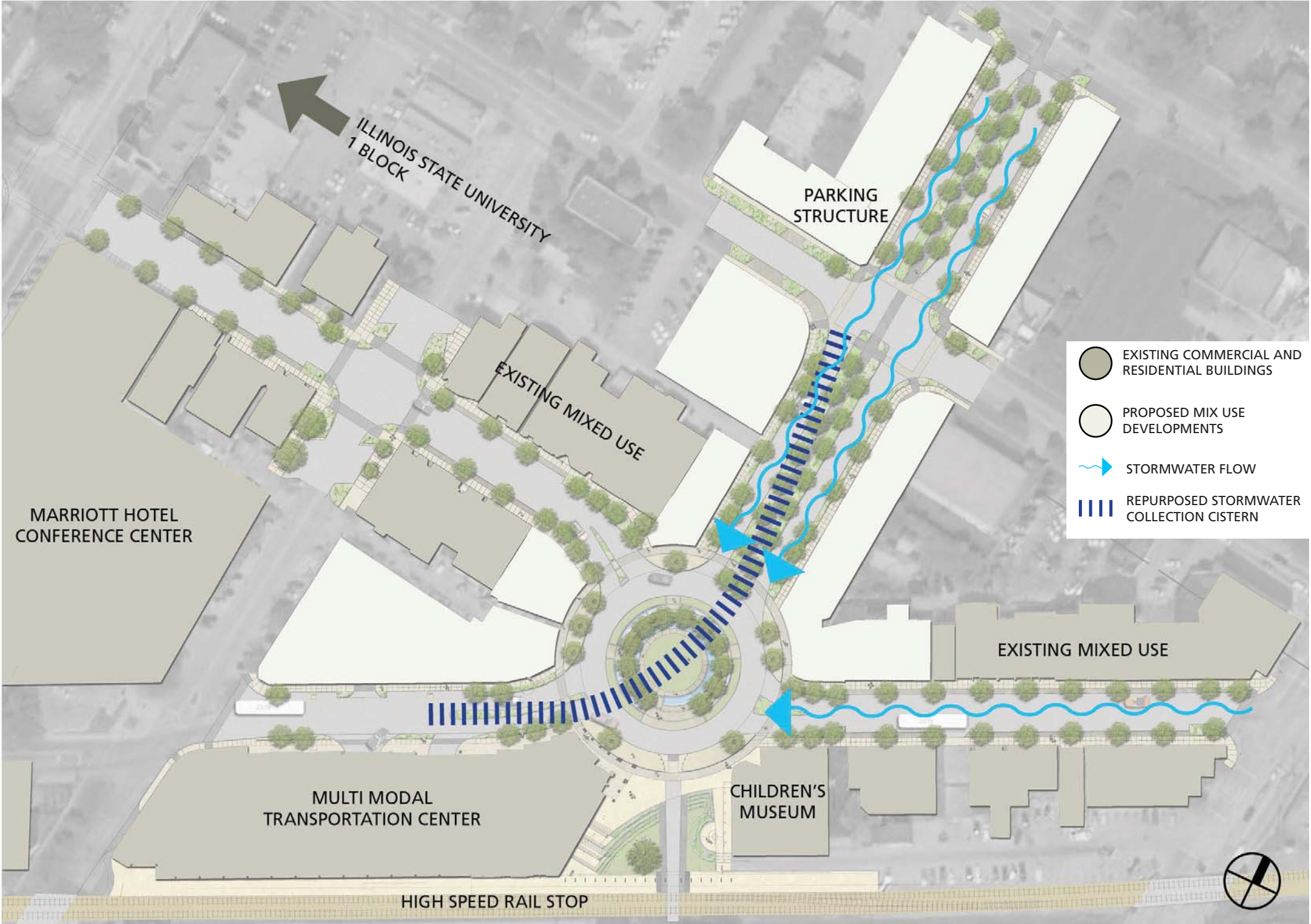
BLOOMINGTON, IL
POPULATION 76,000

Normal, the midway point between Chicago and St. Louis on Amtrak, is representative of the vast majority of mid-size American cities with modest budgets, fairly small Central Business Districts, and a politically moderate citizenry.



SITE HISTORY

Normal's history - particularly a former creek and two railroad lines - is expressed in the Circle's final design. Before the project, a poorly-aligned intersection divided a declining central business district.

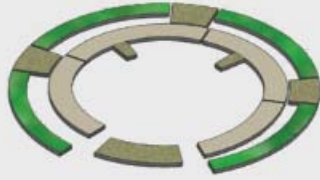


Water flows from several adjoining streetscapes into the Circle, where it is naturally filtered, recirculated as a public water feature, and stored in an existing, 75,000 gallon underground cistern that was repurposed for this project. Then, water is re-used for irrigation of the surrounding streetscapes.



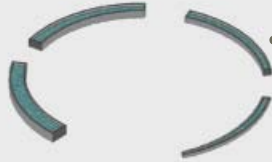
TREE ENCLOSURE

A ring of twelve plane trees provides shade and definition to the space. Planted in structural cells, the trees are anticipated to thrive in these tough urban conditions.



OUTER LAWN AND PROMENADE

Providing opportunities for respite and interaction, the promenade contains seven custom designed precast concrete/wood benches.



BOG FILTERS

Three terraced bog filters cleanse collected stormwater as it moves through planting media and aquatic plants for reuse in the fountain.



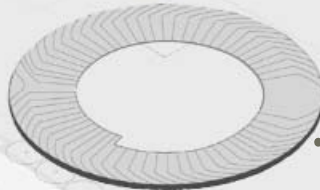
FOUNTAIN

Alluding to the former stream that traversed the site, this engaging water feature visually and acoustically enlivens the space.



CENTRAL LAWN

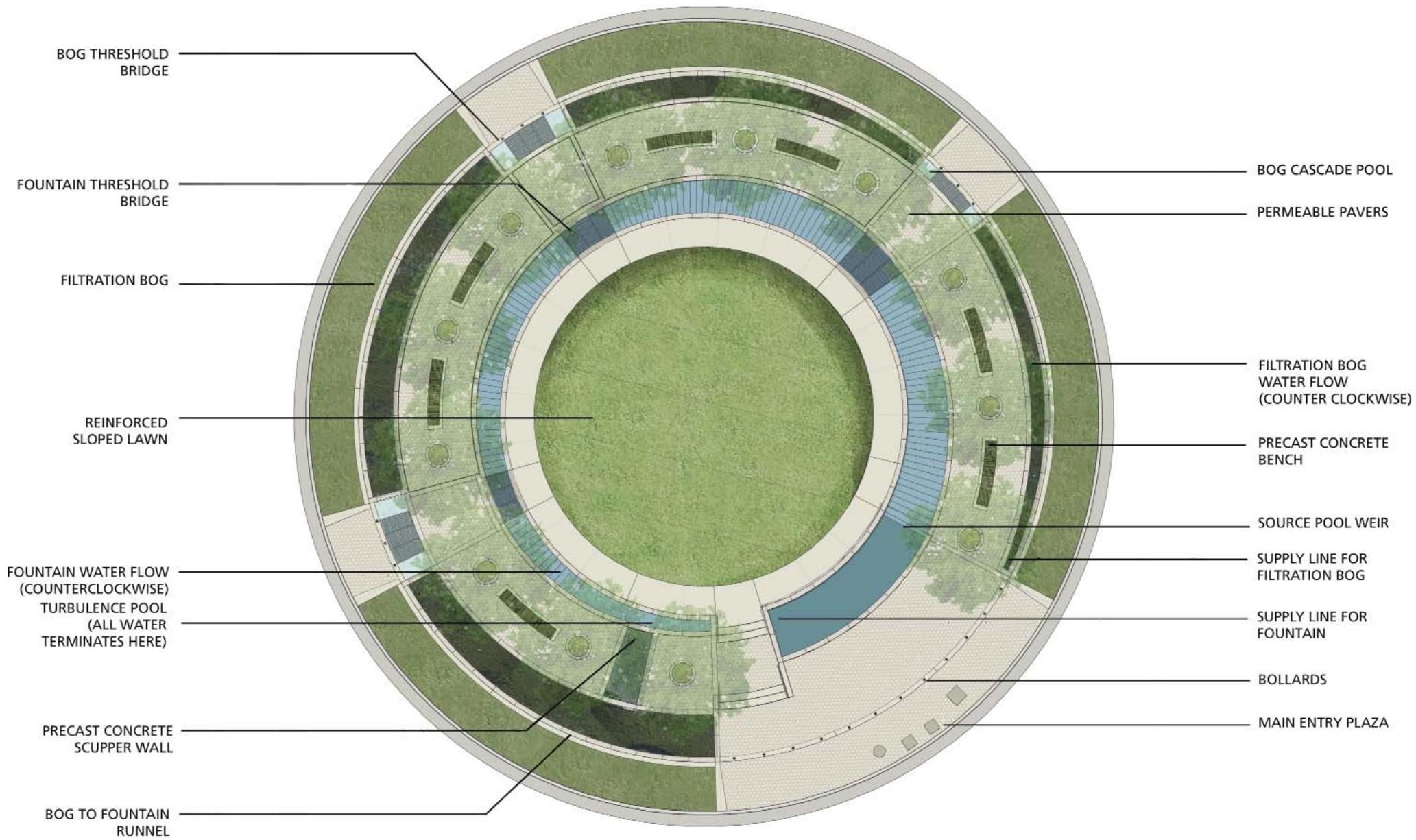
Serving as the central gathering space within the circle, this 40' diameter lawn is tilted to the south to maximize solar exposure.



TOPOGRAPHY

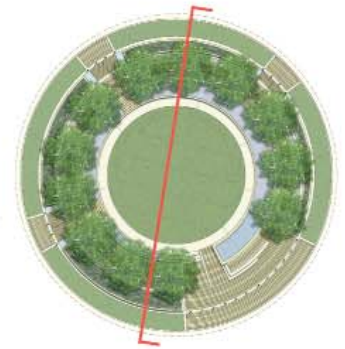
The circle is graded to engage gravity as the primary method by which water is moved through the space.

COMPONENTS



DETAIL PLAN

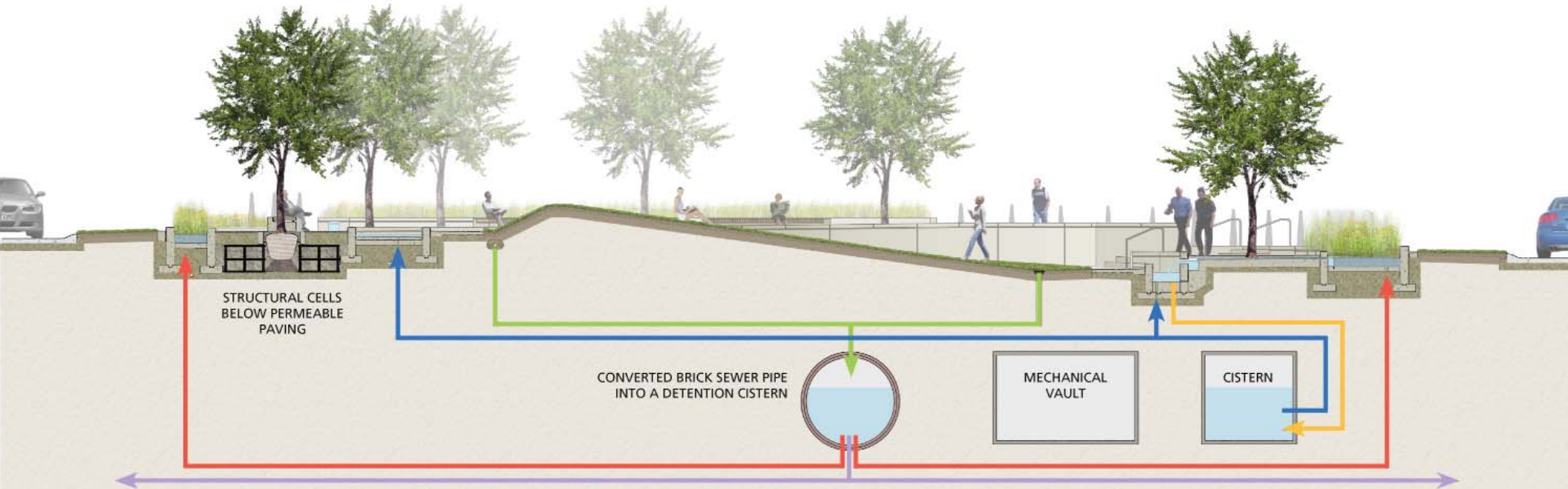
- DETENTION CISTERN SUPPLY FROM STORMWATER
- DISPLAY FOUNTAIN SUPPLY
- DISPLAY FOUNTAIN RETURN
- FILTRATION BOG SUPPLY
- IRRIGATION SUPPLY



REINFORCED TURF APRON | FILTRATION BOG | TREE RING | FOUNTAIN CASCADE POOL | INTERIOR PATH

REINFORCED TILTED LAWN

INTERIOR PATH | FOUNTAIN TURBULENCE POOL | RUNNEL TO SCUPPER WALL | FILTRATION BOG | REINFORCED TURF APRON



SUSTAINABLE INFRASTRUCTURE

Water collected in the cistern is pumped through terraced filtration bogs to be slowly cleansed as it flows through plant material, before falling into a collection pool. From here, water is pumped into an underground reservoir, treated by a UV filter and then circulated through an interactive water feature.

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landscape architects

CONTEXT



Normal's master plan for the revitalized district defined massing for future buildings that are tightly governed by a form-based code. Buildings and infrastructure were required to adopt high-performance green practices, a cutting edge idea when first adopted in 2002.

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landscape architects





DEVELOPMENT

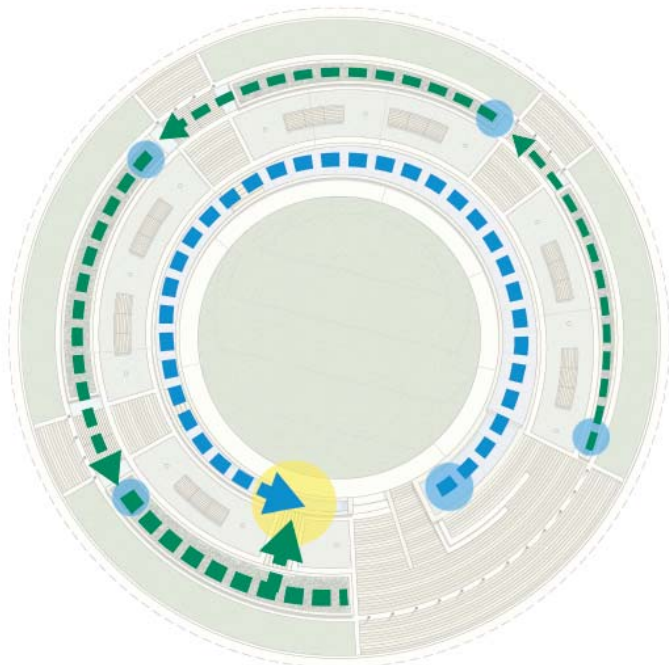
The town's new multimodal Amtrak station, right, is also the home of town governance. The Children's Museum, left, is a highly popular regional destination. Assessed values of property and business revenues in Uptown Normal have increased significantly.

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landscape architects

CLEANSED

NATURAL WATER FILTRATION

Water rises through layers of gravel planting media and bog plants that filter the water by removing sediments and absorbing toxins. Using gravity to move through the four bog pools, the water eventually terminates in a pool and is directed to a secondary cistern for use in the water feature.



Filtration Bog Flow →





CLEANSED

The natural cleansing system improves water quality by removing an estimated 91% of total suspended solids, 79% of total phosphorous, and 64% of total nitrogen from stormwater with each pass through the sand, UV and bog filter system. Educational information on the stormwater system is displayed for children.

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URBAN STREAM

Reminiscent of the Midwestern creek bed that once flowed here, the water course is audible and its varied depths and access points encourage imagination and exploration.

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SEASONAL

Water from the Circle is recirculated to irrigate connecting streetscapes.

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TRAIN



STREETS

CONNECTED

Four access points connect the circle to surrounding streets and the adjacent plaza of the multimodal center. Design efforts included considerations for festivals and gatherings within the entire Uptown street network.



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PLANT LIST

Circle Trees

Bloodgood London Planetree

Bog Plants

Blue Flag Iris

Broadleaf Arrowhead

Common Rush

Bald Spikerush

Hairy Sedge